

Federal Home Loan Bank of Des Moines Monthly Price Report

The Federal Home Loan Bank of Des Moines (Bank) is providing estimated valuations for specific Convertible, Amortizing and Non-Amortizing advances set forth below for members' information and convenience only. The estimated valuations are generated by models used for the Bank's own asset/liability management purposes. The models use specific assumptions, for example, market volatility and discount curve adjusted for the Bank's spread, to estimate the value of the advance. **The valuations represent theoretical market prices only and should not be construed as a liquidation price for the specific advance.**

It is expressly understood that in providing these valuations to members, the Bank is not performing any advisory service. The valuations are provided without representation or warranty and the member is solely responsible for any decision it makes or actions it takes based on the valuations provided. It is recommended that members maintain independent capabilities to value their asset/liability positions, including Convertible, Amortizing and Non-Amortizing advances. You should consult with your own tax, legal, accounting, credit and financial advisors with respect to the transaction structure and information detailed herein.

The table depicts valuation estimates resulting from immediate parallel interest-rate movements of plus/minus 400 basis points in 100 basis point increments. To identify your advance, locate the appropriate maturity date and verify the advance rate. The advances in report are grouped by advance type and then within each type sorted in ascending order by maturity date. Once the appropriate structure is located, read across to view the sensitivity analysis for that advance.

If you have any questions, contact the Money Desk at 800.544.3452, ext. 2122.

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200605A00001	6/5/2020	0.52	6/4/2021	6/5/2020	100.08289	100.0634148	100.0439632	100.0245316	100.00512	99.98572837	99.96635664	99.94700479	99.92767279
200622A00009	6/22/2020	0.33	6/22/2021	6/22/2020	100.29005	100.2203259	100.1507133	100.0812079	100.0118094	99.94251748	99.873332	99.80425269	99.73527929
200630A00001	6/30/2020	0.47	6/25/2021	6/30/2020	100.32875	100.2507089	100.1727956	100.0950078	100.0173454	99.939808	99.86239534	99.78510714	99.70794311
200720A00010	7/20/2020	0.28	7/20/2021	7/20/2020	100.60806	100.4594942	100.311381	100.1637156	100.0164958	99.86971956	99.72338496	99.57748992	99.43203247
200720A00022	7/22/2020	1.94	7/22/2021	7/22/2020	100.87327	100.7188842	100.5649805	100.4115546	100.258604	100.1061268	99.95412056	99.80258324	99.65151262
200729A00013	7/30/2020	0.43	6/15/2021	7/30/2020	100.20923	100.1591127	100.1090586	100.0590712	100.0091506	99.95929654	99.90950889	99.85978752	99.81013232
200824A00005	8/24/2020	0.25	8/24/2021	8/24/2020	101.00407	100.7557847	100.5087265	100.2628824	100.0182434	99.77480073	99.53254561	99.29146934	99.05156334
200825A00005	8/25/2020	0.43	8/25/2021	8/25/2020	101.04252	100.7915219	100.5417746	100.2932643	100.0459816	99.79991766	99.55506343	99.31141003	99.06894867
200908A00006	9/8/2020	0.42	9/8/2021	9/8/2020	101.20429	100.9129946	100.6233878	100.3354512	100.0491704	99.7645309	99.48151866	99.20011964	98.92032002
200914A00001	9/14/2020	0.25	9/14/2021	9/14/2020	101.24467	100.9358607	100.6289491	100.3239138	100.0207373	99.71940276	99.41989324	99.1221921	98.8262829
201026A00001	10/26/2020	0.26	10/26/2021	10/26/2020	101.73051	101.299326	100.87178	100.447829	100.0274279	99.61053232	99.19709857	98.78708373	98.38044557
201116A00006	11/16/2020	0.42	11/16/2021	11/16/2020	102.01144	101.5186266	101.0305647	100.5471872	100.0684267	99.59421732	99.12449429	98.65919409	98.1982544
201117A00004	11/17/2020	0.42	11/17/2021	11/17/2020	102.02327	101.5274968	101.0365326	100.5503074	100.0687527	99.59180133	99.11938751	98.65144663	98.18791533
201210A00008	12/10/2020	0.37	8/10/2021	12/10/2020	100.85156	100.6434731	100.4362551	100.2299029	100.024411	99.81977405	99.61598661	99.41304335	99.21093896
201230A00011	12/30/2020	0.38	9/30/2021	12/30/2020	101.44509	101.0902171	100.7378214	100.3878735	100.0403478	99.69521927	99.35246332	99.01205554	98.67397191
210223A00013	2/23/2021	0.32	11/23/2021	2/23/2021	102.04399	101.5306073	101.0223697	100.5192008	100.0210251	99.5277687	99.03935899	98.55572483	98.07679647
210226A00016	2/26/2021	0.26	2/25/2022	2/26/2021	103.16431	102.3660411	101.5800391	100.8060255	100.043728	99.29288232	98.55323229	97.82452925	97.10653183
210301A00006	3/1/2021	0.33	9/15/2021	3/1/2021	101.25561	100.9442037	100.6347163	100.3271341	100.0214396	99.71761534	99.41564417	99.11550908	98.81719329
210301A00007	3/1/2021	0.34	10/14/2021	3/1/2021	101.59173	101.196049	100.8034511	100.4139002	100.0273609	99.64379822	99.26317783	98.88546589	98.51062908
210301A00008	3/1/2021	0.34	11/15/2021	3/1/2021	101.96121	101.4714616	100.9864103	100.5059881	100.030129	99.55876814	99.09184186	98.62928772	98.17104444
210301A00011	3/1/2021	0.35	12/15/2021	3/1/2021	102.3109	101.7319827	101.159598	100.5936325	100.0339785	99.48053084	98.93318669	98.39184544	97.85640869
210304A00003	3/4/2021	0.34	3/4/2022	3/4/2021	103.22868	102.4100373	101.6042901	100.8111347	100.0302782	99.26143639	98.50433409	97.75870427	97.024288
210324A00001	3/24/2021	0.37	3/24/2022	3/24/2021	103.47962	102.5991851	101.7336213	100.8825558	100.045627	99.22248548	98.41279309	97.61622272	96.83245778
210330A00009	3/30/2021	0.32	11/30/2021	3/30/2021	102.12504	101.5908888	101.0622939	100.5391716	100.0214372	99.50900808	99.00180303	98.49974259	98.0027489
210413A00007	4/13/2021	0.25	4/13/2022	4/13/2021	103.71141	102.7671528	101.8399676	100.9293914	100.0349815	99.15631045	98.29296603	97.4445502	96.6106786
210524A00009	5/24/2021	0.29	12/1/2021	5/24/2021	102.12092	101.5838326	101.0523665	100.5264346	100.0059508	99.49083106	98.98099274	98.47635502	97.97683872
210301A00006	3/1/2021	0.33	9/15/2021	3/1/2021	101.25556	100.9441532	100.634666	100.3270842	100.02139	99.71756606	99.41559521	99.11546043	98.81714494
210301A00008	3/1/2021	0.34	11/15/2021	3/1/2021	101.96119	101.4714429	100.9863917	100.5059697	100.0301108	99.55875008	99.09182396	98.62926998	98.17102685
210304A00003	3/4/2021	0.34	3/4/2022	3/4/2021	103.22868	102.410039	101.6042918	100.8111364	100.0302798	99.26143799	98.50433566	97.75870582	97.02428952
210324A00001	3/24/2021	0.37	3/24/2022	3/24/2021	103.47963	102.5991955	101.7336316	100.8825659	100.0456369	99.22249522	98.41280267	97.61623214	96.83246706
210524A00009	5/24/2021	0.29	12/1/2021	5/24/2021	102.12092	101.583832	101.0523659	100.526434	100.0059503	99.49083054	98.98099222	98.47635451	97.97683822
200825A00005	8/25/2020	0.43	8/25/2021	8/25/2020	101.04252	100.7915238	100.5417766	100.2932662	100.0459835	99.79991955	99.55506531	99.31141191	99.06895054
200622A00009	6/22/2020	0.33	6/22/2021	6/22/2020	100.29005	100.2203259	100.1507133	100.0812079	100.0118094	99.94251748	99.873332	99.80425269	99.73527929

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
201230A00011	12/30/2020	0.38	9/30/2021	12/30/2020	101.445	101.0901327	100.7377377	100.3877903	100.0402651	99.69513722	99.35238183	99.0119746	98.67389152
210223A00013	2/23/2021	0.32	11/23/2021	2/23/2021	102.04398	101.5306001	101.0223625	100.5191937	100.0210181	99.52776174	99.03935209	98.55571799	98.07678969
200630A00001	6/30/2020	0.47	6/25/2021	6/30/2020	100.32875	100.2507089	100.1727956	100.0950078	100.0173454	99.939808	99.86239534	99.78510714	99.70794311
201026A00001	10/26/2020	0.26	10/26/2021	10/26/2020	101.73047	101.2992786	100.8717329	100.4477824	100.0273816	99.61048644	99.19705307	98.7870386	98.3804008
201210A00008	12/10/2020	0.37	8/10/2021	12/10/2020	100.85157	100.6434846	100.4362666	100.2299143	100.0244224	99.81978539	99.6159979	99.41305459	99.21095016
210226A00016	2/26/2021	0.26	2/25/2022	2/26/2021	103.16431	102.36604	101.5800381	100.8060245	100.043727	99.2928813	98.55323129	97.82452826	97.10653086
210413A00007	4/13/2021	0.25	4/13/2022	4/13/2021	103.71142	102.7671635	101.839978	100.9294017	100.0349916	99.15632035	98.29297576	97.44455976	96.61068799
200720A00010	7/20/2020	0.28	7/20/2021	7/20/2020	100.60807	100.4595087	100.3113955	100.16373	100.0165101	99.86973389	99.72339924	99.57750416	99.43204666
200729A00013	7/30/2020	0.43	6/15/2021	7/30/2020	100.20923	100.1591127	100.1090586	100.0590712	100.0091506	99.95929654	99.90950889	99.85978752	99.81013232
200824A00005	8/24/2020	0.25	8/24/2021	8/24/2020	101.00407	100.7557873	100.508729	100.2628849	100.0182459	99.77480325	99.53254812	99.29147184	99.05156583
200914A00001	9/14/2020	0.25	9/14/2021	9/14/2020	101.24462	100.9358129	100.6289016	100.3238666	100.0206904	99.71935617	99.41984694	99.12214609	98.82623719
201116A00006	11/16/2020	0.42	11/16/2021	11/16/2020	102.01142	101.5186093	101.0305476	100.5471702	100.0684099	99.59420064	99.12447776	98.65917771	98.19823815
200605A00001	6/5/2020	0.52	6/4/2021	6/5/2020	100.08289	100.0634148	100.0439632	100.0245316	100.00512	99.98572837	99.96635664	99.94700479	99.92767279
200720A00022	7/22/2020	1.94	7/22/2021	7/22/2020	100.87328	100.7189	100.5649963	100.4115703	100.2586197	100.1061424	99.95413615	99.80259877	99.65152811
200908A00006	9/8/2020	0.42	9/8/2021	9/8/2020	101.20426	100.9129637	100.6233571	100.3354207	100.0491401	99.76450077	99.48148872	99.20008989	98.92029044
210301A00011	3/1/2021	0.35	12/15/2021	3/1/2021	102.31089	101.7319797	101.1595951	100.5936296	100.0339756	99.480528	98.93318389	98.39184267	97.85640595
210330A00009	3/30/2021	0.32	11/30/2021	3/30/2021	102.12504	101.5908884	101.0622935	100.5391712	100.0214369	99.50900772	99.00180268	98.49974224	98.00274855
201117A00004	11/17/2020	0.42	11/17/2021	11/17/2020	102.02325	101.5274809	101.0365169	100.5502918	100.0687373	99.59178604	99.11937235	98.65143161	98.18790043
210301A00007	3/1/2021	0.34	10/14/2021	3/1/2021	101.59166	101.1959845	100.8033871	100.4138367	100.0272979	99.64373567	99.26311575	98.88540428	98.51056792
150601A00342	6/1/2015	3.97	8/26/2033	6/1/2015	143.24448	134.8295842	127.1095582	120.0176866	113.4943072	107.4860116	101.9449399	96.82815952	92.09711822
150601A00439	6/1/2015	2.57	3/18/2024	6/1/2015	108.99326	107.431176	105.9078725	104.4220547	102.9724786	101.557952	100.1773322	98.8295235	97.51347446
150601A00440	6/1/2015	3.27	3/16/2029	6/1/2015	125.91118	121.0430793	116.4477091	112.1069274	108.0039514	104.1232428	100.4504067	96.97209904	93.67594256
150601A00450	6/1/2015	3.28	4/27/2029	6/1/2015	126.28095	121.3312982	116.6623988	112.2553608	108.0927243	104.1583377	100.4372503	96.91561455	93.5805964
150601A00460	6/1/2015	3.05	5/16/2029	6/1/2015	125.42074	120.4644964	115.7911805	111.3816556	107.218235	103.2845635	99.56550828	96.04705847	92.71623403
150601A00506	6/1/2015	3.14	7/6/2029	6/1/2015	126.2203	121.1498101	116.3732095	111.8703326	107.6225632	103.6127058	99.82486717	96.24434813	92.85754555
180508A00038	5/8/2018	3.57	5/9/2033	5/8/2018	142.80177	134.0388068	126.008998	118.6417988	111.8741033	105.6494018	99.91704101	94.63157212	89.75217613
180612A00012	6/12/2018	2.94	6/12/2023	6/12/2018	107.22719	106.0673368	104.931596	103.819246	102.7295924	101.661968	100.6157317	99.59026664	98.58497971
170830A00040	8/30/2017	1.84	8/30/2022	8/30/2017	103.63202	102.9467213	102.2736687	101.6124966	100.9628559	100.3244115	99.69684221	99.07983981	98.47310823
170921A00056	9/21/2017	2.82	9/21/2027	9/21/2017	133.69244	126.6411291	120.0331295	113.8377979	108.0267787	102.57382	97.45460561	92.64660299	88.12892284
180302A00014	3/2/2018	2.69	3/2/2023	3/2/2018	105.86039	104.8919095	103.9420682	103.0103127	102.0961163	101.1989734	100.3183982	99.45392393	98.60510177
180321A00015	3/21/2018	3.02	3/21/2025	3/21/2018	114.87274	112.3533667	109.9188342	107.5655876	105.2902488	103.0896048	100.9605987	98.90032109	96.90600162
180322A00030	3/22/2018	2.79	3/24/2025	3/22/2018	113.23772	110.9931974	108.8192137	106.712955	104.6717418	102.6930214	100.7743614	98.91344226	97.10805203
180329A00011	3/29/2018	2.77	3/29/2023	3/29/2018	106.20425	105.1882646	104.192179	103.2154039	102.2573776	101.3175604	100.3954337	99.49049874	98.60227592

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
161222A00036	12/22/2016	2.69	12/22/2026	12/22/2016	117.64631	114.341427	111.1760998	108.1431578	105.2358527	102.4478323	99.77311373	97.20606003	94.74135728
161222A00037	12/22/2016	3.08	12/22/2031	12/22/2016	133.03284	126.1406591	119.7525833	113.8255703	108.3206472	103.202492	98.43906367	94.00127261	89.8626861
170406A00031	4/6/2017	3.01	4/6/2027	4/6/2017	133.12256	126.5543685	120.3733411	114.5543003	109.0738441	103.9102084	99.04314417	94.45380415	90.12463871
170417A00059	4/17/2017	2.14	4/18/2022	4/17/2017	105.26594	104.3242085	103.3995671	102.4915488	101.5997065	100.7236091	99.86284068	99.01700001	98.18569966
170518A00028	5/18/2017	2.45	5/20/2024	5/18/2017	117.48256	114.262334	111.1511808	108.1447642	105.2389439	102.4297685	99.71346563	97.08643282	94.54522878
170630A00051	6/30/2017	1.75	6/30/2021	6/30/2017	100.27556	100.2253052	100.1751392	100.1250624	100.0750744	100.0251751	99.97536409	99.92564127	99.87600637
160608A00032	6/8/2016	2.36	6/8/2026	6/8/2016	126.08735	120.6154535	115.4281884	110.5090347	105.8425241	101.4141673	97.21038676	93.21845433	89.4264332
160609A00075	6/9/2016	1.94	6/9/2026	6/9/2016	114.36992	111.3771204	108.5022268	105.739553	103.0837328	100.5296972	98.07265547	95.70807844	93.43168195
160620A00018	6/20/2016	1.25	6/21/2021	6/20/2016	100.1879	100.1502521	100.1126541	100.0751101	100.03762	100.0001837	99.96280108	99.92547202	99.88819641
160628A00006	6/28/2016	1.44	6/28/2023	6/28/2016	105.54721	104.404774	103.2861301	102.1905655	101.1173936	100.0659546	99.03561459	98.02576392	97.03581616
160707A00017	7/7/2016	1.22	7/7/2021	7/7/2016	100.5605	100.4491456	100.3380524	100.2272188	100.1166437	100.0063262	99.89626536	99.78646029	99.67691004
161222A00035	12/22/2016	2.29	12/22/2023	12/22/2016	107.96447	106.5351366	105.1394518	103.7763359	102.444749	101.1436932	99.87221085	98.62938241	97.41432464
150601A00528	6/1/2015	3.08	7/27/2029	6/1/2015	126.10327	121.0021118	116.1984158	111.6716558	107.4028927	103.3746404	99.57074366	95.97626741	92.57739584
150601A00559	6/1/2015	3.06	8/31/2029	6/1/2015	126.28141	121.1137229	116.2505134	111.6705709	107.3543362	103.2837642	99.44219558	95.81424091	92.3856742
150601A00684	6/1/2015	2.25	2/7/2025	6/1/2015	111.13208	109.039418	107.0102792	105.0421925	103.1328066	101.279879	99.48127031	97.73493884	96.03893515
160603A00015	6/3/2016	1.95	6/5/2023	6/3/2016	111.28483	109.1302559	107.0298194	104.9817912	102.9845119	101.0363872	99.13588496	97.28153184	95.47191094
160608A00026	6/8/2016	2.36	6/8/2026	6/8/2016	126.08735	120.6154535	115.4281884	110.5090347	105.8425241	101.4141673	97.21038676	93.21845433	89.4264332
160608A00031	6/8/2016	2.36	6/8/2026	6/8/2016	126.08735	120.6154535	115.4281884	110.5090347	105.8425241	101.4141673	97.21038676	93.21845433	89.4264332
150601A00342	6/1/2015	3.97	8/26/2033	6/1/2015	143.23989	134.8253676	127.1056829	120.0141192	113.4910179	107.4829738	101.9421297	96.82555569	92.09470169
150601A00439	6/1/2015	2.57	3/18/2024	6/1/2015	108.9947	107.4325784	105.9092451	104.4233984	102.9737941	101.5592402	100.1785939	98.83075935	97.51468527
150601A00440	6/1/2015	3.27	3/16/2029	6/1/2015	125.90764	121.0397595	116.444591	112.1039973	108.0011968	104.1206519	100.4479687	96.9698038	93.6737808
150601A00450	6/1/2015	3.28	4/27/2029	6/1/2015	126.2775	121.3280642	116.6593649	112.2525133	108.0900506	104.1558259	100.4348897	96.91339486	93.57850836
150601A00460	6/1/2015	3.05	5/16/2029	6/1/2015	125.41736	120.4613308	115.7882129	111.3788725	107.2156236	103.2821122	99.56320613	96.04489547	92.71420087
150601A00506	6/1/2015	3.14	7/6/2029	6/1/2015	126.21705	121.1467734	116.3703684	111.8676732	107.6200728	103.6103726	99.82268022	96.24229739	92.85562172
180508A00038	5/8/2018	3.57	5/9/2033	5/8/2018	142.79731	134.034729	126.0052591	118.6383651	111.8709448	105.6464918	99.91435558	94.62908983	89.74987784
180612A00012	6/12/2018	2.94	6/12/2023	6/12/2018	107.22755	106.0676882	104.9319416	103.8195859	102.7299268	101.662297	100.6160554	99.59058529	98.58529334
170830A00040	8/30/2017	1.84	8/30/2022	8/30/2017	103.63201	102.9467137	102.2736612	101.6124892	100.9628485	100.3244041	99.69683493	99.07983258	98.47310106
170921A00056	9/21/2017	2.82	9/21/2027	9/21/2017	133.69162	126.6405384	120.0327463	113.8376032	108.0267554	102.573952	97.45487834	92.64700301	88.12943781
180302A00014	3/2/2018	2.69	3/2/2023	3/2/2018	105.86062	104.8921437	103.9422987	103.0105395	102.0963395	101.199193	100.3186144	99.45413679	98.60531134
180321A00015	3/21/2018	3.02	3/21/2025	3/21/2018	114.86667	112.3474598	109.9130829	107.5599865	105.2847926	103.0842884	100.9554173	98.8952701	96.9010766
180322A00030	3/22/2018	2.79	3/24/2025	3/22/2018	113.23431	110.9898744	108.8159734	106.7097944	104.6686583	102.6900124	100.7714243	98.91057479	97.10525186
180329A00011	3/29/2018	2.77	3/29/2023	3/29/2018	106.20461	105.188624	104.1925325	103.2157517	102.2577199	101.3178972	100.3957652	99.490825	98.6025971
161222A00036	12/22/2016	2.69	12/22/2026	12/22/2016	117.64164	114.3369478	111.1718021	108.1390327	105.231892	102.4440281	99.76945865	97.20254706	94.73797978

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
161222A00037	12/22/2016	3.08	12/22/2031	12/22/2016	133.03147	126.1394314	119.7514814	113.8245814	108.3197601	103.2016965	98.43835073	94.00063397	89.86211439
170406A00031	4/6/2017	3.01	4/6/2027	4/6/2017	133.12126	126.5533117	120.3725087	114.5536741	109.0734073	103.9099456	99.043041	94.45384732	90.12481595
170417A00059	4/17/2017	2.14	4/18/2022	4/17/2017	105.26595	104.3242175	103.3995759	102.4915574	101.5997149	100.7236173	99.8628488	99.01700799	98.18570749
170518A00028	5/18/2017	2.45	5/20/2024	5/18/2017	117.48433	114.2640366	111.1528198	108.146342	105.2404629	102.4312308	99.71487345	97.08778821	94.54653369
170630A00051	6/30/2017	1.75	6/30/2021	6/30/2017	100.27556	100.2253058	100.1751399	100.1250631	100.0750751	100.0251757	99.97536474	99.92564192	99.87600702
160608A00032	6/8/2016	2.36	6/8/2026	6/8/2016	126.08513	120.6135093	115.4265021	110.5075891	105.8413032	101.4131562	97.2095714	93.21782161	89.42597085
160609A00075	6/9/2016	1.94	6/9/2026	6/9/2016	114.3648	111.3721926	108.4974762	105.7349717	103.0793133	100.5254324	98.06853879	95.70410349	93.42784269
160620A00018	6/20/2016	1.25	6/21/2021	6/20/2016	100.1879	100.1502521	100.1126541	100.0751101	100.03762	100.0001837	99.96280108	99.92547202	99.88819641
160628A00006	6/28/2016	1.44	6/28/2023	6/28/2016	105.54752	104.405074	103.2864252	102.1908558	101.1176791	100.0662356	99.03589113	98.0260361	97.03608409
160707A00017	7/7/2016	1.22	7/7/2021	7/7/2016	100.56051	100.4491515	100.3380583	100.2272246	100.1166495	100.006332	99.89627116	99.78646607	99.67691581
161222A00035	12/22/2016	2.29	12/22/2023	12/22/2016	107.96517	106.535819	105.1401199	103.7769902	102.4453898	101.1443209	99.87282582	98.629985	97.41491519
150601A00528	6/1/2015	3.08	7/27/2029	6/1/2015	126.10009	120.9991405	116.1956382	111.6690581	107.4004621	103.3723652	99.56861294	95.97427117	92.57552479
150601A00559	6/1/2015	3.06	8/31/2029	6/1/2015	126.27835	121.1108677	116.2478482	111.6680821	107.3520111	103.281591	99.44016364	95.81234023	92.38389558
150601A00684	6/1/2015	2.25	2/7/2025	6/1/2015	111.12968	109.0370826	107.007999	105.0399657	103.1306314	101.2777536	99.47919325	97.73290851	96.03695005
160603A00015	6/3/2016	1.95	6/5/2023	6/3/2016	111.28432	109.1297532	107.0293248	104.9813044	102.9840327	101.0359155	99.13542052	97.28107449	95.47146053
160608A00026	6/8/2016	2.36	6/8/2026	6/8/2016	126.08513	120.6135093	115.4265021	110.5075891	105.8413032	101.4131562	97.2095714	93.21782161	89.42597085
160608A00031	6/8/2016	2.36	6/8/2026	6/8/2016	126.08513	120.6135093	115.4265021	110.5075891	105.8413032	101.4131562	97.2095714	93.21782161	89.42597085
150601A00571	6/1/2015	2.5	9/23/2022	6/1/2015	105.2719	104.3775698	103.4983549	102.6338533	101.7836806	100.9474659	100.1248517	99.31549332	98.51905784
150601A00571	6/1/2015	2.5	9/23/2022	6/1/2015	105.27183	104.3775005	103.4982864	102.6337856	101.7836136	100.9473996	100.1247862	99.31542853	98.51899375
200108A00015	12/18/2020	1.98	12/18/2023	12/18/2020	114.72925	111.8564321	109.0709056	106.3694691	103.7490652	101.2067688	98.73978009	96.34541882	94.02111775
200108A00016	12/18/2020	1.98	12/18/2023	12/18/2020	114.72925	111.8564321	109.0709056	106.3694691	103.7490652	101.2067688	98.73978009	96.34541882	94.02111775
200114A00017	1/11/2021	1.93	1/11/2024	1/11/2021	114.9466	111.995936	109.1366725	106.3653869	103.6788076	101.0738084	98.54740142	96.09672916	93.71905835
200114A00021	1/11/2021	1.93	1/11/2024	1/11/2021	114.9466	111.995936	109.1366725	106.3653869	103.6788076	101.0738084	98.54740142	96.09672916	93.71905835
200207A00007	2/7/2020	1.74	2/7/2023	2/7/2020	109.40875	107.5690872	105.769963	104.010105	102.2882954	100.6033667	98.95419982	97.33972097	95.75889971
200207A00013	2/12/2020	1.73	2/10/2023	2/12/2020	109.43649	107.5876274	105.7796633	104.0113081	102.2813277	100.5885394	98.9318096	97.31005111	95.72222062
210525A00004	5/25/2021	1.02	12/19/2025	5/25/2021	119.89024	114.5615318	109.4976235	104.6839716	100.1069135	95.75360594	91.61197157	87.67064902	83.91894643
210526A00014	5/26/2021	1.01	12/19/2025	5/26/2021	119.84017	114.512659	109.4498987	104.6373539	100.0613637	95.70908658	91.56844689	87.62808479	83.87730987
210526A00018	5/26/2021	1.11	5/26/2026	5/26/2021	121.86109	115.9553182	110.3674322	105.0787138	100.0716407	95.32980654	90.83784379	86.58135273	82.54683542
210518A00023	5/18/2021	1.17	5/18/2026	5/18/2021	122.11258	116.2277111	110.6580998	105.3852644	100.3919032	95.66181086	91.17980358	86.9316492	82.90400278
210330A00024	3/30/2021	0.68	3/29/2024	3/30/2021	112.30565	109.1475471	106.0936956	103.1401079	100.2829713	97.51863891	94.84362138	92.25457942	89.74831635
210407A00012	4/7/2021	0.94	4/7/2025	4/7/2021	117.13024	112.6950253	108.4501654	104.3865294	100.4954744	96.76881431	93.19879283	89.77805887	86.49964324
210407A00013	4/7/2021	1.23	4/7/2026	4/7/2021	122.03597	116.2910197	110.8470285	105.6867431	100.7939889	96.15359277	91.75131631	87.57379339	83.60847262
210420A00009	4/20/2021	1.08	12/5/2025	4/20/2021	120.11031	114.8210592	109.7927425	105.0111363	100.4628679	96.13535994	92.01677951	88.09598961	84.36250457

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210420A00010	4/20/2021	1.08	12/12/2025	4/20/2021	120.17813	114.8640761	109.8130976	105.0108055	100.4436715	96.09897587	91.96475429	88.02974898	84.28336308
210526A00017	5/26/2021	2.13	5/26/2033	5/26/2021	155.53636	139.0275686	124.4301144	111.5121708	100.0711211	89.92974723	80.93293309	72.94481076	65.84628698
210319A00003	3/19/2021	0.95	3/19/2025	3/19/2021	116.9764	112.6075368	108.4240074	104.4169698	100.5780513	96.89932295	93.37327384	89.9927863	86.7511131
210324A00002	3/24/2021	2.06	3/24/2031	3/24/2021	146.30411	133.2755566	121.5123023	110.8848914	101.2777191	92.58748468	84.7218271	77.59811747	71.14239042
210324A00003	3/24/2021	1.18	3/24/2026	3/24/2021	121.63016	115.9426812	110.551133	105.4386413	100.5893824	95.98850946	91.62208698	87.47703012	83.5410486
210330A00015	3/30/2021	0.47	3/30/2023	3/30/2021	107.74018	105.7580495	103.8219496	101.9305394	100.0825264	98.27666361	96.51174772	94.7866173	93.10015106
210330A00021	3/30/2021	2.16	3/28/2031	3/30/2021	147.48871	134.3843608	122.552366	111.8625394	102.1986205	93.45672299	85.54396248	78.37724265	71.88218067
210330A00022	3/30/2021	1.27	3/30/2026	3/30/2021	122.17151	116.4495657	111.0260374	105.883894	101.0071627	96.38085512	91.99090225	87.82409326	83.86801909
210310A00014	3/11/2021	0.41	5/16/2022	3/11/2021	104.14778	103.1009791	102.0750499	101.069377	100.0833656	99.11644406	98.16806264	97.23769258	96.32482507
210310A00015	3/11/2021	0.51	5/15/2023	3/11/2021	108.3523	106.2240603	104.1484522	102.1238424	100.1486571	98.22138186	96.34055947	94.50478706	92.71271374
210311A00007	3/11/2021	1.06	3/11/2026	3/11/2021	120.85948	115.2374684	109.9064458	104.8498208	100.0520428	95.4985277	91.17559275	87.07039505	83.17087552
210312A00008	3/12/2021	1.13	3/12/2026	3/12/2021	121.23876	115.603746	110.2603911	105.1920755	100.3832149	95.81919294	91.48629572	87.37165087	83.46317115
210315A00003	3/15/2021	1.13	3/13/2026	3/15/2021	121.24925	115.6104197	110.263584	105.1921015	100.3803687	95.81375115	91.47851749	87.36177851	83.4514309
210318A00007	3/22/2021	1.41	3/21/2024	3/22/2021	114.41258	111.2489062	108.1888479	105.2284281	102.3638427	99.59145645	96.90779393	94.30953159	91.79349014
210305A00005	3/9/2021	0.54	8/11/2023	3/9/2021	109.41263	107.0058851	104.6642581	102.3854905	100.1674188	98.00797339	95.90517363	93.85712321	91.86200571
210305A00006	3/8/2021	1.02	8/11/2025	3/8/2021	118.71278	113.8342875	109.1816655	104.7431891	100.507814	96.46513278	92.60533381	88.91916332	85.39789003
210308A00009	3/8/2021	0.62	3/8/2024	3/8/2021	111.89097	108.806706	105.8229003	102.9356353	100.1411783	97.4359685	94.81660711	92.2798492	89.82259521
210309A00002	3/11/2021	0.77	7/25/2024	3/11/2021	113.86627	110.311461	106.8856292	103.5833118	100.399315	97.32869846	94.36676133	91.50902882	88.75123962
210309A00004	3/11/2021	0.87	11/25/2024	3/11/2021	115.49925	111.5265917	107.7110798	104.0456473	100.5235894	97.13853886	93.88444672	90.75556468	87.74642836
210310A00003	3/15/2021	0.79	8/26/2024	3/15/2021	114.2685	110.6067006	107.0809158	103.6852321	100.4140357	97.26199624	94.2240493	91.29538157	88.4714162
210226A00004	3/1/2021	1.04	12/5/2025	3/1/2021	119.91179	114.6272266	109.6034263	104.8261766	100.2821116	95.95866076	91.84399747	87.92699076	84.19716066
210302A00005	3/5/2021	0.92	9/10/2025	3/5/2021	118.52661	113.5563895	108.8200469	104.3053246	100.0006774	95.8952273	91.97872083	88.24148941	84.67441248
210302A00019	3/4/2021	1.06	3/4/2024	3/4/2021	113.14767	110.0579302	107.0684183	104.1752168	101.3745906	98.66297854	96.03698317	93.49336229	91.02902033
210303A00006	3/4/2021	0.97	10/10/2025	3/4/2021	119.04126	113.9621329	109.1256682	104.5190694	100.130279	95.94793197	91.96131307	88.16031609	84.53540626
210304A00002	3/5/2021	0.93	7/10/2025	3/5/2021	117.99663	113.23804	108.6958867	104.3591477	100.2174266	96.26091306	92.48034677	88.86698279	85.4125599
210304A00006	3/4/2021	1.02	3/4/2026	3/4/2021	120.5778	114.9876179	109.6859024	104.6562139	99.88314091	95.35223396	91.04993929	86.9635379	83.08108911
210225A00007	2/25/2021	1.79	8/23/2030	2/25/2021	141.00484	129.0210045	118.1433695	108.2641156	99.28645849	91.12346441	83.69700037	76.93680101	70.77963908
210225A00012	3/1/2021	0.91	8/25/2025	3/1/2021	118.33563	113.4204296	108.734772	104.2666331	100.0046966	95.93830533	92.05741819	88.35257035	84.81483639
210225A00013	3/1/2021	0.93	10/6/2025	3/1/2021	118.81198	113.7515013	108.9322641	104.3415783	99.96748258	95.79870166	91.82460288	88.0351566	84.42089889
210225A00015	3/1/2021	0.7	8/26/2024	3/1/2021	113.95384	110.2974145	106.7768521	103.3862478	100.119993	96.97276188	93.93949501	91.01538347	88.1958547
210225A00016	3/1/2021	0.88	7/15/2025	3/1/2021	117.81944	113.048216	108.4946855	104.1477245	99.99684567	96.03215513	92.24431545	88.62451072	85.16441428
210226A00002	2/26/2021	0.86	2/26/2025	2/26/2021	116.38278	112.0976722	107.9923069	104.0580775	100.2868454	96.67091344	93.20299818	89.876205	86.68400445
210224A00003	2/26/2021	0.9	12/3/2025	2/26/2021	119.14421	113.8860367	108.8872569	104.1337432	99.61220897	95.31015715	91.21582955	87.31815894	83.60672476

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210224A00004	2/26/2021	0.91	12/18/2025	2/26/2021	119.33042	114.0183363	108.9702674	104.171722	99.60907956	95.26953629	91.14105167	87.21229869	83.47261758
210224A00006	2/26/2021	0.88	10/21/2025	2/26/2021	118.71315	113.604625	108.741918	104.1119776	99.7025097	95.50193148	91.49932681	87.68440441	84.04745889
210224A00007	2/26/2021	0.68	10/21/2024	2/26/2021	114.44023	110.5988504	106.9054987	103.3537071	99.93732141	96.65048822	93.48763829	90.44347137	87.51294165
210225A00003	3/1/2021	0.93	9/24/2025	3/1/2021	118.70004	113.6815964	108.9007975	104.3452001	100.0030754	95.86336564	91.91564175	88.15006461	84.55734854
210225A00006	2/25/2021	0.98	2/25/2026	2/25/2021	120.30115	114.7417426	109.468314	104.4645916	99.71532116	95.20620107	90.92381656	86.85557918	82.98967076
210218A00011	2/22/2021	0.85	10/24/2025	2/22/2021	118.59624	113.4803455	108.6111099	103.9754133	99.56089744	95.35592053	91.34951215	87.53133103	83.89162571
210219A00002	2/19/2021	0.32	2/22/2022	2/19/2021	103.09568	102.3078484	101.5319766	100.7677984	100.0150513	99.27348053	98.54283874	97.82288595	97.11338911
210219A00004	2/19/2021	0.91	2/19/2026	2/19/2021	119.88325	114.3536449	109.107742	104.1294444	99.40366121	94.91624067	90.65390563	86.6041941	82.75540414
210219A00008	2/22/2021	0.86	12/1/2025	2/22/2021	118.98253	113.7330811	108.7424309	103.9964921	99.48201816	95.1865496	91.09836252	87.20642142	83.50033503
210223A00014	2/23/2021	0.31	2/23/2022	2/23/2021	103.0998	102.3089334	101.5301191	100.7630851	100.0075658	99.26330381	98.53004917	97.80755931	97.09559877
210224A00002	2/25/2021	0.88	11/3/2025	2/25/2021	118.8318	113.6774575	108.7730835	104.1052942	99.66149489	95.4298261	91.39911637	87.55883891	83.89907108
210217A00008	2/18/2021	0.63	8/15/2024	2/18/2021	113.60012	109.9840328	106.501272	103.1460908	99.9130307	96.79690543	93.79278527	90.89598238	88.10203699
210217A00009	2/18/2021	0.68	11/15/2024	2/18/2021	114.68473	110.7588414	106.9871969	103.3629167	99.87946601	96.5306363	93.31052696	90.21352831	87.23430556
210218A00005	2/18/2021	0.32	2/18/2022	2/18/2021	103.04864	102.2730571	101.5090805	100.7564517	100.0149194	99.28423969	98.56417581	97.85449777	97.15498223
210218A00006	2/18/2021	0.5	2/20/2024	2/18/2021	111.35667	108.3337291	105.4080609	102.5758657	99.83352558	97.17759156	94.60477429	92.11193521	89.69607828
210218A00009	2/19/2021	0.62	7/15/2024	2/19/2021	113.2529	109.7402035	106.3541158	103.0893163	99.94074329	96.90357965	93.97323974	91.14535644	88.41576917
210218A00010	2/18/2021	1.72	2/18/2031	2/18/2021	142.09441	129.4078267	117.948119	107.5903502	98.2229041	89.74600231	82.07039335	75.11619255	68.81185535
210208A00006	2/9/2021	0.46	8/15/2023	2/9/2021	109.26898	106.8518794	104.5004667	102.2124452	99.98562211	97.81790093	95.70727561	93.65182604	91.64971339
210208A00008	2/11/2021	0.78	11/17/2025	2/11/2021	118.46587	113.2743363	108.3368314	103.6396366	99.16984624	94.91531431	90.8646062	87.00695301	83.33220941
210208A00015	2/10/2021	0.46	8/25/2023	2/10/2021	109.37629	106.9278097	104.5465457	102.2301272	99.97628504	97.78285072	95.6477508	93.56900183	91.54470552
210211A00005	2/11/2021	0.45	6/15/2023	2/11/2021	108.5761	106.3517361	104.1843005	102.0719507	100.0129161	98.00549673	96.04805989	94.13903663	92.27691893
210211A00007	2/11/2021	0.47	9/15/2023	2/11/2021	109.62124	107.1074974	104.6637863	102.2877072	99.97695694	97.72932763	95.54270211	93.41504941	91.34442054
210216A00011	2/17/2021	0.83	12/15/2025	2/17/2021	118.9036	113.611544	108.5822489	103.8013053	99.25517389	94.93112585	90.81719009	86.90210381	83.17526672
210129A00002	2/3/2021	0.59	7/25/2024	2/3/2021	113.2548	109.7101508	106.2942075	103.0015132	99.82688324	96.76538634	93.81233021	90.96324823	88.21388695
210201A00001	2/1/2021	0.77	12/16/2025	2/1/2021	118.61265	113.3242066	108.2985742	103.5213305	98.97892451	94.65861736	90.54842886	86.63708816	82.91398783
210201A00003	2/2/2021	0.74	10/15/2025	2/2/2021	117.98518	112.913423	108.0850436	103.4871553	99.10762295	94.93501125	90.9585407	87.16804669	83.55394135
210201A00007	2/3/2021	0.57	8/15/2024	2/3/2021	113.39239	109.7798204	106.3004772	102.9486207	99.71879565	96.60581892	93.60476384	90.71094544	87.91990674
210208A00002	2/10/2021	0.45	6/15/2023	2/10/2021	108.5761	106.3517361	104.1843005	102.0719507	100.0129161	98.00549673	96.04805989	94.13903663	92.27691893
210208A00004	2/11/2021	0.76	10/15/2025	2/11/2021	118.08118	113.0072351	108.1767356	103.5768004	99.19529124	95.0207698	91.04245373	87.25017575	83.63434541
210121A00018	1/25/2021	0.5	8/25/2023	1/25/2021	109.47126	107.0216402	104.6392655	102.3217601	100.0668542	97.87237847	95.7362589	93.65651138	91.63123699
210122A00005	1/26/2021	0.6	7/15/2024	1/26/2021	113.18558	109.6739899	106.288982	103.0252337	99.87768387	96.84151665	93.91214725	91.08520944	88.35654347
210122A00006	1/25/2021	0.61	8/15/2024	1/25/2021	113.53088	109.915962	106.4343404	103.0802674	99.84828569	96.73320993	93.73011146	90.8343034	88.04132691
210127A00008	1/27/2021	0.93	1/27/2027	1/27/2021	122.78699	116.0403476	109.6997414	103.7386652	98.13248473	92.858294	87.89478492	83.22212694	78.82185667

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210127A00009	1/27/2021	1.3	7/27/2029	1/27/2021	132.52609	122.3130285	112.9492423	104.3599419	96.47728371	89.23969196	82.59124897	76.48114826	70.86320299
210127A00010	1/27/2021	1.41	7/26/2030	1/27/2021	136.72768	125.0454279	114.4385322	104.8027062	96.04426717	88.07900998	80.83120392	74.23270043	68.22213896
210114A00004	1/14/2021	0.4	1/14/2022	1/14/2021	102.68993	102.020732	101.3602178	100.7082197	100.0645738	99.42912039	98.80170372	98.18217205	97.57037741
210119A00005	1/20/2021	0.52	9/25/2023	1/20/2021	109.84968	107.3034862	104.828686	102.4228734	100.0837369	97.80905647	95.59669953	93.44461698	91.35083932
210119A00007	1/20/2021	0.51	8/25/2023	1/20/2021	109.495	107.0450978	104.6624454	102.3446683	100.0894965	97.89476041	95.75838593	93.67838877	91.65286986
210121A00012	1/22/2021	0.64	10/15/2024	1/22/2021	114.23334	110.4152086	106.7435583	103.2120109	99.81450371	96.54526872	93.39881675	90.36992235	87.45360977
210121A00014	1/22/2021	0.64	10/25/2024	1/22/2021	114.3335	110.480972	106.7773922	103.2162273	99.79126611	96.49660207	93.32661631	90.27596221	87.33955068
210121A00017	1/25/2021	0.48	5/25/2023	1/25/2021	108.40751	106.2474376	104.141541	102.0881077	100.0854953	98.13212482	96.2264775	94.36709221	92.55256273
201221A00014	12/21/2020	0.76	12/19/2025	12/21/2020	118.58858	113.2908397	108.2567791	103.4719103	98.92261755	94.59610245	90.48033001	86.56397906	82.8363959
201221A00015	12/21/2020	0.88	12/4/2026	12/21/2020	122.09483	115.5469215	109.3844266	103.5827416	98.11896165	92.97175073	88.12122607	83.54885186	79.23734116
201223A00012	12/23/2020	0.91	12/18/2026	12/23/2020	122.38182	115.7786802	109.5664103	103.7199204	98.21585723	93.03247715	88.1495266	83.5481324	79.21070054
201223A00013	12/23/2020	0.9	12/11/2026	12/23/2020	122.26876	115.6923707	109.5041569	103.6792685	98.19457529	93.02853645	88.16108274	83.57350866	79.24837273
210108A00008	1/11/2021	0.51	8/15/2023	1/11/2021	109.38618	106.9676971	104.6149291	102.3255811	100.0974595	97.92846701	95.81659671	93.75992771	91.75662047
210112A00003	1/12/2021	0.53	9/15/2023	1/12/2021	109.76749	107.2519542	104.8064911	102.4286981	100.1162709	97.86700055	95.67876872	93.54954342	91.47737468
201215A00001	12/15/2020	0.76	12/15/2025	12/15/2020	118.55405	113.2702871	108.2489892	103.4757581	98.93706706	94.62019919	90.51319471	86.60480155	82.88442961
201216A00001	12/16/2020	0.49	7/14/2023	12/16/2020	108.98667	106.6701038	104.4144769	102.2177424	100.0779401	97.99319159	95.9616958	93.98172539	92.05162291
201216A00003	12/16/2020	0.59	7/1/2024	12/16/2020	113.00799	109.5439512	106.2035133	102.9815443	99.87315499	96.87368925	93.97871166	91.18399541	88.485511
201216A00004	12/16/2020	0.74	9/8/2025	12/16/2020	117.66569	112.7210494	108.0091133	103.5176763	99.23524532	95.15099223	91.25471183	87.53678189	83.98812637
201216A00013	12/16/2020	0.59	12/16/2025	12/16/2020	118.5359	113.2237186	108.1762647	103.3789757	98.81817219	94.48099612	90.35535704	86.42988194	82.6938687
201218A00014	12/18/2020	0.57	12/18/2025	12/18/2020	118.45275	113.1359152	108.0843389	103.283413	98.71941665	94.37945405	90.25140004	86.32384982	82.58607207
201201A00002	12/1/2020	0.54	12/1/2023	12/1/2020	110.62678	107.8623837	105.1812028	102.5802385	100.0566168	97.60758518	95.2305072	92.92285633	90.68221081
201203A00005	12/3/2020	0.78	12/3/2026	12/3/2020	122.49471	115.9026157	109.6992962	103.8598998	98.36128486	93.18189742	88.30165405	83.70183403	79.36497997
201204A00015	12/8/2020	1.07	12/8/2025	12/8/2020	120.08965	114.7909449	109.7540498	104.9646708	100.4093702	96.07551176	91.95120775	88.02527107	84.28716991
201210A00011	12/10/2020	0.41	12/10/2021	12/10/2020	102.28541	101.7213352	101.1634625	100.6116896	100.0659168	99.52604648	98.99198331	98.46363388	97.94090682
201210A00021	12/10/2020	0.89	12/10/2027	12/10/2020	125.83209	117.8705164	110.4547056	103.5445967	97.10326874	91.09667518	85.49340605	80.26447085	75.38310048
201214A00002	12/14/2020	0.45	12/14/2022	12/14/2020	106.48662	104.8354199	103.2183958	101.6345629	100.0829765	98.56272731	97.07293998	95.61277116	94.18140826
201119A00003	11/19/2020	0.56	11/17/2023	11/19/2020	110.52986	107.8099541	105.1707684	102.6094375	100.1232135	97.70946317	95.36566225	93.08939007	90.87832473
201119A00021	11/23/2020	2.22	11/21/2030	11/23/2020	146.59224	134.0118201	122.6139929	112.2813305	102.9086247	94.40155895	86.67553019	79.65460477	73.27059049
201119A00023	11/23/2020	2.23	11/21/2030	11/23/2020	146.70165	134.1158775	122.7130634	112.3757476	102.9986963	94.4875686	86.75774002	79.73325689	73.34590882
201123A00009	11/25/2020	1.02	11/25/2024	11/25/2020	116.06613	112.0830819	108.2574763	104.5822421	101.0506639	97.65636374	94.39328287	91.2556635	88.23803217
201123A00010	11/25/2020	1.48	11/24/2025	11/25/2020	121.97546	116.678826	111.6413417	106.8489799	102.2885487	97.94763549	93.81455679	89.87831151	86.12853746
201123A00011	11/25/2020	1.41	11/24/2025	11/25/2020	121.63051	116.3419636	111.3122773	106.5274388	101.9742681	97.64036402	93.51405391	89.58434699	85.84089083
201117A00006	11/17/2020	0.57	11/17/2023	11/17/2020	110.55614	107.8358897	105.1963671	102.6347068	100.1481609	97.73409591	95.38998724	93.11341407	90.90205429

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
201117A00016	11/17/2020	0.52	11/18/2024	11/17/2020	114.68379	110.7334426	106.9390206	103.293537	99.790358	96.4231824	93.18602305	90.07318934	87.07927082
201117A00017	11/17/2020	0.39	11/17/2023	11/17/2020	110.47713	107.7494482	105.1028962	102.5345834	100.041743	97.62172371	95.27198411	92.99008746	90.77369663
201118A00009	11/18/2020	0.61	11/18/2025	11/18/2020	118.39415	113.1778702	108.2176428	103.4996028	99.01070726	94.73868369	90.67198003	86.79971874	83.11165375
201118A00021	11/20/2020	0.97	11/20/2023	11/20/2020	111.64326	108.8994523	106.2372435	103.6537257	101.1461137	98.71173875	96.34804276	94.05257314	91.82297767
201119A00002	11/19/2020	0.5	11/18/2022	11/19/2020	106.26795	104.6959279	103.1553124	101.6452442	100.1648931	98.71345836	97.29016735	95.89427443	94.52505975
201105A00016	11/9/2020	2.18	11/8/2027	11/9/2020	133.73762	125.6690607	118.1397847	111.1109936	104.5468684	98.41432883	92.68281027	87.32406061	82.31195405
201116A00009	11/16/2020	0.51	11/14/2022	11/16/2020	106.23802	104.6780771	103.1490727	101.6501687	100.1805528	98.73944132	97.32607778	95.93973206	94.57969908
201116A00021	11/16/2020	0.53	11/15/2024	11/16/2020	114.69249	110.7515877	106.9658749	103.3284128	99.83261396	96.47222028	93.24128489	90.13415472	87.14545429
201116A00024	11/18/2020	2.36	11/15/2034	11/18/2020	164.8515	145.665253	128.9280454	114.3128296	101.537801	90.35993602	80.56948472	71.98526812	64.45066024
201116A00025	11/18/2020	1.96	11/15/2032	11/18/2020	151.17629	135.6587439	121.8718957	109.6135108	98.70592661	88.99295555	80.3371946	72.61768367	65.72786583
201117A00005	11/17/2020	0.5	11/17/2022	11/17/2020	106.25664	104.6876705	103.1499883	101.6427411	100.1651029	98.71627737	97.29549592	95.90201683	94.53512397
201030A00012	10/30/2020	0.63	10/30/2025	10/30/2020	118.32924	113.1768739	108.2745402	103.6088579	99.16722969	94.9377928	90.90937275	87.07143964	83.41406772
201030A00016	10/30/2020	1.14	10/8/2027	10/30/2020	125.98438	118.281553	111.0916157	104.3779653	98.10678682	92.2468244	86.76917559	81.6471032	76.85586311
201030A00017	10/30/2020	1.14	10/15/2027	10/30/2020	126.03601	118.3072133	111.094523	104.3610061	98.07254495	92.1976113	86.70705781	81.57392702	76.77327669
201030A00018	10/30/2020	1.15	10/22/2027	10/30/2020	126.15949	118.4023187	111.1646078	104.4090727	98.10128507	92.20943732	86.70413058	81.55818111	76.74644296
201030A00019	10/30/2020	1.15	10/29/2027	10/30/2020	126.21103	118.4279628	111.1675857	104.3922807	98.06731352	92.16060168	86.64249931	81.48560067	76.66456026
201105A00003	11/6/2020	2.24	11/4/2030	11/6/2020	146.62007	134.1006474	122.7524708	112.4597885	103.1188373	94.63654429	86.92937776	79.92232545	73.54798736
201021A00011	10/21/2020	1.11	10/21/2027	10/21/2020	125.86489	118.1209685	110.8955846	104.1515322	97.85445088	91.97259522	86.47662297	81.33940213	76.53583402
201021A00012	10/21/2020	1.85	10/19/2035	10/21/2020	159.77067	139.639165	122.2537757	107.2247521	94.21943314	82.95364419	73.18442484	64.70387739	57.33395839
201028A00011	10/28/2020	0.91	4/28/2026	10/28/2020	120.50463	114.7295541	109.2609952	104.0811717	99.17342345	94.52213471	90.11266281	85.93127289	81.96507705
201028A00012	10/28/2020	0.8	7/28/2025	10/28/2020	117.57886	112.7701177	108.1825003	103.8046214	99.62574892	95.6357638	91.82512086	88.18481267	84.7063359
201028A00013	10/28/2020	0.68	10/28/2024	10/28/2020	114.51124	110.6457328	106.929996	103.3574445	99.92181943	96.61716963	93.43783457	90.37842862	87.43382617
201029A00002	10/29/2020	0.59	10/29/2025	10/29/2020	118.1262	112.9818095	108.0869784	103.4283537	98.99336782	94.77018593	90.74765924	86.91528177	83.26314993
201015A00025	10/19/2020	1.54	10/18/2027	10/19/2020	128.92607	121.0910664	113.7781055	106.9498444	100.5717913	94.61207338	89.04122463	83.83199328	78.95916488
201015A00030	10/19/2020	2.39	10/18/2027	10/19/2020	135.0204	126.9833843	119.478068	112.4665605	105.9138528	99.78758787	94.05784683	88.69695366	83.67929645
201015A00032	10/19/2020	2.33	10/19/2026	10/19/2020	130.43407	123.8061314	117.5558991	111.6599187	106.0963085	100.844647	95.88586781	91.20216373	86.77689683
201019A00005	10/19/2020	0.79	10/20/2025	10/19/2020	118.27036	113.1753487	108.3254902	103.7077716	99.30993606	95.12043549	91.1283862	87.3235272	83.69618141
201019A00006	10/19/2020	0.57	10/19/2023	10/19/2020	110.24047	107.6142698	105.063582	102.5858097	100.1784623	97.83914922	95.5655755	93.35553706	91.20691671
201019A00007	10/19/2020	0.64	10/21/2024	10/19/2020	114.29343	110.4546641	106.7638583	103.2145405	99.80055911	96.51606323	93.35548606	90.31352967	87.38515044
201001A00011	10/1/2020	0.71	6/17/2025	10/1/2020	116.80579	112.1467727	107.6972381	103.4466501	99.38506574	95.50309422	91.79186344	88.24298815	84.84854044
201001A00012	10/1/2020	0.74	9/16/2025	10/1/2020	117.73316	112.7617785	108.0252198	103.5111712	99.2080365	95.10488712	91.19141935	87.45791536	83.89520644
201014A00002	10/14/2020	0.61	10/15/2024	10/14/2020	114.12379	110.3076098	106.6378506	103.1081409	99.7124199	96.44492158	93.30015849	90.2729069	87.35819266
201015A00002	10/15/2020	0.61	10/15/2024	10/15/2020	114.12379	110.3076098	106.6378506	103.1081409	99.7124199	96.44492158	93.30015849	90.2729069	87.35819266

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
201015A00003	10/15/2020	0.75	10/15/2025	10/15/2020	118.03318	112.960329	108.1308896	103.5319778	99.15145709	94.97789053	91.00049721	87.20911122	83.59414338
201015A00024	10/19/2020	1.53	10/18/2027	10/19/2020	128.85437	121.021745	113.7110472	106.8849418	100.5089436	94.55118497	88.98220554	83.77475845	78.90363392
200916A00019	9/16/2020	0.42	9/16/2024	9/16/2020	113.70346	109.9731515	106.3834947	102.9284031	99.60209327	96.39906504	93.31408608	90.342177	87.47859753
200916A00023	9/16/2020	0.42	9/16/2024	9/16/2020	113.70346	109.9731515	106.3834947	102.9284031	99.60209327	96.39906504	93.31408608	90.342177	87.47859753
200922A00015	9/24/2020	1.09	9/24/2025	9/24/2020	119.45743	114.4218771	109.6245625	105.0530138	100.6954782	96.54087497	92.57875334	88.79925354	85.19307021
200923A00001	9/23/2020	2.27	9/22/2025	9/23/2020	125.01656	119.8619646	114.9494035	110.2662457	105.8005878	101.5412069	97.47751766	93.59953318	89.8978275
200923A00002	9/23/2020	2.17	9/22/2025	9/23/2020	124.54383	119.3998969	114.497632	109.8244189	105.3683692	101.1182741	97.06356198	93.1942587	89.50095054
200928A00009	9/28/2020	1.51	9/28/2032	9/28/2020	144.71386	129.7543555	116.456396	104.6272379	94.09734753	84.71751046	76.35630986	68.89792803	62.24022876
200826A00039	8/28/2020	1.03	7/29/2024	8/28/2020	114.7956	111.2125702	107.7597823	104.4317053	101.223081	98.12890899	95.14443196	92.26512217	89.48666861
200826A00040	8/28/2020	0.92	10/27/2023	8/28/2020	111.22761	108.563497	105.9765753	103.4641728	101.0237226	98.65276162	96.34892625	94.10994741	91.93364628
200909A00001	9/9/2020	0.98	9/8/2028	9/9/2020	128.56698	119.5692435	111.2500458	103.5549302	96.43407991	89.84189615	83.73662003	78.0799903	72.83693339
200916A00015	9/16/2020	0.72	9/16/2025	9/16/2020	117.63899	112.6697296	107.9352145	103.4231399	99.12191263	95.02060689	91.10892165	87.3771416	83.81610046
200916A00016	9/16/2020	0.6	9/16/2024	9/16/2020	113.80484	110.0864499	106.5079231	103.0632265	99.74662011	96.5526447	93.47610617	90.51206099	87.65580255
200916A00017	9/16/2020	0.54	9/15/2023	9/16/2020	109.79187	107.2760303	104.8302752	102.4521966	100.1394899	97.88994604	95.70144649	93.57195909	91.4995337
200826A00021	8/26/2020	0.83	8/26/2025	8/26/2020	117.97346	113.0630808	108.3822521	103.918942	99.66182486	95.6002352	91.72412458	88.0240218	84.49099582
200826A00028	8/28/2020	1.08	8/28/2024	8/28/2020	115.30501	111.6192309	108.0703939	104.6525367	101.3600021	98.18741876	95.12968401	92.18194845	89.33960123
200826A00029	8/28/2020	1.16	11/27/2024	8/28/2020	116.61752	112.6179359	108.7765906	105.0863645	101.5405002	98.13258059	94.85651015	91.70649655	88.67703394
200826A00035	8/28/2020	0.78	8/28/2023	8/28/2020	110.17112	107.7040637	105.3048898	102.9711933	100.7006761	98.49114201	96.34049189	94.24671786	92.20789857
200826A00036	8/28/2020	0.88	7/28/2023	8/28/2020	110.03777	107.6659365	105.3573028	103.1097125	100.9211006	98.78949032	96.7129879	94.68977854	92.71812233
200826A00038	8/28/2020	1.11	8/28/2024	8/28/2020	115.41008	111.7225061	108.1719225	104.7523665	101.4581794	98.28398807	95.22468831	92.27542921	89.43159849
200730A00013	7/30/2020	0.74	1/30/2025	7/30/2020	115.64349	111.4582863	107.4457069	103.5976348	99.90638906	96.36469582	92.96566431	89.70276378	86.56980238
200806A00006	8/6/2020	0.76	8/6/2025	8/6/2020	117.47495	112.639656	108.0279203	103.6281626	99.42947527	95.42157778	91.59477639	87.9399269	84.44839993
200818A00016	3/31/2021	0.57	4/1/2024	3/31/2021	112.00283	108.839948	105.7818007	102.824366	99.96380298	97.19643826	94.51875773	91.92739872	89.41914268
200818A00018	3/31/2021	0.57	4/1/2024	3/31/2021	112.00283	108.839948	105.7818007	102.824366	99.96380298	97.19643826	94.51875773	91.92739872	89.41914268
200824A00020	8/26/2020	1.57	8/26/2025	8/26/2020	121.40823	116.4216744	111.6672563	107.1328348	102.8069799	98.67892682	94.73853264	90.97623641	87.38302171
200826A00019	8/26/2020	0.98	8/26/2026	8/26/2020	121.92742	115.7164309	109.8545541	104.3203104	99.09366144	94.15590738	89.48958934	85.07839958	80.90709886
200629A00023	6/29/2020	0.95	6/29/2026	6/29/2020	121.26968	115.2688406	109.5963328	104.2325116	99.15900898	94.35864673	89.815353	85.51408494	81.44075725
200701A00007	7/1/2020	0.47	7/1/2021	7/1/2020	100.39924	100.3043785	100.2096956	100.1151953	100.0208771	99.92674041	99.83278482	99.73900974	99.64541468
200708A00011	7/10/2020	2.87	7/10/2031	7/10/2020	156.95679	142.974907	130.3736664	119.0088278	108.7519397	99.48853305	91.11653368	83.5448615	76.69219498
200729A00015	7/30/2020	0.47	9/21/2021	7/30/2020	101.36986	101.0410198	100.7143098	100.3897141	100.0672122	99.74678375	99.42840891	99.11206792	98.79774131
200729A00016	7/30/2020	0.5	4/1/2022	7/30/2020	103.68728	102.7814332	101.8913002	101.0164759	100.1565686	99.31119954	98.48000294	97.66262506	96.85872389
200730A00011	7/30/2020	1.15	7/28/2028	7/30/2020	128.25908	119.4738116	111.3397856	103.8055182	96.82385154	90.35156775	84.34903969	78.77991489	73.61082861
200611A00019	6/11/2020	0.88	12/11/2025	6/11/2020	119.17203	113.8851125	108.8601197	104.0827222	99.53944954	95.21763623	91.10536886	87.1914374	83.46528982

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200611A00020	6/11/2020	0.81	6/11/2025	6/11/2020	117.19403	112.5457236	108.1056298	103.8633196	99.80894333	95.93319664	92.22728677	88.68290164	85.29218082
200611A00021	6/11/2020	0.72	6/11/2024	6/11/2020	113.22997	109.8240369	106.5379369	103.366765	100.3058505	97.3507413	94.49719231	91.74115459	89.0787649
200611A00023	6/11/2020	0.64	6/12/2023	6/11/2020	108.95219	106.7325729	104.569586	102.4614056	100.4062767	98.40251393	96.44849827	94.54267367	92.68354422
200629A00020	6/29/2020	1.4	6/28/2030	6/29/2020	136.37724	124.8117495	114.3030528	104.7494064	96.05933944	88.15056679	80.94902383	74.38800778	68.40741239
200629A00021	6/29/2020	1.21	6/29/2028	6/29/2020	128.50893	119.8147891	111.7583967	104.289842	97.36336734	90.9369985	84.97221321	79.4336405	74.28878764
200527A00014	5/27/2020	1.06	5/27/2026	5/27/2020	121.59502	115.6927387	110.1084401	104.8233828	99.82002761	95.08195296	90.59377784	86.34109049	82.31038231
200527A00015	5/27/2020	0.99	11/26/2025	5/27/2020	119.57934	114.3323156	109.3430747	104.5976267	100.0828163	95.78626677	91.69633009	87.80203992	84.09306816
200527A00016	5/27/2020	0.92	5/27/2025	5/27/2020	117.53795	112.9299745	108.5265973	104.3176618	100.2935697	96.4452488	92.76412089	89.24207219	85.87142556
200528A00021	5/28/2020	0.63	5/26/2023	5/28/2020	108.73441	106.5677205	104.4554281	102.3958142	100.3872276	98.42808067	96.51684677	94.65205703	92.83229796
200529A00022	6/1/2020	0.98	6/1/2026	6/1/2020	121.19743	115.2891448	109.7000766	104.4113649	99.40535922	94.66553674	90.17642446	85.92352702	81.89325978
200605A00005	6/5/2020	0.99	6/5/2025	6/5/2020	117.92906	113.2842311	108.8465895	104.6057975	100.5520895	96.67623795	92.96952086	89.42369103	86.03094761
200521A00013	5/21/2020	2.09	5/21/2035	5/21/2020	162.4239	142.676463	125.5451582	110.6683976	97.7362683	86.48292027	76.68011078	68.13172118	60.66909603
200521A00015	5/21/2020	2.14	5/21/2036	5/21/2020	166.8551	145.3594534	126.8859265	110.9917236	97.30102052	85.49454434	75.30081945	66.48880491	58.86169633
200521A00016	5/21/2020	2.18	5/21/2037	5/21/2020	170.91413	147.6664677	127.874141	111.0024603	96.60201752	84.29472023	73.76216724	64.73596668	56.98966396
200521A00017	5/21/2020	2.22	5/21/2038	5/21/2020	174.75228	149.7444111	128.652305	110.8381455	95.77106492	83.00875457	72.1823106	62.98373427	55.15561153
200527A00012	5/27/2020	1.2	5/27/2027	5/27/2020	125.43733	118.1999661	111.4203062	105.0671338	99.11151825	93.52663395	88.28759604	83.3713107	78.75633741
200527A00013	5/27/2020	1.13	11/25/2026	5/27/2020	123.55555	116.9960044	110.8202992	105.0040534	99.52455995	94.36065971	89.49262797	84.90206996	80.57182453
200504A00007	5/4/2020	1.47	5/4/2028	5/4/2020	130.09942	121.539596	113.5938975	106.2152599	99.36045003	92.98973525	87.06658373	81.5573915	76.43123414
200511A00006	5/11/2020	1.65	5/13/2030	5/11/2020	138.55685	127.0522313	116.582864	107.0504389	98.36644093	90.4511267	83.23261562	76.64607911	70.63301711
200515A00019	5/15/2020	0.59	5/15/2023	5/15/2020	108.51777	106.3877818	104.3104646	102.2841799	100.3073528	98.37846793	96.4960672	94.65874682	92.86515505
200515A00020	5/15/2020	0.82	5/15/2025	5/15/2020	116.98684	112.4304217	108.0747545	103.9099565	99.92668272	96.11609543	92.46983417	88.97998716	85.63906484
200515A00021	5/15/2020	1.12	5/17/2027	5/15/2020	124.82593	117.6422922	110.9111982	104.6019171	98.68595646	93.13688713	87.93018383	83.04307852	78.45442606
200518A00019	5/19/2020	0.9	5/19/2025	5/19/2020	117.37169	112.7939203	108.4183197	104.2349047	100.234241	96.40740826	92.74596904	89.24194005	85.88776519
200429A00064	4/29/2020	0.69	4/29/2022	4/29/2020	104.2103	103.2158287	102.2401896	101.2828555	100.3433157	99.4210783	98.5156695	97.62663257	96.75352715
200429A00065	4/29/2020	0.74	10/28/2022	4/29/2020	106.3859	104.8750624	103.3932631	101.9397311	100.5137271	99.11453682	97.74147007	96.39385989	95.07106149
200429A00066	4/29/2020	0.8	4/28/2023	4/29/2020	108.75827	106.6785006	104.6489164	102.6679955	100.7342733	98.84633897	97.00283354	95.20244738	93.44391815
200430A00030	4/30/2020	0.96	4/30/2025	4/30/2020	117.43983	112.9241502	108.605215	104.4734483	100.5197872	96.73565482	93.11293232	89.64393159	86.3213702
200504A00005	5/4/2020	0.6	5/4/2022	5/4/2020	104.18735	103.177508	102.1870979	101.2155614	100.2623635	99.32698922	98.40894284	97.50774678	96.62294086
200504A00006	5/4/2020	0.94	5/5/2025	5/4/2020	117.40454	112.8728765	108.5393669	104.3943297	100.4286052	96.63352763	93.00089518	89.52294306	86.19231769
200429A00021	5/4/2020	0.97	4/29/2025	5/4/2020	117.47241	112.9593987	108.6428731	104.5132718	100.5615503	96.77914912	93.1579652	89.69032521	86.36896037
200429A00049	4/29/2020	1.25	4/29/2026	4/29/2020	122.35846	116.5324837	111.0151937	105.7886966	100.8362236	96.14205618	91.69145583	87.47059746	83.46650842
200429A00054	4/29/2020	1.04	4/29/2025	4/29/2020	117.77098	113.2518455	108.9293917	104.7940497	100.8367672	97.04897776	93.42257151	89.94986862	86.62359416
200429A00057	4/29/2020	1.4	4/29/2027	4/29/2020	126.54027	119.3664013	112.639745	106.3302245	100.4099288	94.85294962	89.63522752	84.73441139	80.1297288

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200429A00061	4/29/2020	1.66	10/29/2029	4/29/2020	136.77388	126.0506154	116.2401149	107.260172	99.03637015	91.50130475	84.59389061	78.25874095	72.44561018
200429A00062	4/29/2020	0.65	10/29/2021	4/29/2020	101.89807	101.4581485	101.0220104	100.5896044	100.160883	99.73579921	99.31430704	98.89636119	98.48191712
200424A00014	4/28/2020	1.01	4/23/2025	4/28/2020	117.58305	113.0872035	108.7862816	104.6708379	100.7319342	96.96110994	93.3503537	89.89207714	86.57909038
200427A00017	4/27/2020	1.02	4/25/2025	4/27/2020	117.64547	113.1419116	108.8338561	104.7118176	100.7668206	96.99036966	93.374421	89.9113562	86.59395739
200427A00018	4/27/2020	1.51	4/27/2028	4/27/2020	130.34884	121.8047631	113.8718074	106.5032736	99.65625469	93.29130762	87.3721577	81.86542916	76.74040009
200428A00002	4/28/2020	1.47	4/26/2030	4/28/2020	138.33316	126.8127561	116.3277687	106.7801032	98.08140484	90.15205114	82.92024942	76.32123202	70.2965377
200428A00003	4/29/2020	1.01	4/29/2025	4/29/2020	117.64302	113.1265111	108.806598	104.6737163	100.7188171	96.93333691	93.30916881	89.83863573	86.5144654
200429A00004	5/1/2020	0.74	5/1/2023	5/1/2020	108.67474	106.5864582	104.5487875	102.5601898	100.6191812	98.72433299	96.87426896	95.06766323	93.30323799
200423A00006	4/23/2020	0.82	4/23/2025	4/23/2020	117.42877	112.91777	108.6028543	104.4744988	100.5236936	96.74191125	93.12107816	89.65354789	86.33207639
200423A00017	4/23/2020	1.82	4/23/2035	4/23/2020	160.75209	141.0249451	123.914577	109.0596735	96.15045162	84.92109017	75.14330458	66.62088687	59.18506238
200423A00020	4/28/2020	0.68	4/15/2022	4/28/2020	104.02229	103.0718423	102.1386513	101.2222511	100.3221919	99.43803994	98.56937653	97.71579765	96.8769132
200423A00022	4/28/2020	0.76	2/15/2023	4/28/2020	107.76255	105.9143751	104.1073936	102.3402986	100.6118371	98.92080922	97.26606502	95.64650218	94.0610633
200423A00026	4/28/2020	0.85	12/15/2023	4/28/2020	111.61811	108.7968269	106.0613524	103.4085454	100.8354045	98.33905775	95.91675612	93.56586726	91.28386976
200423A00027	4/28/2020	0.88	4/15/2024	4/28/2020	113.10359	109.8805112	106.7653774	103.7539926	100.8423515	98.02662566	95.30315501	92.66843929	90.11913025
200421A00024	4/24/2020	0.8	10/16/2023	4/24/2020	110.78904	108.1653512	105.616811	103.1408427	100.7349763	98.39684046	96.12415847	93.91474341	91.76649426
200421A00028	4/21/2020	0.56	4/21/2023	4/21/2020	108.4682	106.407262	104.3957052	102.4320389	100.5148323	98.64270701	96.81433462	95.02843478	93.28377296
200421A00029	4/24/2020	0.72	12/15/2022	4/24/2020	106.93581	105.2778185	103.6541735	102.0638826	100.5059948	98.979595	97.48380197	96.01776705	94.58067251
200421A00031	4/21/2020	0.84	4/19/2024	4/21/2020	113.02468	109.7903318	106.6646971	103.6435403	100.7228131	97.89864703	95.16734413	92.52536867	89.96933899
200421A00032	4/21/2020	1.31	4/21/2027	4/21/2020	125.8825	118.7558316	112.0722068	105.8019224	99.91740677	94.39305991	89.20510278	84.33143924	79.75152881
200422A00015	4/27/2020	0.73	12/22/2022	4/27/2020	107.0384	105.3585819	103.7138188	102.1030942	100.5254262	98.97987033	97.46551758	95.98149302	94.52695403
200417A00014	4/17/2020	0.96	4/17/2025	4/17/2020	117.312	112.840978	108.5630916	104.4690195	100.5499376	96.79749108	93.20376718	89.76126914	86.46289235
200417A00018	4/21/2020	0.67	7/25/2022	4/21/2020	105.28372	104.0108483	102.7684699	101.5555	100.3709057	99.21370168	98.08294806	96.97774731	95.8972421
200417A00019	4/17/2020	0.77	4/17/2025	4/17/2020	117.15773	112.6716866	108.3799215	104.2730407	100.3421492	96.57882662	92.97509857	89.52341108	86.21660612
200421A00020	4/24/2020	0.83	3/15/2024	4/24/2020	112.59677	109.4794945	106.4641333	103.546741	100.7235548	97.99098139	95.34558844	92.78409589	90.30336819
200421A00021	4/21/2020	0.56	4/21/2023	4/21/2020	108.4682	106.407262	104.3957052	102.4320389	100.5148323	98.64270701	96.81433462	95.02843478	93.28377296
200421A00022	4/21/2020	0.74	4/21/2023	4/21/2020	108.55143	106.4948267	104.4874011	102.5276768	100.6142313	98.745694	96.92074402	95.13810801	93.3965581
200417A00004	4/17/2020	0.86	4/17/2024	4/17/2020	113.06426	109.8355401	106.7151529	103.6988788	100.7826913	97.96274172	95.23535122	92.59700179	90.0443285
200417A00006	4/17/2020	0.74	4/17/2023	4/17/2020	108.50244	106.4583495	104.4628806	102.5145807	100.6120507	98.75394231	96.93895584	95.16583806	93.4333803
200417A00008	4/17/2020	0.96	4/17/2025	4/17/2020	117.312	112.840978	108.5630916	104.4690195	100.5499376	96.79749108	93.20376718	89.76126914	86.46289235
200417A00011	4/22/2020	0.68	7/15/2022	4/22/2020	105.17916	103.9384186	102.7267021	101.5429981	100.386345	99.25582468	98.15056027	97.06971366	96.01248346
200417A00012	4/22/2020	0.71	12/15/2022	4/22/2020	106.9196	105.2617455	103.6382353	102.0480766	100.4903187	98.96404644	97.4683787	96.00246688	94.5654933
200417A00013	4/17/2020	0.74	4/17/2023	4/17/2020	108.50244	106.4583495	104.4628806	102.5145807	100.6120507	98.75394231	96.93895584	95.16583806	93.4333803
200415A00031	4/15/2020	0.97	4/15/2025	4/15/2020	117.33464	112.8695861	108.5971471	104.5080393	100.5934736	96.84512767	93.25511884	89.81597837	86.52062769

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200415A00033	4/15/2020	0.82	10/13/2023	4/15/2020	110.80381	108.1894262	105.6496725	103.1820007	100.7839657	98.45321991	96.18750887	93.9846668	91.84261265
200415A00036	4/15/2020	0.91	10/15/2024	4/15/2020	115.21924	111.3835976	107.6949278	104.1468413	100.733258	97.44839295	94.28674105	91.24306145	88.31236372
200415A00037	4/15/2020	0.97	4/15/2025	4/15/2020	117.33464	112.8695861	108.5971471	104.5080393	100.5934736	96.84512767	93.25511884	89.81597837	86.52062769
200415A00038	4/15/2020	1.37	4/15/2027	4/15/2020	126.22917	119.1120488	112.436026	106.171605	100.2914076	94.77000779	89.58378349	84.71077958	80.13058255
200417A00002	4/17/2020	0.96	4/17/2025	4/17/2020	117.312	112.840978	108.5630916	104.4690195	100.5499376	96.79749108	93.20376718	89.76126914	86.46289235
200415A00020	4/15/2020	0.86	4/15/2024	4/15/2020	113.04187	109.8197339	106.7055151	103.6950223	100.784251	97.96937343	95.24673026	92.61282191	90.06430078
200415A00021	4/15/2020	1.37	4/15/2027	4/15/2020	126.22917	119.1120488	112.436026	106.171605	100.2914076	94.77000779	89.58378349	84.71077958	80.13058255
200415A00023	4/15/2020	1.71	4/15/2030	4/15/2020	138.90103	127.4816915	117.080938	107.6028691	98.96105101	91.07754355	83.88202746	77.31102524	71.3072051
200415A00024	4/15/2020	2.2	4/16/2035	4/15/2020	163.89067	144.176181	127.0524294	112.1639536	99.20573106	87.91580521	78.06901877	69.47168469	61.95705106
200415A00026	4/15/2020	0.77	4/14/2023	4/15/2020	108.52499	106.489681	104.5025886	102.5622792	100.6673708	98.81653147	97.00847686	95.24196847	93.51581163
200415A00027	4/15/2020	0.86	4/15/2024	4/15/2020	113.04187	109.8197339	106.7055151	103.6950223	100.784251	97.96937343	95.24673026	92.61282191	90.06430078
200413A00026	4/13/2020	0.82	4/13/2023	4/13/2020	108.61132	106.5781383	104.5930582	102.654648	100.761531	98.91238013	97.10591581	95.34090403	93.61615435
200413A00027	4/13/2020	0.94	4/12/2024	4/13/2020	113.25442	110.0384207	106.9298135	103.9244443	101.0183383	98.20769617	95.48888483	92.8584296	90.31300618
200414A00013	4/14/2020	0.55	4/14/2022	4/14/2020	103.99583	103.0470813	102.115528	101.2007069	100.3021708	99.41948793	98.55224184	97.70003053	96.86246584
200414A00014	4/14/2020	0.76	4/12/2024	4/14/2020	113.16708	109.9415229	106.8239307	103.8101097	100.8960562	98.07794378	95.35211385	92.71506766	90.16345822
200414A00015	4/14/2020	0.64	4/14/2023	4/14/2020	108.54159	106.5010118	104.5088632	102.5637019	100.6641373	98.80882911	96.99648539	95.22586029	93.49575217
200415A00003	4/15/2020	0.77	4/14/2023	4/15/2020	108.52499	106.489681	104.5025886	102.5622792	100.6673708	98.81653147	97.00847686	95.24196847	93.51581163
200409A00011	4/9/2020	0.7	4/7/2023	4/9/2020	108.57254	106.5527445	104.580436	102.6542106	100.7727177	98.93465482	97.1387661	95.38383997	93.6687074
200409A00019	4/9/2020	0.58	4/8/2022	4/9/2020	103.94641	103.0163621	102.1028544	101.2054443	100.3237094	99.45724201	98.60564839	97.76854829	96.94557432
200413A00003	4/13/2020	0.64	4/13/2023	4/13/2020	108.52923	106.4917871	104.5026388	102.560345	100.6635208	98.81083155	97.0009905	95.23275683	93.50493368
200413A00004	4/13/2020	0.89	4/11/2025	4/13/2020	117.60618	113.1304266	108.8476265	104.7484862	100.8242074	97.06645882	93.46734871	90.01939965	86.71552445
200413A00011	4/13/2020	0.94	4/12/2024	4/13/2020	113.25442	110.0384207	106.9298135	103.9244443	101.0183383	98.20769617	95.48888483	92.8584296	90.31300618
200413A00012	4/13/2020	0.64	4/13/2023	4/13/2020	108.52923	106.4917871	104.5026388	102.560345	100.6635208	98.81083155	97.0009905	95.23275683	93.50493368
200407A00004	4/7/2020	0.99	4/7/2025	4/7/2020	117.98679	113.5162844	109.2379022	105.1424146	101.2210851	97.46563981	93.86824007	90.42145752	87.11825041
200407A00016	4/7/2020	0.8	4/7/2022	4/7/2020	104.02695	103.1010518	102.1915345	101.2979684	100.4199367	99.55703739	98.70888193	97.87509513	97.05531439
200407A00019	4/7/2020	1.06	4/8/2024	4/7/2020	113.57641	110.3680221	107.2663567	104.2672936	101.3668975	98.56140583	95.84722032	93.22089877	90.67914745
200408A00004	4/8/2020	0.76	4/8/2022	4/8/2020	104.0044	103.0755351	102.1631649	101.266849	100.3861665	99.52071151	98.67009176	97.83392851	97.01185581
200408A00011	4/8/2020	0.82	9/26/2022	4/8/2020	106.13027	104.7141053	103.3243694	101.9603738	100.6214513	99.30695731	98.01626922	96.74878518	95.50392336
200408A00013	4/13/2020	0.87	4/14/2023	4/13/2020	108.7226	106.6852959	104.6962443	102.7540141	100.8572221	99.00453525	97.19466827	95.42638165	93.69847974
200403A00025	4/3/2020	0.91	4/3/2024	4/3/2020	113.06006	109.875075	106.7956127	103.8176233	100.9372316	98.15073167	95.45457872	92.84538089	90.31989197
200406A00018	4/6/2020	0.65	4/18/2022	4/6/2020	104.13865	103.1768629	102.2327255	101.305754	100.395484	99.50146748	98.62327234	97.76048175	96.91269338
200406A00049	4/6/2020	0.92	4/6/2023	4/6/2020	108.69841	106.6857726	104.7202863	102.8005669	100.9252776	99.09312909	97.30287791	95.55332429	93.8433104
200406A00053	4/6/2020	1.13	4/7/2025	4/6/2020	117.92748	113.476164	109.2157053	105.1369574	101.2312583	97.49040334	93.90661883	90.47253696	87.18117259

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200406A00059	4/6/2020	0.92	4/6/2023	4/6/2020	108.69841	106.6857726	104.7202863	102.8005669	100.9252776	99.09312909	97.30287791	95.55332429	93.8433104
200406A00060	4/6/2020	1.03	4/5/2024	4/6/2020	113.44935	110.2522607	107.1612402	104.1722106	101.2812705	98.48468927	95.7788987	93.16048486	90.62618068
200402A00048	4/2/2020	0.71	4/2/2024	4/2/2020	112.9009	109.7107219	106.6263937	103.6438454	100.7591854	97.96869256	95.2688075	92.65612473	90.12738515
200403A00010	4/6/2020	0.8	4/6/2023	4/6/2020	108.46416	106.4538601	104.4906706	102.5732034	100.7001227	98.87014078	97.08201519	95.33454735	93.62658057
200403A00012	4/3/2020	0.55	4/15/2022	4/3/2020	104.00853	103.0566383	102.1220544	101.2043095	100.3029519	99.41754599	98.54767147	97.69292263	96.85290781
200403A00015	4/3/2020	0.73	4/4/2022	4/3/2020	103.92617	103.0099669	102.1098188	101.2253036	100.3560172	99.50156916	98.66158229	97.83569211	97.02354629
200403A00017	4/3/2020	0.81	4/3/2023	4/3/2020	108.44645	106.4453279	104.4909086	102.5818231	100.7167527	98.89442564	97.11361486	95.37313632	93.67184719
200403A00018	4/3/2020	0.91	4/3/2024	4/3/2020	113.06006	109.875075	106.7956127	103.8176233	100.9372316	98.15073167	95.45457872	92.84538089	90.31989197
200402A00030	4/2/2020	0.8	4/3/2023	4/2/2020	108.42702	106.4260894	104.4718598	102.5629603	100.6980724	98.87592436	97.09528919	95.35498297	93.65386297
200402A00035	4/2/2020	0.62	4/3/2023	4/2/2020	108.36672	106.3610375	104.4022553	102.4890005	100.619946	98.79381219	97.00936451	95.26541193	93.56080493
200402A00036	4/2/2020	0.71	4/2/2024	4/2/2020	112.9009	109.7107219	106.6263937	103.6438454	100.7591854	97.96869256	95.2688075	92.65612473	90.12738515
200402A00038	4/2/2020	0.84	4/2/2025	4/2/2020	117.30607	112.8655229	108.6153245	104.5463591	100.6499956	96.91805789	93.34279888	89.9168755	86.63332566
200402A00041	4/2/2020	1.03	4/2/2025	4/2/2020	117.45787	113.0321206	108.7956007	104.7392702	100.8545662	97.13337632	93.56801291	90.15118834	86.87599229
200402A00044	4/2/2020	1.65	4/2/2030	4/2/2020	138.16786	126.8280788	116.496787	107.0793452	98.49042639	90.65305971	83.4977747	76.96183738	70.98856726
200402A00017	4/2/2020	0.76	4/1/2022	4/2/2020	103.91367	103.0067403	102.1155338	101.2396489	100.3786937	99.53228917	98.70006924	97.88167998	97.07677912
200402A00018	4/2/2020	0.85	4/3/2023	4/2/2020	108.52418	106.5222819	104.5671036	102.657274	100.7914738	98.96843077	97.18691756	95.44574971	93.74378403
200402A00022	4/2/2020	0.96	4/2/2024	4/2/2020	113.20102	110.0170331	106.938425	103.9611539	101.0813537	98.29532693	95.59953657	92.99059821	90.46527256
200402A00023	4/2/2020	1.11	4/2/2025	4/2/2020	117.79229	113.3598111	109.1167702	105.0541218	101.1632949	97.43616945	93.86505054	90.44264358	87.16203163
200402A00026	4/2/2020	1.28	4/2/2026	4/2/2020	122.2544	116.5204491	111.0859939	105.9339148	101.048158	96.41366061	92.01628517	87.84275797	83.88061214
200402A00028	4/2/2020	0.71	4/4/2022	4/2/2020	103.90858	102.9924647	102.0924007	101.2079687	100.3387645	99.48439762	98.64449097	97.81868007	97.0066126
200402A00002	4/2/2020	0.71	4/4/2022	4/2/2020	103.90858	102.9924647	102.0924007	101.2079687	100.3387645	99.48439762	98.64449097	97.81868007	97.0066126
200402A00003	4/2/2020	0.8	4/3/2023	4/2/2020	108.42702	106.4260894	104.4718598	102.5629603	100.6980724	98.87592436	97.09528919	95.35498297	93.65386297
200402A00009	4/2/2020	1.03	4/2/2025	4/2/2020	117.45787	113.0321206	108.7956007	104.7392702	100.8545662	97.13337632	93.56801291	90.15118834	86.87599229
200402A00010	4/2/2020	0.89	4/2/2024	4/2/2020	112.98781	109.8070241	106.7315399	103.7573149	100.8804854	98.0973565	95.40439359	92.79821455	90.27558228
200402A00013	4/2/2020	0.89	4/2/2024	4/2/2020	112.98781	109.8070241	106.7315399	103.7573149	100.8804854	98.0973565	95.40439359	92.79821455	90.27558228
200402A00014	4/2/2020	0.84	4/2/2025	4/2/2020	117.30607	112.8655229	108.6153245	104.5463591	100.6499956	96.91805789	93.34279888	89.9168755	86.63332566
200331A00022	4/1/2020	1.07	4/1/2025	4/1/2020	117.61496	113.1892616	108.9526314	104.8960393	101.0109363	97.28922255	93.7232221	90.3056581	87.02963016
200331A00024	3/31/2020	0.64	3/31/2023	3/31/2020	108.36859	106.3719129	104.4217392	102.5167076	100.655508	98.83687647	97.05959393	95.32248373	93.62441013
200401A00001	4/1/2020	1.01	4/1/2025	4/1/2020	117.36433	112.9436753	108.7119287	104.6600683	100.779551	97.06228277	93.50059303	90.08721015	86.81523871
200401A00012	4/2/2020	1	4/2/2025	4/2/2020	117.33246	112.9092366	108.6751621	104.6212008	100.7387929	97.01982889	93.4566238	90.04189263	86.76872754
200401A00013	4/1/2020	1.01	4/1/2025	4/1/2020	117.36433	112.9436753	108.7119287	104.6600683	100.779551	97.06228277	93.50059303	90.08721015	86.81523871
200401A00023	4/1/2020	0.82	4/1/2025	4/1/2020	117.21239	112.7769669	108.5315654	104.4670916	100.5749341	96.84693559	93.27536611	89.85289874	86.57258639
200331A00011	3/31/2020	1.09	3/31/2025	3/31/2020	117.68831	113.2643592	109.0292534	104.9739838	101.090017	97.36926768	93.80407344	90.38716992	87.11166829

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200331A00014	3/31/2020	0.72	3/29/2024	3/31/2020	112.88652	109.7090844	106.6366968	103.6653314	100.7911399	98.0104416	95.31971533	92.71559155	90.19484501
200331A00015	3/31/2020	0.64	3/31/2023	3/31/2020	108.36859	106.3719129	104.4217392	102.5167076	100.655508	98.83687647	97.05959393	95.32248373	93.62441013
200331A00016	3/31/2020	1.11	3/31/2026	3/31/2020	122.21957	116.4643885	111.0103304	105.8401603	100.9377176	96.28784091	91.87630132	87.68974017	83.71561176
200331A00017	3/31/2020	0.9	3/31/2025	3/31/2020	117.53745	113.0987116	108.8499325	104.7820307	100.8864047	97.15490583	93.57981245	90.15380495	86.86994292
200331A00018	3/31/2020	0.82	3/31/2023	3/31/2020	108.42857	106.4366248	104.4909762	102.5902744	100.7332176	98.91854992	97.14505952	95.41157687	93.7169729
200330A00046	3/30/2020	0.86	3/30/2023	3/30/2020	108.49339	106.5037978	104.5603859	102.6618054	100.8067597	98.99399783	97.2223127	95.49053921	93.79755254
200330A00054	3/30/2021	1.19	3/30/2026	3/30/2021	121.74515	116.0339513	110.6207616	105.4885699	100.621421	96.00434363	91.62328469	87.4650485	83.51724035
200330A00064	3/30/2020	0.83	3/30/2023	3/30/2020	108.43545	106.4464326	104.5035831	102.6055542	100.7510494	98.93881828	97.16765386	95.43639137	93.74390627
200330A00066	3/30/2020	1.08	3/31/2025	3/30/2020	117.64657	113.2234584	108.9891654	104.9346833	101.0514796	97.33147023	93.76699346	90.35078584	87.07595939
200331A00007	3/31/2020	0.72	3/29/2024	3/31/2020	112.88652	109.7090844	106.6366968	103.6653314	100.7911399	98.0104416	95.31971533	92.71559155	90.19484501
200331A00008	3/31/2020	0.64	3/31/2023	3/31/2020	108.36859	106.3719129	104.4217392	102.5167076	100.655508	98.83687647	97.05959393	95.32248373	93.62441013
200330A00028	3/30/2020	1.09	3/28/2025	3/30/2020	117.65775	113.2440662	109.0184168	104.9718466	101.0958752	97.38246662	93.82400419	90.41326617	87.14340339
200330A00036	3/30/2020	0.86	3/30/2023	3/30/2020	108.49339	106.5037978	104.5603859	102.6618054	100.8067597	98.99399783	97.2223127	95.49053921	93.79755254
200330A00037	3/30/2020	1.09	3/28/2025	3/30/2020	117.65775	113.2440662	109.0184168	104.9718466	101.0958752	97.38246662	93.82400419	90.41326617	87.14340339
200330A00038	3/30/2020	1.79	3/29/2030	3/30/2020	139.54982	128.1611665	117.7825673	108.3194233	99.68642818	91.80661606	84.61050834	78.03535236	72.02444052
200330A00043	3/30/2020	0.86	3/30/2023	3/30/2020	108.49339	106.5037978	104.5603859	102.6618054	100.8067597	98.99399783	97.2223127	95.49053921	93.79755254
200330A00044	3/30/2020	1.09	3/28/2025	3/30/2020	117.65775	113.2440662	109.0184168	104.9718466	101.0958752	97.38246662	93.82400419	90.41326617	87.14340339
200327A00088	3/27/2020	1.22	3/27/2025	3/27/2020	118.18736	113.7665371	109.5338205	105.4802591	101.5973702	97.87711632	94.31187941	90.89443699	87.61793942
200330A00006	3/30/2020	0.9	3/28/2025	3/30/2020	117.5072	113.0787872	108.83951	104.7803477	100.8927521	97.16862454	93.60028939	90.18047005	86.90226611
200330A00007	3/30/2020	0.93	4/1/2024	3/30/2020	113.09825	109.9189215	106.8447393	103.8716694	100.9958576	98.21361758	95.52142306	92.9158996	90.39381734
200330A00008	3/30/2020	1.09	3/28/2025	3/30/2020	117.65775	113.2440662	109.0184168	104.9718466	101.0958752	97.38246662	93.82400419	90.41326617	87.14340339
200330A00011	3/30/2020	0.93	4/1/2024	3/30/2020	113.09825	109.9189215	106.8447393	103.8716694	100.9958576	98.21361758	95.52142306	92.9158996	90.39381734
200330A00017	3/30/2020	0.86	3/30/2023	3/30/2020	108.49339	106.5037978	104.5603859	102.6618054	100.8067597	98.99399783	97.2223127	95.49053921	93.79755254
200327A00066	6/25/2020	0.93	6/26/2023	6/25/2020	109.74946	107.4795691	105.2682817	103.1136793	101.0139169	98.96722438	96.97190258	95.0263199	93.12890908
200327A00068	6/25/2020	0.93	6/26/2023	6/25/2020	109.74946	107.4795691	105.2682817	103.1136793	101.0139169	98.96722438	96.97190258	95.0263199	93.12890908
200327A00073	3/27/2020	0.99	3/27/2025	3/27/2020	117.8715	113.4392586	109.1961284	105.1330885	101.2415925	97.51354377	93.94126915	90.51749469	87.23532281
200327A00076	3/27/2020	1.18	3/27/2026	3/27/2020	122.55277	116.8027866	111.3528959	106.1859608	101.2859045	96.6376426	92.22701733	88.04073568	84.0663125
200327A00077	3/27/2020	0.83	3/27/2024	3/27/2020	113.19711	110.0214106	106.9505041	103.9803723	101.1071771	98.32724821	95.63707442	93.03329607	90.51269755
200327A00079	3/27/2020	0.99	3/27/2025	3/27/2020	117.8715	113.4392586	109.1961284	105.1330885	101.2415925	97.51354377	93.94126915	90.51749469	87.23532281
200327A00055	3/27/2020	1.01	3/27/2024	3/27/2020	113.2828	110.1164299	107.0543099	104.0924501	101.22704	98.45443502	95.77114845	93.1738436	90.65932653
200327A00056	3/27/2020	1.18	3/27/2025	3/27/2020	118.02091	113.6034177	109.3739335	105.3235042	101.4436511	97.7263403	94.16395755	90.74928373	87.47547245
200327A00058	3/27/2020	0.9	3/27/2023	3/27/2020	108.53156	106.5508261	104.6158958	102.7254366	100.8781612	99.07282816	97.30823956	95.58323951	93.89671227
200327A00059	3/27/2020	1.01	3/27/2024	3/27/2020	113.2828	110.1164299	107.0543099	104.0924501	101.22704	98.45443502	95.77114845	93.1738436	90.65932653

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200327A00060	3/27/2020	1.18	3/27/2025	3/27/2020	118.02091	113.6034177	109.3739335	105.3235042	101.4436511	97.7263403	94.16395755	90.74928373	87.47547245
200327A00061	3/31/2020	1.18	3/31/2025	3/31/2020	118.06397	113.6324665	109.3900458	105.3276888	101.436853	97.70944474	94.13779332	90.71462661	87.43304841
200327A00046	3/27/2020	1.23	3/27/2025	3/27/2020	118.22898	113.8073169	109.5737922	105.5194478	101.6358	97.91481032	94.34885988	90.93072531	87.65355616
200327A00047	3/27/2020	0.99	3/27/2025	3/27/2020	117.8715	113.4392586	109.1961284	105.1330885	101.2415925	97.51354377	93.94126915	90.51749469	87.23532281
200327A00048	3/27/2020	1.18	3/24/2025	3/27/2020	117.98597	113.5796017	109.3604614	105.3196262	101.4486489	97.73952727	94.18467823	90.77691364	87.50941757
200327A00051	3/27/2020	0.99	3/27/2025	3/27/2020	117.8715	113.4392586	109.1961284	105.1330885	101.2415925	97.51354377	93.94126915	90.51749469	87.23532281
200327A00053	3/27/2020	0.84	3/25/2022	3/27/2020	103.8912	103.005792	102.135376	101.2795772	100.4380304	99.6103821	98.79629065	97.99542539	97.20746636
200327A00054	3/27/2020	0.9	3/27/2023	3/27/2020	108.53156	106.5508261	104.6158958	102.7254366	100.8781612	99.07282816	97.30823956	95.58323951	93.89671227
200327A00039	3/27/2020	0.84	3/28/2022	3/27/2020	103.9306	103.0358553	102.1564127	101.2918808	100.4418837	99.60605759	98.78405095	97.97552372	97.1801469
200327A00040	3/27/2020	0.72	3/27/2023	3/27/2020	108.47209	106.4866609	104.547241	102.652485	100.8010974	98.99182894	97.22347449	95.49487119	93.80489669
200327A00041	3/27/2020	0.9	3/27/2023	3/27/2020	108.53156	106.5508261	104.6158958	102.7254366	100.8781612	99.07282816	97.30823956	95.58323951	93.89671227
200327A00042	3/27/2020	0.83	3/27/2024	3/27/2020	113.19711	110.0214106	106.9505041	103.9803723	101.1071771	98.32724821	95.63707442	93.03329607	90.51269755
200327A00043	3/27/2020	1.48	3/27/2028	3/27/2020	131.1664	122.6458187	114.7289272	107.3700286	100.5270987	94.16147494	88.23757198	82.72262239	77.58644065
200327A00045	3/27/2020	2.24	3/27/2034	3/27/2020	163.29499	144.9396687	128.8381144	114.7008652	102.2769918	91.34880202	81.72729306	73.24824577	65.76886674
200327A00027	3/27/2020	0.9	3/27/2023	3/27/2020	108.53156	106.5508261	104.6158958	102.7254366	100.8781612	99.07282816	97.30823956	95.58323951	93.89671227
200327A00030	3/27/2020	1.01	3/27/2024	3/27/2020	113.2828	110.1164299	107.0543099	104.0924501	101.22704	98.45443502	95.77114845	93.1738436	90.65932653
200327A00031	3/27/2020	1.18	3/27/2025	3/27/2020	118.02091	113.6034177	109.3739335	105.3235042	101.4436511	97.7263403	94.16395755	90.74928373	87.47547245
200327A00032	3/27/2020	0.66	3/28/2022	3/27/2020	103.8747	102.9788261	102.098291	101.2327073	100.3816971	99.54489553	98.72194941	97.91251737	97.11626913
200327A00035	3/27/2020	0.83	3/27/2024	3/27/2020	113.19711	110.0214106	106.9505041	103.9803723	101.1071771	98.32724821	95.63707442	93.03329607	90.51269755
200327A00037	3/27/2020	1.18	3/27/2026	3/27/2020	122.55277	116.8027866	111.3528959	106.1859608	101.2859045	96.6376426	92.22701733	88.04073568	84.0663125
200326A00012	3/26/2020	0.99	3/25/2022	3/26/2020	104.0188	103.1327887	102.2617804	101.4053964	100.5632711	99.73505113	98.92039454	98.11897058	97.33045917
200326A00016	3/26/2020	1.54	3/25/2025	3/26/2020	119.49346	115.0534385	110.8018418	106.729699	102.8285172	99.09024966	95.50727093	92.07235184	88.77863705
200326A00025	3/26/2020	0.99	3/28/2022	3/26/2020	104.05948	103.164131	102.2840851	101.4189573	100.5683711	99.73196289	98.90938089	98.10028491	97.30434584
200327A00019	3/30/2020	0.85	3/15/2022	3/30/2020	103.76818	102.9138005	102.0734127	101.2466757	100.4332591	99.63284299	98.84511786	98.06978379	97.30655028
200327A00022	3/27/2020	0.9	3/27/2023	3/27/2020	108.53156	106.5508261	104.6158958	102.7254366	100.8781612	99.07282816	97.30823956	95.58323951	93.89671227
200327A00025	3/30/2020	0.86	3/30/2022	3/30/2020	103.97426	103.0731759	102.1876057	101.3171543	100.4614376	99.62008436	98.79273564	97.97904442	97.17867504
200325A00044	3/25/2020	1.7	12/23/2024	3/25/2020	118.9964	114.8681481	110.9054667	107.1007888	103.4469344	99.93709282	96.56480103	93.32392392	90.20863553
200325A00046	3/25/2020	1.76	3/25/2025	3/25/2020	120.40758	115.9492652	111.679941	107.5906203	103.6727882	99.91837773	96.31974358	92.86963788	89.56118742
200325A00047	3/25/2020	1.68	9/25/2024	3/25/2020	117.76709	113.9517995	110.2800655	106.7457335	103.3429423	100.0661132	96.90993405	93.8693453	90.93952656
200325A00048	3/25/2020	1.34	12/27/2022	3/25/2020	108.1105	106.4064445	104.7381294	103.1045023	101.5045544	99.93731551	98.40185274	96.89726817	95.42269745
200326A00009	3/27/2020	1.54	3/27/2025	3/27/2020	119.51901	115.0714921	110.8129164	106.7342983	102.8271236	99.08332447	95.49525428	92.0556631	88.75767517
200326A00011	3/30/2020	1.54	3/31/2025	3/30/2020	119.56661	115.1048959	110.8332154	106.7425087	102.8241971	99.07015298	95.4726728	92.02445341	88.71856888
200325A00013	3/25/2020	1.03	8/16/2021	3/25/2020	101.07075	100.8452761	100.620818	100.3973709	100.1749279	99.95348211	99.73302688	99.51355547	99.29506127

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200325A00016	3/30/2020	1.67	3/31/2025	3/30/2020	120.10923	115.6366064	111.35436	107.2534158	103.3251825	99.56151984	95.95471262	92.49744642	89.18278461
200325A00032	3/25/2020	1.29	9/26/2022	3/25/2020	106.78198	105.361006	103.96655	102.597918	101.2544403	99.93546999	98.64038227	97.36857312	96.11945865
200325A00038	3/25/2020	1.48	9/25/2023	3/25/2020	112.21861	109.6430761	107.1395853	104.705711	102.3391222	100.0375802	97.79893461	95.62111919	93.50214794
200325A00042	3/25/2020	1.58	3/25/2024	3/25/2020	114.98036	111.79516	108.7144947	105.7343593	102.8509295	100.0605486	97.3597192	94.74509495	92.21347342
200325A00043	3/25/2020	1.62	6/25/2024	3/25/2020	116.35045	112.8510094	109.4754161	106.2185612	103.075576	100.0418226	97.11288127	94.28453897	91.55277799
200324A00013	3/25/2020	1.78	3/25/2025	3/25/2020	120.49069	116.030704	111.7597682	107.6688858	103.7495401	99.9936621	96.39360473	92.94211843	89.63232836
200324A00029	3/24/2020	1.86	3/24/2025	3/24/2020	120.80931	116.3464655	112.0726094	107.9787534	104.0563835	100.297434	96.69426111	93.23961897	89.92663646
200324A00031	3/24/2020	1.64	3/22/2024	3/24/2020	115.11892	111.941473	108.8680819	105.8947542	103.0176744	100.2331952	97.53782961	94.92824241	92.4012429
200324A00051	3/24/2020	1.73	11/1/2024	3/24/2020	118.43943	114.4904762	110.6943003	107.044174	103.533706	100.1568203	96.90773807	93.78096205	90.77126079
200324A00066	3/26/2020	1.81	3/26/2025	3/26/2020	120.62897	116.1627049	111.8858313	107.789339	103.8646979	100.1038253	96.49906108	93.04314257	89.72918226
200325A00009	3/27/2020	1.67	3/27/2025	3/27/2020	120.06	115.60163	111.3325491	107.2437518	103.3267109	99.57334654	95.97600032	92.5274112	89.22069282
200320A00026	3/20/2020	2.11	3/20/2029	3/20/2020	138.63284	128.6250506	119.4101065	110.9211427	103.097255	95.88294011	89.22759173	83.08504511	77.41316661
200320A00049	3/25/2020	1.47	3/25/2025	3/25/2020	119.2026	114.7684027	110.5224465	106.4557696	102.5598855	98.82675437	95.24875691	91.81866992	88.52964375
200320A00052	3/25/2020	1.47	3/25/2025	3/25/2020	119.2026	114.7684027	110.5224465	106.4557696	102.5598855	98.82675437	95.24875691	91.81866992	88.52964375
200323A00011	3/23/2020	1.37	3/23/2023	3/23/2020	109.37458	107.3984935	105.4679322	103.5815484	101.7380451	99.9361724	98.17472623	96.45254583	94.76851205
200323A00018	3/23/2020	1.37	3/23/2023	3/23/2020	109.37458	107.3984935	105.4679322	103.5815484	101.7380451	99.9361724	98.17472623	96.45254583	94.76851205
200324A00012	3/25/2020	1.78	3/25/2025	3/25/2020	120.49069	116.030704	111.7597682	107.6688858	103.7495401	99.9936621	96.39360473	92.94211843	89.63232836
200319A00009	3/19/2020	0.94	3/18/2022	3/19/2020	103.97764	103.1118265	102.2603544	101.4228711	100.5990342	99.78851224	98.99098459	98.20614081	97.43368025
200319A00025	3/19/2020	1.39	3/21/2024	3/19/2020	114.3524	111.1896182	108.1304321	105.1708628	102.3071071	99.53553038	96.85265787	94.25516665	91.73987806
200319A00037	3/19/2020	0.99	6/18/2021	3/19/2020	100.27691	100.2183939	100.1599583	100.1016056	100.0433356	99.98514808	99.92704292	99.86901994	99.81107897
200319A00038	3/19/2020	1.18	9/17/2021	3/19/2020	101.54499	101.2272617	100.9115299	100.5977747	100.2859777	99.97612048	99.66818488	99.36215301	99.0580072
200319A00039	3/19/2020	1.12	3/18/2022	3/19/2020	104.03188	103.1671541	102.3167298	101.4802562	100.6573925	99.84780853	99.05118502	98.26721274	97.49559224
200320A00013	3/20/2020	1.25	3/20/2024	3/20/2020	114.37649	111.2060861	108.1396827	105.1732725	102.3030269	99.52528803	96.83655972	94.23349932	91.71290993
200318A00037	3/18/2020	1.35	3/18/2024	3/18/2020	114.19199	111.0413697	107.9937623	105.0452016	102.1918962	99.43022407	96.75672397	94.16808703	91.66114908
200318A00038	3/18/2020	1.48	3/18/2025	3/18/2020	119.15604	114.7472101	110.5248206	106.4799809	102.6042772	98.88974216	95.32882853	91.91438434	88.63962997
200318A00039	3/18/2020	1.08	3/18/2022	3/18/2020	103.99866	103.1340842	102.2838109	101.4474868	100.6247707	99.81533269	99.01885352	98.23502397	97.46354462
200318A00044	3/18/2020	1.17	3/18/2024	3/18/2020	114.10888	110.9490035	107.8926825	104.9359147	102.0748812	99.30593476	96.62558987	94.03051506	91.51752481
200318A00047	3/18/2020	1.29	3/18/2025	3/18/2020	119.01065	114.5871365	110.3511513	106.2937393	102.4064201	98.68116401	95.11036579	91.68681933	88.40369448
200318A00054	3/18/2020	1.56	3/18/2025	3/18/2020	119.48669	115.0712728	110.8425014	106.7914768	102.9097774	99.18942871	95.62287628	92.20296149	88.92289831
200317A00033	3/19/2020	1.1	2/15/2022	3/19/2020	103.592	102.8231948	102.0657537	101.3194275	100.5839729	99.85915365	99.14474021	98.44050972	97.7462456
200317A00039	3/19/2020	1.11	4/15/2022	3/19/2020	104.41403	103.461615	102.5264865	101.6081733	100.706225	99.8202072	98.94970087	98.09430148	97.25361847
200317A00045	3/19/2020	1.43	3/19/2025	3/19/2020	118.96181	114.5533638	110.3314875	106.2872876	102.4123448	98.69868589	95.13875762	91.72540202	88.45183341
200317A00064	3/19/2020	1.12	5/16/2022	3/19/2020	104.85802	103.8073399	102.777587	101.7681428	100.7784116	99.80782036	98.85581835	97.92187567	97.00548243

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200318A00013	3/18/2020	1.5	3/18/2025	3/18/2020	119.2387	114.8282258	110.6042408	106.5578549	102.6806522	98.9646638	95.40234047	91.98652863	88.71044706
200318A00026	3/20/2020	1.08	3/16/2022	3/20/2020	103.97104	103.1126886	102.268438	101.4379439	100.6208722	99.81689974	99.02571347	98.24701031	97.4804967
200316A00070	3/16/2020	1.05	3/16/2022	3/16/2020	103.9463	103.0880567	102.2439179	101.4135344	100.5965721	99.79270769	99.00162831	98.22303087	97.4566218
200316A00071	3/16/2020	1.18	3/16/2023	3/16/2020	108.90969	106.9608008	105.0565751	103.1956598	101.3767501	99.59859168	97.85997851	96.1597503	94.49679044
200316A00072	3/16/2020	1.18	3/16/2023	3/16/2020	108.90969	106.9608008	105.0565751	103.1956598	101.3767501	99.59859168	97.85997851	96.1597503	94.49679044
200317A00011	3/17/2020	1.04	3/17/2022	3/17/2020	103.95174	103.0904298	102.2433182	101.4100576	100.5903104	99.78375019	98.99006077	98.20893605	97.44007957
200317A00023	3/17/2020	1.1	3/17/2025	3/17/2020	118.21116	113.8071043	109.5898322	105.5504113	101.6803901	97.9717672	94.41696453	91.00880235	87.74047592
200317A00027	3/17/2020	1.29	3/17/2025	3/17/2020	118.35876	113.9692916	109.7655184	105.7385782	101.8800859	98.18210212	94.6371065	91.2379732	87.97794781
200316A00048	3/16/2020	1.11	3/16/2023	3/16/2020	108.77741	106.8298035	104.9268376	103.0671578	101.2494601	99.47249095	97.73504485	96.03596216	94.37412688
200316A00049	3/16/2020	1.25	3/14/2025	3/16/2020	118.15797	113.7829362	109.5927122	105.578478	101.7318834	98.04502358	94.51041249	91.12095803	87.86993884
200316A00050	3/16/2020	1.54	3/16/2027	3/16/2020	127.07255	120.0341725	113.4259573	107.2194334	101.3881601	95.90757142	90.75483292	85.908711	81.3494524
200316A00055	3/16/2020	1.06	3/14/2025	3/16/2020	118.01005	113.6205003	109.4168509	105.3902031	101.5321407	97.83469727	94.29032939	90.89189134	87.63261181
200316A00067	3/18/2020	1.1	9/15/2022	3/18/2020	106.41936	105.0122388	103.6351809	102.2872352	100.9674866	99.67505886	98.40911209	97.16884123	95.95347404
200316A00068	3/16/2020	1.05	3/16/2022	3/16/2020	103.9463	103.0880567	102.2439179	101.4135344	100.5965721	99.79270769	99.00162831	98.22303087	97.4566218
200316A00037	3/16/2020	1.06	3/14/2025	3/16/2020	118.01005	113.6205003	109.4168509	105.3902031	101.5321407	97.83469727	94.29032939	90.89189134	87.63261181
200316A00040	3/16/2020	1.04	3/16/2022	3/16/2020	103.93805	103.079846	102.2357446	101.4053979	100.588472	99.78464367	98.99359993	98.21503772	97.4486635
200316A00041	3/16/2020	1.16	3/16/2023	3/16/2020	108.8719	106.923373	105.0195073	103.158945	101.3403815	99.5625629	97.82428318	96.12438226	94.46174371
200316A00042	3/16/2020	1.23	3/15/2024	3/16/2020	113.79307	110.6581143	107.6255115	104.6913026	101.8517106	99.10312886	96.44211192	93.86536734	91.36974767
200316A00043	3/16/2020	1.3	3/14/2025	3/16/2020	118.364	113.984871	109.7906813	105.7726035	101.9222827	98.2318095	94.69369349	91.30083841	88.04651896
200316A00046	3/16/2020	1.18	3/18/2024	3/16/2020	113.682	110.5389388	107.4987019	104.5573297	101.7110368	98.95620694	96.28938449	93.70726591	91.20669213
200312A00036	3/12/2020	1.04	3/11/2022	3/12/2020	103.87802	103.0352077	102.2060002	101.3900734	100.58711	99.7968033	99.01885579	98.25297939	97.49889488
200312A00037	3/12/2020	1.3	3/12/2025	3/12/2020	118.33997	113.9682732	109.7810026	105.7693479	101.9249747	98.23999419	94.70693635	91.31872512	88.06865505
200313A00019	3/13/2020	1.55	3/13/2026	3/13/2020	123.46475	117.7706072	112.3705379	107.2477986	102.3866952	97.77250768	93.39142331	89.23047603	85.27748962
200316A00009	3/16/2020	1.25	3/14/2025	3/16/2020	118.15797	113.7829362	109.5927122	105.578478	101.7318834	98.04502358	94.51041249	91.12095803	87.86993884
200316A00015	3/16/2020	0.99	3/14/2022	3/16/2020	103.86971	103.0179111	102.1800129	101.3556755	100.544572	99.74638572	98.96081003	98.18754799	97.42631191
200316A00019	3/16/2020	1.11	3/16/2023	3/16/2020	108.77741	106.8298035	104.9268376	103.0671578	101.2494601	99.47249095	97.73504485	96.03596216	94.37412688
200311A00055	3/11/2020	1.66	12/17/2027	3/11/2020	130.32006	122.2312092	114.6935425	107.6667168	101.1135409	94.99971496	89.29359172	83.96595795	78.98983539
200312A00006	3/12/2020	1.23	3/12/2025	3/12/2020	118.05197	113.6859876	109.5042529	105.4979638	101.6587926	97.97885663	94.45069214	91.0672288	87.82176666
200312A00009	3/12/2020	1.46	3/12/2027	3/12/2020	126.51727	119.5101744	112.9309066	106.7511581	100.9446401	95.48692931	90.35532581	85.52872209	80.9874831
200312A00014	3/12/2020	1.04	3/12/2025	3/12/2020	117.9039	113.5234642	109.3283502	105.3096894	101.4590885	97.76860341	94.23071319	90.83829413	87.58459653
200312A00015	3/12/2020	1.23	3/10/2025	3/12/2020	118.02838	113.6698137	109.4949813	105.4951	101.6618624	97.98740647	94.46428863	91.08545865	87.84423633
200312A00019	3/17/2020	1.06	5/16/2022	3/17/2020	104.798	103.7476474	102.7182176	101.7090922	100.7196753	99.7493942	98.79769814	97.86405738	96.94796209
200311A00031	3/11/2020	1.41	12/24/2027	3/11/2020	128.53586	120.4835552	112.9825421	105.992322	99.47557275	93.39788324	87.72751219	82.4351675	77.49380528

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200311A00032	3/11/2020	1.11	3/11/2025	3/11/2020	118.18076	113.7983179	109.6011179	105.5802932	101.7274539	98.03465996	94.49439456	91.09953835	87.84334603
200311A00043	3/11/2020	1.3	3/11/2025	3/11/2020	118.32795	113.9599746	109.7761633	105.7677202	101.9263211	98.24408744	94.71355945	91.32767108	88.07972678
200311A00044	3/11/2020	1.73	3/11/2030	3/11/2020	138.74901	127.4655659	117.1785607	107.7949596	99.23086039	91.41055259	84.26567889	77.7344865	71.76115824
200311A00050	3/2/2021	1.46	3/2/2026	3/2/2021	122.86302	117.2232296	111.8733789	106.7969674	101.9785281	97.40355946	93.05845893	88.93046179	85.00758427
200311A00052	3/2/2021	1.43	2/28/2025	3/2/2021	118.72577	114.3882331	110.2323604	106.2494532	102.4312865	98.7700816	95.2584783	91.88950956	88.65657754
200310A00040	3/10/2020	1.36	3/10/2028	3/10/2020	128.7788	120.4568504	112.7208117	105.5265079	98.83331627	92.60386192	86.80374158	81.40127231	76.36726288
200310A00041	3/10/2020	1.39	3/12/2029	3/10/2020	132.15915	122.4427191	113.499858	105.2651698	97.6791055	90.68740887	84.24062006	78.29362881	72.80527116
200310A00051	3/10/2020	1.41	3/8/2030	3/10/2020	135.49522	124.3707067	114.2314296	104.9852782	96.54918812	88.84821323	81.81469347	75.38751241	69.51143377
200310A00054	3/10/2020	1.1	3/10/2025	3/10/2020	117.49434	113.1463548	108.9817735	104.9918283	101.168224	97.50311033	93.989055	90.61901843	87.38633061
200310A00062	3/10/2020	1.05	3/8/2024	3/10/2020	113.16777	110.0647667	107.0626788	104.1575802	101.3457234	98.62353313	95.98759717	93.43465744	90.96160185
200311A00012	3/11/2020	0.87	3/11/2022	3/11/2020	103.74023	102.8980364	102.0694423	101.2541218	100.4517582	99.66204445	98.88468342	98.11938709	97.36587638
200310A00020	3/10/2020	1.1	3/10/2025	3/10/2020	117.49434	113.1463548	108.9817735	104.9918283	101.168224	97.50311033	93.989055	90.61901843	87.38633061
200310A00021	3/10/2020	1.1	3/10/2025	3/10/2020	117.49434	113.1463548	108.9817735	104.9918283	101.168224	97.50311033	93.989055	90.61901843	87.38633061
200310A00028	3/10/2020	1.1	3/10/2025	3/10/2020	117.49434	113.1463548	108.9817735	104.9918283	101.168224	97.50311033	93.989055	90.61901843	87.38633061
200310A00033	3/10/2020	0.91	3/10/2025	3/10/2020	117.34484	112.9824963	108.8046257	104.802393	100.9674375	97.2918479	93.768135	90.38920616	87.14834189
200310A00034	3/10/2020	1.41	3/11/2030	3/10/2020	135.52426	124.3870614	114.23705	104.9818767	96.53826744	88.83108866	81.79251326	75.36127602	69.48200842
200310A00038	3/10/2020	1.41	3/11/2030	3/10/2020	135.52426	124.3870614	114.23705	104.9818767	96.53826744	88.83108866	81.79251326	75.36127602	69.48200842
200309A00045	3/9/2020	0.97	3/7/2025	3/9/2020	116.92737	112.6009936	108.456926	104.4864428	100.6812917	97.03366436	93.53616982	90.18180901	86.9639515
200309A00054	3/9/2020	0.98	3/9/2028	3/9/2020	127.1512	118.8374599	111.1118743	103.9299557	97.25080038	91.03678416	85.25328323	79.86841943	74.85282888
200310A00003	3/10/2020	1.1	3/10/2025	3/10/2020	117.49434	113.1463548	108.9817735	104.9918283	101.168224	97.50311033	93.989055	90.61901843	87.38633061
200310A00005	3/10/2020	1.41	3/8/2030	3/10/2020	135.49522	124.3707067	114.2314296	104.9852782	96.54918812	88.84821323	81.81469347	75.38751241	69.51143377
200310A00014	3/10/2020	0.91	3/10/2025	3/10/2020	117.34484	112.9824963	108.8046257	104.802393	100.9674375	97.2918479	93.768135	90.38920616	87.14834189
200310A00015	3/10/2020	1.37	3/11/2030	3/10/2020	135.12117	124.0022483	113.8693612	104.6302413	96.20169332	88.50865567	81.48336756	75.06462471	69.1971147
200309A00029	3/9/2020	1.02	3/7/2025	3/9/2020	117.1323	112.8018706	108.6538776	104.6795893	100.8707489	97.21954348	93.71857787	90.36084889	87.13972222
200309A00030	3/9/2020	1.11	3/9/2027	3/9/2020	124.23411	117.3064839	110.8024794	104.6940415	98.95511723	93.561505	88.49071336	83.72183076	79.23540621
200309A00038	3/9/2020	1.26	3/11/2030	3/9/2020	134.01266	122.9440124	112.8582169	103.6632441	95.27611449	87.62196495	80.63321688	74.24883361	68.41365694
200309A00040	3/9/2020	0.91	3/8/2024	3/9/2020	112.75207	109.6551655	106.65903	103.7597377	100.9535459	98.23688418	95.60634459	93.05867336	90.59076248
200309A00043	3/9/2020	0.92	6/7/2024	3/9/2020	113.83789	110.4345301	107.1504974	103.9809262	100.9211803	97.96683971	95.11368941	92.35770818	89.69505862
200309A00044	3/9/2020	0.94	9/9/2024	3/9/2020	114.94162	111.2250668	107.6475811	104.2031443	100.8860376	97.69082517	94.61233822	91.64565974	88.78611064
200306A00064	3/6/2020	1.2	3/8/2027	3/6/2020	124.80518	117.8640139	111.3468345	105.2255681	99.47415259	94.06837811	88.98574528	84.20533511	79.70768946
200306A00066	3/6/2020	1.2	3/8/2027	3/6/2020	124.80518	117.8640139	111.3468345	105.2255681	99.47415259	94.06837811	88.98574528	84.20533511	79.70768946
200306A00077	3/6/2020	1.06	3/6/2025	3/6/2020	117.28498	112.9549999	108.8072973	104.8331503	101.0243082	97.37296488	93.87173153	90.51361172	87.29197775
200306A00080	11/6/2020	1.12	11/6/2023	11/6/2020	111.86502	109.1616684	106.5374716	103.9896531	101.5155518	99.1126163	96.77839911	94.51055201	92.30682125

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200306A00087	3/8/2021	1.26	3/7/2025	3/8/2021	118.11595	113.7660805	109.599245	105.6066924	101.7801433	98.11176327	94.59413651	91.22024031	87.98342164
200309A00007	3/9/2020	1.11	3/9/2027	3/9/2020	124.23411	117.3064839	110.8024794	104.6940415	98.95511723	93.561505	88.49071336	83.72183076	79.23540621
200306A00031	3/6/2020	1.01	3/6/2025	3/6/2020	117.08021	112.754274	108.6104911	104.6401437	100.8349856	97.1872153	93.68944818	90.33469191	87.11632265
200306A00036	3/6/2020	1.01	3/6/2025	3/6/2020	117.08021	112.754274	108.6104911	104.6401437	100.8349856	97.1872153	93.68944818	90.33469191	87.11632265
200306A00040	3/6/2020	1.01	3/6/2025	3/6/2020	117.08021	112.754274	108.6104911	104.6401437	100.8349856	97.1872153	93.68944818	90.33469191	87.11632265
200306A00049	3/6/2020	1.01	3/6/2025	3/6/2020	117.08021	112.754274	108.6104911	104.6401437	100.8349856	97.1872153	93.68944818	90.33469191	87.11632265
200306A00054	3/6/2020	1.01	3/6/2025	3/6/2020	117.08021	112.754274	108.6104911	104.6401437	100.8349856	97.1872153	93.68944818	90.33469191	87.11632265
200306A00055	3/6/2020	0.82	3/6/2025	3/6/2020	116.92987	112.5896909	108.4327295	104.4501965	100.6337806	96.97561979	93.46827307	90.1046955	86.87821421
200305A00045	3/5/2020	0.99	3/6/2023	3/5/2020	108.43057	106.5182223	104.6493905	102.8226968	101.036823	99.29050586	97.5825341	95.91174562	94.27702502
200306A00003	3/6/2020	0.7	3/6/2023	3/6/2020	108.14747	106.2331953	104.3625643	102.5341974	100.7467701	98.99901333	97.28971032	95.61769386	93.9818437
200306A00010	3/6/2020	0.88	3/6/2023	3/6/2020	108.22594	106.3155535	104.4486431	102.623834	100.8398092	99.09530652	97.38911557	95.72007522	94.08707101
200306A00013	3/6/2020	1.01	3/6/2025	3/6/2020	117.08021	112.754274	108.6104911	104.6401437	100.8349856	97.1872153	93.68944818	90.33469191	87.11632265
200306A00022	3/6/2020	1.2	3/8/2027	3/6/2020	124.80518	117.8640139	111.3468345	105.2255681	99.47415259	94.06837811	88.98574528	84.20533511	79.70768946
200306A00028	3/6/2020	1.01	3/6/2025	3/6/2020	117.08021	112.754274	108.6104911	104.6401437	100.8349856	97.1872153	93.68944818	90.33469191	87.11632265
200305A00019	3/5/2020	0.81	3/6/2023	3/5/2020	108.35236	106.436117	104.5635591	102.733302	100.9440204	99.19444403	97.48335521	95.80958573	94.17201446
200305A00030	3/5/2020	1.58	3/5/2030	3/5/2020	137.1759	125.9866674	115.7856186	106.4805113	97.98815869	90.2334972	83.14875383	76.67270335	70.75000469
200305A00032	3/5/2020	1.58	3/5/2030	3/5/2020	137.1759	125.9866674	115.7856186	106.4805113	97.98815869	90.2334972	83.14875383	76.67270335	70.75000469
200305A00037	3/5/2020	1.43	3/6/2028	3/5/2020	129.27811	120.9528457	113.2125522	106.013171	99.31418538	93.0783181	87.27125532	81.86139596	76.81962331
200305A00038	3/5/2020	1.51	3/5/2029	3/5/2020	133.15174	123.4215539	114.4633806	106.2120841	98.60834893	91.59812827	85.1321496	79.16546939	73.65707153
200305A00039	3/5/2020	1.58	3/5/2030	3/5/2020	137.1759	125.9866674	115.7856186	106.4805113	97.98815869	90.2334972	83.14875383	76.67270335	70.75000469
200305A00001	3/5/2020	1.14	3/5/2025	3/5/2020	117.60111	113.2683475	109.1178131	105.1407809	101.3290029	97.67467565	94.1704137	90.80922397	87.58448232
200305A00006	3/5/2020	0.99	3/6/2023	3/5/2020	108.43057	106.5182223	104.6493905	102.8226968	101.036823	99.29050586	97.5825341	95.91174562	94.27702502
200305A00014	3/10/2020	1	2/15/2023	3/10/2020	108.19551	106.3432975	104.5323596	102.761383	101.0291125	99.33434597	97.67593166	96.05276525	94.4637875
200305A00015	3/5/2020	0.99	3/6/2023	3/5/2020	108.43057	106.5182223	104.6493905	102.8226968	101.036823	99.29050586	97.5825341	95.91174562	94.27702502
200305A00016	3/5/2020	0.99	3/6/2023	3/5/2020	108.43057	106.5182223	104.6493905	102.8226968	101.036823	99.29050586	97.5825341	95.91174562	94.27702502
200305A00017	3/5/2020	1.19	3/5/2025	3/5/2020	117.80572	113.4689224	109.3144739	105.3336477	101.5181909	97.86029569	94.35257235	90.98802373	87.7600218
200304A00025	3/4/2020	1.04	3/6/2023	3/4/2020	108.52358	106.6103444	104.7406393	102.913089	101.1263747	99.37923283	97.67045161	95.99886852	94.36336775
200304A00029	3/4/2020	1.17	3/4/2025	3/4/2020	117.71227	113.380788	109.2313483	105.2552372	101.4442137	97.790482	94.28666398	90.92577407	87.7011955
200304A00030	3/4/2020	1.6	12/22/2028	3/4/2020	133.27087	123.7883489	115.0405463	106.9668615	99.51198754	92.62542128	86.26102324	80.37661946	74.93364194
200304A00032	3/4/2020	1.6	12/15/2028	3/4/2020	133.20442	123.7490928	115.0247727	106.9712931	99.53373278	92.66193059	86.31005	80.43618565	75.00200759
200304A00033	3/4/2020	1.17	3/4/2025	3/4/2020	117.71227	113.380788	109.2313483	105.2552372	101.4442137	97.790482	94.28666398	90.92577407	87.7011955
200304A00035	3/4/2020	1.17	3/4/2025	3/4/2020	117.71227	113.380788	109.2313483	105.2552372	101.4442137	97.790482	94.28666398	90.92577407	87.7011955
200304A00013	3/4/2020	1.01	3/4/2022	3/4/2020	103.75829	102.9373229	102.1292725	101.3338392	100.5507296	99.77965919	99.02035219	98.2725412	97.53596685

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200304A00015	3/4/2020	0.83	3/4/2022	3/4/2020	103.69797	102.8761247	102.067235	101.2709931	100.4871045	99.71528371	98.95525384	98.20674652	97.46950144
200304A00018	3/4/2020	0.98	3/4/2025	3/4/2020	117.56391	113.2181549	109.0555103	105.0671861	101.2448764	97.58072505	94.06729752	90.69755573	87.46483398
200304A00019	3/4/2020	1.04	3/6/2023	3/4/2020	108.52358	106.6103444	104.7406393	102.913089	101.1263747	99.37923283	97.67045161	95.99886852	94.36336775
200304A00020	3/4/2020	0.98	3/4/2025	3/4/2020	117.56391	113.2181549	109.0555103	105.0671861	101.2448764	97.58072505	94.06729752	90.69755573	87.46483398
200304A00022	3/4/2020	0.86	3/6/2023	3/4/2020	108.44549	106.5283542	104.6549204	102.8238041	101.0336796	99.28327617	97.57137561	95.89680931	94.25845572
200302A00056	3/2/2020	1.2	3/2/2023	3/2/2020	108.76269	106.8600853	105.0006267	103.1829309	101.4056716	99.66757941	97.9674382	96.30408264	94.67639534
200302A00060	3/2/2021	1.44	3/3/2025	3/2/2021	118.80389	114.4543562	110.2872857	106.2939435	102.4660736	98.79586614	95.27593014	91.89926806	88.65925205
200304A00002	3/4/2020	0.98	3/4/2025	3/4/2020	117.56391	113.2181549	109.0555103	105.0671861	101.2448764	97.58072505	94.06729752	90.69755573	87.46483398
200304A00005	3/4/2020	0.98	3/4/2025	3/4/2020	117.56391	113.2181549	109.0555103	105.0671861	101.2448764	97.58072505	94.06729752	90.69755573	87.46483398
200304A00011	3/4/2020	0.83	3/4/2022	3/4/2020	103.69797	102.8761247	102.067235	101.2709931	100.4871045	99.71528371	98.95525384	98.20674652	97.46950144
200304A00012	3/4/2020	0.98	3/4/2025	3/4/2020	117.56391	113.2181549	109.0555103	105.0671861	101.2448764	97.58072505	94.06729752	90.69755573	87.46483398
200302A00013	3/2/2020	1.25	3/4/2024	3/2/2020	113.70951	110.6115563	107.61403	104.7130102	101.9047554	99.18569803	96.5524349	94.00171803	91.53044637
200302A00014	3/2/2020	1.2	3/2/2022	3/2/2020	103.88014	103.0647259	102.2620422	101.4717952	100.6936976	99.92747137	99.17284656	98.42956148	97.69736224
200302A00016	3/2/2020	1.36	3/3/2025	3/2/2020	118.47701	114.1339199	109.9730935	105.9858042	102.1638035	98.49928859	94.98487534	91.61357264	88.37875884
200302A00017	3/2/2020	1.3	3/4/2024	3/2/2020	113.85737	110.7572474	107.757612	104.8545348	102.0442724	99.3232558	96.6880801	94.13549586	91.66240059
200302A00018	3/2/2020	1.25	3/2/2023	3/2/2020	108.85511	106.9516249	105.0913036	103.2727616	101.4946721	99.75576506	98.05482414	96.3906835	94.76222535
200302A00025	3/2/2020	1.02	3/2/2022	3/2/2020	103.82026	103.0039745	102.2004574	101.4094073	100.6305359	99.86356407	99.10822085	98.36424359	97.63137744
200228A00071	2/28/2020	1.74	12/14/2029	2/28/2020	137.99565	127.0554215	117.0582754	107.9181586	99.55727999	91.90527722	84.89847307	78.47920911	72.59524902
200228A00091	2/28/2020	1.72	12/7/2029	2/28/2020	137.73066	126.8271951	116.8620261	107.749689	99.41291007	91.78178152	84.79302531	78.38933377	72.51877882
200302A00002	3/2/2020	1.12	3/3/2025	3/2/2020	118.12602	113.7726596	109.6024939	105.6067382	101.7770837	98.10567164	94.5850657	91.20822636	87.96848684
200302A00003	3/2/2020	1.2	3/2/2023	3/2/2020	108.76269	106.8600853	105.0006267	103.1829309	101.4056716	99.66757941	97.9674382	96.30408264	94.67639534
200302A00005	3/2/2020	1.31	3/3/2025	3/2/2020	118.27271	113.9336473	109.7767234	105.7932172	101.9748847	98.31392763	94.80296609	91.43501301	88.20345058
200302A00006	3/2/2020	1.2	3/2/2023	3/2/2020	108.76269	106.8600853	105.0006267	103.1829309	101.4056716	99.66757941	97.9674382	96.30408264	94.67639534
200225A00041	10/30/2020	1.48	10/30/2023	10/30/2020	112.70462	110.0121451	107.3978264	104.8589456	102.3928964	99.99717875	97.66939364	95.40723849	93.20850257
200226A00004	2/26/2020	1.58	2/26/2025	2/26/2020	119.31339	114.9707241	110.809572	106.8212591	102.9975807	99.33077617	95.81350193	92.43880584	89.20010354
200227A00055	2/27/2020	1.41	2/27/2023	2/27/2020	109.1061	107.2096683	105.3561169	103.5440574	101.7721643	100.0391691	98.34385742	96.68506609	95.06168022
200228A00045	2/28/2020	1.45	2/28/2025	2/28/2020	118.8073	114.4681609	110.310734	106.3263202	102.5066926	98.84407054	95.33109236	91.96078935	88.72656212
200228A00047	5/18/2020	1.35	5/18/2023	5/18/2020	110.13265	107.9761956	105.8732138	103.8220343	101.821052	99.86872303	97.96356188	96.10413878	94.28907717
200228A00070	5/18/2020	1.35	5/18/2023	5/18/2020	110.13265	107.9761956	105.8732138	103.8220343	101.821052	99.86872303	97.96356188	96.10413878	94.28907717
200225A00023	2/25/2020	1.62	2/25/2025	2/25/2020	119.46415	115.1217337	110.9606751	106.972309	103.148444	99.48133175	95.96363977	92.58842622	89.3491162
200225A00028	2/25/2020	1.89	12/21/2029	2/25/2020	139.53663	128.5031421	118.4210311	109.2033976	100.7716977	93.05489888	85.98872601	79.51498706	73.58096907
200225A00029	2/25/2020	1.89	12/28/2029	2/25/2020	139.60995	128.5479831	118.4416948	109.2036304	100.7547578	93.02361708	85.94555926	79.46206519	73.52013577
200225A00034	10/5/2020	1.5	10/5/2023	10/5/2020	112.40679	109.7976273	107.2621646	104.7979067	102.4024614	100.073531	97.80890777	95.60647026	93.4641791

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200225A00035	10/5/2020	1.5	10/5/2023	10/5/2020	112.40679	109.7976273	107.2621646	104.7979067	102.4024614	100.073531	97.80890777	95.60647026	93.4641791
200225A00040	10/30/2020	1.48	10/30/2023	10/30/2020	112.70462	110.0121451	107.3978264	104.8589456	102.3928964	99.99717875	97.66939364	95.40723849	93.20850257
200220A00014	2/20/2020	2.09	12/21/2029	2/20/2020	141.49822	130.3779591	120.2144373	110.9203715	102.4168602	94.63254188	87.50283854	80.96927921	74.97889381
200220A00034	2/25/2020	1.71	3/27/2023	2/25/2020	110.08869	108.0926023	106.1426189	104.2373978	102.3756432	100.5561055	98.77757911	97.03890052	95.33894677
200221A00011	2/21/2020	1.69	8/21/2024	2/21/2020	117.3491	113.6505697	110.088413	106.6567356	103.3499401	100.1627097	97.08999167	94.12698215	91.26911204
200221A00023	2/21/2020	2.05	12/7/2029	2/21/2020	140.95176	129.906425	119.808126	110.5707681	102.1164971	94.37487111	87.28212043	80.78048425	74.81761672
200221A00024	2/21/2020	2.05	12/28/2029	2/21/2020	141.18299	130.0512837	119.8795763	110.5801013	102.0735381	94.28816153	87.15907833	80.62754447	74.64035354
200224A00006	2/24/2020	1.58	11/15/2024	2/24/2020	118.05799	114.0707036	110.2394391	106.5572538	103.0175492	99.61405615	96.34081589	93.19216331	90.16271057
200211A00014	2/11/2020	1.75	8/11/2023	2/11/2020	112.23438	109.7944418	107.4203345	105.1097768	102.860584	100.6706665	98.53802446	96.46074292	94.43698762
200214A00018	2/18/2020	1.77	1/12/2022	2/18/2020	103.54941	102.88302	102.2251886	101.5757535	100.9345545	100.3014355	99.67624427	99.05883257	98.44905571
200218A00025	2/21/2020	1.71	2/24/2023	2/21/2020	109.61253	107.7202563	105.8705899	104.062159	102.293652	100.5638137	98.87144196	97.2153851	95.5945391
200218A00026	2/21/2020	1.73	3/25/2024	2/21/2020	115.43356	112.2416055	109.1543487	106.1677853	103.2780855	100.4815877	97.77478911	95.1543388	92.61702969
200218A00030	2/21/2020	1.71	2/24/2023	2/21/2020	109.61253	107.7202563	105.8705899	104.062159	102.293652	100.5638137	98.87144196	97.2153851	95.5945391
200220A00013	2/20/2020	2.09	12/14/2029	2/20/2020	141.4202	130.3288111	120.1898315	110.9165375	102.4305174	94.66083765	87.54329546	81.01974797	75.03751234
200108A00015	12/18/2020	1.98	12/18/2023	12/18/2020	114.73681	111.8638469	109.078175	106.3765971	103.7560557	101.2136256	98.74650683	96.352019	94.02759476
200108A00016	12/18/2020	1.98	12/18/2023	12/18/2020	114.73681	111.8638469	109.078175	106.3765971	103.7560557	101.2136256	98.74650683	96.352019	94.02759476
200114A00017	1/11/2021	1.93	1/11/2024	1/11/2021	114.95572	112.0048738	109.1454321	106.3739734	103.6872259	101.0820632	98.55549724	96.1046704	93.72684922
200114A00021	1/11/2021	1.93	1/11/2024	1/11/2021	114.95572	112.0048738	109.1454321	106.3739734	103.6872259	101.0820632	98.55549724	96.1046704	93.72684922
200207A00007	2/7/2020	1.74	2/7/2023	2/7/2020	109.41083	107.5711389	105.7719819	104.0120921	102.2902512	100.6052921	98.95609547	97.34158759	95.76073797
200207A00013	2/12/2020	1.73	2/10/2023	2/12/2020	109.43867	107.589774	105.7817755	104.0133868	102.2833736	100.5905534	98.93379246	97.31200352	95.72414331
210525A00004	5/25/2021	1.02	12/19/2025	5/25/2021	119.88266	114.5544112	109.4909324	104.6776871	100.1010139	95.74807068	91.60678144	87.66578584	83.91439303
210526A00014	5/26/2021	1.01	12/19/2025	5/26/2021	119.8326	114.5055408	109.4432099	104.6310716	100.0554662	95.7035534	91.56325878	87.62322357	83.87275837
210526A00018	5/26/2021	1.11	5/26/2026	5/26/2021	121.85999	115.9545015	110.3668774	105.0784024	100.0715555	95.32993146	90.83816383	86.58185384	82.5475045
210518A00023	5/18/2021	1.17	5/18/2026	5/18/2021	122.11141	116.2268217	110.6574705	105.3848771	100.391741	95.66185797	91.18004525	86.93207165	82.90459312
210330A00024	3/30/2021	0.68	3/29/2024	3/30/2021	112.31486	109.1565359	106.1024718	103.1486782	100.2913421	97.52681635	94.85161146	92.26238787	89.75594869
210407A00012	4/7/2021	0.94	4/7/2025	4/7/2021	117.10544	112.6709409	108.426769	104.3637956	100.4733791	96.74733437	93.17790611	89.7577442	86.47988036
210407A00013	4/7/2021	1.23	4/7/2026	4/7/2021	122.03409	116.2894284	110.8457072	105.6856744	100.7931563	96.15298101	91.75091094	87.57358091	83.60844037
210420A00009	4/20/2021	1.08	12/5/2025	4/20/2021	120.10175	114.8129714	109.7851005	105.0039171	100.4560496	96.12892196	92.01070243	88.09025506	84.3570952
210420A00010	4/20/2021	1.08	12/12/2025	4/20/2021	120.17006	114.8564627	109.8059224	105.0040453	100.4373046	96.09298177	91.95911359	88.02444338	84.27837529
210526A00017	5/26/2021	2.13	5/26/2033	5/26/2021	155.51035	139.0036979	124.408159	111.4919361	100.052435	89.91245711	80.91690352	72.92992142	65.83243081
210319A00003	3/19/2021	0.95	3/19/2025	3/19/2021	116.95098	112.5828257	108.3999846	104.3936103	100.5553311	96.87721928	93.35176484	89.97185105	86.73073158
210324A00002	3/24/2021	2.06	3/24/2031	3/24/2021	146.30919	133.2804169	121.5169444	110.8893196	101.2819381	92.59150007	84.72564474	77.60174362	71.14583155
210324A00003	3/24/2021	1.18	3/24/2026	3/24/2021	121.62785	115.9406801	110.5494145	105.4371873	100.5881763	95.9875356	91.62133055	87.47647727	83.54068635

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210330A00015	3/30/2021	0.47	3/30/2023	3/30/2021	107.74323	105.7610479	103.8248986	101.9334402	100.0853801	98.2794713	96.51451046	94.78933611	93.10282694
210330A00021	3/30/2021	2.16	3/28/2031	3/30/2021	147.49353	134.3889708	122.5567696	111.8667399	102.2026223	93.46053095	85.54758194	78.38067933	71.88544056
210330A00022	3/30/2021	1.27	3/30/2026	3/30/2021	122.1694	116.4477581	111.0245059	105.8826209	101.0061315	96.38005032	91.99030932	87.82369856	83.86780982
210310A00014	3/11/2021	0.41	5/16/2022	3/11/2021	104.14779	103.1009827	102.0750535	101.0693805	100.0833691	99.11644742	98.16806593	97.23769582	96.32482824
210310A00015	3/11/2021	0.51	5/15/2023	3/11/2021	108.35333	106.2250665	104.1494411	102.1248144	100.1496125	98.22232119	96.34148307	94.50569531	92.71360699
210311A00007	3/11/2021	1.06	3/11/2026	3/11/2021	120.85665	115.2349644	109.9042419	104.8478983	100.0503842	95.49711682	91.17441416	87.06943435	83.17011917
210312A00008	3/12/2021	1.13	3/12/2026	3/12/2021	121.23596	115.6012659	110.2582101	105.1901752	100.3815778	95.81780276	91.48513712	87.37070946	83.46243341
210315A00003	3/15/2021	1.13	3/13/2026	3/15/2021	121.24649	115.6079805	110.2614426	105.1902393	100.3787685	95.81239659	91.47739331	87.36087037	83.45072533
210318A00007	3/22/2021	1.41	3/21/2024	3/22/2021	114.42221	111.2583062	108.1980303	105.2373996	102.37261	99.60002574	96.91617128	94.31772282	91.80150086
210305A00005	3/9/2021	0.54	8/11/2023	3/9/2021	109.41049	107.0037722	104.6621737	102.3834341	100.1653897	98.00597105	95.90319749	93.85517275	91.86008039
210305A00006	3/8/2021	1.02	8/11/2025	3/8/2021	118.69535	113.8175099	109.1655111	104.7276308	100.492826	96.45069062	92.5914142	88.90574416	85.38495028
210308A00009	3/8/2021	0.62	3/8/2024	3/8/2021	111.90107	108.8165842	105.8325572	102.9450778	100.1504131	97.44500176	94.82544497	92.2884975	89.83105958
210309A00002	3/11/2021	0.77	7/25/2024	3/11/2021	113.8547	110.3001145	106.8745042	103.5724023	100.3886147	97.31820161	94.35646228	91.49892211	88.74132001
210309A00004	3/11/2021	0.87	11/25/2024	3/11/2021	115.47472	111.5026521	107.6877083	104.0228254	100.5012993	97.11676352	93.8631697	90.73477023	87.72610135
210310A00003	3/15/2021	0.79	8/26/2024	3/15/2021	114.25213	110.5906639	107.0652047	103.669837	100.3989475	97.24720601	94.20954855	91.2811621	88.45747012
210226A00004	3/1/2021	1.04	12/5/2025	3/1/2021	119.90325	114.6191481	109.5957933	104.8189661	100.2753017	95.95223102	91.8379284	87.92126398	84.19175884
210302A00005	3/5/2021	0.92	9/10/2025	3/5/2021	118.51154	113.5419138	108.8061418	104.2919646	99.98783835	95.8828862	91.96685588	88.23007989	84.66343872
210302A00019	3/4/2021	1.06	3/4/2024	3/4/2021	113.15795	110.0679814	107.0782466	104.1848292	101.3839937	98.67217855	96.04598628	93.50217438	91.03764706
210303A00006	3/4/2021	0.97	10/10/2025	3/4/2021	119.02854	113.9499606	109.1140143	104.5079101	100.1195915	95.93769479	91.9515058	88.15091935	84.52640165
210304A00002	3/5/2021	0.93	7/10/2025	3/5/2021	117.97688	113.2189832	108.6774968	104.3413967	100.2002875	96.24436058	92.46435665	88.85153199	85.39762648
210304A00006	3/4/2021	1.02	3/4/2026	3/4/2021	120.57469	114.9848373	109.6834313	104.6540332	99.88123296	95.35058204	91.04852772	86.96235196	83.08011497
210225A00007	2/25/2021	1.79	8/23/2030	2/25/2021	141.01794	129.0335466	118.1553758	108.2756087	99.29746038	91.13399641	83.7070831	76.94645439	70.78888229
210225A00012	3/1/2021	0.91	8/25/2025	3/1/2021	118.31929	113.4047239	108.7196654	104.252099	99.99071008	95.92484255	92.04445651	88.34008828	84.8028135
210225A00013	3/1/2021	0.93	10/6/2025	3/1/2021	118.79896	113.7390314	108.9203188	104.3301334	99.95651545	95.78819058	91.81452731	88.02549701	84.41163678
210225A00015	3/1/2021	0.7	8/26/2024	3/1/2021	113.93747	110.2813761	106.7611394	103.3708511	100.1049032	96.95797013	93.92499278	91.00116256	88.18190722
210225A00016	3/1/2021	0.88	7/15/2025	3/1/2021	117.80005	113.0295149	108.4766453	104.1303171	99.98004439	96.01593467	92.2286517	88.60938074	85.14979624
210226A00002	2/26/2021	0.86	2/26/2025	2/26/2021	116.35686	112.0724607	107.9677817	104.0342139	100.2636197	96.64830297	93.18098129	89.85476098	86.66311347
210224A00003	2/26/2021	0.9	12/3/2025	2/26/2021	119.13557	113.8778598	108.8795264	104.1264362	99.60530354	95.30363282	91.20966692	87.31233968	83.60123154
210224A00004	2/26/2021	0.91	12/18/2025	2/26/2021	119.32281	114.0111738	108.9635348	104.1653963	99.60313905	95.26396059	91.13582154	87.20739594	83.46802506
210224A00006	2/26/2021	0.88	10/21/2025	2/26/2021	118.70132	113.5933155	108.7311084	104.1016445	99.6926308	95.4924857	91.49029416	87.67576591	84.03919655
210224A00007	2/26/2021	0.68	10/21/2024	2/26/2021	114.41804	110.5771428	106.8842668	103.3329364	99.91699793	96.63059854	93.4681695	90.42441102	87.49427776
210225A00003	3/1/2021	0.93	9/24/2025	3/1/2021	118.68608	113.6682038	108.8879496	104.3328722	99.99124434	95.85200915	91.90473881	88.13959524	84.54729375
210225A00006	2/25/2021	0.98	2/25/2026	2/25/2021	120.29772	114.7386493	109.4655407	104.4621188	99.71313076	95.20427597	90.92214071	86.85413751	82.98844912

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210218A00011	2/22/2021	0.85	10/24/2025	2/22/2021	118.58465	113.4692726	108.6005318	103.9653067	99.5512401	95.34669151	91.34069157	87.52290003	83.88356641
210219A00002	2/19/2021	0.32	2/22/2022	2/19/2021	103.09568	102.3078463	101.5319745	100.7677964	100.0150493	99.27347853	98.54283676	97.822884	97.11338718
210219A00004	2/19/2021	0.91	2/19/2026	2/19/2021	119.87951	114.3502514	109.1046783	104.1266906	99.40119886	94.91405232	90.65197492	86.60250562	82.75394342
210219A00008	2/22/2021	0.86	12/1/2025	2/22/2021	118.97375	113.7247733	108.7345717	103.9890584	99.47498829	95.17990295	91.09207966	87.200484	83.4947257
210223A00014	2/23/2021	0.31	2/23/2022	2/23/2021	103.0998	102.3089316	101.5301173	100.7630833	100.0075641	99.26330214	98.53004751	97.80755768	97.09559717
210224A00002	2/25/2021	0.88	11/3/2025	2/25/2021	118.82095	113.6671212	108.7632288	104.0958978	99.65253497	95.4212818	91.39096799	87.55106779	83.89165953
210217A00008	2/18/2021	0.63	8/15/2024	2/18/2021	113.58536	109.9695705	106.4870996	103.1322	99.8994134	96.78355378	93.77969176	90.88313975	88.08943827
210217A00009	2/18/2021	0.68	11/15/2024	2/18/2021	114.66082	110.7354944	106.9643913	103.3406352	99.85769195	96.5093537	93.28972045	90.19318313	87.21440753
210218A00005	2/18/2021	0.32	2/18/2022	2/18/2021	103.04864	102.2730536	101.509077	100.7564483	100.014916	99.28423637	98.56417253	97.85449455	97.15497905
210218A00006	2/18/2021	0.5	2/20/2024	2/18/2021	111.36701	108.343848	105.417962	102.5855556	99.84301066	97.18687791	94.61386778	92.12084149	89.7048028
210218A00009	2/19/2021	0.62	7/15/2024	2/19/2021	113.24314	109.7306285	106.3447234	103.0801015	99.93170101	96.89470522	93.9645286	91.13680416	88.4073715
210218A00010	2/18/2021	1.72	2/18/2031	2/18/2021	142.10161	129.4147059	117.9546916	107.5966252	98.2288907	89.75171024	82.07583252	75.12137293	68.81678695
210208A00006	2/9/2021	0.46	8/15/2023	2/9/2021	109.26698	106.8499063	104.498519	102.2105223	99.98372366	97.81602637	95.70542449	93.64999788	91.64790777
210208A00008	2/11/2021	0.78	11/17/2025	2/11/2021	118.45609	113.2650422	108.3280018	103.6312486	99.1618778	94.90774484	90.85741615	87.00012389	83.32572371
210208A00015	2/10/2021	0.46	8/25/2023	2/10/2021	109.37465	106.9261869	104.5449404	102.2285391	99.97471381	97.78129611	95.64621255	93.5674797	91.54319925
210211A00005	2/11/2021	0.45	6/15/2023	2/11/2021	108.57477	106.3504296	104.1830153	102.0706861	100.0116717	98.00427211	96.04685452	94.13785005	92.27575069
210211A00007	2/11/2021	0.47	9/15/2023	2/11/2021	109.62095	107.1071941	104.6634749	102.287388	99.97663045	97.72899421	95.54236215	93.41470326	91.34406854
210216A00011	2/17/2021	0.83	12/15/2025	2/17/2021	118.89579	113.6041969	108.5753344	103.7948006	99.2490572	94.9253768	90.81178941	86.89703331	83.17050921
210129A00002	2/3/2021	0.59	7/25/2024	2/3/2021	113.24322	109.6987983	106.2830768	102.990598	99.81617746	96.75488412	93.8020259	90.95313639	88.20396232
210201A00001	2/1/2021	0.77	12/16/2025	2/1/2021	118.60493	113.3169413	108.2917401	103.5149045	98.9728851	94.65294409	90.54310249	86.63209053	82.90930177
210201A00003	2/2/2021	0.74	10/15/2025	2/2/2021	117.9729	112.9016844	108.0738139	103.4764108	99.09734126	94.92517103	90.94912176	87.15902987	83.54530848
210201A00007	2/3/2021	0.57	8/15/2024	2/3/2021	113.37763	109.7653565	106.2863034	102.9347286	99.70517703	96.59246599	93.59166907	90.69810159	87.90730683
210208A00002	2/10/2021	0.45	6/15/2023	2/10/2021	108.57477	106.3504296	104.1830153	102.0706861	100.0116717	98.00427211	96.04685452	94.13785005	92.27575069
210208A00004	2/11/2021	0.76	10/15/2025	2/11/2021	118.06891	112.9954921	108.1655016	103.5660518	99.18500551	95.01092565	91.03303098	87.24115523	83.62570894
210121A00018	1/25/2021	0.5	8/25/2023	1/25/2021	109.46962	107.0200176	104.6376603	102.3201721	100.0652831	97.87082398	95.73472077	93.65498936	91.62973082
210122A00005	1/26/2021	0.6	7/15/2024	1/26/2021	113.17581	109.6644142	106.2795889	103.0160181	99.86864092	96.83264156	93.90343546	91.07665653	88.34814518
210122A00006	1/25/2021	0.61	8/15/2024	1/25/2021	113.51612	109.9014991	106.4201676	103.0663762	99.83466794	96.71985785	93.71701753	90.82146037	88.02872779
210127A00008	1/27/2021	0.93	1/27/2027	1/27/2021	122.78672	116.0403471	109.6999908	103.7391431	98.13317096	92.85917023	87.89583412	83.2233334	78.82320584
210127A00009	1/27/2021	1.3	7/27/2029	1/27/2021	132.53213	122.3190318	112.9551939	104.3658282	96.48309345	89.24541556	82.59687858	76.48667748	70.8686267
210127A00010	1/27/2021	1.41	7/26/2030	1/27/2021	136.74099	125.0581949	114.4507752	104.8144454	96.05552261	88.0898012	80.84155001	74.24261998	68.23164999
210114A00004	1/14/2021	0.4	1/14/2022	1/14/2021	102.68992	102.0207237	101.3602096	100.7082116	100.0645659	99.42911252	98.80169596	98.18216438	97.57036985
210119A00005	1/20/2021	0.52	9/25/2023	1/20/2021	109.85008	107.3038588	104.8290369	102.4232036	100.0840472	97.80934747	95.59697201	93.44487161	91.35107676
210119A00007	1/20/2021	0.51	8/25/2023	1/20/2021	109.49336	107.0434753	104.6608403	102.3430804	100.0879254	97.89320595	95.75684783	93.67686678	91.65136372

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210121A00012	1/22/2021	0.64	10/15/2024	1/22/2021	114.21166	110.3940038	106.7228133	103.1917119	99.79463721	96.52582191	93.37977725	90.35127824	87.43534954
210121A00014	1/22/2021	0.64	10/25/2024	1/22/2021	114.31096	110.45893	106.7558365	103.195143	99.77063895	96.4764182	93.30686243	90.25662555	87.32061892
210121A00017	1/25/2021	0.48	5/25/2023	1/25/2021	108.40775	106.247673	104.1417723	102.088335	100.0857187	98.13234436	96.22669331	94.36730437	92.55277134
201221A00014	12/21/2020	0.76	12/19/2025	12/21/2020	118.58107	113.2837803	108.2501473	103.4656832	98.91677359	94.59062122	90.4751923	86.55916675	82.83189187
201221A00015	12/21/2020	0.88	12/4/2026	12/21/2020	122.09431	115.5466827	109.3844379	103.5829824	98.11941285	92.97239469	88.12204644	83.54983347	79.23846999
201223A00012	12/23/2020	0.91	12/18/2026	12/23/2020	122.38135	115.7784824	109.5664683	103.7202128	98.21636432	93.03318059	88.15040946	83.549179	79.21189637
201223A00013	12/23/2020	0.9	12/11/2026	12/23/2020	122.26826	115.6921513	109.5041904	103.6795339	98.19505335	93.02920912	88.16193338	83.57452184	79.24953417
210108A00008	1/11/2021	0.51	8/15/2023	1/11/2021	109.38418	106.9657242	104.6129816	102.3236584	100.0955613	97.92659262	95.81474574	93.75809972	91.754815
210112A00003	1/12/2021	0.53	9/15/2023	1/12/2021	109.7672	107.2516511	104.8061798	102.4283791	100.1159446	97.86666732	95.67842894	93.54919745	91.47702285
201215A00001	12/15/2020	0.76	12/15/2025	12/15/2020	118.54626	113.2629564	108.2420906	103.4692688	98.93096532	94.61446464	90.5078081	86.59974471	82.87968537
201216A00001	12/16/2020	0.49	7/14/2023	12/16/2020	108.98419	106.6676639	104.4120753	102.2153782	100.0756124	97.99089947	95.95943849	93.97950208	92.04943282
201216A00003	12/16/2020	0.59	7/1/2024	12/16/2020	113.00077	109.5368593	106.1965508	102.9747079	99.86644125	96.86709491	93.9722336	91.17763058	88.47925647
201216A00004	12/16/2020	0.74	9/8/2025	12/16/2020	117.6505	112.7064563	107.9950933	103.504204	99.22229631	95.13854351	91.24274151	87.5252692	83.97705156
201216A00013	12/16/2020	0.59	12/16/2025	12/16/2020	118.52815	113.2164339	108.1694141	103.372536	98.81212153	94.47531393	90.35002391	86.42487953	82.68917972
201218A00014	12/18/2020	0.57	12/18/2025	12/18/2020	118.44515	113.1287721	108.0776274	103.27711	98.71350025	94.37390374	90.24619644	86.31897461	82.58150798
201201A00002	12/1/2020	0.54	12/1/2023	12/1/2020	110.63299	107.8684634	105.1871608	102.5860782	100.0623415	97.61319805	95.23601128	92.92825458	90.68750607
201203A00005	12/3/2020	0.78	12/3/2026	12/3/2020	122.49422	115.9023962	109.6993279	103.8601619	98.36175818	93.1825642	88.30249782	83.70283953	79.36613308
201204A00015	12/8/2020	1.07	12/8/2025	12/8/2020	120.0813	114.7830628	109.7466101	104.9576505	100.4027476	96.06926615	91.94531978	88.01972241	84.28194323
201210A00011	12/10/2020	0.41	12/10/2021	12/10/2020	102.28541	101.7213331	101.1634604	100.6116875	100.0659147	99.52604446	98.99198131	98.46363191	97.94090487
201210A00021	12/10/2020	0.89	12/10/2027	12/10/2020	125.83268	117.8713466	110.4557446	103.5458213	97.10465777	91.09820931	85.49506773	80.26624412	75.38497084
201214A00002	12/14/2020	0.45	12/14/2022	12/14/2020	106.48697	104.8357645	103.2187352	101.6348972	100.0833058	98.56305182	97.07325976	95.61308632	94.18171889
201119A00003	11/19/2020	0.56	11/17/2023	11/19/2020	110.53485	107.8148349	105.1755484	102.6141193	100.1277999	97.71395693	95.37006588	93.09370606	90.88255546
201119A00021	11/23/2020	2.22	11/21/2030	11/23/2020	146.60343	134.0225074	122.6241985	112.2910747	102.9179277	94.41044015	86.68400847	79.66269837	73.27831704
201119A00023	11/23/2020	2.23	11/21/2030	11/23/2020	146.71283	134.1265642	122.7232683	112.3854914	103.0079988	94.49644944	86.766218	79.74135025	73.35363517
201123A00009	11/25/2020	1.02	11/25/2024	11/25/2020	116.0416	112.0591369	108.2340995	104.559415	101.0283687	97.63458334	94.37200089	91.23486418	88.21770038
201123A00010	11/25/2020	1.48	11/24/2025	11/25/2020	121.96603	116.6698803	111.6328571	106.8409331	102.2809177	97.94039949	93.80769618	89.87180772	86.12237291
201123A00011	11/25/2020	1.41	11/24/2025	11/25/2020	121.6211	116.3330341	111.3038084	106.5194072	101.9666518	97.63314232	93.50720719	89.57785669	85.83473939
201117A00006	11/17/2020	0.57	11/17/2023	11/17/2020	110.56113	107.8407707	105.2011471	102.6393887	100.1527475	97.73858975	95.39439095	93.11773014	90.9062851
201117A00016	11/17/2020	0.52	11/18/2024	11/17/2020	114.65955	110.7097739	106.9159061	103.2709589	99.76829911	96.40162623	93.16495375	90.0525917	87.0591302
201117A00017	11/17/2020	0.39	11/17/2023	11/17/2020	110.48214	107.7543519	105.1076982	102.5392866	100.0463502	97.62623756	95.27640723	92.99442235	90.77794571
201118A00009	11/18/2020	0.61	11/18/2025	11/18/2020	118.38441	113.1686157	108.2088549	103.4912581	99.00278375	94.73116052	90.6648375	86.79293819	83.10521754
201118A00021	11/20/2020	0.97	11/20/2023	11/20/2020	111.64852	108.904601	106.2422866	103.6586663	101.1509546	98.71648264	96.35269238	94.05713108	91.82744641
201119A00002	11/19/2020	0.5	11/18/2022	11/19/2020	106.26791	104.6958863	103.1552714	101.6452039	100.1648535	98.71341935	97.29012895	95.89423663	94.52502255

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
201105A00016	11/9/2020	2.18	11/8/2027	11/9/2020	133.73803	125.6696914	118.1406187	111.1120094	104.5480463	98.41565082	92.68425994	87.32562299	82.31361548
201116A00009	11/16/2020	0.51	11/14/2022	11/16/2020	106.23797	104.6780189	103.1490154	101.6501123	100.1804974	98.73938673	97.32602405	95.93967918	94.57964702
201116A00021	11/16/2020	0.53	11/15/2024	11/16/2020	114.66843	110.7280954	106.9429288	103.3059955	99.81070856	96.45081064	93.22035547	90.1136906	87.12544113
201116A00024	11/18/2020	2.36	11/15/2034	11/18/2020	164.83735	145.6528335	128.9171294	114.3032251	101.5293419	90.35247886	80.56290526	71.97945864	64.44552726
201116A00025	11/18/2020	1.96	11/15/2032	11/18/2020	151.15052	135.634894	121.8497758	109.5929556	98.6867891	88.97510446	80.32051276	72.60206633	65.71321921
201117A00005	11/17/2020	0.5	11/17/2022	11/17/2020	106.2566	104.6876247	103.1499433	101.6426968	100.1650593	98.71623446	97.29545369	95.90197527	94.53508306
201030A00012	10/30/2020	0.63	10/30/2025	10/30/2020	118.31807	113.1662205	108.2643758	103.5991591	99.15797422	94.92895974	90.9009422	87.06339277	83.40638665
201030A00016	10/30/2020	1.14	10/8/2027	10/30/2020	125.98508	118.2824674	111.0927175	104.3792344	98.10820489	92.2483746	86.77084259	81.64887302	76.85772299
201030A00017	10/30/2020	1.14	10/15/2027	10/30/2020	126.03672	118.3081274	111.0956237	104.3622733	98.07396028	92.19915797	86.7087205	81.57569175	76.7751307
201030A00018	10/30/2020	1.15	10/22/2027	10/30/2020	126.16019	118.40323	111.1657051	104.4103358	98.1026956	92.2109785	86.70578709	81.55993896	76.74828942
201030A00019	10/30/2020	1.15	10/29/2027	10/30/2020	126.21173	118.4288707	111.1686795	104.3935401	98.06872005	92.16213853	86.64415113	81.48735342	76.66640119
201105A00003	11/6/2020	2.24	11/4/2030	11/6/2020	146.6318	134.1118472	122.7631608	112.4699918	103.128576	94.64583993	86.93825097	79.93079604	73.55607438
201021A00011	10/21/2020	1.11	10/21/2027	10/21/2020	125.8656	118.1218894	110.8966912	104.1528042	97.85587007	91.97414477	86.47828759	81.34116786	76.53768812
201021A00012	10/21/2020	1.85	10/19/2035	10/21/2020	159.76543	139.6350721	122.250649	107.2224371	94.21779948	82.95258167	73.18384042	64.70369248	57.33410658
201028A00011	10/28/2020	0.91	4/28/2026	10/28/2020	120.50339	114.7285836	109.2602767	104.0806881	99.17315888	94.52207425	90.11279251	85.9315797	81.96554874
201028A00012	10/28/2020	0.8	7/28/2025	10/28/2020	117.5604	112.7523335	108.1653609	103.788099	99.60981725	95.62039776	91.81029663	88.17050762	84.69252848
201028A00013	10/28/2020	0.68	10/28/2024	10/28/2020	114.48843	110.6234388	106.9081964	103.3361241	99.90096353	96.59676417	93.41786599	90.35888389	87.41469272
201029A00002	10/29/2020	0.59	10/29/2025	10/29/2020	118.11497	112.9710919	108.0767506	103.4185923	98.98405067	94.76129206	90.73916878	86.90717586	83.25541071
201015A00025	10/19/2020	1.54	10/18/2027	10/19/2020	128.92667	121.0918843	113.7791144	106.9510238	100.5731228	94.61353978	89.04281044	83.83368432	78.96094822
201015A00030	10/19/2020	2.39	10/18/2027	10/19/2020	135.02079	126.9839982	119.4788828	112.4675553	105.9150085	99.78888689	94.05927319	88.69849276	83.68093495
201015A00032	10/19/2020	2.33	10/19/2026	10/19/2020	130.43304	123.8053759	117.5553961	111.6596489	106.096254	100.8447911	95.88619511	91.20265981	86.77754831
201019A00005	10/19/2020	0.79	10/20/2025	10/19/2020	118.25847	113.1639824	108.3146249	103.6973839	99.30000364	95.1109372	91.11930202	87.31483815	83.68786947
201019A00006	10/19/2020	0.57	10/19/2023	10/19/2020	110.24289	107.6166287	105.0658833	102.5880551	100.1806534	97.84128774	95.56766297	93.35757501	91.20890659
201019A00007	10/19/2020	0.64	10/21/2024	10/19/2020	114.27123	110.4329571	106.742627	103.1937703	99.78023614	96.49617406	93.33601777	90.29446981	87.36648704
201001A00011	10/1/2020	0.71	6/17/2025	10/1/2020	116.78456	112.1262595	107.6774081	103.4274755	99.36651966	95.48515136	91.77449965	88.2261804	84.83226679
201001A00012	10/1/2020	0.74	9/16/2025	10/1/2020	117.7186	112.7478058	108.0118056	103.4982904	99.19566537	95.09300301	91.18000083	87.44694205	83.88465899
201014A00002	10/14/2020	0.61	10/15/2024	10/14/2020	114.10211	110.2864053	106.6171059	103.0878421	99.69255368	96.42547506	93.28111927	90.25426305	87.3399327
201015A00002	10/15/2020	0.61	10/15/2024	10/15/2020	114.10211	110.2864053	106.6171059	103.0878421	99.69255368	96.42547506	93.28111927	90.25426305	87.3399327
201015A00003	10/15/2020	0.75	10/15/2025	10/15/2020	118.02091	112.9485882	108.1196578	103.5212313	99.14117338	94.96804834	90.99107637	87.20009255	83.58550871
201015A00024	10/19/2020	1.53	10/18/2027	10/19/2020	128.85498	121.0225653	113.7120583	106.8861235	100.5102771	94.55265334	88.98379323	83.77645128	78.90541896
200916A00019	9/16/2020	0.42	9/16/2024	9/16/2020	113.6845	109.9545917	106.3653212	102.9106046	99.58465882	96.38198407	93.29734844	90.32577292	87.46251756
200916A00023	9/16/2020	0.42	9/16/2024	9/16/2020	113.6845	109.9545917	106.3653212	102.9106046	99.58465882	96.38198407	93.29734844	90.32577292	87.46251756
200922A00015	9/24/2020	1.09	9/24/2025	9/24/2020	119.44343	114.4084502	109.6116813	105.0406536	100.6836157	96.52948794	92.56782072	88.7887553	85.18298734

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200923A00001	9/23/2020	2.27	9/22/2025	9/23/2020	125.00214	119.8481307	114.9361264	110.2535002	105.7883502	101.5294546	97.46622933	93.58868842	89.88740696
200923A00002	9/23/2020	2.17	9/22/2025	9/23/2020	124.52943	119.3860844	114.4843756	109.8116936	105.3561512	101.1065409	97.05229215	93.18343193	89.4905475
200928A00009	9/28/2020	1.51	9/28/2032	9/28/2020	144.68887	129.7311683	116.4348438	104.6071674	94.07862198	84.70000762	76.3399204	68.88255402	62.22578238
200826A00039	8/28/2020	1.03	7/29/2024	8/28/2020	114.78334	111.2005553	107.7480038	104.4201565	101.2117554	98.1178003	95.13353414	92.25442938	89.47617524
200826A00040	8/28/2020	0.92	10/27/2023	8/28/2020	111.23073	108.5665386	105.9795464	103.4670756	101.0265589	98.65553354	96.35163562	94.11259604	91.93623591
200909A00001	9/9/2020	0.98	9/8/2028	9/9/2020	128.56561	119.5681822	111.2492564	103.5543837	96.43374995	89.84175889	83.7366539	78.08017581	72.83725286
200916A00015	9/16/2020	0.72	9/16/2025	9/16/2020	117.62444	112.6557612	107.9218044	103.4102631	99.10954538	95.00872655	91.09750679	87.36617186	83.80555648
200916A00016	9/16/2020	0.6	9/16/2024	9/16/2020	113.78601	110.0680055	106.4898615	103.0455364	99.72929082	96.53566573	93.45946749	90.49575293	87.63981578
200916A00017	9/16/2020	0.54	9/15/2023	9/16/2020	109.79157	107.2757272	104.829964	102.4518776	100.1391637	97.88961284	95.70110674	93.57161315	91.4991819
200826A00021	8/26/2020	0.83	8/26/2025	8/26/2020	117.95722	113.0474664	108.3672346	103.904495	99.64792339	95.58685546	91.71124403	88.011619	84.4790504
200826A00028	8/28/2020	1.08	8/28/2024	8/28/2020	115.28835	111.6029122	108.0544073	104.6368724	101.3446507	98.1723712	95.11493162	92.16748284	89.32541434
200826A00029	8/28/2020	1.16	11/27/2024	8/28/2020	116.59286	112.5938679	108.7530963	105.0634252	101.5180977	98.11069771	94.83513024	91.68560365	88.65661272
200826A00035	8/28/2020	0.78	8/28/2023	8/28/2020	110.16959	107.7025471	105.3033882	102.9697066	100.6992039	98.48968422	96.3390483	94.24528827	92.2064828
200826A00036	8/28/2020	0.88	7/28/2023	8/28/2020	110.03513	107.6633356	105.3547411	103.107189	100.9186145	98.78704079	96.71057408	94.68739963	92.71577755
200826A00038	8/28/2020	1.11	8/28/2024	8/28/2020	115.39342	111.7061879	108.1559364	104.7367027	101.4428285	98.26894099	95.20993638	92.26096405	89.41741204
200730A00013	7/30/2020	0.74	1/30/2025	7/30/2020	115.61733	111.4328283	107.420924	103.5735031	99.88288552	96.34179864	92.94335251	89.68101729	86.54860198
200806A00006	8/6/2020	0.76	8/6/2025	8/6/2020	117.45719	112.6225545	108.0114489	103.6122939	99.41418328	95.40683787	91.58056513	87.92622201	84.43518024
200818A00016	3/31/2021	0.57	4/1/2024	3/31/2021	112.0117	108.848613	105.7902587	102.8326236	99.97186646	97.2043137	94.52645096	91.93491535	89.4264881
200818A00018	3/31/2021	0.57	4/1/2024	3/31/2021	112.0117	108.848613	105.7902587	102.8326236	99.97186646	97.2043137	94.52645096	91.93491535	89.4264881
200824A00020	8/26/2020	1.57	8/26/2025	8/26/2020	121.39184	116.4059092	111.6520922	107.1182454	102.79294	98.66541242	94.72552109	90.96370614	87.37095223
200826A00019	8/26/2020	0.98	8/26/2026	8/26/2020	121.92649	115.7157779	109.85416	104.3201557	99.09372805	94.15617853	89.49004937	85.07903395	80.90789401
200629A00023	6/29/2020	0.95	6/29/2026	6/29/2020	121.26858	115.2680392	109.5958091	104.2322453	99.15898118	94.35883989	89.81575075	85.514672	81.44151938
200701A00007	7/1/2020	0.47	7/1/2021	7/1/2020	100.39925	100.3043805	100.2096975	100.1151972	100.020879	99.92674236	99.83278676	99.73901169	99.64541661
200708A00011	7/10/2020	2.87	7/10/2031	7/10/2020	156.95268	142.9711222	130.3701664	119.0055767	108.7489063	99.48569002	91.1138572	83.54233077	76.68979185
200729A00015	7/30/2020	0.47	9/21/2021	7/30/2020	101.3698	101.0409524	100.7142428	100.3896475	100.067146	99.74671804	99.42834364	99.11200307	98.79767689
200729A00016	7/30/2020	0.5	4/1/2022	7/30/2020	103.68729	102.7814449	101.8913117	101.0164873	100.1565797	99.31121052	98.48001373	97.66263568	96.85873434
200730A00011	7/30/2020	1.15	7/28/2028	7/30/2020	128.25754	119.4725977	111.3388634	103.8048571	96.82342385	90.35134822	84.34900551	78.78004538	73.61110504
200611A00019	6/11/2020	0.88	12/11/2025	6/11/2020	119.16394	113.8774781	108.8529232	104.0759404	99.53306084	95.21162012	91.099706	87.18610954	83.46027971
200611A00020	6/11/2020	0.81	6/11/2025	6/11/2020	117.17242	112.5248316	108.0854233	103.8437708	99.79002585	95.91488518	92.20955728	88.6657312	85.27554758
200611A00021	6/11/2020	0.72	6/11/2024	6/11/2020	113.22704	109.8211413	106.5350759	103.3639382	100.3030574	97.34798126	94.4944649	91.7384593	89.07610124
200611A00023	6/11/2020	0.64	6/12/2023	6/11/2020	108.95109	106.7314865	104.5685171	102.4603538	100.4052416	98.4014952	96.44749547	94.54168642	92.68257217
200629A00020	6/29/2020	1.4	6/28/2030	6/29/2020	136.39059	124.8245734	114.3153683	104.7612317	96.07069288	88.16146626	80.95948702	74.39805199	68.41705451
200629A00021	6/29/2020	1.21	6/29/2028	6/29/2020	128.50751	119.8137009	111.7575991	104.2893045	97.36306214	90.93690051	84.97229966	79.43389072	74.28918293

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200527A00014	5/27/2020	1.06	5/27/2026	5/27/2020	121.59394	115.6919415	110.1079046	104.8230906	99.81996139	95.08209665	90.5941164	86.34160987	82.31106939
200527A00015	5/27/2020	0.99	11/26/2025	5/27/2020	119.57017	114.3236287	109.3348429	104.589827	100.0754268	95.77926691	91.68970032	87.7957618	84.08712426
200527A00016	5/27/2020	0.92	5/27/2025	5/27/2020	117.51543	112.908171	108.5054837	104.2972107	100.2737551	96.42604575	92.74550575	89.22402234	85.85391944
200528A00021	5/28/2020	0.63	5/26/2023	5/28/2020	108.73457	106.5678801	104.4555849	102.3959683	100.387379	98.42822948	96.51699304	94.65220084	92.83243936
200529A00022	6/1/2020	0.98	6/1/2026	6/1/2020	121.19637	115.2883693	109.6995645	104.4110976	99.40531925	94.66570777	90.17679128	85.92407539	81.89397645
200605A00005	6/5/2020	0.99	6/5/2025	6/5/2020	117.90706	113.2629479	108.8259943	104.5858628	100.5327889	96.6575463	92.95141425	89.40614664	86.01394369
200521A00013	5/21/2020	2.09	5/21/2035	5/21/2020	162.41508	142.6690537	125.538952	110.6632213	97.73197383	86.4793814	76.67721964	68.12938554	60.66723699
200521A00015	5/21/2020	2.14	5/21/2036	5/21/2020	166.85186	145.3572514	126.8845785	110.9910762	97.30094612	85.49493657	75.30158975	66.4898796	58.86301411
200521A00016	5/21/2020	2.18	5/21/2037	5/21/2020	170.90244	147.6566013	127.8658123	110.9954266	96.59607524	84.28969861	73.75792286	64.73237898	56.98663148
200521A00017	5/21/2020	2.22	5/21/2038	5/21/2020	174.72261	149.7184331	128.6294802	110.8180181	95.75325051	82.99292837	72.16819772	62.97110159	55.14426097
200527A00012	5/27/2020	1.2	5/27/2027	5/27/2020	125.43764	118.2005225	111.4210804	105.0681046	99.11266654	93.5279419	88.28904737	83.37289046	78.75803186
200527A00013	5/27/2020	1.13	11/25/2026	5/27/2020	123.55494	116.9956735	110.8202175	105.0042006	99.5249173	94.36120988	89.49335486	84.90295865	80.57286119
200504A00007	5/4/2020	1.47	5/4/2028	5/4/2020	130.09877	121.5392124	113.5937491	106.2153217	99.36069932	92.99015142	87.06714805	81.55808694	76.43204526
200511A00006	5/11/2020	1.65	5/13/2030	5/11/2020	138.57002	127.0648846	116.5950176	107.0621117	98.3776517	90.46189378	83.24295689	76.65601195	70.64255837
200515A00019	5/15/2020	0.59	5/15/2023	5/15/2020	108.51879	106.3887887	104.3114542	102.2851525	100.3083089	98.37940789	96.49699142	94.65965568	92.8660489
200515A00020	5/15/2020	0.82	5/15/2025	5/15/2020	116.96374	112.408032	108.0530531	103.8889167	99.90627894	96.09630341	92.45063068	88.96135005	85.62097293
200515A00021	5/15/2020	1.12	5/17/2027	5/15/2020	124.82624	117.6428381	110.9119576	104.6028696	98.68708328	93.13817104	87.93160897	83.04463033	78.45609115
200518A00019	5/19/2020	0.9	5/19/2025	5/19/2020	117.34877	112.771719	108.3968074	104.2140544	100.2140272	96.38780633	92.72695564	89.22349286	85.8698629
200429A00064	4/29/2020	0.69	4/29/2022	4/29/2020	104.21031	103.2158375	102.2401982	101.282864	100.343324	99.42108644	98.5156775	97.62664042	96.75353486
200429A00065	4/29/2020	0.74	10/28/2022	4/29/2020	106.38576	104.8749338	103.3931364	101.9396064	100.5136044	99.11441596	97.74135106	96.3937427	95.07094607
200429A00066	4/29/2020	0.8	4/28/2023	4/29/2020	108.76063	106.6808176	104.6511945	102.6702357	100.7364764	98.84850595	97.00496521	95.20454456	93.44598164
200430A00030	4/30/2020	0.96	4/30/2025	4/30/2020	117.41596	112.9009885	108.58274	104.4516342	100.498609	96.71508897	93.09295616	89.62452348	86.30250947
200504A00005	5/4/2020	0.6	5/4/2022	5/4/2020	104.18735	103.1775152	102.1871051	101.2155684	100.2623703	99.32699596	98.40894946	97.50775327	96.62294723
200504A00006	5/4/2020	0.94	5/5/2025	5/4/2020	117.38092	112.8499679	108.5171457	104.3727697	100.4076815	96.61321615	92.98117317	89.5037887	86.17371014
200429A00021	5/4/2020	0.97	4/29/2025	5/4/2020	117.44848	112.9361855	108.6203466	104.491406	100.5403205	96.75853162	93.13793743	89.67086558	86.35004825
200429A00049	4/29/2020	1.25	4/29/2026	4/29/2020	122.35714	116.5314373	111.0144023	105.7881432	100.835892	96.14193137	91.69152371	87.47084484	83.46692295
200429A00054	4/29/2020	1.04	4/29/2025	4/29/2020	117.74704	113.2286223	108.9068555	104.7721744	100.8155281	97.02835125	93.40253496	89.93040043	86.60467367
200429A00057	4/29/2020	1.4	4/29/2027	4/29/2020	126.54047	119.3668244	112.6403786	106.3310489	100.4109261	94.85410323	89.63652215	84.73583299	80.13126442
200429A00061	4/29/2020	1.66	10/29/2029	4/29/2020	136.78292	126.0594293	116.2486937	107.2685159	99.04448044	91.50918355	84.60154078	78.26616596	72.45281397
200429A00062	4/29/2020	0.65	10/29/2021	4/29/2020	101.89802	101.4581054	101.0219676	100.589562	100.1608409	99.73575751	99.31426569	98.89632019	98.48187646
200424A00014	4/28/2020	1.01	4/23/2025	4/28/2020	117.55887	113.0637382	108.7635035	104.648721	100.7104541	96.94024311	93.33007767	89.87237044	86.55993248
200427A00017	4/27/2020	1.02	4/25/2025	4/27/2020	117.62137	113.1185235	108.8111549	104.6897776	100.7454171	96.96957911	93.35422092	89.89172508	86.57487467
200427A00018	4/27/2020	1.51	4/27/2028	4/27/2020	130.34829	121.8044709	113.871744	106.5034147	99.65657808	93.29179322	87.37278721	81.86618598	76.74126914

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200428A00002	4/28/2020	1.47	4/26/2030	4/28/2020	138.34644	126.8255043	116.3400126	106.7918625	98.09269874	90.16289841	82.93066829	76.33124018	70.30615226
200428A00003	4/29/2020	1.01	4/29/2025	4/29/2020	117.61909	113.1032923	108.7840659	104.6518451	100.697582	96.91271426	93.28913602	89.81917121	86.49554849
200429A00004	5/1/2020	0.74	5/1/2023	5/1/2020	108.67687	106.588544	104.5508382	102.5622062	100.6211641	98.72628316	96.8761872	95.06955029	93.30509458
200423A00006	4/23/2020	0.82	4/23/2025	4/23/2020	117.40444	112.8941659	108.5799432	104.4522544	100.5020912	96.72092719	93.10068968	89.63373329	86.31281493
200423A00017	4/23/2020	1.82	4/23/2035	4/23/2020	160.74262	141.0169161	123.9077893	109.0539519	96.14564612	84.9170726	75.13996512	66.61813142	59.1828102
200423A00020	4/28/2020	0.68	4/15/2022	4/28/2020	104.0223	103.0718527	102.1386615	101.2222611	100.3222017	99.43804959	98.56938602	97.71580697	96.87692235
200423A00022	4/28/2020	0.76	2/15/2023	4/28/2020	107.76489	105.9166768	104.1096583	102.3425271	100.6140304	98.92296815	97.26819038	95.64859477	94.06312388
200423A00026	4/28/2020	0.85	12/15/2023	4/28/2020	111.62542	108.803992	106.0683767	103.4154327	100.8421586	98.34568239	95.92325478	93.57224336	91.29012657
200423A00027	4/28/2020	0.88	4/15/2024	4/28/2020	113.11096	109.8876993	106.772385	103.7608256	100.8490155	98.03312617	95.30949722	92.67462822	90.12517073
200421A00024	4/24/2020	0.8	10/16/2023	4/24/2020	110.7912	108.1674562	105.6188631	103.1428435	100.7369272	98.3987431	96.12601428	93.91655379	91.76826056
200421A00028	4/21/2020	0.56	4/21/2023	4/21/2020	108.47073	106.4097521	104.3981536	102.4344465	100.5172002	98.64503603	96.81662571	95.03068881	93.2859908
200421A00029	4/24/2020	0.72	12/15/2022	4/24/2020	106.93618	105.2781846	103.6545341	102.0642378	100.5063448	98.97993979	97.48414173	96.01810189	94.58100254
200421A00031	4/21/2020	0.84	4/19/2024	4/21/2020	113.03162	109.7970919	106.6712846	103.6499609	100.7290723	97.90474994	95.17329585	92.53117405	89.97500268
200421A00032	4/21/2020	1.31	4/21/2027	4/21/2020	125.88268	118.7562383	112.0728245	105.8027316	99.91838961	94.39419977	89.20638447	84.33284871	79.75305315
200422A00015	4/27/2020	0.73	12/22/2022	4/27/2020	107.03893	105.3590991	103.7143281	102.1035958	100.5259203	98.98035704	97.46599708	95.98196548	94.52741961
200417A00014	4/17/2020	0.96	4/17/2025	4/17/2020	117.28759	112.8172839	108.5400849	104.4466745	100.52823	96.77639755	93.18326535	89.74133764	86.44351076
200417A00018	4/21/2020	0.67	7/25/2022	4/21/2020	105.28372	104.010846	102.7684677	101.5554979	100.3709035	99.21369961	98.08294604	96.97774533	95.89724016
200417A00019	4/17/2020	0.77	4/17/2025	4/17/2020	117.13318	112.6478518	108.35678	104.2505665	100.3203177	96.55761415	92.95448258	89.50337001	86.19711931
200421A00020	4/24/2020	0.83	3/15/2024	4/24/2020	112.6066	109.4891062	106.4735259	103.5559212	100.7325292	97.99975638	95.35417003	92.79248989	90.31158023
200421A00021	4/21/2020	0.56	4/21/2023	4/21/2020	108.47073	106.4097521	104.3981536	102.4344465	100.5172002	98.64503603	96.81662571	95.03068881	93.2859908
200421A00022	4/21/2020	0.74	4/21/2023	4/21/2020	108.55395	106.4973086	104.4898415	102.5300767	100.6165916	98.74801572	96.92302802	95.14035514	93.39876923
200417A00004	4/17/2020	0.86	4/17/2024	4/17/2020	113.07141	109.8425143	106.7219504	103.7055056	100.7891529	97.96904341	95.24149816	92.60299891	90.05018055
200417A00006	4/17/2020	0.74	4/17/2023	4/17/2020	108.50506	106.4609259	104.465414	102.5170721	100.6145012	98.75635277	96.94132721	95.16817124	93.43567616
200417A00008	4/17/2020	0.96	4/17/2025	4/17/2020	117.28759	112.8172839	108.5400849	104.4466745	100.52823	96.77639755	93.18326535	89.74133764	86.44351076
200417A00011	4/22/2020	0.68	7/15/2022	4/22/2020	105.17915	103.9384157	102.7266993	101.5429953	100.3863423	99.25582201	98.15055766	97.06971111	96.01248096
200417A00012	4/22/2020	0.71	12/15/2022	4/22/2020	106.91997	105.2621116	103.6385959	102.0484319	100.4906687	98.96439124	97.46871846	96.00280172	94.56582333
200417A00013	4/17/2020	0.74	4/17/2023	4/17/2020	108.50506	106.4609259	104.465414	102.5170721	100.6145012	98.75635277	96.94132721	95.16817124	93.43567616
200415A00031	4/15/2020	0.97	4/15/2025	4/15/2020	117.31015	112.845812	108.5740606	104.4856149	100.5716868	96.82395524	93.23453846	89.79596873	86.50116837
200415A00033	4/15/2020	0.82	10/13/2023	4/15/2020	110.80571	108.1912764	105.6514743	103.1837557	100.7856753	98.45488555	96.18913189	93.98624848	91.84415424
200415A00036	4/15/2020	0.91	10/15/2024	4/15/2020	115.19756	111.3623902	107.6741802	104.1265397	100.7133889	97.42894364	94.26769906	91.22441487	88.29410105
200415A00037	4/15/2020	0.97	4/15/2025	4/15/2020	117.31015	112.845812	108.5740606	104.4856149	100.5716868	96.82395524	93.23453846	89.79596873	86.50116837
200415A00038	4/15/2020	1.37	4/15/2027	4/15/2020	126.22929	119.1124105	112.4366009	106.1723736	100.2923518	94.77111117	89.58503068	84.71215649	80.13207621
200417A00002	4/17/2020	0.96	4/17/2025	4/17/2020	117.28759	112.8172839	108.5400849	104.4466745	100.52823	96.77639755	93.18326535	89.74133764	86.44351076

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200415A00020	4/15/2020	0.86	4/15/2024	4/15/2020	113.04924	109.8269211	106.7125218	103.7018545	100.7909142	97.97587312	95.25307165	92.61901004	90.07034047
200415A00021	4/15/2020	1.37	4/15/2027	4/15/2020	126.22929	119.1124105	112.4366009	106.1723736	100.2923518	94.77111117	89.58503068	84.71215649	80.13207621
200415A00023	4/15/2020	1.71	4/15/2030	4/15/2020	138.91391	127.4940742	117.092842	107.6143122	98.97205072	91.08811709	83.89219161	77.32079634	71.31659903
200415A00024	4/15/2020	2.2	4/16/2035	4/15/2020	163.88092	144.1678832	127.0453801	112.1579784	99.20068061	87.91155167	78.06545246	69.46871152	61.95459018
200415A00026	4/15/2020	0.77	4/14/2023	4/15/2020	108.52768	106.4923285	104.505192	102.5648395	100.6698891	98.81900872	97.010914	95.24436644	93.51817131
200415A00027	4/15/2020	0.86	4/15/2024	4/15/2020	113.04924	109.8269211	106.7125218	103.7018545	100.7909142	97.97587312	95.25307166	92.61901004	90.07034047
200413A00026	4/13/2020	0.82	4/13/2023	4/13/2020	108.61403	106.5808097	104.5956851	102.6572316	100.7640722	98.91487992	97.10837516	95.34332386	93.61853558
200413A00027	4/13/2020	0.94	4/12/2024	4/13/2020	113.26213	110.045931	106.9371375	103.9315879	101.0253074	98.21449622	95.49552126	92.86490757	90.31933064
200414A00013	4/14/2020	0.55	4/14/2022	4/14/2020	103.99584	103.0470918	102.1155383	101.2007171	100.3021808	99.4194977	98.55225145	97.70003997	96.86247511
200414A00014	4/14/2020	0.76	4/12/2024	4/14/2020	113.17481	109.9490669	106.8312871	103.8172845	100.9030553	98.08477279	95.35877818	92.7215725	90.16980858
200414A00015	4/14/2020	0.64	4/14/2023	4/14/2020	108.54429	106.5036685	104.5114755	102.566271	100.6666641	98.8113146	96.99893055	95.22826606	93.49811945
200415A00003	4/15/2020	0.77	4/14/2023	4/15/2020	108.52768	106.4923285	104.505192	102.5648395	100.6698891	98.81900872	97.010914	95.24436644	93.51817131
200409A00011	4/9/2020	0.7	4/7/2023	4/9/2020	108.57541	106.5555674	104.583212	102.6569408	100.7754032	98.93729666	97.14136528	95.38639747	93.67122417
200409A00019	4/9/2020	0.58	4/8/2022	4/9/2020	103.94642	103.0163732	102.1028653	101.205455	100.3237199	99.45725235	98.60565855	97.76855827	96.94558414
200413A00003	4/13/2020	0.64	4/13/2023	4/13/2020	108.53195	106.4944675	104.5052745	102.562937	100.6660702	98.81333931	97.0034576	95.23518421	93.50732224
200413A00004	4/13/2020	0.89	4/11/2025	4/13/2020	117.58137	113.1063385	108.8242324	104.7257605	100.8021255	97.04499712	93.44648484	89.99911213	86.69579273
200413A00011	4/13/2020	0.94	4/12/2024	4/13/2020	113.26213	110.045931	106.9371375	103.9315879	101.0253074	98.21449622	95.49552126	92.86490757	90.31933064
200413A00012	4/13/2020	0.64	4/13/2023	4/13/2020	108.53195	106.4944675	104.5052745	102.562937	100.6660702	98.81333931	97.0034576	95.23518421	93.50732224
200407A00004	4/7/2020	0.99	4/7/2025	4/7/2020	117.96181	113.4920253	109.2143378	105.1195191	101.1988342	97.44400996	93.84720895	90.40100372	87.09835344
200407A00016	4/7/2020	0.8	4/7/2022	4/7/2020	104.02696	103.101063	102.1915455	101.2979791	100.4199473	99.55704778	98.70889214	97.87510517	97.05532427
200407A00019	4/7/2020	1.06	4/8/2024	4/7/2020	113.58455	110.3759635	107.2741039	104.2748529	101.3742748	98.56860696	95.85425078	93.2277639	90.68585238
200408A00004	4/8/2020	0.76	4/8/2022	4/8/2020	104.00441	103.0755461	102.1631758	101.2668597	100.386177	99.52072181	98.67010188	97.83393846	97.0118656
200408A00011	4/8/2020	0.82	9/26/2022	4/8/2020	106.13021	104.7140437	103.3243089	101.9603143	100.6213928	99.3068999	98.0162128	96.74872972	95.50386886
200408A00013	4/13/2020	0.87	4/14/2023	4/13/2020	108.7253	106.6879442	104.6988484	102.7565751	100.8597411	99.0070132	97.19710611	95.4287803	93.70084009
200403A00025	4/3/2020	0.91	4/3/2024	4/3/2020	113.06874	109.8835418	106.8038761	103.8256896	100.945107	98.15842227	95.46209021	92.85271881	90.32706165
200406A00018	4/6/2020	0.65	4/18/2022	4/6/2020	104.13866	103.176873	102.2327354	101.3057638	100.3954936	99.50147687	98.62328157	97.76049081	96.91270229
200406A00049	4/6/2020	0.92	4/6/2023	4/6/2020	108.7013	106.6886091	104.7230758	102.8033105	100.9279764	99.09578416	97.30549024	95.55589486	93.84584016
200406A00053	4/6/2020	1.13	4/7/2025	4/6/2020	117.90266	113.4520552	109.1922851	105.1142004	101.2091404	97.46890133	93.88571058	90.45220127	87.16138919
200406A00059	4/6/2020	0.92	4/6/2023	4/6/2020	108.7013	106.6886091	104.7230758	102.8033105	100.9279764	99.09578416	97.30549024	95.55589486	93.84584016
200406A00060	4/6/2020	1.03	4/5/2024	4/6/2020	113.45782	110.26052	107.1692996	104.1800766	101.2889491	98.49218643	95.78622006	93.16763589	90.63316662
200402A00048	4/2/2020	0.71	4/2/2024	4/2/2020	112.90973	109.7193339	106.6347989	103.6520503	100.7671964	97.97651574	95.27644869	92.66358955	90.134679
200403A00010	4/6/2020	0.8	4/6/2023	4/6/2020	108.46704	106.4566957	104.4934593	102.5759462	100.7028208	98.87279506	97.08462674	95.33711716	93.62910957
200403A00012	4/3/2020	0.55	4/15/2022	4/3/2020	104.00854	103.0566487	102.1220646	101.2043195	100.3029617	99.41755568	98.54768098	97.69293198	96.852917

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200403A00015	4/3/2020	0.73	4/4/2022	4/3/2020	103.92618	103.0099784	102.10983	101.2253147	100.3560281	99.50157983	98.66159279	97.83570243	97.02355644
200403A00017	4/3/2020	0.81	4/3/2023	4/3/2020	108.4494	106.4482343	104.4937669	102.5846345	100.7195184	98.8971466	97.11629212	95.37577087	93.67444
200403A00018	4/3/2020	0.91	4/3/2024	4/3/2020	113.06874	109.8835418	106.8038761	103.8256896	100.945107	98.15842227	95.46209021	92.85271881	90.32706165
200402A00030	4/2/2020	0.8	4/3/2023	4/2/2020	108.42997	106.4289957	104.4747181	102.5657717	100.7008381	98.87864525	97.09796638	95.35761746	93.65645573
200402A00035	4/2/2020	0.62	4/3/2023	4/2/2020	108.36969	106.3639545	104.405124	102.491822	100.6227215	98.79654266	97.01205102	95.26805549	93.56340651
200402A00036	4/2/2020	0.71	4/2/2024	4/2/2020	112.90973	109.7193339	106.6347989	103.6520503	100.7671964	97.97651574	95.27644869	92.66358955	90.134679
200402A00038	4/2/2020	0.84	4/2/2025	4/2/2020	117.28091	112.8410856	108.5915815	104.5232851	100.6275661	96.89624974	93.32158977	89.89624413	86.61325163
200402A00041	4/2/2020	1.03	4/2/2025	4/2/2020	117.43286	113.0078285	108.7719971	104.7163299	100.8322652	97.11169154	93.54692232	90.13067085	86.85602772
200402A00044	4/2/2020	1.65	4/2/2030	4/2/2020	138.18057	126.8403059	116.5085498	107.0906605	98.50131058	90.66352895	83.50784483	76.97152389	70.99788524
200402A00017	4/2/2020	0.76	4/1/2022	4/2/2020	103.91369	103.006752	102.1155453	101.2396603	100.3787048	99.53230012	98.70008002	97.88169058	97.07678954
200402A00018	4/2/2020	0.85	4/3/2023	4/2/2020	108.52713	106.5251885	104.5699623	102.6600857	100.7942397	98.97115198	97.18959506	95.44838451	93.7463771
200402A00022	4/2/2020	0.96	4/2/2024	4/2/2020	113.20981	110.0256084	106.9467949	103.9693249	101.0893321	98.30311865	95.60714745	92.99803382	90.47253828
200402A00023	4/2/2020	1.11	4/2/2025	4/2/2020	117.76728	113.335509	109.0931569	105.0311721	101.1409846	97.41447561	93.8439511	90.42211745	87.14205862
200402A00026	4/2/2020	1.28	4/2/2026	4/2/2020	122.25237	116.5187165	111.0845353	105.9327127	101.0471958	96.4129229	92.01575746	87.84242665	83.88046447
200402A00028	4/2/2020	0.71	4/4/2022	4/2/2020	103.90859	102.9924761	102.092412	101.2079798	100.3387754	99.4844083	98.64450147	97.81869039	97.00662275
200402A00002	4/2/2020	0.71	4/4/2022	4/2/2020	103.90859	102.9924761	102.092412	101.2079798	100.3387754	99.4844083	98.64450147	97.81869039	97.00662275
200402A00003	4/2/2020	0.8	4/3/2023	4/2/2020	108.42997	106.4289957	104.4747181	102.5657717	100.7008381	98.87864525	97.09796638	95.35761746	93.65645573
200402A00009	4/2/2020	1.03	4/2/2025	4/2/2020	117.43286	113.0078285	108.7719971	104.7163299	100.8322652	97.11169154	93.54692232	90.13067085	86.85602772
200402A00010	4/2/2020	0.89	4/2/2024	4/2/2020	112.99659	109.8155964	106.7399069	103.765483	100.8884609	98.10514544	95.41200175	92.8056475	90.28284539
200402A00013	4/2/2020	0.89	4/2/2024	4/2/2020	112.99659	109.8155964	106.7399069	103.765483	100.8884609	98.10514544	95.41200175	92.8056475	90.28284539
200402A00014	4/2/2020	0.84	4/2/2025	4/2/2020	117.28091	112.8410856	108.5915815	104.5232851	100.6275661	96.89624974	93.32158977	89.89624413	86.61325163
200331A00022	4/1/2020	1.07	4/1/2025	4/1/2020	117.58991	113.1649254	108.9289838	104.8730553	100.9885917	97.26749437	93.70208835	90.28509771	87.00962297
200331A00024	3/31/2020	0.64	3/31/2023	3/31/2020	108.37163	106.374901	104.4246779	102.5195982	100.6583514	98.83967395	97.06234648	95.32519238	93.62707587
200401A00001	4/1/2020	1.01	4/1/2025	4/1/2020	117.33928	112.9193465	108.6882884	104.6370913	100.7572133	97.04056135	93.47946588	90.06665621	86.7952378
200401A00012	4/2/2020	1	4/2/2025	4/2/2020	117.30746	112.8849484	108.6515622	104.5982642	100.7164954	96.99814751	93.43553653	90.02137838	86.74876613
200401A00013	4/1/2020	1.01	4/1/2025	4/1/2020	117.33928	112.9193465	108.6882884	104.6370914	100.7572133	97.04056135	93.47946588	90.06665621	86.7952378
200401A00023	4/1/2020	0.82	4/1/2025	4/1/2020	117.18719	112.7524926	108.5077854	104.4439805	100.5524677	96.82509052	93.25412017	89.83223064	86.55247576
200331A00011	3/31/2020	1.09	3/31/2025	3/31/2020	117.66322	113.2399813	109.0055643	104.9509583	101.067631	97.34749838	93.78289876	90.3665688	87.09162059
200331A00014	3/31/2020	0.72	3/29/2024	3/31/2020	112.89578	109.7181245	106.6455226	103.6739497	100.7995571	98.01866398	95.3277489	92.72344211	90.20251813
200331A00015	3/31/2020	0.64	3/31/2023	3/31/2020	108.37163	106.374901	104.4246779	102.5195982	100.6583514	98.83967395	97.06234648	95.32519238	93.62707587
200331A00016	3/31/2020	1.11	3/31/2026	3/31/2020	122.21751	116.4626302	111.0088489	105.8389375	100.936737	96.287087	91.87575938	87.68939647	83.71545342
200331A00017	3/31/2020	0.9	3/31/2025	3/31/2020	117.51221	113.0741878	108.8261034	104.7588708	100.8638897	97.13301253	93.55851863	90.13308934	86.84978516
200331A00018	3/31/2020	0.82	3/31/2023	3/31/2020	108.4316	106.4396019	104.4939042	102.5931545	100.736051	98.92133756	97.1478025	95.4142762	93.71962957

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200330A00046	3/30/2020	0.86	3/30/2023	3/30/2020	108.49644	106.5067988	104.5633374	102.6647087	100.8096158	98.99680793	97.22507781	95.49326036	93.80023072
200330A00054	3/30/2021	1.19	3/30/2026	3/30/2021	121.74307	116.0321633	110.619249	105.487315	100.6204074	96.00355591	91.62270828	87.46466979	83.51704656
200330A00064	3/30/2020	0.83	3/30/2023	3/30/2020	108.4385	106.4494333	104.5065344	102.6084572	100.7539054	98.94162819	97.17041879	95.43911234	93.74658428
200330A00066	3/30/2020	1.08	3/31/2025	3/30/2020	117.62148	113.1990818	108.9654775	104.911659	101.0290949	97.30970205	93.74581987	90.33018579	87.05591273
200331A00007	3/31/2020	0.72	3/29/2024	3/31/2020	112.89578	109.7181245	106.6455226	103.6739497	100.7995571	98.01866398	95.3277489	92.72344211	90.20251813
200331A00008	3/31/2020	0.64	3/31/2023	3/31/2020	108.37163	106.374901	104.4246779	102.5195982	100.6583514	98.83967395	97.06234648	95.32519238	93.62707587
200330A00028	3/30/2020	1.09	3/28/2025	3/30/2020	117.63254	113.2195708	108.9946103	104.9487039	101.0733723	97.36058068	93.80271326	90.39254925	87.12324038
200330A00036	3/30/2020	0.86	3/30/2023	3/30/2020	108.49644	106.5067988	104.5633374	102.6647087	100.8096158	98.99680793	97.22507781	95.49326036	93.80023072
200330A00037	3/30/2020	1.09	3/28/2025	3/30/2020	117.63254	113.2195708	108.9946103	104.9487039	101.0733723	97.36058068	93.80271326	90.39254925	87.12324038
200330A00038	3/30/2020	1.79	3/29/2030	3/30/2020	139.56245	128.1733221	117.7942652	108.3306795	99.69725876	91.81703667	84.62053442	78.04499901	72.03372249
200330A00043	3/30/2020	0.86	3/30/2023	3/30/2020	108.49644	106.5067988	104.5633374	102.6647087	100.8096158	98.99680793	97.22507781	95.49326036	93.80023072
200330A00044	3/30/2020	1.09	3/28/2025	3/30/2020	117.63254	113.2195708	108.9946103	104.9487039	101.0733723	97.36058068	93.80271326	90.39254925	87.12324038
200327A00088	3/27/2020	1.22	3/27/2025	3/27/2020	118.16211	113.7420002	109.5099728	105.4570756	101.5748269	97.8551903	94.29054874	90.87368068	87.59773736
200330A00006	3/30/2020	0.9	3/28/2025	3/30/2020	117.48184	113.0541451	108.8155626	104.7570696	100.8701193	97.14661374	93.57887846	90.1596378	86.88199221
200330A00007	3/30/2020	0.93	4/1/2024	3/30/2020	113.10714	109.927602	106.8532125	103.8799419	101.0039356	98.22150727	95.52913024	92.92342988	90.40117614
200330A00008	3/30/2020	1.09	3/28/2025	3/30/2020	117.63254	113.2195708	108.9946103	104.9487039	101.0733723	97.36058068	93.80271326	90.39254925	87.12324038
200330A00011	3/30/2020	0.93	4/1/2024	3/30/2020	113.10714	109.927602	106.8532125	103.8799419	101.0039356	98.22150727	95.52913024	92.92342988	90.40117614
200330A00017	3/30/2020	0.86	3/30/2023	3/30/2020	108.49644	106.5067988	104.5633374	102.6647087	100.8096158	98.99680793	97.22507781	95.49326036	93.80023072
200327A00066	6/25/2020	0.93	6/26/2023	6/25/2020	109.74732	107.4774637	105.2662111	103.1116426	101.0119134	98.96525318	96.96996293	95.02441105	93.12703031
200327A00068	6/25/2020	0.93	6/26/2023	6/25/2020	109.74732	107.4774637	105.2662111	103.1116426	101.0119134	98.96525318	96.96996293	95.02441105	93.12703031
200327A00073	3/27/2020	0.99	3/27/2025	3/27/2020	117.8461	113.4145795	109.1721442	105.109774	101.2189234	97.49149701	93.91982251	90.49662697	87.21501369
200327A00076	3/27/2020	1.18	3/27/2026	3/27/2020	122.55058	116.8008918	111.3512819	106.1846097	101.2847995	96.63676799	92.22635836	88.04027852	84.06604416
200327A00077	3/27/2020	0.83	3/27/2024	3/27/2020	113.20652	110.0306018	106.9594787	103.989137	101.1157385	98.33561264	95.64524793	93.04128449	90.5205065
200327A00079	3/27/2020	0.99	3/27/2025	3/27/2020	117.8461	113.4145795	109.1721442	105.109774	101.2189234	97.49149701	93.91982251	90.49662697	87.21501369
200327A00055	3/27/2020	1.01	3/27/2024	3/27/2020	113.29217	110.1255783	107.0632432	104.101175	101.235563	98.46276237	95.77928616	93.18179746	90.66710211
200327A00056	3/27/2020	1.18	3/27/2025	3/27/2020	117.99566	113.5788857	109.3500905	105.3003253	101.4211122	97.70441867	94.14263117	90.7285316	87.45527448
200327A00058	3/27/2020	0.9	3/27/2023	3/27/2020	108.53465	106.5538623	104.6188822	102.7283743	100.8810513	99.07567175	97.31103773	95.58599331	93.89942268
200327A00059	3/27/2020	1.01	3/27/2024	3/27/2020	113.29217	110.1255783	107.0632432	104.101175	101.235563	98.46276237	95.77928616	93.18179746	90.66710211
200327A00060	3/27/2020	1.18	3/27/2025	3/27/2020	117.99566	113.5788857	109.3500905	105.3003253	101.4211122	97.70441867	94.14263117	90.7285316	87.45527448
200327A00061	3/31/2020	1.18	3/31/2025	3/31/2020	118.03887	113.6080775	109.3663458	105.3046527	101.4144567	97.68766535	94.11660878	90.69401588	87.41299132
200327A00046	3/27/2020	1.23	3/27/2025	3/27/2020	118.20372	113.7827788	109.5499433	105.4962632	101.6132556	97.8928832	94.32752814	90.90996795	87.63335308
200327A00047	3/27/2020	0.99	3/27/2025	3/27/2020	117.8461	113.4145795	109.1721442	105.109774	101.2189234	97.49149701	93.91982251	90.49662697	87.21501369
200327A00048	3/27/2020	1.18	3/24/2025	3/27/2020	117.96064	113.5549925	109.3365413	105.2963701	101.4260328	97.71752835	94.16327456	90.75608427	87.48914239

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200327A00051	3/27/2020	0.99	3/27/2025	3/27/2020	117.8461	113.4145795	109.1721442	105.109774	101.2189234	97.49149701	93.91982251	90.49662697	87.21501369
200327A00053	3/27/2020	0.84	3/25/2022	3/27/2020	103.89121	103.0058028	102.1353866	101.2795877	100.4380406	99.6103922	98.79630059	97.99543517	97.20747597
200327A00054	3/27/2020	0.9	3/27/2023	3/27/2020	108.53465	106.5538623	104.6188822	102.7283743	100.8810513	99.07567175	97.31103773	95.58599331	93.89942268
200327A00039	3/27/2020	0.84	3/28/2022	3/27/2020	103.93061	103.0358675	102.1564246	101.2918925	100.4418952	99.60606891	98.78406209	97.97553468	97.18015767
200327A00040	3/27/2020	0.72	3/27/2023	3/27/2020	108.47519	106.4897084	104.5502383	102.6554333	100.8039978	98.9946826	97.22628247	95.49763452	93.80761639
200327A00041	3/27/2020	0.9	3/27/2023	3/27/2020	108.53465	106.5538623	104.6188822	102.7283743	100.8810513	99.07567175	97.31103773	95.58599331	93.89942268
200327A00042	3/27/2020	0.83	3/27/2024	3/27/2020	113.20652	110.0306018	106.9594787	103.989137	101.1157385	98.33561264	95.64524793	93.04128449	90.5205065
200327A00043	3/27/2020	1.48	3/27/2028	3/27/2020	131.16621	122.6458724	114.7292009	107.3704985	100.5277431	94.16227415	88.2385081	82.72367916	77.58760331
200327A00045	3/27/2020	2.24	3/27/2034	3/27/2020	163.27404	144.9207814	128.8210587	114.6854332	102.2630015	91.336094	81.71572748	73.23769984	65.75923245
200327A00027	3/27/2020	0.9	3/27/2023	3/27/2020	108.53465	106.5538623	104.6188822	102.7283743	100.8810513	99.07567175	97.31103773	95.58599331	93.89942268
200327A00030	3/27/2020	1.01	3/27/2024	3/27/2020	113.29217	110.1255783	107.0632432	104.101175	101.235563	98.46276237	95.77928616	93.18179746	90.66710211
200327A00031	3/27/2020	1.18	3/27/2025	3/27/2020	117.99566	113.5788857	109.3500905	105.3003253	101.4211122	97.70441867	94.14263117	90.7285316	87.45527448
200327A00032	3/27/2020	0.66	3/28/2022	3/27/2020	103.87472	102.9788382	102.0983029	101.232719	100.3817087	99.54490689	98.72196059	97.91252837	97.11627994
200327A00035	3/27/2020	0.83	3/27/2024	3/27/2020	113.20652	110.0306018	106.9594787	103.989137	101.1157385	98.33561264	95.64524793	93.04128449	90.5205065
200327A00037	3/27/2020	1.18	3/27/2026	3/27/2020	122.55058	116.8008918	111.3512819	106.1846097	101.2847995	96.63676799	92.22635836	88.04027852	84.06604416
200326A00012	3/26/2020	0.99	3/25/2022	3/26/2020	104.01881	103.1327995	102.261791	101.4054068	100.5632814	99.73506122	98.92040446	98.11898034	97.33046877
200326A00016	3/26/2020	1.54	3/25/2025	3/26/2020	119.46811	115.0288119	110.7779053	106.7064276	102.8058868	99.06823742	95.48585487	92.05151095	88.75835122
200326A00025	3/26/2020	0.99	3/28/2022	3/26/2020	104.0595	103.1641431	102.284097	101.418969	100.5683826	99.7319742	98.90939201	98.10029585	97.3043566
200327A00019	3/30/2020	0.85	3/15/2022	3/30/2020	103.76819	102.913807	102.0734191	101.2466819	100.4332652	99.63284902	98.84512379	98.06978962	97.30655602
200327A00022	3/27/2020	0.9	3/27/2023	3/27/2020	108.53465	106.5538623	104.6188822	102.7283743	100.8810513	99.07567175	97.31103773	95.58599331	93.89942268
200327A00025	3/30/2020	0.86	3/30/2022	3/30/2020	103.97427	103.0731878	102.1876174	101.3171658	100.4614489	99.62009549	98.79274659	97.97905519	97.17868564
200325A00044	3/25/2020	1.7	12/23/2024	3/25/2020	118.97073	114.8431242	110.8810741	107.0770059	103.4237405	99.91446807	96.54272643	93.30238125	90.18760732
200325A00046	3/25/2020	1.76	3/25/2025	3/25/2020	120.38221	115.9246122	111.6559788	107.5673237	103.6501334	99.8963416	96.2983042	92.84877422	89.54087934
200325A00047	3/25/2020	1.68	9/25/2024	3/25/2020	117.74723	113.9323537	110.2610271	106.7270904	103.3246831	100.0482267	96.89240961	93.85217259	90.92269566
200325A00048	3/25/2020	1.34	12/27/2022	3/25/2020	108.11113	106.4070699	104.7387452	103.1051086	101.5051515	99.93790367	98.40243212	96.89783897	95.42325985
200326A00009	3/27/2020	1.54	3/27/2025	3/27/2020	119.49372	115.0469164	110.7890309	106.7110779	102.8045443	99.06136332	95.47388931	92.03487329	88.7374404
200326A00011	3/30/2020	1.54	3/31/2025	3/30/2020	119.54146	115.0804623	110.809472	106.7194302	102.8017595	99.04833322	95.45144887	92.00380421	88.69847422
200325A00013	3/25/2020	1.03	8/16/2021	3/25/2020	101.07076	100.8452838	100.6208257	100.3973785	100.1749355	99.95348968	99.73303441	99.51356298	99.29506875
200325A00016	3/30/2020	1.67	3/31/2025	3/30/2020	120.08406	115.6121568	111.3306009	107.230322	103.30273	99.53968551	95.93347446	92.47678332	89.16267638
200325A00032	3/25/2020	1.29	9/26/2022	3/25/2020	106.78192	105.3609443	103.9664894	102.5978584	101.2543818	99.93541251	98.64032578	97.3685176	96.11940409
200325A00038	3/25/2020	1.48	9/25/2023	3/25/2020	112.21901	109.643452	107.1399396	104.7060445	102.3394355	100.0378742	97.79921006	95.62137673	93.50238823
200325A00042	3/25/2020	1.58	3/25/2024	3/25/2020	114.98983	111.8044106	108.723529	105.743184	102.8595511	100.0689735	97.36795326	94.75314405	92.22134316
200325A00043	3/25/2020	1.62	6/25/2024	3/25/2020	116.34448	112.845139	109.4696481	106.212893	103.070005	100.0363462	97.10749723	94.27924493	91.5475717

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200324A00013	3/25/2020	1.78	3/25/2025	3/25/2020	120.46531	116.0060486	111.7358037	107.645587	103.726883	99.9716238	96.37216323	92.9212527	89.61201826
200324A00029	3/24/2020	1.86	3/24/2025	3/24/2020	120.7839	116.3217754	112.0486103	107.9554202	104.0336922	100.2753616	96.67278576	93.21871958	89.90629291
200324A00031	3/24/2020	1.64	3/22/2024	3/24/2020	115.12852	111.9508432	108.8772347	105.9036964	103.0264124	100.2417354	97.546178	94.93640483	92.40922495
200324A00051	3/24/2020	1.73	11/1/2024	3/24/2020	118.41635	114.4679269	110.6722561	107.0226192	103.5126255	100.1361996	96.8875633	93.76121971	90.75193796
200324A00066	3/26/2020	1.81	3/26/2025	3/26/2020	120.60362	116.1380712	111.8618885	107.7660622	103.8420628	100.0818091	96.47764178	93.02229912	89.70889451
200325A00009	3/27/2020	1.67	3/27/2025	3/27/2020	120.03469	115.5770386	111.3086482	107.2205164	103.304117	99.5513711	95.95462141	92.50660779	89.20044476
200320A00026	3/20/2020	2.11	3/20/2029	3/20/2020	138.63475	128.6271169	119.4123029	110.9234469	103.0996469	95.88540213	89.23010816	83.0876021	77.41575194
200320A00049	3/25/2020	1.47	3/25/2025	3/25/2020	119.17726	114.7437845	110.4985182	106.4325061	102.5372629	98.80474973	95.22734827	91.79783627	88.509365
200320A00052	3/25/2020	1.47	3/25/2025	3/25/2020	119.17726	114.7437845	110.4985182	106.4325061	102.5372629	98.80474973	95.22734827	91.79783627	88.509365
200323A00011	3/23/2020	1.37	3/23/2023	3/23/2020	109.37762	107.4014845	105.4708741	103.5844425	101.7408923	99.93897398	98.17748318	96.45525917	94.77118276
200323A00018	3/23/2020	1.37	3/23/2023	3/23/2020	109.37762	107.4014845	105.4708741	103.5844425	101.7408923	99.93897398	98.17748318	96.45525917	94.77118276
200324A00012	3/25/2020	1.78	3/25/2025	3/25/2020	120.46531	116.0060486	111.7358037	107.645587	103.726883	99.9716238	96.37216323	92.9212527	89.61201826
200319A00009	3/19/2020	0.94	3/18/2022	3/19/2020	103.97765	103.1118342	102.2603621	101.4228787	100.5990416	99.78851949	98.99099173	98.20614783	97.43368716
200319A00025	3/19/2020	1.39	3/21/2024	3/19/2020	114.36203	111.1990173	108.1396136	105.1798335	102.3158736	99.54409892	96.86103449	94.26335717	91.74788807
200319A00037	3/19/2020	0.99	6/18/2021	3/19/2020	100.27691	100.2183939	100.1599583	100.1016056	100.0433356	99.98514808	99.92704292	99.86901994	99.81107897
200319A00038	3/19/2020	1.18	9/17/2021	3/19/2020	101.54493	101.2272055	100.911474	100.5977192	100.2859226	99.9760657	99.66813045	99.36209893	99.05795346
200319A00039	3/19/2020	1.12	3/18/2022	3/19/2020	104.03189	103.1671619	102.3167374	101.4802637	100.6573998	99.84781576	99.05119213	98.26721973	97.49559911
200320A00013	3/20/2020	1.25	3/20/2024	3/20/2020	114.3862	111.2155704	108.1489475	105.1823246	102.311873	99.53393442	96.84501253	94.24176442	91.72099298
200318A00037	3/18/2020	1.35	3/18/2024	3/18/2020	114.20173	111.0508845	108.0030585	105.0542861	102.2007755	99.43890443	96.76521147	94.17638751	91.66926816
200318A00038	3/18/2020	1.48	3/18/2025	3/18/2020	119.13052	114.7224122	110.5007124	106.4565374	102.5814744	98.86755725	95.30723959	91.89337042	88.61917101
200318A00039	3/18/2020	1.08	3/18/2022	3/18/2020	103.99867	103.1340919	102.2838185	101.4474942	100.624778	99.81533992	99.01886063	98.23503096	97.4635515
200318A00044	3/18/2020	1.17	3/18/2024	3/18/2020	114.11866	110.9585632	107.9020221	104.945041	102.0838009	99.31465413	96.63411507	94.03885197	91.5256791
200318A00047	3/18/2020	1.29	3/18/2025	3/18/2020	118.98499	114.5621895	110.3268999	106.2701582	102.3834851	98.65885197	95.08865462	91.66568787	88.38312245
200318A00054	3/18/2020	1.56	3/18/2025	3/18/2020	119.46116	115.0464657	110.8183842	106.7680245	102.8869661	99.16723545	95.60127919	92.1819396	88.90243157
200317A00033	3/19/2020	1.1	2/15/2022	3/19/2020	103.592	102.8231902	102.0657491	101.319423	100.5839685	99.85914926	99.14473589	98.44050545	97.74624139
200317A00039	3/19/2020	1.11	4/15/2022	3/19/2020	104.41404	103.4616253	102.5264967	101.6081833	100.7062348	99.82021681	98.94971031	98.09431076	97.25362759
200317A00045	3/19/2020	1.43	3/19/2025	3/19/2020	118.93633	114.5285972	110.3074105	106.2638752	102.389573	98.67653183	95.11719942	91.70441873	88.43140495
200317A00064	3/19/2020	1.12	5/16/2022	3/19/2020	104.85803	103.8073434	102.7775905	101.7681463	100.7784149	99.80782366	98.85582158	97.92187884	97.00548555
200318A00013	3/18/2020	1.5	3/18/2025	3/18/2020	119.21318	114.8034256	110.5801304	106.5344091	102.6578473	98.9424768	95.38074949	91.96551271	88.68998615
200318A00026	3/20/2020	1.08	3/16/2022	3/20/2020	103.97105	103.1126955	102.2684447	101.4379505	100.6208787	99.81690615	99.02571977	98.24701652	97.48050281
200316A00070	3/16/2020	1.05	3/16/2022	3/16/2020	103.9463	103.0880636	102.2439247	101.413541	100.5965786	99.7927141	99.00163462	98.22303707	97.45662791
200316A00071	3/16/2020	1.18	3/16/2023	3/16/2020	108.91265	106.9637064	105.0594332	103.1984715	101.3795165	99.60131381	97.86265744	96.16238704	94.49938596
200316A00072	3/16/2020	1.18	3/16/2023	3/16/2020	108.91265	106.9637064	105.0594332	103.1984715	101.3795165	99.60131381	97.86265744	96.16238704	94.49938596

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200317A00011	3/17/2020	1.04	3/17/2022	3/17/2020	103.95175	103.0904371	102.2433254	101.4100646	100.5903174	99.78375701	98.99006748	98.20894265	97.44008607
200317A00023	3/17/2020	1.1	3/17/2025	3/17/2020	118.18549	113.7821535	109.5655764	105.5268252	101.6574496	97.94944921	94.39524693	90.98766399	87.71989655
200317A00027	3/17/2020	1.29	3/17/2025	3/17/2020	118.33324	113.9444899	109.7414059	105.7151298	101.8572777	98.1599113	94.61551117	91.21695245	87.95748158
200316A00048	3/16/2020	1.11	3/16/2023	3/16/2020	108.78037	106.8327087	104.9296952	103.0699691	101.2522261	99.47521272	97.73772343	96.03859855	94.37672205
200316A00049	3/16/2020	1.25	3/14/2025	3/16/2020	118.13238	113.7580623	109.5685272	105.5549569	101.7090023	98.02275964	94.4887439	91.09986389	87.84939915
200316A00050	3/16/2020	1.54	3/16/2027	3/16/2020	127.07245	120.0343262	113.4263381	107.220021	101.3889361	95.90851859	90.75593547	85.90995434	81.35082307
200316A00055	3/16/2020	1.06	3/14/2025	3/16/2020	117.9843	113.5954766	109.3925219	105.3665436	101.5091267	97.81230558	94.26853796	90.87067905	87.61195843
200316A00067	3/18/2020	1.1	9/15/2022	3/18/2020	106.41933	105.0122006	103.6351433	102.2871982	100.9674503	99.67502315	98.40907699	97.16880673	95.95344011
200316A00068	3/16/2020	1.05	3/16/2022	3/16/2020	103.9463	103.0880636	102.2439247	101.413541	100.5965786	99.7927141	99.00163462	98.22303707	97.45662791
200316A00037	3/16/2020	1.06	3/14/2025	3/16/2020	117.9843	113.5954766	109.3925219	105.3665436	101.5091267	97.81230558	94.26853796	90.87067905	87.61195843
200316A00040	3/16/2020	1.04	3/16/2022	3/16/2020	103.93805	103.0798529	102.2357513	101.4054045	100.5884785	99.78465009	98.99360624	98.21504393	97.44866961
200316A00041	3/16/2020	1.16	3/16/2023	3/16/2020	108.87485	106.9262785	105.0223652	103.1617565	101.3431478	99.56528493	97.82696201	96.1270189	94.46433912
200316A00042	3/16/2020	1.23	3/15/2024	3/16/2020	113.80292	110.6677417	107.6349194	104.7004979	101.8606998	99.11191826	96.45070761	93.87377516	91.37797325
200316A00043	3/16/2020	1.3	3/14/2025	3/16/2020	118.33841	113.9599914	109.7664907	105.749077	101.8993963	98.20954045	94.67201992	91.27973941	88.02597452
200316A00046	3/16/2020	1.18	3/18/2024	3/16/2020	113.69174	110.5484468	107.5079915	104.5664077	101.7199097	98.96488106	96.29786589	93.71556041	91.21480534
200312A00036	3/12/2020	1.04	3/11/2022	3/12/2020	103.87803	103.0352124	102.2060048	101.3900779	100.5871145	99.79680768	99.0188601	98.25298362	97.49889905
200312A00037	3/12/2020	1.3	3/12/2025	3/12/2020	118.31432	113.9433424	109.7567607	105.74577	101.9020369	98.21767366	94.68521127	91.29757459	88.04805907
200313A00019	3/13/2020	1.55	3/13/2026	3/13/2020	123.46188	117.7680658	112.3682977	107.2458408	102.3850025	97.77106359	93.39021246	89.22948395	85.27670274
200316A00009	3/16/2020	1.25	3/14/2025	3/16/2020	118.13238	113.7580623	109.5685272	105.5549569	101.7090023	98.02275964	94.4887439	91.09986389	87.84939915
200316A00015	3/16/2020	0.99	3/14/2022	3/16/2020	103.86971	103.0179171	102.1800188	101.3556813	100.5445777	99.74639133	98.96081555	98.18755342	97.42631725
200316A00019	3/16/2020	1.11	3/16/2023	3/16/2020	108.78037	106.8327087	104.9296952	103.0699691	101.2522261	99.47521272	97.73772343	96.03859855	94.37672205
200311A00055	3/11/2020	1.66	12/17/2027	3/11/2020	130.32042	122.2318121	114.6943659	107.6677367	101.1147353	95.00106396	89.29507718	83.96756336	78.99154572
200312A00006	3/12/2020	1.23	3/12/2025	3/12/2020	118.02633	113.6610646	109.4800187	105.4743933	101.635862	97.95654315	94.42897395	91.04608499	87.80117726
200312A00009	3/12/2020	1.46	3/12/2027	3/12/2020	126.51717	119.5103227	112.9312835	106.7517434	100.9454151	95.48787687	90.35642997	85.52996817	80.98885756
200312A00014	3/12/2020	1.04	3/12/2025	3/12/2020	117.87811	113.4983911	109.3039716	105.2859803	101.4360246	97.74616182	94.20887177	90.8170318	87.56389307
200312A00015	3/12/2020	1.23	3/10/2025	3/12/2020	118.00269	113.6448394	109.4706957	105.471478	101.6388803	97.96504141	94.44251881	91.0642632	87.82359528
200312A00019	3/17/2020	1.06	5/16/2022	3/17/2020	104.79801	103.747651	102.7182211	101.7090956	100.7196787	99.7493975	98.79770138	97.86406056	96.94796521
200311A00031	3/11/2020	1.41	12/24/2027	3/11/2020	128.53624	120.484184	112.983393	105.9933707	99.47679685	93.39926259	87.72902839	82.43680383	77.49554652
200311A00032	3/11/2020	1.11	3/11/2025	3/11/2020	118.15493	113.7732111	109.5767059	105.5565508	101.7043569	98.01218533	94.47252026	91.07824327	87.82260999
200311A00043	3/11/2020	1.3	3/11/2025	3/11/2020	118.30228	113.9350182	109.7518958	105.7441166	101.9033576	98.22174117	94.6918086	91.30649477	88.05910501
200311A00044	3/11/2020	1.73	3/11/2030	3/11/2020	138.7613	127.4774187	117.1899863	107.8059712	99.24147148	91.42077652	84.27552899	77.74397597	71.77030009
200311A00050	3/2/2021	1.46	3/2/2026	3/2/2021	122.85972	117.2202603	111.8707253	106.7946104	101.9764496	97.40174247	93.05688761	88.92912121	85.00646041
200311A00052	3/2/2021	1.43	2/28/2025	3/2/2021	118.69981	114.3629819	110.2077978	106.2255543	102.4080275	98.7474397	95.2364318	91.86803765	88.63566031

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200310A00040	3/10/2020	1.36	3/10/2028	3/10/2020	128.77877	120.4570643	112.7212429	105.5271326	98.83411297	92.60481102	86.80482526	81.40247441	76.3685687
200310A00041	3/10/2020	1.39	3/12/2029	3/10/2020	132.161	122.4447327	113.5020049	105.2674274	97.68145353	90.68982943	84.24309727	78.29614864	72.80782121
200310A00051	3/10/2020	1.41	3/8/2030	3/10/2020	135.50751	124.3825567	114.2428536	104.9962892	96.55979949	88.85843819	81.82454523	75.39700408	69.52057827
200310A00054	3/10/2020	1.1	3/10/2025	3/10/2020	117.46867	113.1213947	108.9575018	104.9682199	101.1452551	97.48075822	93.96729782	90.59783532	87.36570162
200310A00062	3/10/2020	1.05	3/8/2024	3/10/2020	113.1779	110.074661	107.0723516	104.1670382	101.3549733	98.63258119	95.99644952	93.44331994	90.97008014
200311A00012	3/11/2020	0.87	3/11/2022	3/11/2020	103.74024	102.8980411	102.0694469	101.2541264	100.4517627	99.66204885	98.88468774	98.11939135	97.36588057
200310A00020	3/10/2020	1.1	3/10/2025	3/10/2020	117.46867	113.1213947	108.9575018	104.9682199	101.1452551	97.48075822	93.96729782	90.59783532	87.36570162
200310A00021	3/10/2020	1.1	3/10/2025	3/10/2020	117.46867	113.1213947	108.9575018	104.9682199	101.1452551	97.48075822	93.96729782	90.59783532	87.36570162
200310A00028	3/10/2020	1.1	3/10/2025	3/10/2020	117.46867	113.1213947	108.9575018	104.9682199	101.1452551	97.48075822	93.96729782	90.59783532	87.36570162
200310A00033	3/10/2020	0.91	3/10/2025	3/10/2020	117.31901	112.9573858	108.7802094	104.7786457	100.9443351	97.26936737	93.7462543	90.36790422	87.12759854
200310A00034	3/10/2020	1.41	3/11/2030	3/10/2020	135.53661	124.3989639	114.2485212	104.9929302	96.54891687	88.84134773	81.80239556	75.37079497	69.49117725
200310A00038	3/10/2020	1.41	3/11/2030	3/10/2020	135.53661	124.3989639	114.2485212	104.9929302	96.54891687	88.84134773	81.80239556	75.37079497	69.49117725
200309A00045	3/9/2020	0.97	3/7/2025	3/9/2020	116.90163	112.5759704	108.4325906	104.4627703	100.6582583	97.01124731	93.51434734	90.16056029	86.9432566
200309A00054	3/9/2020	0.98	3/9/2028	3/9/2020	127.15128	118.837776	111.1124055	103.9306782	97.25169248	91.03782631	85.25445759	79.86970983	74.85422063
200310A00003	3/10/2020	1.1	3/10/2025	3/10/2020	117.46867	113.1213947	108.9575018	104.9682199	101.1452551	97.48075822	93.96729782	90.59783532	87.36570162
200310A00005	3/10/2020	1.41	3/8/2030	3/10/2020	135.50751	124.3825567	114.2428536	104.9962892	96.55979949	88.85843819	81.82454523	75.39700408	69.52057827
200310A00014	3/10/2020	0.91	3/10/2025	3/10/2020	117.31901	112.9573858	108.7802094	104.7786457	100.9443351	97.26936737	93.7462543	90.36790422	87.12759854
200310A00015	3/10/2020	1.37	3/11/2030	3/10/2020	135.13352	124.0141571	113.8808381	104.6413	96.21234754	88.51891913	81.49325388	75.07414735	69.2062869
200309A00029	3/9/2020	1.02	3/7/2025	3/9/2020	117.10656	112.776842	108.6295369	104.6559117	100.8477105	97.19712155	93.69675062	90.33959551	87.11902276
200309A00030	3/9/2020	1.11	3/9/2027	3/9/2020	124.23408	117.3066996	110.8029218	104.6946905	98.95595427	93.5625129	88.49187628	83.7231341	79.2368365
200309A00038	3/9/2020	1.26	3/11/2030	3/9/2020	134.02503	122.9559382	112.8697095	103.6743172	95.28678189	87.63224048	80.64311426	74.25836638	68.42283842
200309A00040	3/9/2020	0.91	3/8/2024	3/9/2020	112.76219	109.6650546	106.6686976	103.7691907	100.9627909	98.24592742	95.61519222	93.06733124	90.59923624
200309A00043	3/9/2020	0.92	6/7/2024	3/9/2020	113.83585	110.4325036	107.1484863	103.9789305	100.9192	97.96487491	95.11174013	92.35577444	89.69314041
200309A00044	3/9/2020	0.94	9/9/2024	3/9/2020	114.92359	111.2074066	107.6302847	104.186201	100.8694372	97.67455775	94.59639422	91.63002998	88.77078627
200306A00064	3/6/2020	1.2	3/8/2027	3/6/2020	124.80511	117.8642012	111.34725	105.2261917	99.47496564	94.06936334	88.98688678	84.20661821	79.70910062
200306A00066	3/6/2020	1.2	3/8/2027	3/6/2020	124.80511	117.8642012	111.34725	105.2261917	99.47496564	94.06936334	88.98688678	84.20661821	79.70910062
200306A00077	3/6/2020	1.06	3/6/2025	3/6/2020	117.25921	112.9299413	108.7829266	104.8094427	101.0012399	97.35051312	93.84987453	90.49232866	87.27124869
200306A00080	11/6/2020	1.12	11/6/2023	11/6/2020	111.86903	109.165587	106.5413054	103.9934044	101.519223	99.11620967	96.78191687	94.51399627	92.31019408
200306A00087	3/8/2021	1.26	3/7/2025	3/8/2021	118.09018	113.741026	109.5748791	105.5829902	101.7570809	98.08931788	94.57228636	91.19896455	87.96270031
200309A00007	3/9/2020	1.11	3/9/2027	3/9/2020	124.23408	117.3066996	110.8029218	104.6946905	98.95595427	93.5625129	88.49187628	83.7231341	79.2368365
200306A00031	3/6/2020	1.01	3/6/2025	3/6/2020	117.05444	112.7292207	108.5861256	104.6164412	100.8119223	97.16476839	93.66759593	90.31341348	87.09559812
200306A00036	3/6/2020	1.01	3/6/2025	3/6/2020	117.05444	112.7292207	108.5861256	104.6164412	100.8119223	97.16476839	93.66759593	90.31341348	87.09559812
200306A00040	3/6/2020	1.01	3/6/2025	3/6/2020	117.05444	112.7292207	108.5861256	104.6164412	100.8119223	97.16476839	93.66759593	90.31341348	87.09559812

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200306A00049	3/6/2020	1.01	3/6/2025	3/6/2020	117.05444	112.7292207	108.5861256	104.6164412	100.8119223	97.16476839	93.66759593	90.31341348	87.09559812
200306A00054	3/6/2020	1.01	3/6/2025	3/6/2020	117.05444	112.7292207	108.5861256	104.6164412	100.8119223	97.16476839	93.66759593	90.31341348	87.09559812
200306A00055	3/6/2020	0.82	3/6/2025	3/6/2020	116.90395	112.5644864	108.4082188	104.4263543	100.610583	96.95304374	93.44629659	90.08329753	86.85737461
200305A00045	3/5/2020	0.99	3/6/2023	3/5/2020	108.4334	106.5210076	104.6521303	102.8253923	101.0394752	99.29311584	97.58510284	95.9142741	94.2795142
200306A00003	3/6/2020	0.7	3/6/2023	3/6/2020	108.15031	106.2359896	104.3653129	102.5369014	100.7494306	99.00163133	97.29228688	95.62022995	93.98434028
200306A00010	3/6/2020	0.88	3/6/2023	3/6/2020	108.22877	106.3183383	104.4513824	102.626529	100.842461	99.09791602	97.39168384	95.72260325	94.08955973
200306A00013	3/6/2020	1.01	3/6/2025	3/6/2020	117.05444	112.7292207	108.5861256	104.6164412	100.8119223	97.16476839	93.66759593	90.31341348	87.09559812
200306A00022	3/6/2020	1.2	3/8/2027	3/6/2020	124.80511	117.8642012	111.34725	105.2261917	99.47496564	94.06936334	88.98688678	84.20661821	79.70910062
200306A00028	3/6/2020	1.01	3/6/2025	3/6/2020	117.05444	112.7292207	108.5861256	104.6164412	100.8119223	97.16476839	93.66759593	90.31341348	87.09559812
200305A00019	3/5/2020	0.81	3/6/2023	3/5/2020	108.3552	106.4389118	104.5663082	102.7360065	100.9466813	99.19706251	97.48593223	95.81212228	94.17451149
200305A00030	3/5/2020	1.58	3/5/2030	3/5/2020	137.1881	125.9984382	115.7969709	106.4914574	97.99871132	90.24366906	83.15855765	76.68215177	70.75911023
200305A00032	3/5/2020	1.58	3/5/2030	3/5/2020	137.1881	125.9984382	115.7969709	106.4914574	97.99871132	90.24366906	83.15855765	76.68215177	70.75911023
200305A00037	3/5/2020	1.43	3/6/2028	3/5/2020	129.2781	120.9530745	113.2129994	106.0138128	99.31500021	93.07928619	87.27235877	81.8626185	76.82095018
200305A00038	3/5/2020	1.51	3/5/2029	3/5/2020	133.15335	123.4233451	114.4653189	106.2141458	98.61051295	91.60037586	85.13446412	79.16783608	73.65947733
200305A00039	3/5/2020	1.58	3/5/2030	3/5/2020	137.1881	125.9984382	115.7969709	106.4914574	97.99871132	90.24366906	83.15855765	76.68215177	70.75911023
200305A00001	3/5/2020	1.14	3/5/2025	3/5/2020	117.5753	113.2432546	109.0934083	105.1170394	101.3059008	97.65219025	94.14852322	90.78790759	87.56372009
200305A00006	3/5/2020	0.99	3/6/2023	3/5/2020	108.4334	106.5210076	104.6521303	102.8253923	101.0394752	99.29311584	97.58510284	95.9142741	94.2795142
200305A00014	3/10/2020	1	2/15/2023	3/10/2020	108.19785	106.3455999	104.534625	102.7636123	101.0313065	99.3365056	97.67805771	96.05485851	94.46584876
200305A00015	3/5/2020	0.99	3/6/2023	3/5/2020	108.4334	106.5210076	104.6521303	102.8253923	101.0394752	99.29311584	97.58510284	95.9142741	94.2795142
200305A00016	3/5/2020	0.99	3/6/2023	3/5/2020	108.4334	106.5210076	104.6521303	102.8253923	101.0394752	99.29311584	97.58510284	95.9142741	94.2795142
200305A00017	3/5/2020	1.19	3/5/2025	3/5/2020	117.77991	113.4438241	109.290064	105.3099011	101.4950839	97.83780547	94.33067715	90.96670274	87.73925508
200304A00025	3/4/2020	1.04	3/6/2023	3/4/2020	108.52641	106.61313	104.7433794	102.9157847	101.1290271	99.38184303	97.67302057	96.00139722	94.36585714
200304A00029	3/4/2020	1.17	3/4/2025	3/4/2020	117.68644	113.3556663	109.2069147	105.2314669	101.4210828	97.76796785	94.2647448	90.90442902	87.68040467
200304A00030	3/4/2020	1.6	12/22/2028	3/4/2020	133.27065	123.7884071	115.0408475	106.9673756	99.51268772	92.62628339	86.2620256	80.37774264	74.93486852
200304A00032	3/4/2020	1.6	12/15/2028	3/4/2020	133.20408	123.7490345	115.0249588	106.9716938	99.53432142	92.66268322	86.3109451	80.43720389	75.00313164
200304A00033	3/4/2020	1.17	3/4/2025	3/4/2020	117.68644	113.3556663	109.2069147	105.2314669	101.4210828	97.76796785	94.2647448	90.90442902	87.68040467
200304A00035	3/4/2020	1.17	3/4/2025	3/4/2020	117.68644	113.3556663	109.2069147	105.2314669	101.4210828	97.76796785	94.2647448	90.90442902	87.68040467
200304A00013	3/4/2020	1.01	3/4/2022	3/4/2020	103.7583	102.9373245	102.1292741	101.3338408	100.5507312	99.77966071	99.02035369	98.27254268	97.53596831
200304A00015	3/4/2020	0.83	3/4/2022	3/4/2020	103.69797	102.8761264	102.0672366	101.2709947	100.4871061	99.71528526	98.95525536	98.20674802	97.46950291
200304A00018	3/4/2020	0.98	3/4/2025	3/4/2020	117.53791	113.1928815	109.0309309	105.0432756	101.2216108	97.55808128	94.04525361	90.67609066	87.4439276
200304A00019	3/4/2020	1.04	3/6/2023	3/4/2020	108.52641	106.61313	104.7433794	102.9157847	101.1290271	99.38184303	97.67302057	96.00139722	94.36585714
200304A00020	3/4/2020	0.98	3/4/2025	3/4/2020	117.53791	113.1928815	109.0309309	105.0432756	101.2216108	97.55808128	94.04525361	90.67609066	87.4439276
200304A00022	3/4/2020	0.86	3/6/2023	3/4/2020	108.44833	106.5311492	104.6576697	102.8265088	101.0363408	99.28589487	97.57395285	95.89934607	94.26095295

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200302A00056	3/2/2020	1.2	3/2/2023	3/2/2020	108.76548	106.8628235	105.0033202	103.1855808	101.4082791	99.67014542	97.96996374	96.30656867	94.67884279
200302A00060	3/2/2021	1.44	3/3/2025	3/2/2021	118.778	114.4291804	110.2627987	106.2701204	102.4428906	98.77330041	95.25395993	91.87787255	88.63841131
200304A00002	3/4/2020	0.98	3/4/2025	3/4/2020	117.53791	113.1928815	109.0309309	105.0432756	101.2216108	97.55808128	94.04525361	90.67609066	87.4439276
200304A00005	3/4/2020	0.98	3/4/2025	3/4/2020	117.53791	113.1928815	109.0309309	105.0432756	101.2216108	97.55808128	94.04525361	90.67609066	87.4439276
200304A00011	3/4/2020	0.83	3/4/2022	3/4/2020	103.69797	102.8761264	102.0672366	101.2709947	100.4871061	99.71528526	98.95525536	98.20674802	97.46950291
200304A00012	3/4/2020	0.98	3/4/2025	3/4/2020	117.53791	113.1928815	109.0309309	105.0432756	101.2216108	97.55808128	94.04525361	90.67609066	87.4439276
200302A00013	3/2/2020	1.25	3/4/2024	3/2/2020	113.7198	110.6216144	107.6238651	104.7226292	101.9141649	99.1949044	96.56144425	94.01053623	91.53907908
200302A00014	3/2/2020	1.2	3/2/2022	3/2/2020	103.88014	103.0647266	102.2620429	101.4717959	100.6936983	99.92747206	99.17284724	98.42956215	97.69736289
200302A00016	3/2/2020	1.36	3/3/2025	3/2/2020	118.45113	114.1087525	109.9486147	105.9619891	102.1406283	98.47673049	94.96291258	91.59218441	88.3579252
200302A00017	3/2/2020	1.3	3/4/2024	3/2/2020	113.86766	110.7673073	107.7674489	104.8641555	102.0536836	99.33246384	96.69709108	94.14431566	91.67103488
200302A00018	3/2/2020	1.25	3/2/2023	3/2/2020	108.8579	106.9543633	105.0939974	103.2754118	101.4972797	99.75833127	98.05734988	96.39316972	94.764673
200302A00025	3/2/2020	1.02	3/2/2022	3/2/2020	103.82026	103.0039752	102.2004581	101.409408	100.6305366	99.86356478	99.10822155	98.36424427	97.63137812
200228A00071	2/28/2020	1.74	12/14/2029	2/28/2020	138.00589	127.065378	117.067949	107.927551	99.56639376	91.91411602	84.90704132	78.48751181	72.60329169
200228A00091	2/28/2020	1.72	12/7/2029	2/28/2020	137.74073	126.8369894	116.871544	107.7589321	99.42188082	91.79048341	84.80146254	78.39751114	72.52670164
200302A00002	3/2/2020	1.12	3/3/2025	3/2/2020	118.09999	113.7473454	109.5778741	105.5827877	101.7537783	98.08298839	94.5629826	91.18672237	87.94754183
200302A00003	3/2/2020	1.2	3/2/2023	3/2/2020	108.76548	106.8628235	105.0033202	103.1855808	101.4082791	99.67014542	97.96996374	96.30656867	94.67884279
200302A00005	3/2/2020	1.31	3/3/2025	3/2/2020	118.24683	113.9084851	109.7522497	105.7694071	101.9517143	98.29137429	94.78100799	91.41362932	88.18262138
200302A00006	3/2/2020	1.2	3/2/2023	3/2/2020	108.76548	106.8628235	105.0033202	103.1855808	101.4082791	99.67014542	97.96996374	96.30656867	94.67884279
200225A00041	10/30/2020	1.48	10/30/2023	10/30/2020	112.708	110.0154511	107.4010574	104.8621038	102.3959839	100.0001977	97.67234592	95.41012605	93.21132726
200226A00004	2/26/2020	1.58	2/26/2025	2/26/2020	119.2874	114.9454395	110.7849755	106.7973259	102.974287	99.30809929	95.79142018	92.41729844	89.17915062
200227A00055	2/27/2020	1.41	2/27/2023	2/27/2020	109.10883	107.2123517	105.3587565	103.5466544	101.7747197	100.041684	98.34633272	96.68750274	95.06407914
200228A00045	2/28/2020	1.45	2/28/2025	2/28/2020	118.78134	114.4429076	110.2861694	106.3024193	102.4834316	98.82142677	95.30904403	91.93931566	88.70564315
200228A00047	5/18/2020	1.35	5/18/2023	5/18/2020	110.13345	107.9769779	105.8739825	103.8227898	101.8217946	99.86945308	97.96427965	96.10484457	94.28977126
200228A00070	5/18/2020	1.35	5/18/2023	5/18/2020	110.13345	107.9769779	105.8739825	103.8227898	101.8217946	99.86945308	97.96427965	96.10484457	94.28977126
200225A00023	2/25/2020	1.62	2/25/2025	2/25/2020	119.43814	115.096436	110.9360652	106.9483621	103.1251364	99.45864073	95.94154364	92.56690425	89.32814854
200225A00028	2/25/2020	1.89	12/21/2029	2/25/2020	139.54701	128.5132375	118.4308388	109.2129191	100.7809358	93.06385727	85.9974092	79.52340017	73.58911772
200225A00029	2/25/2020	1.89	12/28/2029	2/25/2020	139.62051	128.558245	118.4516618	109.2133044	100.7641418	93.03271494	85.95437571	79.47060559	73.52840597
200225A00034	10/5/2020	1.5	10/5/2023	10/5/2020	112.408	109.7988007	107.2633018	104.7990089	102.4035298	100.0745666	97.80991172	95.60744355	93.4651227
200225A00035	10/5/2020	1.5	10/5/2023	10/5/2020	112.408	109.7988007	107.2633018	104.7990089	102.4035298	100.0745666	97.80991172	95.60744355	93.4651227
200225A00040	10/30/2020	1.48	10/30/2023	10/30/2020	112.708	110.0154511	107.4010574	104.8621038	102.3959839	100.0001977	97.67234592	95.41012605	93.21132726
200220A00014	2/20/2020	2.09	12/21/2029	2/20/2020	141.50857	130.3880183	120.2242115	110.929862	102.4260697	94.64147383	87.51149729	80.97766973	74.98702158
200220A00034	2/25/2020	1.71	3/27/2023	2/25/2020	110.09178	108.0956437	106.1456104	104.2403404	102.3785382	100.558954	98.78038206	97.04165901	95.34166181
200221A00011	2/21/2020	1.69	8/21/2024	2/21/2020	117.33348	113.6352695	110.0734215	106.6420438	103.3355394	100.1485917	97.07614833	94.11340572	91.25579505

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200221A00023	2/21/2020	2.05	12/7/2029	2/21/2020	140.96176	129.916158	119.8175873	110.5799588	102.1254194	94.38352817	87.29051616	80.78862322	74.825504
200221A00024	2/21/2020	2.05	12/28/2029	2/21/2020	141.19352	130.0615169	119.8895168	110.5897508	102.0828995	94.29723853	87.16787552	80.63606707	74.64860729
200224A00006	2/24/2020	1.58	11/15/2024	2/24/2020	118.03406	114.0473298	110.2166072	106.5349465	102.9957498	99.59274869	96.31998498	93.17179417	90.142789
200211A00014	2/11/2020	1.75	8/11/2023	2/11/2020	112.23225	109.7923334	107.4182546	105.1077247	102.8585592	100.6686684	98.53605248	96.45879652	94.4350663
200214A00018	2/18/2020	1.77	1/12/2022	2/18/2020	103.5494	102.8830119	102.2251807	101.5757457	100.9345467	100.3014278	99.6762367	99.0588251	98.44904833
200218A00025	2/21/2020	1.71	2/24/2023	2/21/2020	109.61516	107.7228458	105.8731374	104.0646655	102.2961186	100.5662412	98.87383135	97.2177373	95.59685499
200218A00026	2/21/2020	1.73	3/25/2024	2/21/2020	115.44304	112.2508624	109.1633891	106.1766159	103.286713	100.4900182	97.7830288	95.16239341	92.62490483
200218A00030	2/21/2020	1.71	2/24/2023	2/21/2020	109.61516	107.7228458	105.8731374	104.0646655	102.2961186	100.5662412	98.87383135	97.2177373	95.59685499
200220A00013	2/20/2020	2.09	12/14/2029	2/20/2020	141.43037	130.3387035	120.1994458	110.9258751	102.4395804	94.66962956	87.55182032	81.02801054	75.04551789
201105A00002	11/5/2020	0.49	11/7/2022	11/5/2020	106.12852	104.5901463	103.0818998	101.6029699	100.1525753	98.72996186	97.33440143	95.96519079	94.62165057
201105A00002	11/5/2020	0.49	11/7/2022	11/5/2020	106.12843	104.5900591	103.081814	101.6028855	100.1524922	98.72988003	97.33432087	95.96511148	94.62157248
200605A00014	6/5/2020	1.02	6/5/2025	6/5/2020	117.00736	112.6532383	108.4899397	104.5080234	100.6985696	97.05314779	93.56378675	90.2229471	87.02349534
200605A00016	6/5/2020	1.02	6/5/2025	6/5/2020	117.00736	112.6532383	108.4899397	104.5080234	100.6985696	97.05314779	93.56378675	90.2229471	87.02349534
200605A00017	6/5/2020	1.02	6/5/2025	6/5/2020	117.00736	112.6532383	108.4899397	104.5080234	100.6985696	97.05314779	93.56378675	90.2229471	87.02349534
200709A00021	7/9/2020	0.83	7/9/2025	7/9/2020	116.48088	112.0468747	107.8108817	103.7629127	99.89354182	96.1938718	92.65550084	89.27049204	86.03134478
200709A00024	7/9/2020	0.83	7/9/2025	7/9/2020	116.48088	112.0468747	107.8108817	103.7629127	99.89354182	96.1938718	92.65550084	89.27049204	86.03134478
200709A00025	7/9/2020	1.37	7/9/2030	7/9/2020	131.95145	121.968576	112.8608238	104.5456999	96.9489376	90.00363486	83.64948629	77.83209953	72.50238564
201109A00012	11/9/2020	1.39	11/8/2030	11/9/2020	132.92542	122.569397	113.1490115	104.5734962	96.76137445	89.6394676	83.14200856	77.20985486	71.78978885
201211A00001	12/11/2020	0.95	12/11/2030	12/11/2020	127.80823	118.5672903	110.1385299	102.4440724	95.41398709	88.98543273	83.10190071	77.71254261	72.77157261
210107A00007	1/7/2021	0.84	1/7/2026	1/7/2021	117.90138	112.9174563	108.1787162	103.6716945	99.38374561	95.30298651	91.41824591	87.71901757	84.19541685
210201A00002	2/1/2021	1.19	2/1/2036	2/1/2021	128.68069	119.0203144	110.3337631	102.5092011	95.44875	89.06663793	83.28760363	78.0455227	73.28222276
200911A00013	9/11/2020	0.69	9/11/2025	9/11/2020	116.34793	111.7435346	107.3519709	103.1621838	99.16375876	95.34687965	91.70229024	88.2212591	84.89554659
201007A00008	10/7/2020	1.22	10/7/2030	10/7/2020	130.0072	120.2768812	111.4065992	103.314255	95.92604379	89.17557547	83.00309245	77.35477397	72.18211657
201007A00010	10/7/2020	1.22	10/7/2030	10/7/2020	130.0072	120.2768812	111.4065992	103.314255	95.92604379	89.17557547	83.00309245	77.35477397	72.18211657
201007A00011	10/7/2020	0.62	10/6/2023	10/7/2020	109.75539	107.2913382	104.8963967	102.5682336	100.3046085	98.10336933	95.96244887	93.87986043	91.85369443
201007A00014	10/7/2020	0.8	10/7/2025	10/7/2020	116.78267	112.1649908	107.7623983	103.5637001	99.55834425	95.73638	92.08842063	88.60560845	85.27958226
201015A00020	10/15/2020	0.94	10/15/2027	10/15/2020	122.50047	115.5925732	109.1328039	103.0895646	97.43364917	92.13804799	87.17777199	82.52969152	78.172389
200813A00019	8/13/2020	1.44	8/13/2030	8/13/2020	132.8312	122.7103566	113.4840202	105.0671398	97.38322764	90.36344816	83.94581311	78.07446496	72.69903903
200813A00020	8/13/2020	1.44	8/13/2030	8/13/2020	132.8312	122.7103566	113.4840202	105.0671398	97.38322764	90.36344816	83.94581311	78.07446496	72.69903903
200813A00021	8/13/2020	0.84	8/13/2025	8/13/2020	116.80053	112.2609873	107.9281369	103.7913362	99.84055458	96.06633747	92.45976916	89.01243858	85.71640743
200813A00023	8/13/2020	0.86	10/14/2025	8/13/2020	117.37223	112.6457669	108.1414002	103.8474951	99.75308875	95.84784674	92.1220236	88.56642621	85.17237966
200911A00011	9/11/2020	1.18	9/11/2030	9/11/2020	130.49755	120.4499915	111.2979794	102.9557732	95.34630468	88.40026002	82.0552606	76.25513408	70.94926587
200911A00012	9/11/2020	1.18	9/11/2030	9/11/2020	130.49227	120.4468158	111.2966725	102.956117	95.34810469	88.4033425	82.05947042	76.26033274	70.9553297

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200605A00014	6/5/2020	1.02	6/5/2025	6/5/2020	116.98755	112.6340744	108.4713924	104.4900679	100.6811824	97.03630642	93.54746982	90.2071342	87.00816702
200605A00016	6/5/2020	1.02	6/5/2025	6/5/2020	116.98755	112.6340744	108.4713924	104.4900679	100.6811824	97.03630642	93.54746982	90.2071342	87.00816702
200605A00017	6/5/2020	1.02	6/5/2025	6/5/2020	116.98755	112.6340744	108.4713924	104.4900679	100.6811824	97.03630642	93.54746982	90.2071342	87.00816702
200709A00021	7/9/2020	0.83	7/9/2025	7/9/2020	116.46304	112.0296527	107.794257	103.7468603	99.8780378	96.17889347	92.6410266	89.25650133	86.01781802
200709A00024	7/9/2020	0.83	7/9/2025	7/9/2020	116.46304	112.0296527	107.794257	103.7468603	99.8780378	96.17889347	92.6410266	89.25650133	86.01781802
200709A00025	7/9/2020	1.37	7/9/2030	7/9/2020	131.9608	121.9775718	112.8694784	104.5540242	96.95694267	90.01133175	83.65688601	77.83921301	72.50922364
201109A00012	11/9/2020	1.39	11/8/2030	11/9/2020	132.9336	122.5772172	113.1564915	104.5806499	96.76821568	89.64600961	83.14826429	77.21583688	71.7955093
201211A00001	12/11/2020	0.95	12/11/2030	12/11/2020	127.81359	118.5724482	110.1434854	102.448831	95.41855458	88.9898151	83.10610409	77.71657319	72.7754366
210107A00007	1/7/2021	0.84	1/7/2026	1/7/2021	117.89525	112.9117141	108.1733416	103.6666674	99.37904703	95.2985986	91.41415185	87.7152015	84.1918638
210201A00002	2/1/2021	1.19	2/1/2036	2/1/2021	128.67484	119.0150448	110.3290132	102.5049111	95.44486805	89.06311834	83.2844064	78.04261272	73.27956916
200911A00013	9/11/2020	0.69	9/11/2025	9/11/2020	116.33434	111.7304798	107.3394252	103.1501244	99.15216436	95.33572977	91.69156551	88.2109411	84.88561784
201007A00008	10/7/2020	1.22	10/7/2030	10/7/2020	130.01497	120.2843233	111.4137264	103.3210802	95.93257956	89.18183403	83.00908566	77.36051333	72.18761317
201007A00010	10/7/2020	1.22	10/7/2030	10/7/2020	130.01497	120.2843233	111.4137264	103.3210802	95.93257956	89.18183403	83.00908566	77.36051333	72.18761317
201007A00011	10/7/2020	0.62	10/6/2023	10/7/2020	109.75658	107.2924918	104.8975158	102.5693194	100.305662	98.10439164	95.96344094	93.88082323	91.85462889
201007A00014	10/7/2020	0.8	10/7/2025	10/7/2020	116.77106	112.1538634	107.7517301	103.5534701	99.54853262	95.72696793	92.07939025	88.5969428	85.27126522
201015A00020	10/15/2020	0.94	10/15/2027	10/15/2020	122.5003	115.592607	109.133022	103.0899489	97.43418306	92.13871633	87.17856088	82.53058825	78.17338191
200813A00019	8/13/2020	1.44	8/13/2030	8/13/2020	132.84046	122.7192515	113.4925594	105.0753365	97.39109456	90.37099807	83.95305848	78.08141801	72.70571166
200813A00020	8/13/2020	1.44	8/13/2030	8/13/2020	132.84046	122.7192515	113.4925594	105.0753365	97.39109456	90.37099807	83.95305848	78.08141801	72.70571166
200813A00021	8/13/2020	0.84	8/13/2025	8/13/2020	116.78493	112.2459612	107.9136656	103.7773956	99.82712184	96.05339081	92.44728791	89.00040311	85.70479905
200813A00023	8/13/2020	0.86	10/14/2025	8/13/2020	117.36084	112.6348588	108.1309538	103.837489	99.74350274	95.83866172	92.11322141	88.55798963	85.16429232
200911A00011	9/11/2020	1.18	9/11/2030	9/11/2020	130.50654	120.4586015	111.3062285	102.963676	95.35387544	88.40751273	82.06220878	76.26179087	70.95564393
200911A00012	9/11/2020	1.18	9/11/2030	9/11/2020	130.50125	120.4554215	111.3049174	102.9640159	95.35567171	88.41059164	82.0664152	76.26698628	70.96170467
180911A00012	9/11/2018	3.06	9/9/2022	9/11/2018	109.00791	107.5880182	106.2005036	104.8442557	103.5182166	102.2213761	100.9527693	99.71147392	98.496608
180911A00080	9/11/2018	2.94	9/9/2022	9/11/2018	109.01886	107.5961053	106.2058374	104.8469429	103.5183587	102.2190702	100.9481081	99.70454588	98.48749778
180912A00011	9/12/2018	3.41	9/11/2026	9/12/2018	136.29517	129.637042	123.3493483	117.4094414	111.7961806	106.4898247	101.4719323	96.72526836	92.23371902
180913A00029	9/13/2018	3.11	9/13/2023	9/13/2018	116.01923	113.4332166	110.9186959	108.4732122	106.0944123	103.7800413	101.5279377	99.33602837	97.2023246
180914A00008	9/14/2018	3.15	9/14/2023	9/14/2018	116.13507	113.5445918	111.0257671	108.5761409	106.1933586	103.8751634	101.6193913	99.42396692	97.28689872
180914A00013	9/14/2018	3.48	9/14/2028	9/14/2018	147.87695	138.1894465	129.2156659	120.8990614	113.1878592	106.0346278	99.39589257	93.23178536	87.50572794
180914A00028	9/14/2018	3.37	9/12/2025	9/14/2018	130.04873	124.8138763	119.8222716	115.0612517	110.5188863	106.1839308	102.0457827	98.09444107	94.32046889
180917A00078	9/17/2018	3.05	9/15/2023	9/17/2018	116.28588	113.6828157	111.1519419	108.690782	106.2969628	103.9682099	101.7023425	99.49726835	97.35098017
180918A00011	9/18/2018	3.17	9/18/2023	9/18/2018	116.25835	113.6541503	111.1221684	108.6599452	106.2651221	103.935437	101.6687193	99.46288598	97.31593685
180918A00012	9/18/2018	3.06	9/17/2021	9/18/2018	102.13431	101.8153935	101.4984759	101.1835405	100.8705689	100.5595425	100.2504433	99.94325329	99.63795471
180918A00013	9/18/2018	3.11	9/16/2022	9/18/2018	109.15531	107.7273727	106.3295287	104.9608371	103.6203953	102.307338	101.0208357	99.76009274	98.5243454

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180918A00038	9/18/2018	3.11	9/16/2022	9/18/2018	109.15531	107.7273727	106.3295287	104.9608371	103.6203953	102.307338	101.0208357	99.76009274	98.5243454
180918A00041	9/18/2018	3.18	9/18/2024	9/18/2018	123.5936	119.6847427	115.9217644	112.298392	108.8086611	105.4468982	102.2077042	99.08593943	96.07670988
180920A00014	9/20/2018	3.59	9/20/2028	9/20/2018	148.87989	139.1328118	130.1044142	121.7377336	113.980608	106.7852492	100.1078544	93.90825469	88.14959596
180920A00027	9/20/2018	3.04	9/20/2022	9/20/2018	109.30384	107.867637	106.4603518	105.0811298	103.7291527	102.4036343	101.1038191	99.82898048	98.57841933
180920A00028	9/20/2018	3.12	9/20/2023	9/20/2018	116.55172	113.9300407	111.381291	108.9029906	106.4927606	104.1483187	101.8674747	99.64812595	97.4882532
180920A00035	9/20/2018	3.16	9/20/2022	9/20/2018	109.29258	107.8592824	106.4547962	105.0782749	103.7289044	102.4059024	101.1085169	99.8360247	98.58772987
180920A00062	9/20/2018	3.12	9/20/2023	9/20/2018	116.55172	113.9300407	111.381291	108.9029906	106.4927606	104.1483187	101.8674747	99.64812595	97.4882532
180920A00063	9/20/2018	3	9/20/2021	9/20/2018	102.19888	101.8708913	101.5450193	101.2212403	100.8995341	100.5798808	100.2622608	99.94665445	99.63304275
180921A00021	9/21/2018	2.99	9/21/2021	9/21/2018	102.21484	101.8839409	101.5551904	101.2285683	100.9040539	100.5816268	100.2612668	99.9429541	99.62666902
180921A00039	9/21/2018	3.15	9/21/2022	9/21/2018	109.29259	107.8582558	106.45241	105.074226	103.722912	102.3977068	101.097878	99.82272074	98.57155645
180924A00044	9/24/2018	3.1	9/24/2021	9/24/2018	102.28168	101.9423097	101.6051903	101.2703008	100.9376191	100.6071234	100.2787924	99.95260463	99.62853931
180924A00047	9/24/2018	3.14	9/23/2022	9/24/2018	109.3062	107.8697079	106.4610458	105.0794409	103.7241464	102.3944431	101.089638	99.8090631	98.55207443
180925A00060	9/25/2018	3.23	8/25/2023	9/25/2018	115.95268	113.4255754	110.9673934	108.5757074	106.2481978	103.9826477	101.7769373	99.62903831	97.5370097
180926A00004	9/26/2018	3.04	9/26/2022	9/26/2018	109.3863	107.943285	106.5272262	105.1374175	103.7731761	102.4338425	101.1187799	99.82737268	98.55902602
180926A00031	9/26/2018	3.24	9/26/2023	9/26/2018	116.58051	113.9479003	111.3886593	108.900326	106.4805331	104.1270063	101.837561	99.61009742	97.44259712
180927A00008	9/27/2018	3.14	9/27/2022	9/27/2018	109.36088	107.9198537	106.505361	105.1167202	103.7532747	102.4143898	101.0994514	99.80786585	98.53905858
180927A00015	9/27/2018	3.02	9/27/2022	9/27/2018	109.37223	107.9282842	106.5109648	105.1195899	103.7534995	102.4120555	101.0946407	99.8006587	98.52953202
180927A00042	9/27/2018	3.02	9/27/2022	9/27/2018	109.37223	107.9282842	106.5109648	105.1195899	103.7534995	102.4120555	101.0946407	99.8006587	98.52953202
181001A00074	10/1/2018	3.03	10/3/2022	10/1/2018	109.49673	108.0353975	106.6009147	105.192603	103.8098055	102.4518868	101.1182323	99.80824677	98.52135435
181002A00019	10/2/2018	2.98	10/4/2021	10/2/2018	102.46067	102.0916133	101.72522	101.3614607	101.000307	100.6417308	100.2857046	99.93220125	99.58119382
181004A00029	10/4/2018	3.7	10/4/2028	10/4/2018	150.01843	140.1763631	131.0624985	122.6189497	114.7927159	107.5352481	100.8020548	94.55234314	88.74869426
181005A00011	10/5/2018	3.2	10/5/2023	10/5/2018	117.03961	114.3644372	111.7646327	109.2376475	106.7810335	104.3924397	102.0696075	99.81036658	97.61263102
181005A00012	10/5/2018	3.33	10/4/2024	10/5/2018	124.42887	120.4525884	116.6261062	112.9429818	109.397085	105.9825814	102.6939153	99.52579595	96.47318272
181005A00017	10/5/2018	3.27	4/11/2023	10/5/2018	113.38458	111.309727	109.2836318	107.3048523	105.3719971	103.4837246	101.6387416	99.83580042	98.07369776
181009A00008	10/9/2018	3.24	10/7/2022	10/9/2018	109.67498	108.2031206	106.7584649	105.3403163	103.9480055	102.5808854	101.23833	99.91973341	98.62450927
181009A00035	10/9/2018	3.12	10/11/2022	10/9/2018	109.78065	108.292474	106.8320516	105.3986696	103.9916391	102.6102939	101.2539902	99.92210474	98.61403491
181009A00036	10/9/2018	3.07	10/8/2021	10/9/2018	102.57087	102.1899282	101.811821	101.4365203	101.0639948	100.6942136	100.3271463	99.96276314	99.60103455
181010A00018	10/10/2018	3.17	6/1/2021	10/10/2018	100.07701	100.0658586	100.0547189	100.0435899	100.0324713	100.0213633	100.0102657	99.99917869	99.98810211
181010A00020	10/10/2018	3.27	12/1/2022	10/10/2018	110.79217	109.1441735	107.5297265	105.9478877	104.39775	102.8784393	101.3891133	99.92895974	98.49719512
181010A00021	10/10/2018	3.29	3/15/2023	10/10/2018	112.87624	110.8921126	108.953289	107.0583893	105.2060859	103.3951034	101.6242156	99.89224324	98.1980517
181015A00008	10/15/2018	3.15	9/15/2021	10/15/2018	102.12373	101.8105872	101.4993752	101.1900766	100.8826737	100.577149	100.2734852	99.97166527	99.67167239
181016A00084	10/16/2018	3.21	10/17/2022	10/16/2018	109.84276	108.3385797	106.8627163	105.4144342	103.9930244	102.5978016	101.228103	99.88328807	98.56273696
181018A00011	10/18/2018	3.35	10/18/2023	10/18/2018	117.2826	114.5700833	111.9349091	109.3744325	106.8861111	104.4675041	102.1162684	99.83015355	97.60699757

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181022A00026	10/22/2018	3.18	10/15/2021	10/22/2018	102.71763	102.3163413	101.9181951	101.5231554	101.1311858	100.7422506	100.3563144	99.97334262	99.59330105
181022A00029	10/22/2018	3.22	10/24/2022	10/22/2018	109.97839	108.4518438	106.9543931	105.4852748	104.0437517	102.6291115	101.2406658	99.87774935	98.53971884
181023A00052	10/23/2018	3.15	10/23/2023	10/23/2018	117.26552	114.5286866	111.8704849	109.2882016	106.7792332	104.3410815	101.9713486	99.66773253	97.42802259
181025A00010	10/25/2018	3.07	10/25/2022	10/25/2018	109.98222	108.4492226	106.945544	105.4704155	104.0230916	102.6028519	101.2090008	99.84086587	98.4977797
181026A00002	10/26/2018	3.28	10/26/2023	10/26/2018	117.26018	114.5219224	111.8624329	109.2789876	106.7689753	104.3298906	101.959329	99.65498203	97.41463281
181029A00081	10/29/2018	3.27	4/28/2023	10/29/2018	113.74225	111.6111279	109.531216	107.5009618	105.5188716	103.5835066	101.6934811	99.8474596	98.044155
181030A00012	10/30/2018	3.32	10/30/2023	10/30/2018	117.43982	114.6864	112.0125162	109.4154077	106.8924265	104.4410325	102.0587883	99.74335427	97.49248436
181101A00020	11/1/2018	3.26	11/1/2021	11/1/2018	103.08494	102.6331311	102.1852795	101.7413347	101.3012458	100.8649625	100.4324357	100.0036169	99.57845863
181102A00006	11/2/2018	3.07	11/2/2021	11/2/2018	103.05727	102.602155	102.1510595	101.7039318	101.2607198	100.8213719	100.3858377	99.95406779	99.52601329
181109A00023	11/9/2018	3.39	11/9/2022	11/9/2018	110.54537	108.9658585	107.4173397	105.8989773	104.4099634	102.9495187	101.5168908	100.1113531	98.73220408
181109A00027	11/13/2018	3.48	4/15/2024	11/13/2018	121.12669	117.7815627	114.5474744	111.4201275	108.3954159	105.469415	102.6383723	99.89869912	97.24696227
181109A00028	11/9/2018	3.72	11/9/2026	11/9/2018	139.10152	132.1548386	125.6042822	119.4251132	113.5942709	108.0902452	102.8929642	97.9836913	93.34492882
181109A00029	11/9/2018	3.72	11/9/2026	11/9/2018	139.10152	132.1548386	125.6042822	119.4251132	113.5942709	108.0902452	102.8929642	97.9836913	93.34492882
181114A00010	11/14/2018	3.08	11/15/2021	11/14/2018	103.31633	102.8222367	102.3328774	101.8481845	101.3680916	100.892533	100.4214446	99.95476351	99.4924278
181114A00021	11/14/2018	3.17	11/14/2023	11/14/2018	117.73952	114.9259244	112.1950992	109.5441158	106.9701681	104.4705668	102.0427338	99.68419626	97.39258236
181114A00026	11/14/2018	3.32	12/14/2022	11/14/2018	111.1305	109.4400475	107.7844913	106.1628293	104.5740969	103.0173655	101.4917412	99.99636287	98.53040083
181115A00036	11/15/2018	3.2	11/15/2021	11/15/2018	103.33418	102.8405221	102.3515866	101.8673072	101.3876175	100.9124523	100.4417478	99.975441	99.5134705
181115A00076	11/15/2018	3.22	12/31/2021	11/15/2018	104.24477	103.6118686	102.986646	102.3689611	101.7586783	101.1556649	100.5597918	99.97093253	99.38896384
181123A00015	11/23/2018	3.14	11/23/2021	11/23/2018	103.46164	102.94407	102.431675	101.9243787	101.4221054	100.9247806	100.4323314	99.94468634	99.46177538
181127A00026	11/27/2018	3.2	11/26/2021	11/27/2018	103.55093	103.0242615	102.5029416	101.9868901	101.4760275	100.9702758	100.4695587	99.97380133	99.48293026
181128A00031	11/28/2018	3.29	11/28/2023	11/28/2018	117.91349	115.0616821	112.294847	109.6099378	107.0040369	104.4743498	102.0181988	99.63301765	97.31634585
181129A00023	11/29/2018	3.16	11/29/2021	11/29/2018	103.58938	103.0537382	102.5236209	101.9989473	101.479634	100.9655991	100.4567625	99.95304582	99.45437201
181129A00027	11/29/2018	3.16	11/29/2021	11/29/2018	103.58938	103.0537382	102.5236209	101.9989473	101.479634	100.9655991	100.4567625	99.95304582	99.45437201
181130A00037	11/30/2018	3.05	11/30/2023	11/30/2018	117.7251	114.8605311	112.0816481	109.3853679	106.7687371	104.228927	101.7632284	99.3690448	97.04388753
181203A00053	12/4/2018	3.23	12/1/2023	12/4/2018	117.81051	114.9504496	112.1758215	109.4835558	106.8707105	104.3344683	101.8721302	99.48110955	97.15892715
181211A00018	12/11/2018	3.14	12/11/2023	12/11/2018	117.75651	114.8651042	112.0607741	109.3403578	106.7008288	104.1392901	101.6529681	99.23920615	96.89545894
181211A00043	12/11/2018	3.14	12/11/2023	12/11/2018	117.75651	114.8651042	112.0607741	109.3403578	106.7008288	104.1392901	101.6529681	99.23920615	96.89545894
181212A00019	12/12/2018	3.19	12/12/2023	12/12/2018	117.91035	115.0136634	112.2042701	109.4789951	106.8348018	104.2687837	101.7781583	99.36026046	97.01253698
181213A00031	12/13/2018	2.97	12/13/2023	12/13/2018	117.75343	114.846599	112.0276361	109.2933366	106.640635	104.0665978	101.5684166	99.14340249	96.78897943
181217A00010	12/17/2018	3.11	12/15/2023	12/17/2018	117.74968	114.8455425	112.0291475	109.2972958	106.6469266	104.0751106	101.5790439	99.15604131	96.80353088
181218A00072	12/18/2018	3.04	12/19/2022	12/18/2018	110.77311	109.0704536	107.4031412	105.7701512	104.1704983	102.6032349	101.0674488	99.56226158	98.08682735
181218A00077	12/18/2018	3.09	12/18/2023	12/18/2018	117.75089	114.8371219	112.0115973	109.2710918	106.6125186	104.032924	101.5294812	99.09948367	96.74033901
181224A00038	12/24/2018	3.04	12/22/2023	12/24/2018	117.68815	114.7624133	111.9255742	109.1743711	106.5056827	103.9165235	101.4040364	98.96548676	96.59825559

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181227A00019	12/28/2020	3.1	12/29/2025	12/28/2020	130.46409	124.8493934	119.5116439	114.4356528	109.6071477	105.0127138	100.6397378	96.47635542	92.51140235
181227A00022	12/27/2019	2.91	12/27/2022	12/27/2019	110.71092	108.9844368	107.2941054	105.6388666	104.0176999	102.4296242	100.8736959	99.3490067	97.85468247
181227A00026	12/27/2018	3.03	12/27/2023	12/27/2018	117.75239	114.8097478	111.9568745	109.1904561	106.5073267	103.9044591	101.3789572	98.92804927	96.54908194
181227A00027	12/27/2018	3.24	12/26/2025	12/27/2018	131.1202	125.5001129	120.1566124	115.074556	110.2397152	105.6387156	101.2589799	97.08867623	93.11666978
181227A00028	12/27/2018	3.46	12/27/2028	12/27/2018	149.3291	139.1989237	129.8410127	121.1921663	113.1946801	105.7958399	98.94746562	92.60549878	86.72962938
181228A00008	12/28/2018	2.9	12/28/2021	12/28/2018	103.99224	103.3692264	102.7536557	102.1453985	101.5443255	100.9503098	100.363228	99.78295915	99.20938539
190102A00037	1/2/2019	2.8	7/2/2021	1/2/2019	100.63833	100.5404304	100.4427278	100.3452207	100.2479085	100.1507906	100.0538664	99.95713529	99.8605967
190102A00041	1/2/2019	2.91	1/2/2024	1/2/2019	117.52808	114.5696791	111.7019941	108.9216575	106.2254525	103.6103036	101.0732699	98.61153729	96.22241298
190102A00050	1/2/2019	3.38	1/3/2034	1/2/2019	179.44333	160.3727419	143.5706063	128.7523581	115.6705974	104.1100603	93.8832934	84.82693032	76.79848329
190102A00058	1/2/2019	2.91	1/2/2024	1/2/2019	117.52808	114.5696791	111.7019941	108.9216575	106.2254525	103.6103036	101.0732699	98.61153729	96.22241298
190103A00010	1/3/2019	2.7	1/3/2024	1/3/2019	117.39268	114.4236449	111.5459361	108.7561505	106.0510404	103.4275013	100.882565	98.41339203	96.01726521
190104A00033	1/4/2019	3.37	1/31/2029	1/4/2019	149.0806	138.8325487	129.3747611	120.6418479	112.5741671	105.1172928	98.2215325	91.84149134	85.93567876
190107A00010	1/7/2019	2.66	1/9/2023	1/7/2019	110.76541	108.9956356	107.2635562	105.568036	103.9079879	102.282368	100.6901732	99.13043953	97.60223966
190107A00019	1/7/2019	2.92	1/5/2024	1/7/2019	117.60847	114.6395848	111.7619543	108.9721818	106.2670223	103.6433746	101.098273	98.62888072	96.2324832
190107A00022	1/7/2019	2.83	1/7/2022	1/7/2019	104.13859	103.4850499	102.8397046	102.2024051	101.5730012	100.9513469	100.3372995	99.73071972	99.13147188
190107A00023	1/7/2019	2.87	1/6/2023	1/7/2019	110.8292	109.0718823	107.3517944	105.6678229	104.0189008	102.4040029	100.8221438	99.2723763	97.75378888
190107A00024	1/7/2019	2.91	1/5/2024	1/7/2019	117.5807	114.6121984	111.7349422	108.9455351	106.2407326	103.6174336	101.0726727	98.60361336	96.20754131
190107A00028	1/7/2019	2.62	1/7/2022	1/7/2019	104.07179	103.4176326	102.771696	102.133825	101.5038689	100.8816809	100.2671178	99.66003991	99.06031082
190107A00036	1/7/2019	2.84	4/15/2022	1/7/2019	105.99008	105.0297701	104.086847	103.1608372	102.2512882	101.3577639	100.479843	99.6171192	98.76920014
190110A00001	1/10/2019	2.88	1/10/2022	1/10/2019	104.22712	103.5642461	102.9098028	102.2636295	101.6255702	100.9954723	100.3731874	99.75857059	99.15148062
190110A00002	1/10/2019	2.93	1/10/2023	1/10/2019	111.00481	109.2340469	107.5009718	105.8044485	104.1433901	102.5167533	100.9235353	99.36277221	97.83353707
190110A00004	1/10/2019	3.09	1/10/2025	1/10/2019	124.67489	120.3810603	116.2602669	112.3045289	108.5062804	104.8583494	101.3539345	97.98658357	94.75017308
190110A00005	1/10/2019	3.2	1/9/2026	1/10/2019	131.14425	125.4760756	120.0888417	114.9670577	110.0961738	105.4625197	101.0532471	96.85627457	92.86023806
190110A00010	1/10/2019	2.97	1/16/2024	1/10/2019	117.94233	114.9344034	112.0197362	109.1948214	106.4563109	103.8010061	101.2258504	98.72792151	96.30442464
190110A00013	1/10/2019	2.97	1/17/2024	1/10/2019	117.96006	114.9487587	112.0308931	109.2029493	106.4615696	103.8035468	101.2258159	98.72544705	96.29963814
190110A00014	1/10/2019	2.97	1/17/2024	1/10/2019	117.96006	114.9487587	112.0308931	109.2029493	106.4615696	103.8035468	101.2258159	98.72544705	96.29963814
190110A00028	1/10/2019	2.78	1/10/2024	1/10/2019	117.73826	114.7424562	111.839298	109.0253131	106.2971865	103.6517507	101.085978	98.5969733	96.18196728
190111A00013	1/11/2019	2.87	1/7/2022	1/11/2019	104.16382	103.5101807	102.8647454	102.2273567	101.5978646	100.9761227	100.3619884	99.75532256	99.15598939
190111A00026	1/11/2019	3.48	1/11/2034	1/11/2019	181.07285	161.8634082	144.9392056	130.0133704	116.8365344	105.1917514	94.89012853	85.76706612	77.67901828
190114A00040	1/14/2019	2.89	1/14/2025	1/14/2019	124.57974	120.2581704	116.11162	112.1319761	108.3115518	104.6430623	101.1196012	97.73461861	94.48189987
190114A00043	1/14/2019	2.88	1/14/2022	1/14/2019	104.30313	103.6279648	102.9615355	102.3036766	101.6542233	101.013015	100.3798953	99.75471163	99.13731521
190115A00028	1/15/2019	2.86	11/8/2021	1/15/2019	103.03984	102.5675832	102.0996604	101.6360118	101.176579	100.7213046	100.270132	99.82300593	99.379872
190115A00029	1/15/2019	2.86	11/8/2021	1/15/2019	103.03984	102.5675832	102.0996604	101.6360118	101.176579	100.7213046	100.270132	99.82300593	99.379872

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190115A00034	1/15/2019	2.91	1/17/2023	1/15/2019	111.10078	109.3083364	107.5543451	105.8376399	104.1571005	102.5116518	100.9002612	99.32193646	97.77572401
190122A00007	1/22/2019	3.03	1/22/2024	1/22/2019	118.21847	115.1878837	112.2516967	109.4063357	106.6483943	103.9746194	101.3819032	98.86727536	96.42789582
190122A00042	1/22/2019	2.79	1/23/2023	1/22/2019	111.24687	109.4310009	107.6544271	105.9159409	104.214386	102.5486531	100.9176777	99.3204372	97.75594945
190122A00045	1/22/2019	3.17	1/22/2027	1/22/2019	137.96295	130.7478228	123.9596456	117.5707931	111.5555783	105.890106	100.5521386	95.52097118	90.777318
190122A00046	1/22/2019	3.29	1/22/2029	1/22/2019	149.84322	139.529426	130.0107595	121.2214649	113.1015671	105.5963321	98.65578205	92.23425806	86.29002517
190123A00005	1/23/2019	2.94	1/24/2022	1/23/2019	104.53399	103.8278867	103.1313117	102.4440715	101.7659792	101.096853	100.4365161	99.78479594	99.14152473
190123A00035	1/23/2019	3.18	1/22/2027	1/23/2019	138.02616	130.8091687	124.0192094	117.6286511	111.6118026	105.9447652	100.6052977	95.57269188	90.82765895
190123A00036	1/23/2019	3.32	1/23/2029	1/23/2019	150.12119	139.7926565	130.260407	121.4585825	113.3271126	105.8111771	98.86072066	92.43001448	86.47726042
190128A00035	1/28/2019	3.04	1/26/2024	1/28/2019	118.31856	115.2740357	112.324638	109.4667587	106.6969529	104.0119318	101.408554	98.88381766	96.43485314
190129A00028	1/30/2019	2.92	2/1/2022	1/30/2019	104.67362	103.9428044	103.222178	102.5115306	101.8106559	101.1193533	100.4374276	99.76468888	99.10095246
190130A00012	1/30/2019	2.92	1/31/2022	1/30/2019	104.65445	103.9267436	103.209141	102.5014335	101.8034174	101.1148946	100.4356725	99.76556336	99.10438484
190130A00018	1/30/2019	2.95	10/17/2022	1/30/2019	109.46627	107.9649795	106.4919493	105.04645	103.627774	102.2352373	100.8681786	99.52595862	98.20795868
190130A00020	1/30/2019	2.97	4/17/2023	1/30/2019	112.92913	110.8400898	108.8005567	106.8090566	104.8641653	102.9645103	101.1087685	99.29566441	97.52396778
190131A00011	1/31/2019	3.13	1/30/2026	1/31/2019	131.12114	125.3825103	119.9313742	114.7517073	109.8284688	105.1475389	100.6956561	96.46036017	92.429939
190131A00017	1/31/2019	2.83	3/25/2022	1/31/2019	105.58398	104.6906144	103.8123414	102.9487782	102.0995576	101.2643246	100.4427355	99.6344582	98.839171
190131A00019	1/31/2019	3.44	1/30/2034	1/31/2019	180.76928	161.5010915	144.5343036	129.5789349	116.3830532	104.7276007	94.42194784	85.30006934	77.21725168
190131A00027	1/31/2019	2.86	1/31/2023	1/31/2019	111.27306	109.437285	107.6415466	105.8846032	104.1652651	102.4823914	100.8348875	99.22170275	97.64182841
190131A00053	1/31/2019	2.67	1/31/2023	1/31/2019	111.1849	109.3456002	107.5464891	105.7863177	104.0638897	102.3780582	100.727723	99.11182811	97.52935969
190201A00009	2/1/2019	2.8	2/4/2022	2/1/2019	104.6459	103.9060846	103.1767219	102.4575877	101.7484677	101.0491538	100.3594434	99.67913959	99.00805078
190201A00011	2/1/2019	2.8	2/4/2022	2/1/2019	104.6459	103.9060846	103.1767219	102.4575877	101.7484677	101.0491538	100.3594434	99.67913959	99.00805078
190206A00013	2/6/2019	2.68	2/6/2023	2/6/2019	111.313	109.4544275	107.6367749	105.8587615	104.1191583	102.4167875	100.7505198	99.11927171	97.52200361
190208A00008	2/8/2019	2.86	2/8/2024	2/8/2019	118.03304	114.9515408	111.9674459	109.0770091	106.2766598	103.5629915	100.9327529	98.38283911	95.91028437
190211A00002	2/11/2019	2.88	2/12/2024	2/11/2019	118.16039	115.0644357	112.0666707	109.1633034	106.3507214	103.6254788	100.9842877	98.42400876	95.94164406
190211A00011	2/11/2019	2.8	2/11/2022	2/11/2019	104.77775	104.0161575	103.2656282	102.5259232	101.7968094	101.0780603	100.3694558	99.67078201	98.981831
190211A00016	2/11/2019	3.01	2/11/2025	2/11/2019	124.88772	120.4849316	116.263202	112.2139936	108.3292274	104.6012555	101.0228356	97.58710579	94.28756268
190211A00017	2/11/2019	3.12	2/11/2026	2/11/2019	131.25902	125.4761651	119.9848149	114.7686109	109.8122109	105.1012187	100.6221199	96.3622221	92.30960016
190212A00017	2/12/2019	2.86	6/30/2023	2/12/2019	114.05676	111.7266076	109.4566061	107.2447733	105.0892096	102.9880931	100.939675	98.94227658	96.99428572
190213A00023	2/13/2019	2.93	2/13/2024	2/13/2019	118.32262	115.2211818	112.2181723	109.30979	106.4924104	103.7625766	101.1169899	98.55250128	96.06610339
190214A00004	2/14/2019	2.6	2/14/2022	2/14/2019	104.7635	103.9918058	103.2314748	102.4822529	101.7438976	101.0161737	100.2988523	99.59171141	98.89453522
190214A00006	2/14/2019	2.67	2/14/2024	2/14/2019	118.03595	114.9254258	111.9139436	108.9976694	106.1729452	103.4362828	100.7843541	98.21398277	95.72213554
190214A00008	2/14/2019	2.64	2/14/2023	2/14/2019	111.38825	109.5048291	107.6633044	105.8623449	104.1006776	102.3770833	100.6903939	99.03948932	97.42329536
190214A00012	2/14/2019	2.6	2/14/2022	2/14/2019	104.7635	103.9918058	103.2314748	102.4822529	101.7438976	101.0161737	100.2988523	99.59171141	98.89453522
190214A00013	2/14/2019	2.64	2/14/2023	2/14/2019	111.38825	109.5048291	107.6633044	105.8623449	104.1006776	102.3770833	100.6903939	99.03948932	97.42329536

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190215A00003	2/15/2019	2.82	2/15/2022	2/15/2019	104.86796	104.0938447	103.3311508	102.5796264	101.8390271	101.1091157	100.3896618	99.6804418	98.98123811
190215A00017	2/15/2019	2.89	2/15/2024	2/15/2019	118.24172	115.1351204	112.1272952	109.2144198	106.3928499	103.6591106	101.0098862	98.44201173	95.95246503
190215A00046	2/15/2019	2.7	2/15/2024	2/15/2019	118.14049	115.0252794	112.0093421	109.0888244	106.2600568	103.5195405	100.8639373	98.29006134	95.79487061
190219A00026	2/19/2019	2.8	2/22/2022	2/19/2019	104.98507	104.1891893	103.4053612	102.6333114	101.8727757	101.1234979	100.3852293	99.65772846	98.94076101
190219A00045	2/19/2019	2.8	2/28/2022	2/19/2019	105.09821	104.2836008	103.481591	102.6918887	101.9142122	101.1482886	100.3938531	99.65064876	98.91842631
190220A00007	2/20/2019	2.87	2/20/2024	2/20/2019	118.27072	115.1479075	112.124807	109.1975433	106.362421	103.6159164	100.9546691	98.37547197	95.87526328
190221A00002	2/21/2019	2.81	2/22/2022	2/21/2019	104.99269	104.1967754	103.4129152	102.6408336	101.8802665	101.1309576	100.3926583	99.66512702	98.94812945
190225A00026	2/25/2019	3.43	2/27/2034	2/25/2019	181.05612	161.6532594	144.5801783	129.5417736	116.2818668	104.5778845	94.23628879	85.08865075	76.98827236
190301A00009	3/1/2019	2.83	3/1/2022	3/1/2019	105.14042	104.322564	103.5174053	102.7246493	101.9440109	101.1752142	100.4179912	99.67208209	98.93723482
190308A00007	3/8/2019	2.8	3/8/2024	3/8/2019	118.36408	115.1847812	112.1082892	109.130612	106.2479417	103.456645	100.7532544	98.13445844	95.59709403
190311A00003	3/11/2019	2.68	9/10/2021	3/11/2019	101.8917	101.5933586	101.2967724	101.0019288	100.7088123	100.4174078	100.1277	99.83967429	99.55331579
190311A00009	3/11/2019	2.54	3/11/2022	3/11/2019	105.17872	104.3288653	103.4927226	102.6699611	101.8602615	101.0633142	100.2788196	99.50648742	98.74603618
190313A00019	3/13/2019	2.73	7/15/2022	3/13/2019	107.58582	106.3298255	105.1031014	103.9046301	102.7334438	101.5886181	100.4692701	99.37455609	98.30366902
190314A00027	3/22/2019	2.92	3/21/2025	3/22/2019	125.15907	120.6199276	116.271722	112.1053847	108.1123305	104.2844268	100.6139679	97.09364941	93.71654563
190318A00021	3/18/2019	2.76	3/18/2024	3/18/2019	118.42191	115.20859	112.0998511	109.0916685	106.1802009	103.361778	100.6328926	97.9901916	95.43046851
190318A00024	3/18/2019	2.57	3/18/2024	3/18/2019	118.31776	115.0953715	111.9780999	108.9618895	106.0428714	103.2173501	100.481794	97.83282754	95.26722274
190319A00013	3/19/2019	2.72	3/18/2022	3/19/2019	105.3608	104.4899526	103.6334839	102.7910357	101.9622656	101.1468422	100.344445	99.55476347	98.777497
190321A00018	3/21/2019	2.45	3/21/2022	3/21/2019	105.28676	104.4056975	103.5393473	102.6873446	101.8493351	101.0249762	100.2139363	99.41589437	98.63053981
190321A00021	3/21/2019	2.67	3/21/2024	3/21/2019	118.20408	114.9840522	111.8690483	108.8550424	105.9381856	103.114799	100.3813656	97.73452222	95.17105126
190321A00044	3/21/2019	2.45	3/21/2022	3/21/2019	105.28676	104.4056975	103.5393473	102.6873446	101.8493351	101.0249762	100.2139363	99.41589437	98.63053981
190326A00001	3/26/2019	2.55	3/28/2022	3/26/2019	105.3999	104.4981978	103.6118787	102.7405521	101.8838402	101.041378	100.2128122	99.39780128	98.59601482
190326A00004	3/26/2019	2.58	9/26/2023	3/26/2019	114.94988	112.3374878	109.7980168	107.3290201	104.9281433	102.5931255	100.321794	98.11206097	95.96191941
190327A00006	3/27/2019	2.53	3/27/2024	3/27/2019	117.8846	114.6494562	111.5202865	108.4930428	105.5638592	102.7290378	99.98504092	97.328483	94.75612315
190327A00013	3/27/2019	2.53	3/27/2024	3/27/2019	117.8846	114.6494562	111.5202865	108.4930428	105.5638592	102.7290378	99.98504092	97.328483	94.75612315
190327A00024	3/27/2019	2.48	3/25/2022	3/27/2019	105.28625	104.3942888	103.5173977	102.6552001	101.8073292	100.9734302	100.1531598	99.3461861	98.55218777
190327A00031	3/27/2019	2.53	3/27/2024	3/27/2019	117.8846	114.6494562	111.5202865	108.4930428	105.5638592	102.7290378	99.98504092	97.328483	94.75612315
190327A00032	3/27/2019	2.53	1/26/2024	3/27/2019	116.86966	113.8455628	110.9160972	108.0776743	105.3268648	102.6603947	100.0751367	97.56810259	95.13643586
190328A00003	3/28/2019	2.64	9/30/2024	3/28/2019	121.29289	117.399707	113.652904	110.0462111	106.5736593	103.2295655	100.0085176	96.9053597	93.91517878
190328A00019	3/28/2019	2.56	3/28/2024	3/28/2019	117.99248	114.7524177	111.6185427	108.5868072	105.6533404	102.8144394	100.0665613	97.40631493	94.83045388
190328A00025	3/28/2019	2.51	7/23/2021	3/28/2019	100.97825	100.8209242	100.6640935	100.5077567	100.3519112	100.1965548	100.0416853	99.88730026	99.73339751
190328A00033	4/25/2019	2.56	4/25/2024	4/25/2019	118.45188	115.1155081	111.8911885	108.7745445	105.7613922	102.8477345	100.0297513	97.3037908	94.66636121
190328A00046	3/28/2019	2.7	3/4/2025	3/28/2019	123.96865	119.5137547	115.2447216	111.1526807	107.229248	103.4664914	99.8569028	96.39337265	93.06916589
190328A00053	3/28/2019	2.33	3/28/2022	3/28/2019	105.31039	104.407701	103.5204384	102.6482071	101.7906279	100.9473342	100.1179714	99.30219664	98.49967822

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190328A00065	3/28/2019	2.56	3/28/2024	3/28/2019	117.99248	114.7524177	111.6185427	108.5868072	105.6533404	102.8144394	100.0665613	97.40631493	94.83045388
190328A00079	3/28/2019	2.37	3/28/2024	3/28/2019	117.8865	114.6372462	111.4947265	108.4548613	105.513752	102.6676699	99.91304736	97.24647032	94.66467052
190329A00017	3/29/2019	2.59	3/29/2023	3/29/2019	111.81683	109.7973837	107.8246209	105.8971862	104.0137702	102.17311	100.3739865	98.61522337	96.89568484
190329A00034	3/29/2019	2.56	3/29/2022	3/29/2019	105.42662	104.5216993	103.6322713	102.7579407	101.8983255	101.0530567	100.2217777	99.40414317	98.5998195
190401A00035	4/1/2019	2.53	10/1/2021	4/1/2019	102.21537	101.8559208	101.4989919	101.1445611	100.7926023	100.4430897	100.0959978	99.75130155	99.40897628
190402A00004	4/2/2019	2.9	4/2/2029	4/2/2019	147.45699	136.9716408	127.3153116	118.4180346	110.2160847	102.6513941	95.67102388	89.22668735	83.27431948
190402A00010	4/2/2019	2.4	4/6/2022	4/2/2019	105.53265	104.6010136	103.6857897	102.786548	101.9028723	101.034361	100.180626	99.34129236	98.51599793
190402A00014	4/2/2019	2.64	4/2/2024	4/2/2019	118.31815	115.0572485	111.9036659	108.8532904	105.9021933	103.0466173	100.282968	97.60780599	95.01783915
190403A00024	4/3/2019	2.61	7/29/2022	4/3/2019	107.69142	106.3901231	105.1201768	103.8804628	102.6699114	101.4875028	100.3322644	99.20326779	98.09962649
190404A00003	4/4/2019	2.47	4/4/2024	4/4/2019	118.30655	115.0285375	111.8588347	108.7932784	105.8278888	102.9588606	100.182554	97.49548687	94.89432698
190404A00023	4/5/2019	2.62	5/16/2022	4/5/2019	106.35853	105.2996515	104.2618201	103.2444086	102.2468185	101.2684745	100.3088234	99.36733289	98.44349096
190404A00024	4/5/2019	2.61	2/15/2022	4/5/2019	104.71217	103.9387072	103.1766547	102.4257649	101.6857937	100.956504	100.2376656	99.52905475	98.83045414
190408A00004	4/8/2019	2.6	10/8/2021	4/8/2019	102.36503	101.9849189	101.6076359	101.2331496	100.861429	100.4924436	100.1261629	99.76255744	99.40159775
190409A00019	4/9/2019	2.91	4/9/2029	4/9/2019	147.64666	137.1276131	127.4420156	118.5193696	110.2954844	102.7118808	95.71525606	89.2570017	83.2927682
190411A00017	4/15/2019	2.65	4/15/2024	4/15/2019	118.56547	115.259304	112.0631896	108.9728614	105.9842453	103.0934476	100.2967452	97.59057771	94.97153897
190411A00019	5/1/2019	2.63	5/2/2022	5/1/2019	106.11097	105.097219	104.1027979	103.1271536	102.1697578	101.2301022	100.3076969	99.40207032	98.51276754
190411A00020	5/1/2019	2.63	5/2/2022	5/1/2019	106.11097	105.097219	104.1027979	103.1271536	102.1697578	101.2301022	100.3076969	99.40207032	98.51276754
190411A00029	4/11/2019	2.46	4/11/2024	4/11/2019	118.39213	115.0903542	111.8983497	108.8118704	105.8268585	102.9394349	100.1458911	97.44267967	94.82640716
190423A00002	4/23/2019	2.52	4/23/2024	4/23/2019	118.7784	115.4321705	112.1983349	109.0724986	106.0504647	103.1282235	100.3019433	97.56796111	94.92277432
190424A00007	4/24/2019	2.66	4/24/2024	4/24/2019	118.74681	115.4091051	112.1833658	109.0652197	106.0504905	103.1351878	100.3154981	97.58777566	94.94853413
190424A00019	4/24/2019	2.67	4/24/2024	4/24/2019	118.77794	115.439762	112.2135574	109.0949578	106.0797863	103.1640525	100.3439423	97.61580959	94.97616777
190426A00008	4/26/2019	2.57	4/26/2022	4/26/2019	105.94413	104.9499565	103.9743924	103.016919	102.0770366	101.1542638	100.2481367	99.35820804	98.48404638
190426A00009	4/26/2019	2.63	4/26/2024	4/26/2019	118.68667	115.3434952	112.1126728	108.989809	105.9707058	103.0513526	100.2279167	97.49673442	94.85430246
190426A00012	5/1/2019	2.57	7/15/2022	5/1/2019	107.39798	106.1431791	104.9176263	103.7203076	102.5502556	101.4065464	100.2882977	99.19466595	98.12484478
190426A00016	5/1/2019	2.58	4/14/2023	5/1/2019	112.1018	110.030311	108.0077572	106.0326804	104.1036784	102.2193998	100.3785414	98.57984697	96.82210444
190426A00032	6/27/2019	2.55	6/27/2022	6/27/2019	107.04446	105.8493266	104.6807972	103.5379927	102.4200711	101.3262265	100.2556874	99.20771526	98.18160215
190426A00033	6/27/2019	2.55	6/27/2022	6/27/2019	107.04446	105.8493266	104.6807972	103.5379927	102.4200711	101.3262265	100.2556874	99.20771526	98.18160215
190429A00003	4/29/2019	2.62	10/13/2023	4/29/2019	115.3435	112.6717442	110.0759064	107.5533947	105.1017255	102.7185142	100.4014708	98.14839531	95.95717393
190429A00004	4/29/2019	2.65	4/15/2024	4/29/2019	118.56547	115.259304	112.0631896	108.9728614	105.9842453	103.0934476	100.2967452	97.59057771	94.97153897
190430A00003	4/30/2019	2.43	8/2/2023	4/30/2019	114.02265	111.5823178	109.2072358	106.8951603	104.6439465	102.4515418	100.3159805	98.23537983	96.20793519
190430A00021	4/30/2019	2.52	10/29/2021	4/30/2019	102.70576	102.2637541	101.8255373	101.3910658	100.9602916	100.5331679	100.1096485	99.6896878	99.2732413
190501A00003	5/1/2019	2.61	5/1/2024	5/1/2019	118.70821	115.3483368	112.1018987	108.9644364	105.9316924	102.9996004	100.1642752	97.42200365	94.76923629
190501A00028	5/1/2019	2.42	5/1/2024	5/1/2019	118.59969	115.2301164	111.9745718	108.8285601	105.7877931	102.8481757	100.0057954	97.25691365	94.59795696

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190502A00027	5/2/2019	2.42	5/2/2022	5/2/2019	106.02077	105.0058628	104.01033	103.0336226	102.0752105	101.1345831	100.2112489	99.30473428	98.41458283
190507A00027	5/7/2019	2.59	5/7/2024	5/7/2019	118.74673	115.3663205	112.1006822	108.9452798	105.8957814	102.9480507	100.098137	97.34226572	94.67682952
190509A00019	5/9/2019	2.5	10/12/2021	5/9/2019	102.39806	102.0062581	101.6174577	101.2316277	100.8487341	100.4687435	100.0916226	99.7173391	99.34586088
190509A00029	5/9/2019	2.34	6/9/2022	5/9/2019	106.62632	105.4885438	104.3749743	103.2848493	102.2174342	101.1720245	100.147945	99.14454756	98.16121029
190509A00030	5/9/2019	2.48	11/9/2021	5/9/2019	102.8826	102.4078413	101.9374667	101.4714168	101.0096318	100.5520535	100.0986242	99.64928771	99.20398859
190510A00009	5/10/2019	2.47	11/10/2021	5/10/2019	102.8956	102.4178641	101.9445728	101.4756597	101.0110641	100.5507265	100.0945884	99.64259237	99.19468206
190513A00013	5/13/2019	2.52	5/13/2024	5/13/2019	118.62595	115.2274811	111.9450654	108.77409	105.71015	102.7490406	99.88674693	97.11943419	94.44343845
190513A00076	5/13/2019	2.42	11/12/2021	5/13/2019	102.90727	102.4236353	101.9445496	101.4699497	100.9997725	100.5339563	100.0724405	99.61516561	99.16207324
190514A00020	5/14/2019	2.66	5/14/2025	5/14/2019	124.91237	120.1950626	115.6834959	111.367596	107.2378335	103.285195	99.50115197	95.87763227	92.40699293
190514A00021	5/14/2019	2.72	11/14/2025	5/14/2019	127.93828	122.5358206	117.3942584	112.4996099	107.8387135	103.3991784	99.16933615	95.13819372	91.2953914
190514A00024	5/14/2019	2.34	5/14/2024	5/14/2019	118.56438	115.1519414	111.8564117	108.6731244	105.5976293	102.6256794	99.75321997	96.97637875	94.29145661
190514A00073	5/14/2019	2.53	5/14/2024	5/14/2019	118.67436	115.2718146	111.9855626	108.8109788	105.7436452	102.7793447	99.91405084	97.14391793	94.46527181
190515A00002	5/15/2019	2.44	5/16/2022	5/15/2019	106.17847	105.1205741	104.0837121	103.0672567	102.0706097	101.093196	100.1344628	99.19387802	98.27092994
190515A00008	5/15/2019	2.41	11/15/2021	5/15/2019	102.95493	102.4623551	101.9744924	101.4912785	101.0126469	100.5385326	100.0688717	99.60360146	99.14266051
190515A00023	5/15/2019	2.25	5/16/2022	5/15/2019	106.10459	105.0453678	104.0072354	102.9895638	101.9917524	101.013224	100.0534236	99.11181721	98.18789106
190516A00012	5/16/2019	2.43	11/16/2021	5/16/2019	102.98205	102.4864605	101.9956397	101.5095224	101.0280412	100.5511299	100.0787235	99.61075829	99.1471717
190517A00005	5/17/2019	2.31	5/17/2024	5/17/2019	118.51851	115.096779	111.7926046	108.6012869	105.5183387	102.5394777	99.66061661	96.87785232	94.18745685
190520A00007	5/20/2019	2.52	5/20/2024	5/20/2019	118.74261	115.3190477	112.0131532	108.820212	105.7357299	102.755418	99.87518279	97.0911155	94.39948278
190521A00005	5/21/2019	2.56	5/21/2024	5/21/2019	118.88713	115.4579798	112.1467732	108.9487872	105.8595129	102.8746479	99.99008577	97.2019055	94.50636236
190521A00028	5/21/2019	2.47	11/22/2021	5/21/2019	103.10718	102.5935989	102.0851258	101.5816884	101.0832122	100.5896241	100.1008523	99.6168267	99.13747824
190521A00043	5/21/2019	2.54	5/22/2023	5/21/2019	112.6761	110.4799986	108.3385312	106.2499827	104.2127051	102.2251137	100.285684	98.39294892	96.54549655
190522A00017	5/23/2019	2.53	3/1/2023	5/23/2019	111.20247	109.2799038	107.4008283	105.5638405	103.7675999	102.0108236	100.2922833	98.6108018	96.96525094
190522A00019	5/23/2019	2.55	5/15/2024	5/23/2019	118.75462	115.3474916	112.0569172	108.8782517	105.8070635	102.8391227	99.97039075	97.19701079	94.51529803
190523A00007	5/23/2019	2.28	5/23/2022	5/23/2019	106.25886	105.1768446	104.1167921	103.0780397	102.0599502	101.0619119	100.0833367	99.12365954	98.18233706
190523A00008	5/23/2019	2.29	5/23/2023	5/23/2019	112.48872	110.2853648	108.1370193	106.0419502	103.998493	102.0050468	100.0600722	98.16208801	96.30966882
190523A00017	5/23/2019	2.51	3/15/2024	5/23/2019	117.62123	114.4296975	111.3419218	108.3538998	105.4618094	102.6620008	99.95098703	97.32543597	94.782162
190523A00020	5/23/2019	2.5	2/9/2024	5/23/2019	117.01227	113.9422054	110.9693732	108.0900303	105.300607	102.5976983	99.97805409	97.43857135	94.97628592
190523A00023	5/23/2019	2.48	3/22/2023	5/23/2019	111.47683	109.4833993	107.5357811	105.6326174	103.7725983	101.9544624	100.1769943	98.43902309	96.73942007
190524A00014	5/24/2019	2.24	5/24/2022	5/24/2019	106.23565	105.1506298	104.0876928	103.046173	102.025428	101.0248411	100.0438198	99.08179448	98.13821751
190524A00032	5/24/2019	2.45	5/24/2023	5/24/2019	112.52329	110.3224489	108.1765227	106.0837785	104.0425556	102.0512569	100.1083464	98.21234626	96.36183406
190528A00003	5/28/2019	2.42	5/31/2022	5/28/2019	106.41489	105.3088221	104.2256754	103.1647436	102.1253485	101.1068394	100.1085917	99.13000526	98.17050363
190919A00017	9/19/2019	1.8	9/19/2022	9/19/2019	107.59453	106.1718355	104.7781595	103.4126336	102.0744234	100.7627278	99.47677731	98.21583245	96.9791823
190920A00021	9/20/2019	1.96	9/18/2026	9/20/2019	128.88184	122.3701996	116.2259993	110.4266052	104.9508967	99.7791559	94.89296666	90.27512203	85.90953849

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190923A00017	9/23/2019	1.74	9/23/2024	9/23/2019	118.51123	114.6752067	110.9835631	107.4300924	104.0088866	100.7143238	97.54105215	94.48397561	91.53824014
190923A00032	9/23/2019	1.72	9/22/2023	9/23/2019	113.14158	110.5559404	108.0425643	105.5990013	103.2228989	100.911999	98.66413403	96.47722255	94.34926497
190923A00078	9/23/2019	1.96	6/28/2024	9/23/2019	117.51683	113.9891084	110.5863227	107.3033104	104.1351526	101.0771639	98.12488003	95.27404583	92.52060394
190924A00026	9/24/2019	1.9	7/22/2022	9/24/2019	106.71402	105.4414433	104.1990673	102.9858274	101.8007084	100.6427416	99.51100226	98.40460737	97.32271307
190924A00033	9/24/2019	1.84	9/30/2022	9/24/2019	107.59536	106.1602725	104.7513632	103.3679787	102.0094841	100.675265	99.36472655	98.077293	96.81240657
190925A00018	9/25/2019	1.7	9/25/2024	9/25/2019	118.39444	114.5541604	110.8586023	107.3015476	103.8770784	100.5795619	97.40363521	94.34419105	91.39636398
190925A00019	9/27/2019	1.93	9/27/2023	9/27/2019	113.35888	110.7631927	108.2401308	105.7872523	103.4022154	101.0827701	98.82675451	96.63209051	94.49678014
190925A00024	9/25/2019	1.88	4/14/2022	9/25/2019	105.09931	104.1465557	103.2110152	102.2922264	101.3897426	100.5031324	99.6319798	98.77588303	97.93445426
190926A00004	9/26/2019	1.93	9/21/2021	9/26/2019	101.84396	101.5141357	101.1864485	100.8608804	100.5374108	100.2160195	99.89668632	99.57939165	99.26411593
190926A00006	9/26/2019	1.7	9/26/2022	9/26/2019	107.52659	106.0973127	104.6947428	103.3181836	101.9669593	100.6404171	99.33792637	98.05887783	96.80268249
190926A00015	9/26/2019	2.32	11/26/2030	9/26/2019	147.74385	135.0887133	123.6233683	113.2295856	103.8014526	95.24403138	87.47217117	80.40945436	73.98726112
190926A00016	9/26/2019	2.28	5/24/2030	9/26/2019	145.1701	133.3184135	122.5288991	112.7007489	103.7432061	95.57451554	88.12098948	81.31617414	75.10010649
190926A00017	9/26/2019	2.23	9/26/2029	9/26/2019	141.87729	131.0535535	121.1362749	112.0448836	103.706352	96.05445345	89.0290977	82.57573445	76.64481749
190927A00019	9/30/2019	1.91	9/30/2022	9/30/2019	107.69324	106.257426	104.8478025	103.4637166	102.1045328	100.7696365	99.45843254	98.17034468	96.90481493
190927A00036	9/27/2019	1.94	9/6/2024	9/27/2019	118.4402	114.6726337	111.0452353	107.5519405	104.1869896	100.944909	97.82049467	94.80879734	91.90510772
190930A00011	9/30/2019	1.89	10/24/2022	9/30/2019	108.02544	106.5140388	105.0314596	103.5769474	102.1497726	100.7492302	99.37463891	98.02534006	96.70069688
190930A00012	9/30/2019	1.93	9/30/2024	9/30/2019	118.73345	114.885205	111.1820714	107.6178261	104.1865444	100.8825857	97.70057838	94.63540538	91.68219083
190930A00014	9/30/2019	1.89	9/30/2022	9/30/2019	107.66528	106.2296679	104.8202484	103.4363629	102.077376	100.7426732	99.4316594	98.14375849	96.87841254
190930A00040	9/30/2019	1.92	2/25/2022	9/30/2019	104.36366	103.5613317	102.7712957	101.9932708	101.2269849	100.4721739	99.72858167	98.99595953	98.2740662
190930A00071	9/30/2019	2.05	9/29/2025	9/30/2019	124.06517	118.909161	113.9963512	109.3140392	104.8502506	100.5936933	96.53371481	92.66026332	88.96385039
191001A00005	10/1/2019	1.8	4/18/2023	10/1/2019	110.62201	108.5533625	106.5339002	104.562152	102.6367008	100.7561812	98.91927714	97.12471971	95.37128519
191002A00006	10/2/2019	1.84	10/2/2024	10/2/2019	118.43649	114.5868216	110.8826002	107.3175771	103.8858039	100.5816182	97.39962768	94.33469627	91.38193034
191002A00013	10/2/2019	1.78	10/3/2022	10/2/2019	107.55744	106.1134785	104.6960145	103.3043767	101.937919	100.5960162	99.27806341	97.98347486	96.71168353
191002A00017	10/2/2019	1.84	10/2/2024	10/2/2019	118.43649	114.5868216	110.8826002	107.3175771	103.8858039	100.5816182	97.39962768	94.33469627	91.38193034
191003A00014	10/3/2019	1.71	9/20/2024	10/3/2019	117.80987	114.0094433	110.3516125	106.8302486	103.4395202	100.1738786	97.02804273	93.99698455	91.07591521
191003A00020	10/3/2019	1.72	10/3/2022	10/3/2019	107.47301	106.0296851	104.6128406	103.2218112	101.8559513	100.5146359	99.19726046	97.90323946	96.63200614
191003A00022	10/3/2019	1.72	2/3/2023	10/3/2019	109.31255	107.4856926	105.6988844	103.9508778	102.2404767	100.5665343	98.92795056	97.32367015	95.75267973
191003A00033	10/3/2019	1.54	10/3/2022	10/3/2019	107.39831	105.9526786	104.5336152	103.1404488	101.7725307	100.429233	99.10994816	97.81408828	96.54108406
191004A00001	10/4/2019	2.47	10/4/2034	10/4/2019	166.12535	147.0177089	130.3260857	115.7306599	102.9554775	91.76224157	81.94500859	73.32565331	65.74998888
191004A00002	10/4/2019	2.08	10/4/2029	10/4/2019	140.53825	129.743075	119.855561	110.7947903	102.4874344	94.86701049	87.87321182	81.45130576	75.55159364
191004A00003	10/4/2019	1.89	10/5/2026	10/4/2019	127.64658	121.1457216	115.0139413	109.2284421	103.7679462	98.61258699	93.74380835	89.1442722	84.79777249
191004A00005	10/4/2019	1.54	10/4/2024	10/4/2019	117.93745	114.0757608	110.3606238	106.7857157	103.3450207	100.0328131	96.84364158	93.77231498	90.81388805
191004A00009	10/4/2019	1.71	10/4/2021	10/4/2019	101.97202	101.6044049	101.2394437	100.8771104	100.5173575	100.1601765	99.80553347	99.45340146	99.10375383

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191004A00012	10/4/2019	1.78	10/4/2024	10/4/2019	118.24693	114.3939646	110.6868338	107.1192627	103.6852776	100.3791919	97.19559129	94.1293188	91.17546149
191004A00013	10/4/2019	1.53	10/22/2021	10/4/2019	102.20804	101.7872554	101.3699384	100.9560415	100.5455228	100.1383409	99.7344553	99.333826	98.93641369
191007A00018	10/8/2019	1.77	7/16/2021	10/8/2019	100.75462	100.6172539	100.4802731	100.3436787	100.2074689	100.0716422	99.93619686	99.80113129	99.66644387
191007A00020	10/7/2019	1.69	10/7/2022	10/7/2019	107.47605	106.0207442	104.5923412	103.1901567	101.8135298	100.4618213	99.13441299	97.83070624	96.55012175
191007A00029	10/7/2019	1.88	10/9/2029	10/7/2019	140.36501	129.4800823	119.5153047	110.3882888	102.0244031	94.35601189	87.32178726	80.86609239	74.93842788
191008A00018	10/8/2019	1.74	10/11/2022	10/8/2019	107.60771	106.1392122	104.698064	103.2835647	101.8950377	100.5318286	99.19330428	97.87885249	96.58788055
191008A00033	10/8/2019	1.71	10/8/2024	10/8/2019	118.04707	114.1843692	110.4683746	106.8927497	103.4514663	100.1387869	96.9492497	93.87765333	90.91904344
191009A00017	10/9/2019	1.76	10/4/2024	10/9/2019	118.17459	114.3228931	110.6170006	107.0506331	103.6178181	100.3128702	97.13037632	94.06518055	91.11237102
191009A00021	10/9/2019	1.71	10/7/2022	10/9/2019	107.50442	106.0489039	104.6202912	103.2179007	101.8410714	100.4891641	99.16156031	97.85766143	96.57688804
191009A00026	10/9/2019	1.74	10/7/2022	10/9/2019	107.54698	106.0911434	104.6622162	103.2595167	101.8823838	100.5301783	99.20228128	97.89809422	96.61703748
191009A00027	10/9/2019	1.74	10/6/2023	10/9/2019	113.021	110.4009504	107.8549455	105.3804755	102.9751351	100.6366135	98.36269115	96.15123491	94.00019444
191015A00013	10/15/2019	1.72	10/15/2024	10/15/2019	118.74296	114.8302753	111.0672447	107.4473527	103.9644072	100.6125177	97.38607847	94.27975365	91.28846237
191015A00026	10/15/2019	1.69	10/15/2021	10/15/2019	102.16523	101.7648962	101.3677027	100.9736157	100.5825987	100.1946159	99.80963175	99.42761163	99.04852125
191015A00029	10/15/2019	1.91	10/15/2024	10/15/2019	118.87075	114.9702236	111.2185183	107.6091761	104.1360515	100.7932975	97.57534958	94.47690998	91.49293391
191017A00003	10/17/2019	1.9	12/10/2021	10/17/2019	103.10631	102.5396062	101.9791265	101.4247671	100.8764279	100.3340113	99.7974214	99.26656472	98.74134958
191017A00022	10/17/2019	2.25	7/17/2028	10/17/2019	137.04624	127.9742026	119.5651891	111.7672632	104.5328183	97.81819621	91.58334016	85.79147924	80.40884259
191017A00026	10/17/2019	2.3	7/17/2029	10/17/2019	141.72205	131.157486	121.4595033	112.5524355	104.3675994	96.84261545	89.92079844	83.55060992	77.68516615
191018A00006	10/18/2019	1.89	6/1/2022	10/18/2019	105.87816	104.7719866	103.688824	102.6279587	101.5887078	100.5704161	99.57245478	98.59421971	97.63513063
191018A00007	10/18/2019	1.89	7/1/2022	10/18/2019	106.36976	105.1660146	103.9893824	102.8389527	101.7138581	100.6132692	99.53639228	98.48246781	97.4507682
191021A00033	10/22/2019	1.9	7/18/2022	10/22/2019	106.6608	105.4011093	104.1710346	102.9695385	101.7956342	100.6483797	99.5268756	98.43026241	97.35771863
191021A00034	10/22/2019	1.9	10/17/2022	10/22/2019	107.94585	106.4562092	104.9946209	103.5603598	102.152724	100.7710354	99.41463791	98.08289738	96.77520023
191023A00006	10/23/2019	1.95	10/23/2024	10/23/2019	119.12955	115.1977911	111.4169527	107.7804383	104.2819796	100.9156147	97.6756711	94.55675063	91.55371421
191024A00017	10/25/2019	1.9	7/15/2021	10/25/2019	100.75661	100.6220495	100.4878626	100.3540473	100.2206023	100.0875258	99.95481639	99.82247246	99.6904925
191025A00005	10/28/2019	1.98	10/28/2024	10/28/2019	119.31078	115.3591333	111.5597253	107.9058835	104.3912615	101.0098245	97.75583193	94.62382181	91.60859535
191025A00009	10/25/2019	2.26	5/25/2029	10/25/2019	140.74023	130.4060529	120.9069071	112.170968	104.1329373	96.73341843	89.91835532	83.638527	77.84909263
191025A00013	10/25/2019	1.98	10/25/2024	10/25/2019	119.26821	115.3273193	111.5379043	107.8933423	104.3873325	101.0138828	97.76729244	94.64213675	91.6332518
191031A00019	10/31/2019	1.88	10/31/2022	10/31/2019	108.1192	106.5858915	105.0821954	103.6073297	102.1605354	100.7410794	99.34825383	97.9813745	96.63978025
191031A00041	10/31/2019	1.72	10/31/2023	10/31/2019	113.72901	111.0119256	108.3738819	105.81212	103.323997	100.9069784	98.55863215	96.27662466	94.05871555
191104A00009	11/4/2019	1.91	11/6/2023	11/4/2019	113.91483	111.1848974	108.534719	105.9615049	103.4625761	101.0353632	98.67740201	96.38632806	94.15987203
191104A00022	11/4/2019	2.17	8/4/2027	11/4/2019	132.66182	124.9612687	117.7569678	111.0143019	104.7012514	98.78818673	93.24767694	88.05431462	83.18455587
191104A00024	11/4/2019	2.26	8/3/2029	11/4/2019	141.54842	130.929709	121.1867767	112.2427542	104.0279021	96.47891574	89.53829947	83.15380511	77.27792738
191105A00007	11/5/2019	1.98	11/5/2026	11/5/2019	129.56482	122.8663846	116.5544171	110.6046426	104.9944357	99.7026977	94.70974575	89.99721093	85.54794391
191105A00008	11/5/2019	1.83	11/5/2024	11/5/2019	119.44052	115.4456834	111.6060563	107.9147737	104.3653135	100.9514765	97.66736851	94.50738406	91.4661901

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191105A00014	11/5/2019	1.96	11/6/2023	11/5/2019	114.04457	111.3129499	108.661127	106.0863057	103.5858054	101.157056	98.79759206	96.50504807	94.27715373
191105A00018	11/5/2019	1.78	11/6/2023	11/5/2019	113.9732	111.2341086	108.575211	105.9936869	103.4868373	101.0520746	98.68691706	96.38898366	94.15598943
191106A00012	11/6/2019	2.02	10/11/2024	11/6/2019	119.2152	115.3218653	111.5765559	107.9728636	104.5046957	101.1662542	97.95202018	94.85673856	91.87540425
191107A00011	11/8/2019	2.02	2/24/2023	11/8/2019	110.18002	108.2823914	106.4274726	104.6138891	102.8403263	101.1055263	99.40828421	97.74744584	96.12190467
191108A00013	11/8/2019	2.25	11/8/2029	11/8/2019	144.29693	133.1291399	122.9103362	113.5549337	104.9854764	97.1318265	89.93043914	83.32371203	77.25940249
191113A00017	11/15/2019	1.93	12/6/2021	11/15/2019	103.05807	102.5033712	101.954633	101.4117612	100.8746619	100.3432434	99.81741573	99.29709103	98.78218315
191114A00008	11/18/2019	1.93	4/17/2023	11/18/2019	110.86467	108.7965876	106.7776046	104.8062517	102.8811164	101.0008373	99.16410252	97.36964674	95.61624985
191114A00009	11/18/2019	1.94	8/16/2023	11/18/2019	112.75336	110.292029	107.8974158	105.5671958	103.2991428	101.0911279	98.94111449	96.84715296	94.80737641
191114A00020	11/18/2019	1.91	2/15/2022	11/18/2019	104.19289	103.4215822	102.6616675	101.9128933	101.1750159	100.4477986	99.73101145	99.02443122	98.32784091
191114A00021	11/18/2019	1.91	6/15/2022	11/18/2019	106.12916	104.9774278	103.8505847	102.7478344	101.6684105	100.611579	99.57663605	98.56290707	97.56974482
191115A00014	11/18/2019	2.45	11/18/2024	11/18/2019	121.3643	117.3070036	113.4082279	109.6609128	106.058351	102.59417	99.2623135	96.05702418	92.97282679
191115A00015	11/18/2019	2.61	11/18/2024	11/18/2019	121.96549	117.8972233	113.9877982	110.2301407	106.6175318	103.1435884	99.80224366	96.58773032	93.49456365
191115A00016	11/18/2019	2.48	11/18/2024	11/18/2019	121.47703	117.4176698	113.5168973	109.767643	106.1631974	102.6971859	99.36355041	96.15653158	93.07065245
191115A00028	11/15/2019	2.34	9/28/2029	11/15/2019	142.94768	132.0708006	122.1042517	112.9671401	104.5861431	96.89476467	89.83266863	83.34508011	77.38224793
191115A00030	11/15/2019	2.35	11/9/2029	11/15/2019	143.54806	132.4902151	122.3696901	113.1021166	104.6111253	96.82754982	89.68871399	83.13779268	77.12323874
191120A00006	11/20/2019	2.67	11/20/2035	11/20/2019	174.23758	152.9130525	134.4734657	118.5101841	104.6744771	92.66846862	82.23749425	73.16363842	65.26026627
191120A00011	11/20/2019	1.88	1/20/2023	11/20/2019	109.37755	107.5916091	105.8441599	104.1340254	102.4600791	100.8212402	99.21647069	97.64477358	96.10519077
191120A00031	11/20/2019	1.69	11/21/2022	11/20/2019	108.36105	106.7595404	105.1902229	103.6522115	102.1446488	100.6667085	99.21759343	97.79653461	96.40278987
191121A00009	11/21/2019	2.55	11/21/2036	11/21/2019	179.85538	156.3562414	136.2394301	118.9964415	104.197727	91.48008699	80.53612816	71.10544037	62.96720527
191121A00010	11/21/2019	2.59	11/20/2037	11/21/2019	184.57723	159.171813	137.6237932	119.3219279	103.7548785	90.49444051	79.18165966	69.51532333	61.24241305
191121A00034	11/21/2019	2.28	11/2/2029	11/21/2019	142.79058	131.791121	121.7227588	112.5018354	104.0526058	96.30645533	89.20119511	82.6804312	76.6929979
191122A00007	11/22/2019	1.87	11/21/2025	11/22/2019	124.63782	119.2652324	114.1548588	109.2925236	104.6648947	100.2594277	96.064314	92.06843452	88.26131525
191122A00018	11/26/2019	3.11	11/22/2039	11/26/2019	199.22223	169.7703978	145.1971006	124.656602	107.4543459	93.01924248	80.88115031	70.65256013	62.01367926
191122A00020	11/26/2019	3.2	11/23/2037	11/26/2019	192.7867	166.9774772	145.0396759	126.3642542	110.4412184	96.84305704	85.21102048	75.24374026	66.68778132
191122A00021	11/26/2019	3.4	11/22/2038	11/26/2019	201.28001	173.1912655	149.5178537	129.5313818	112.6276099	98.30471387	86.14544598	75.80247839	66.98635012
191126A00015	11/27/2019	1.88	10/14/2022	11/27/2019	107.87	106.3901048	104.937927	103.5127529	102.1138925	100.7406793	99.39246819	98.06863562	96.76857806
191126A00022	11/26/2019	1.72	5/26/2023	11/26/2019	111.34208	109.1414288	106.9960025	104.904056	102.8639104	100.8739524	98.93263005	97.0384509	95.18997862
191126A00023	11/26/2019	1.81	5/27/2025	11/26/2019	122.09549	117.3729496	112.8594473	108.5446091	104.4186346	100.4722604	96.69672788	93.08375296	89.62549752
191129A00010	11/29/2019	1.94	8/27/2021	11/29/2019	101.4502	101.1928279	100.9367586	100.6819809	100.4284851	100.1762615	99.92530072	99.67559325	99.42712977
191129A00012	11/29/2019	1.99	11/29/2024	11/29/2019	119.78698	115.7226448	111.818732	108.0680255	104.4636768	100.9991826	97.66836561	94.46535601	91.3845745
191202A00005	12/2/2019	2.03	12/2/2024	12/2/2019	119.98035	115.9026101	111.9860872	108.2235185	104.6080088	101.1330116	97.7923088	94.57999305	91.49044973
191203A00004	12/4/2019	1.87	12/4/2024	12/4/2019	119.39898	115.3254092	111.4132043	107.6550831	104.0441331	100.5737919	97.23782706	94.03031799	90.94563805
191204A00013	12/4/2019	1.72	12/4/2024	12/4/2019	119.4192	115.329815	111.4027932	107.6307906	104.0068386	100.5243222	97.17695976	93.95878454	90.86412671

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191206A00008	12/6/2019	2.44	12/6/2030	12/6/2019	149.17967	136.4168982	124.8553591	114.3754823	104.8701772	96.24347205	88.40930821	81.29047038	74.81763726
191206A00009	12/6/2019	2.87	12/4/2037	12/6/2019	186.32964	161.0171315	139.5288884	121.2604327	105.7059436	92.44171257	81.11244155	71.41988586	63.11343003
191206A00013	12/6/2019	3.05	12/6/2044	12/6/2019	220.632	181.0347257	149.4560508	124.198381	103.9335056	87.62049444	74.44218358	63.75596882	55.05562886
191206A00019	12/6/2019	1.96	11/15/2023	12/6/2019	114.17921	111.4176724	108.737591	106.1360852	103.6103921	101.1578637	98.77596093	96.46224905	94.21439215
191206A00021	12/6/2019	2.02	12/6/2024	12/6/2019	119.99783	115.9066291	111.9775868	108.2033738	104.5770372	101.0919767	97.74192441	94.52092635	91.42332464
191206A00044	12/10/2019	2.01	10/31/2024	12/10/2019	119.46288	115.4987555	111.6876852	108.0229451	104.4981405	101.1071915	97.84431543	94.70401082	91.68104211
191209A00009	12/9/2019	1.91	12/9/2021	12/9/2019	103.09568	102.531976	101.9744275	101.4229356	100.8774018	100.3377299	99.8038256	99.27559678	98.75295315
191210A00011	12/10/2019	1.92	12/12/2022	12/10/2019	108.83352	107.1685205	105.5378614	103.9405583	102.3756651	100.8422709	99.3394989	97.86650402	96.42247197
191212A00019	12/13/2019	1.93	12/19/2022	12/13/2019	108.96072	107.2735033	105.6213485	104.0032387	102.4181968	100.8652825	99.34359093	97.85225091	96.39042316
191212A00028	12/13/2019	1.93	1/17/2023	12/13/2019	109.41688	107.6394516	105.9001959	104.1979525	102.5316092	100.9000982	99.30239426	97.73751216	96.20450496
191212A00029	12/13/2019	1.94	5/16/2023	12/13/2019	111.32608	109.1633273	107.0539921	104.9964148	102.9889968	101.0302001	99.11854458	97.25260572	95.43101174
191216A00042	12/16/2019	1.95	12/16/2022	12/16/2019	108.94559	107.2675627	105.6242948	104.0147815	102.438059	100.8931995	99.37930988	97.89553014	96.44103158
191217A00012	12/20/2019	2.03	12/20/2024	12/20/2019	120.23068	116.089158	112.1131949	108.2952368	104.6281228	101.1050592	97.71959837	94.46561892	91.33730702
191219A00036	12/20/2019	2.1	12/20/2024	12/20/2019	120.50069	116.354124	112.3732635	108.5505518	104.8788226	101.351277	97.96146252	94.70325292	91.57082992
191220A00002	12/20/2019	3.02	12/20/2038	12/20/2019	193.51916	166.0027125	142.8565242	123.3542311	106.8940412	92.97680145	81.18802091	71.18311912	62.67530691
191223A00007	12/23/2019	1.95	6/23/2021	12/23/2019	100.41247	100.3399281	100.2674969	100.1951784	100.1229725	100.0508788	99.97889704	99.90702707	99.83526859
191223A00009	12/23/2019	1.95	12/23/2022	12/23/2019	109.05711	107.3569788	105.6923329	104.0621332	102.4653844	100.9011294	99.36844701	97.86645072	96.39428678
191223A00022	12/23/2019	1.93	12/30/2021	12/23/2019	103.44082	102.8137181	102.1941948	101.5821129	100.9773392	100.3797435	99.78919848	99.20558016	98.62876723
191223A00055	12/23/2019	2.46	12/7/2029	12/23/2019	144.95373	133.7321348	123.468432	114.0757452	105.4754991	97.59658848	90.37463254	83.75130756	77.67374866
191226A00019	12/26/2019	2.4	12/22/2028	12/26/2019	140.14393	130.3922045	121.3901216	113.0761055	105.3939434	98.29229198	91.72423261	85.64686812	80.02095882
191230A00013	12/30/2019	1.84	12/2/2024	12/30/2019	119.84965	115.758897	111.830279	108.0564698	104.4305212	100.945837	97.596153	94.37551825	91.27827759
191230A00031	12/30/2019	1.85	12/30/2024	12/30/2019	120.27502	116.083959	112.0618725	108.2009831	104.4939222	100.9337027	97.51369705	94.227616	91.06948949
191231A00006	12/31/2019	1.88	12/31/2021	12/31/2019	103.42657	102.7965298	102.1741384	101.5592602	100.9517599	100.3515055	99.75836775	99.17222088	98.59294182
200106A00015	1/6/2020	1.87	2/15/2024	1/6/2020	115.28163	112.2175862	109.2512787	106.3789171	103.5968902	100.9017543	98.29022408	95.75916361	93.3055785
200106A00019	1/6/2020	1.89	7/16/2024	1/6/2020	117.54224	113.9555832	110.4976548	107.1630484	103.9466252	100.8434954	97.84900354	94.95871609	92.16840908
200108A00017	1/8/2020	2.55	1/8/2035	1/8/2020	171.65227	151.5772741	134.0863593	118.8311753	105.5120412	93.87092534	83.68546936	74.76389508	66.94066083
200108A00018	1/8/2020	1.68	1/18/2022	1/8/2020	103.65357	102.967918	102.2913176	101.6235893	100.9645596	100.3140591	99.67192289	99.03799035	98.4121049
200110A00014	1/10/2020	1.73	1/10/2023	1/10/2020	109.20303	107.4440885	105.722683	104.0376881	102.3880191	100.7726346	99.19053415	97.6407559	96.12237508
200110A00022	1/13/2020	2	1/6/2025	1/13/2020	120.34549	116.1466685	112.1174791	108.2500925	104.5370935	100.9714518	97.54650033	94.2559133	91.09368702
200113A00003	1/13/2020	1.72	1/13/2022	1/13/2020	103.60006	102.9296046	102.2678156	101.6145218	100.9695603	100.3327723	99.70400285	99.08310117	98.46992008
200114A00006	1/15/2020	1.99	1/15/2025	1/15/2020	120.4261	116.1969052	112.1395169	108.2459648	104.5086962	100.9205532	97.47474998	94.16485081	90.98474959
200115A00015	1/17/2020	1.88	1/17/2023	1/17/2020	109.33097	107.5543044	105.8158005	104.1142949	102.4486759	100.8178761	99.22087043	97.65667418	96.12434073
200115A00018	1/15/2020	1.9	1/16/2024	1/15/2020	114.9351	111.969147	109.095454	106.3105427	103.611096	100.9939456	98.45606353	95.99455534	93.60665271

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200117A00026	1/17/2020	1.69	1/18/2022	1/17/2020	103.66019	102.9745145	102.2978893	101.6301367	100.9710827	100.3205582	99.67839826	99.04444217	98.41853338
200121A00009	1/24/2020	1.94	1/24/2025	1/24/2020	120.34753	116.0909829	112.0083545	108.0915206	104.3327925	100.7248867	97.26090069	93.93429041	90.73884926
200122A00010	1/22/2020	1.84	1/24/2022	1/22/2020	103.78711	103.0838738	102.3901368	101.7057073	101.0303993	100.3640312	99.70642643	99.05741312	98.41682375
200123A00005	1/23/2020	1.81	1/24/2022	1/23/2020	103.76674	103.0635825	102.3699229	101.6855701	101.010338	100.3440451	99.68651489	99.03757541	98.39705918
200123A00013	1/27/2020	1.89	1/27/2025	1/27/2020	120.18818	115.9250822	111.8365303	107.9143535	104.1508205	100.5386084	97.07077815	93.74075178	90.54229141
200123A00049	1/23/2020	1.63	1/23/2023	1/23/2020	109.23075	107.4330603	105.6743162	103.9533267	102.2689453	100.620072	99.00565075	97.4246678	95.876149
200127A00016	1/27/2020	1.81	1/27/2025	1/27/2020	119.87008	115.6130988	111.530476	107.6140503	103.8560974	100.2493006	96.78672722	93.46180528	90.26830251
200127A00019	1/27/2020	1.8	1/27/2025	1/27/2020	119.83032	115.5741009	111.4922192	107.5765124	103.819257	100.2131371	96.75122086	93.42693697	90.2340539
200127A00023	1/27/2020	1.8	1/27/2025	1/27/2020	119.83032	115.5741009	111.4922192	107.5765124	103.819257	100.2131371	96.75122086	93.42693697	90.2340539
200128A00028	1/28/2020	1.81	1/28/2025	1/28/2020	119.88283	115.6224034	111.5365848	107.6171938	103.8564902	100.247143	96.78220591	93.45509449	90.25956482
200129A00008	1/29/2020	1.76	1/31/2022	1/29/2020	103.84366	103.1191473	102.4047045	101.7001257	101.0052078	100.3197534	99.64357002	98.97647075	98.31827352
200129A00018	2/3/2020	1.74	12/15/2022	2/3/2020	108.58925	106.9172591	105.2798729	103.6760917	102.1049573	100.5655477	99.05697509	97.57838449	96.12895204
200130A00005	1/30/2020	1.73	1/30/2024	1/30/2020	114.65263	111.6473935	108.7367473	105.9170838	103.1849591	100.537086	97.97032544	95.48167863	93.06827965
200130A00006	1/30/2020	1.77	1/30/2025	1/30/2020	119.74868	115.4843953	111.3951348	107.4726875	103.7092836	100.0975648	96.63055981	93.3016608	90.10460241
200130A00010	1/30/2020	1.56	1/31/2022	1/30/2020	103.77638	103.0511569	102.3360337	101.6307986	100.9352477	100.2491825	99.57241019	98.90474287	98.24599784
200130A00011	1/30/2020	1.54	1/30/2023	1/30/2020	109.17913	107.3611201	105.5828304	103.843032	102.1405436	100.4742326	98.84301246	97.24584027	95.68171462
200130A00012	1/30/2020	1.72	1/30/2023	1/30/2020	109.25197	107.4375828	105.6627645	103.9262919	102.2269902	100.5637329	98.93543892	97.34107089	95.77963236
200130A00015	1/30/2020	1.63	7/30/2021	1/30/2020	100.96053	100.783328	100.6067464	100.4307848	100.2554399	100.0807086	99.90658754	99.73307364	99.56016368
200130A00028	1/30/2020	1.54	2/7/2023	1/30/2020	109.2994	107.4563774	105.6540408	103.891114	102.1663725	100.478643	98.82680057	97.20976607	95.62650398
200130A00048	1/30/2020	1.74	1/31/2022	1/30/2020	103.82968	103.1052233	102.3908349	101.68631	100.9914456	100.306044	99.62991308	98.96286571	98.30471987
200131A00006	1/31/2020	1.52	1/31/2022	1/31/2020	103.74841	103.0232978	102.3082838	101.6031567	100.9077128	100.2217536	99.54508619	98.87752281	98.21888073
200131A00010	2/3/2020	1.68	2/3/2023	2/3/2020	109.24181	107.4156008	105.6294276	103.8820441	102.1722545	100.4989123	98.8609179	97.25721622	95.6867942
200131A00014	2/5/2020	1.7	2/22/2022	2/5/2020	104.14704	103.3547236	102.5744245	101.8058661	101.0487851	100.3029257	99.56803993	98.84388702	98.13023315
200131A00017	1/31/2020	1.51	1/31/2024	1/31/2020	114.47399	111.4584468	108.5381289	105.7093878	102.9687467	100.3128872	97.73864124	95.24298271	92.82302004
200131A00032	1/31/2020	2.1	1/31/2030	1/31/2020	142.04257	130.7521046	120.443859	111.0272277	102.4204104	94.54951204	87.34773989	80.75468716	74.71569173
200131A00038	1/31/2020	1.73	1/30/2025	1/31/2020	119.58925	115.3280415	111.241759	107.3222	103.5615984	99.95259905	96.48823378	93.16189781	89.96732862
200131A00048	1/31/2020	1.69	1/31/2024	1/31/2020	114.5523	111.5453716	108.6331829	105.8121146	103.0787139	100.4296853	97.86188197	95.37229815	92.95806118
200203A00001	2/3/2020	1.7	2/3/2023	2/3/2020	109.27718	107.4506467	105.664156	103.9164609	102.2063656	100.5327233	98.89443423	97.29044318	95.71973697
200203A00004	2/3/2020	1.7	2/3/2023	2/3/2020	109.27718	107.4506467	105.664156	103.9164609	102.2063656	100.5327233	98.89443423	97.29044318	95.71973697
200203A00005	2/3/2020	1.7	5/3/2023	2/3/2020	110.6512	108.5361526	106.4724335	104.4584707	102.4927556	100.5738358	98.7003126	96.8708386	95.08411538
200203A00006	2/3/2020	1.76	2/3/2025	2/3/2020	119.75876	115.4814024	111.380065	107.4464696	103.6727814	100.0515817	96.57584302	93.23890586	90.03445675
200203A00009	2/3/2020	1.52	2/3/2023	2/3/2020	109.20385	107.3736575	105.5836652	103.8326161	102.1193077	100.4425872	98.80134907	97.19453255	95.62111938
200203A00012	2/3/2020	1.57	2/3/2025	2/3/2020	119.61979	115.3284371	111.2141232	107.2685029	103.4836802	99.85217926	96.36691938	93.02119133	89.80863525

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200203A00022	2/3/2020	1.75	2/3/2025	2/3/2020	119.71878	115.4421932	111.3416047	107.4087358	103.6357523	100.0152364	96.54016145	93.20386871	90.0000454
200204A00001	2/4/2020	1.79	2/4/2025	2/4/2020	119.89128	115.6081443	111.5013511	107.5626061	103.7840551	100.1582617	96.67818185	93.33714049	90.12880977
200204A00012	2/4/2020	1.98	2/4/2027	2/4/2020	129.49243	122.5212493	115.9677034	109.8045417	104.0064428	98.54986465	93.41290914	88.57519819	84.01775992
200204A00015	2/4/2020	1.72	2/6/2023	2/4/2020	109.35799	107.521779	105.7259754	103.9693172	102.2505919	100.5686375	98.92233978	97.31062969	95.73248118
200204A00020	2/4/2020	1.6	2/4/2025	2/4/2020	119.75255	115.4553915	111.3355953	107.3848011	103.5950933	99.95897821	96.46935832	93.11950882	89.90305535
200205A00011	2/7/2020	2.31	2/7/2024	2/7/2020	116.43298	113.3774651	110.4186139	107.5527114	104.7762146	102.0857432	99.47807063	96.95011591	94.49893568
200205A00013	2/5/2020	1.77	2/6/2023	2/5/2020	109.44686	107.6098297	105.8132248	104.0557803	102.3362834	100.6535715	99.00653012	97.39408978	95.81522406
200207A00015	2/7/2020	1.73	2/7/2022	2/7/2020	103.93311	103.1870725	102.4517199	101.726819	101.0121483	100.307492	99.61264084	98.92739106	98.25154461
200207A00017	2/7/2020	1.96	2/8/2027	2/7/2020	129.40629	122.4241243	115.8610259	109.6896027	103.8844036	98.42176909	93.27969523	88.43770825	83.87674982
200207A00018	2/7/2020	2.14	2/7/2030	2/7/2020	142.51709	131.1803871	120.8314094	111.378885	102.7404299	94.84163643	87.6152617	81.00050341	74.94235188
200210A00009	2/10/2020	1.57	2/10/2025	2/10/2020	119.70654	115.3908266	111.2539647	107.2874796	103.4833576	99.83401431	96.33226815	92.97131653	89.74471299
200211A00022	2/11/2020	1.73	2/10/2023	2/11/2020	109.43649	107.5876274	105.7796633	104.0113081	102.2813277	100.5885394	98.9318096	97.31005111	95.72222062
200212A00003	2/12/2020	1.63	2/12/2025	2/12/2020	119.97359	115.6461948	111.4983117	107.5214268	103.7074874	100.0488724	96.53836659	93.16913588	89.93470448
200214A00002	2/14/2020	1.58	11/15/2024	2/14/2020	118.63832	114.6254327	110.7698295	107.0644912	103.5027553	100.0782925	96.78508748	93.61742194	90.56985801
200214A00005	2/14/2020	1.59	2/14/2025	2/14/2020	119.837	115.5057836	111.3545031	107.3746116	103.558026	99.89709738	96.38458479	93.01363034	89.77773628
200214A00007	2/14/2020	1.59	2/14/2025	2/14/2020	119.837	115.5057836	111.3545031	107.3746116	103.558026	99.89709738	96.38458479	93.01363034	89.77773628
200214A00014	2/18/2020	1.8	2/18/2025	2/18/2020	120.1079	115.7754225	111.6229249	107.6418542	103.8241211	100.1620712	96.64845875	93.27642175	90.03945891
200214A00016	2/14/2020	1.57	2/14/2024	2/14/2020	114.84047	111.7759303	108.8093147	105.936821	103.1548268	100.459878	97.84867932	95.31808579	92.86509432
200214A00017	2/14/2020	1.59	2/14/2025	2/14/2020	119.837	115.5057836	111.3545031	107.3746116	103.558026	99.89709738	96.38458479	93.01363034	89.77773628
200214A00020	2/18/2020	1.78	1/15/2025	2/18/2020	119.59899	115.3855483	111.343447	107.4647263	103.7418507	100.1676791	96.7354413	93.43871679	90.2714139
200218A00023	2/18/2020	1.55	2/21/2023	2/18/2020	109.52827	107.641227	105.7965883	103.9929958	102.2291475	100.503797	98.81575061	97.16386468	95.5470426
200218A00024	2/20/2020	1.73	7/17/2023	2/20/2020	111.81907	109.4609362	107.1648486	104.9287188	102.7505461	100.6284138	98.56048437	96.54499566	94.5802572
200219A00006	2/19/2020	1.76	2/18/2022	2/19/2020	104.12923	103.3491105	102.5806411	101.8235665	101.0776348	100.3426011	99.61822797	98.90428457	98.20054684
200219A00007	2/19/2020	1.81	8/19/2021	2/19/2020	101.29202	101.0576625	100.8244028	100.5922294	100.3611346	100.1311108	99.90215063	99.67424665	99.44739154
200219A00015	2/19/2020	1.77	2/19/2027	2/19/2020	129.39695	122.3387161	115.7074251	109.4749654	103.615233	98.1039754	92.91864951	88.03829153	83.44339736
200219A00016	2/19/2020	1.57	10/19/2022	2/19/2020	107.6823	106.1855634	104.7171686	103.2763739	101.8624669	100.4747592	99.11258518	97.77530154	96.46228595
200220A00001	2/20/2020	1.74	2/22/2022	2/20/2020	104.17751	103.3850678	102.6046404	101.835955	101.0787483	100.3327647	99.5977559	98.87348126	98.15970689
200220A00007	2/20/2020	1.72	2/21/2023	2/20/2020	109.58534	107.7022769	105.8614536	104.0615164	102.3011705	100.5791761	98.89434614	97.2455427	95.63167488
200220A00008	2/20/2020	1.74	2/20/2024	2/20/2020	114.97415	111.8989532	108.9223078	106.0403721	103.2494877	100.5461666	97.92708214	95.38905993	92.92906958
200220A00015	2/20/2020	1.57	2/20/2025	2/20/2020	119.83051	115.4799702	111.3108829	107.3145916	103.4829131	99.8081059	96.28284315	92.90018759	89.65356791
200220A00025	2/20/2020	1.72	2/21/2023	2/20/2020	109.58534	107.7022769	105.8614536	104.0615164	102.3011705	100.5791761	98.89434614	97.2455427	95.63167488
200221A00003	2/25/2020	1.69	2/25/2025	2/25/2020	119.74885	115.4008468	111.2343724	107.2407558	103.4117991	99.73974775	96.21726359	92.83739917	89.59357423
200221A00009	2/21/2020	1.69	2/22/2022	2/21/2020	104.13942	103.3471376	102.5668705	101.7983439	101.0412942	100.2954659	99.56061093	98.83648846	98.12286472

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200221A00013	2/21/2020	1.69	2/21/2025	2/21/2020	119.69975	115.3655852	111.2119121	107.2301318	103.4121143	99.75016776	96.23701206	92.86575362	89.62986207
200224A00001	2/24/2020	1.59	2/24/2025	2/24/2020	119.33017	114.9936	110.8380518	106.8548842	103.0359256	99.37344592	95.86012971	92.48905103	89.25364969
200224A00007	2/24/2020	1.59	2/24/2025	2/24/2020	119.33017	114.9936	110.8380518	106.8548842	103.0359256	99.37344592	95.86012971	92.48905103	89.25364969
200224A00015	2/24/2020	1.57	1/10/2024	2/24/2020	113.92685	110.993417	108.150884	105.3958419	102.7250386	100.1353665	97.62385527	95.18766413	92.82407567
200224A00016	2/24/2020	1.56	2/24/2023	2/24/2020	109.33794	107.4482555	105.6011305	103.7951929	102.0291322	100.3016947	98.61167958	96.95793635	95.33936221
200224A00017	2/24/2020	1.59	2/24/2025	2/24/2020	119.33017	114.9936	110.8380518	106.8548842	103.0359256	99.37344592	95.86012971	92.48905103	89.25364969
200224A00019	2/24/2020	1.59	2/18/2025	2/24/2020	119.25841	114.9425207	110.8061053	106.8406281	103.0380186	99.39064045	95.89126526	92.53304744	89.30950139
200224A00021	2/24/2020	1.58	9/24/2024	2/24/2020	117.39559	113.5899049	109.9274054	106.4019406	103.007662	99.7390029	96.59066352	93.55759629	90.63499263
200224A00024	2/24/2020	1.59	2/24/2025	2/24/2020	119.33017	114.9936	110.8380518	106.8548842	103.0359256	99.37344592	95.86012971	92.48905103	89.25364969
200224A00025	2/24/2020	1.59	1/23/2025	2/24/2020	118.94708	114.7205816	110.6669487	106.7781077	103.0464151	99.46463015	96.02589069	92.72369085	89.5518602
200224A00035	2/24/2020	1.59	2/24/2025	2/24/2020	119.33017	114.9936	110.8380518	106.8548842	103.0359256	99.37344592	95.86012971	92.48905103	89.25364969
200225A00003	2/25/2020	1.54	2/27/2023	2/25/2020	109.34523	107.4465361	105.5907622	103.7765225	102.0024902	100.2673958	98.5700236	96.9092094	95.28383726
200225A00004	2/25/2020	1.54	2/26/2024	2/25/2020	114.47079	111.3842138	108.3971251	105.5056194	102.7059824	99.99467408	97.36831943	94.82369887	92.35773986
200225A00012	2/25/2020	1.57	2/25/2025	2/25/2020	119.26079	114.9223671	110.765177	106.7805613	102.9603333	99.2967489	95.78247989	92.4105884	89.17450332
200225A00014	2/25/2020	1.57	2/25/2022	2/25/2020	104.09401	103.2928415	102.5039515	101.7270604	100.9618961	100.2081949	99.46570069	98.73416518	98.01334722
200225A00018	2/25/2020	1.94	2/25/2030	2/25/2020	140.70829	129.389077	119.0632163	109.6383443	101.0311458	93.16641961	85.97624894	79.3992599	73.3799596
200225A00042	2/25/2020	1.39	2/25/2022	2/25/2020	104.03527	103.2332508	102.4435431	101.6658636	100.8999393	100.1455053	99.40230476	98.67008827	97.94861384
200225A00044	2/25/2020	1.57	2/25/2022	2/25/2020	104.09401	103.2928415	102.5039515	101.7270604	100.9618961	100.2081949	99.46570069	98.73416518	98.01334722
200225A00045	2/25/2020	1.54	2/24/2023	2/25/2020	109.30133	107.4119887	105.5652026	103.7595974	101.9938629	100.2667455	98.5770446	96.92360986	95.30533862
200225A00050	2/25/2020	1.57	2/25/2025	2/25/2020	119.26079	114.9223671	110.765177	106.7805613	102.9603333	99.2967489	95.78247989	92.4105884	89.17450332
200226A00005	2/26/2020	1.53	2/27/2023	2/26/2020	109.32684	107.4283155	105.5727125	103.7586406	101.9847729	100.2498399	98.5526262	96.89196761	95.26674825
200226A00006	2/26/2020	1.57	2/26/2025	2/26/2020	119.27269	114.9308206	110.7704433	106.7828816	102.9599316	99.29383363	95.77724494	92.40321416	89.16515772
200226A00009	2/26/2020	1.75	2/26/2030	2/26/2020	140.57625	129.1739299	118.7763783	109.2898855	100.629943	92.72029515	85.4920925	78.88313647	72.83720464
200226A00013	2/26/2020	1.35	2/26/2024	2/26/2020	114.36033	111.2652386	108.2701272	105.3710726	102.5643344	99.84634859	97.21371713	94.66319906	92.1917017
200226A00014	2/26/2020	1.53	2/27/2023	2/26/2020	109.32684	107.4283155	105.5727125	103.7586406	101.9847729	100.2498399	98.5526262	96.89196761	95.26674825
200226A00015	2/26/2020	1.53	2/26/2024	2/26/2020	114.44143	111.3552838	108.368611	105.4775112	102.6782702	99.96734852	97.34137128	94.79711925	92.33152017
200226A00016	2/26/2020	1.57	2/26/2025	2/26/2020	119.27269	114.9308206	110.7704433	106.7828816	102.9599316	99.29383363	95.77724494	92.40321416	89.16515772
200226A00019	2/26/2020	1.38	2/26/2025	2/26/2020	119.12936	114.7731789	110.5995446	106.5997136	102.7654174	99.08883634	95.56257167	92.17961991	88.93334881
200226A00025	2/26/2020	1.38	2/26/2025	2/26/2020	119.12936	114.7731789	110.5995446	106.5997136	102.7654174	99.08883634	95.56257167	92.17961991	88.93334881
200227A00004	2/27/2020	1.65	2/27/2030	2/27/2020	139.57576	128.2152187	117.8571887	108.4080851	99.78352149	91.90735802	84.71085483	78.13191686	72.11441942
200227A00005	2/27/2020	1.43	2/27/2024	2/27/2020	114.16088	111.075707	108.0900915	105.2001266	102.4020911	99.69243909	97.06778955	94.5249177	92.06074612
200227A00011	2/27/2020	1.42	2/28/2022	2/27/2020	104.02319	103.2132397	102.4158396	101.6306971	100.8575314	100.0960704	99.34605014	98.60721466	97.87931542
200227A00013	2/27/2020	1.43	2/27/2024	2/27/2020	114.16088	111.075707	108.0900915	105.2001266	102.4020911	99.69243909	97.06778955	94.5249177	92.06074612

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200227A00023	2/27/2020	1.47	2/27/2025	2/27/2020	118.87725	114.5399374	110.3841322	106.4011468	102.5827695	98.92123384	95.40919077	92.0396835	88.80612358
200227A00026	2/27/2020	1.41	2/27/2023	2/27/2020	109.1061	107.2096683	105.3561169	103.5440574	101.7721643	100.0391691	98.34385742	96.68506609	95.06168022
200227A00027	2/27/2020	1.47	2/27/2025	2/27/2020	118.87725	114.5399374	110.3841322	106.4011468	102.5827695	98.92123384	95.40919077	92.0396835	88.80612358
200227A00031	2/27/2020	1.43	2/27/2024	2/27/2020	114.16088	111.075707	108.0900915	105.2001266	102.4020911	99.69243909	97.06778955	94.5249177	92.06074612
200227A00052	2/27/2020	1.41	2/27/2023	2/27/2020	109.1061	107.2096683	105.3561169	103.5440574	101.7721643	100.0391691	98.34385742	96.68506609	95.06168022
200228A00005	2/28/2020	1.35	2/28/2024	2/28/2020	113.93856	110.8535153	107.8681378	104.9785086	102.1808989	99.4717554	96.84769054	94.30547333	91.84202066
200228A00013	3/3/2020	1.33	1/14/2022	3/3/2020	103.29488	102.6234443	101.9607119	101.306516	100.6606924	100.0230809	99.39352557	98.77187439	98.15797909
200228A00015	3/3/2020	1.34	10/16/2023	3/3/2020	112.15584	109.5148274	106.9493468	104.4568147	102.0347493	99.68076825	97.392584	95.16799928	93.00490313
200228A00027	2/28/2020	1.31	2/28/2022	2/28/2020	103.9375	103.127921	102.3308884	101.5461093	100.7733032	100.0121979	99.26252962	98.52404238	97.79648774
200228A00029	2/28/2020	1.31	2/28/2022	2/28/2020	103.9375	103.127921	102.3308884	101.5461093	100.7733032	100.0121979	99.26252962	98.52404238	97.79648774
200228A00030	2/28/2020	1.32	2/28/2023	2/28/2020	108.95453	107.0565597	105.2015618	103.3881444	101.614977	99.88078671	98.18435506	96.52451482	94.90014746
200228A00031	2/28/2020	1.35	2/28/2024	2/28/2020	113.93856	110.8535153	107.8681378	104.9785086	102.1808989	99.4717554	96.84769054	94.30547333	91.84202066
200228A00041	2/28/2020	1.14	2/28/2023	2/28/2020	108.87752	106.9756993	105.1170163	103.3000739	101.5235342	99.7861177	98.08659926	96.42380569	94.79661276
200228A00042	2/28/2020	1.17	2/28/2024	2/28/2020	113.85621	110.7622236	107.7684119	104.8708335	102.0657333	99.34953314	96.71882238	94.17034819	91.70100692
200228A00043	2/28/2020	1.21	2/28/2025	2/28/2020	118.45798	114.1085698	109.9418071	105.948927	102.1216426	98.45211743	94.93293796	91.55708723	88.31792092
200228A00058	2/28/2020	1.31	2/28/2022	2/28/2020	103.9375	103.127921	102.3308884	101.5461093	100.7733032	100.0121979	99.26252962	98.52404238	97.79648774
200228A00060	2/28/2020	1.31	2/28/2022	2/28/2020	103.9375	103.127921	102.3308884	101.5461093	100.7733032	100.0121979	99.26252962	98.52404238	97.79648774
200228A00061	2/28/2020	1.13	7/20/2022	2/28/2020	105.92895	104.6651852	103.4313505	102.2263925	101.0493076	99.8991381	98.77496987	97.67592968	96.60118301
200228A00062	2/28/2020	1.32	2/28/2023	2/28/2020	108.95453	107.0565597	105.2015618	103.3881444	101.614977	99.88078671	98.18435506	96.52451482	94.90014746
200228A00064	2/28/2020	1.35	2/28/2024	2/28/2020	113.93856	110.8535153	107.8681378	104.9785086	102.1808989	99.4717554	96.84769054	94.30547333	91.84202066
200228A00065	2/28/2020	1.4	2/28/2025	2/28/2020	118.60348	114.2683415	110.1148	106.1341527	102.3181775	98.65909819	95.1495572	91.78258988	88.55160066
200228A00066	2/28/2020	1.35	2/28/2024	2/28/2020	113.93856	110.8535153	107.8681378	104.9785086	102.1808989	99.4717554	96.84769054	94.30547333	91.84202066
200228A00073	2/28/2020	1.32	2/28/2023	2/28/2020	108.95453	107.0565597	105.2015618	103.3881444	101.614977	99.88078671	98.18435506	96.52451482	94.90014746
200302A00008	3/2/2020	1.2	3/9/2023	3/2/2020	108.86513	106.9389292	105.0566445	103.216904	101.4183918	99.65984603	97.94005538	96.25785697	94.61213373
200302A00011	3/2/2020	1.31	2/27/2025	3/2/2020	118.2255	113.9009984	109.7576082	105.7866586	101.9799526	98.32973775	94.82867848	91.46983082	88.24661853
200302A00031	3/2/2020	1.02	11/18/2022	3/2/2020	107.28139	105.6976267	104.1455469	102.6242809	101.1329894	99.6708631	98.23712139	96.83101089	95.45180442
200302A00033	3/2/2020	1.31	3/3/2025	3/2/2020	118.27271	113.9336473	109.7767234	105.7932172	101.9748847	98.31392763	94.80296609	91.43501301	88.20345058
200302A00035	3/2/2020	1.22	7/3/2023	3/2/2020	110.47949	108.1800266	105.9403028	103.7583396	101.6322411	99.56018955	97.54044053	95.57131988	93.6512201
200302A00051	3/2/2020	1.22	8/8/2023	3/2/2020	110.95938	108.5435357	106.1927528	103.9047819	101.6774704	99.50875858	97.39667515	95.33933213	93.33492072
200302A00053	3/2/2020	1.31	3/3/2025	3/2/2020	118.27271	113.9336473	109.7767234	105.7932172	101.9748847	98.31392763	94.80296609	91.43501301	88.20345058
200302A00054	3/2/2020	1.31	3/3/2025	3/2/2020	118.27271	113.9336473	109.7767234	105.7932172	101.9748847	98.31392763	94.80296609	91.43501301	88.20345058
200303A00002	3/3/2020	1.06	3/3/2023	3/3/2020	108.77397	106.8634092	104.9962887	103.1712168	101.386861	99.64194587	97.93524912	96.26559941	94.63187338
200303A00004	3/3/2020	1.06	3/3/2022	3/3/2020	103.86576	103.046226	102.239559	101.4454543	100.6636207	99.89377546	99.13564481	98.38896307	97.6534726

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200303A00007	3/3/2020	1.11	3/4/2024	3/3/2020	113.74487	110.6361702	107.6284603	104.7177883	101.900385	99.17265645	96.53117481	93.97266888	91.49401575
200303A00010	3/3/2020	1.34	3/3/2025	3/3/2020	118.39529	114.0538109	109.8945454	105.9087694	102.088236	98.42514421	94.91211164	91.54214879	88.30863553
200303A00034	3/3/2020	1.21	3/3/2025	3/3/2020	117.86411	113.533102	109.3839831	105.408043	101.597047	97.9432057	94.43914759	91.07789374	87.85283406
200304A00007	3/4/2020	1.01	3/15/2022	3/4/2020	103.8997	103.0447161	102.2037356	101.3764126	100.5624166	99.76142767	98.97313609	98.19724183	97.43345427
200304A00017	3/4/2020	0.83	3/16/2022	3/4/2020	103.85932	103.0001575	102.15513	101.3238934	100.5061125	99.7014626	98.90962951	98.13030898	97.36320631
200304A00040	3/4/2020	1.12	3/1/2024	3/4/2020	113.28721	110.2051572	107.2228777	104.3364549	101.5421614	98.83644426	96.21591574	93.67734371	91.21764335
200304A00053	3/6/2020	2.33	3/6/2025	3/6/2020	122.48616	118.053439	113.8061743	109.7355186	105.8331019	102.0910043	98.50172859	95.05817502	91.75361717
200304A00054	3/6/2020	2.35	3/8/2027	3/6/2020	132.20929	125.0459261	118.3162919	111.9917992	106.0459005	100.4539302	95.19296021	90.2416683	85.58021687
200305A00002	3/5/2020	1.14	3/5/2025	3/5/2020	117.60111	113.2683475	109.1178131	105.1407809	101.3290029	97.67467565	94.1704137	90.80922397	87.58448232
200305A00007	3/5/2020	1.14	3/5/2025	3/5/2020	117.60111	113.2683475	109.1178131	105.1407809	101.3290029	97.67467565	94.1704137	90.80922397	87.58448232
200305A00009	3/10/2020	1.04	10/18/2023	3/10/2020	111.42174	108.7836892	106.2213113	103.7320105	101.3132943	98.96277068	96.6781426	94.4572042	92.29783637
200305A00011	3/5/2020	0.95	3/7/2022	3/5/2020	103.75123	102.9211645	102.104306	101.300345	100.5089782	99.72991142	98.96285988	98.20754738	97.46370614
200305A00012	3/5/2020	1.14	3/5/2025	3/5/2020	117.60111	113.2683475	109.1178131	105.1407809	101.3290029	97.67467565	94.1704137	90.80922397	87.58448232
200305A00020	3/5/2020	0.95	3/5/2025	3/5/2020	117.45234	113.1053044	108.9415583	104.9523077	101.1292393	97.46448947	93.95061615	90.58057373	87.347689
200305A00036	3/5/2020	1.36	3/5/2027	3/5/2020	125.8077	118.8473389	112.3110891	106.1709017	100.4007342	94.97639555	89.87540407	85.0768572	80.56131198
200305A00040	3/10/2020	0.99	3/10/2023	3/10/2020	108.48662	106.560835	104.6790008	102.839752	101.0417765	99.28381522	97.5646595	95.88314856	94.23816712
200305A00043	3/5/2020	0.95	3/7/2022	3/5/2020	103.75123	102.9211645	102.104306	101.300345	100.5089782	99.72991142	98.96285988	98.20754738	97.46370614
200306A00001	3/6/2020	1.11	3/6/2026	3/6/2020	121.0708	115.4612674	110.1413089	105.0944189	100.3051296	95.75893745	91.44223699	87.34225976	83.44701792
200306A00002	3/6/2020	0.64	3/7/2022	3/6/2020	103.5864	102.7559089	101.9386578	101.1343307	100.3426229	99.5632394	98.79589441	98.04031079	97.29621987
200306A00009	3/6/2020	0.82	3/7/2022	3/6/2020	103.64735	102.8177469	102.0013447	101.197835	100.4069145	99.62828921	98.86167433	98.10679378	97.36337987
200306A00012	3/6/2020	0.95	3/6/2024	3/6/2020	112.84662	109.7548014	106.7634479	103.8686348	101.0666247	98.35385268	95.72691733	93.18257169	90.71771501
200306A00014	3/6/2020	1.38	3/6/2030	3/6/2020	135.17405	124.0716557	113.952338	104.724206	96.30439333	88.6181323	81.59792355	75.18279516	69.31764073
200306A00037	3/6/2020	1.11	3/6/2026	3/6/2020	121.0708	115.4612674	110.1413089	105.0944189	100.3051296	95.75893745	91.44223699	87.34225976	83.44701792
200306A00046	3/6/2020	1.01	3/3/2025	3/6/2020	117.04691	112.7320114	108.5985027	104.6376948	100.8413717	97.20176184	93.71151059	90.36365521	87.15160102
200306A00065	3/6/2020	1.38	3/6/2030	3/6/2020	135.17405	124.0716557	113.952338	104.724206	96.30439333	88.6181323	81.59792355	75.18279516	69.31764073
200306A00098	3/10/2020	1.59	3/8/2030	3/10/2020	137.30732	126.1007029	115.8845107	106.5662497	98.06250336	90.29800203	83.20478846	76.72147285	70.79256736
200306A00100	3/10/2020	1.82	3/10/2031	3/10/2020	143.42449	130.596358	119.0134354	108.5484482	99.08773716	90.5297356	82.7836265	75.76815545	69.41057995
200306A00101	3/10/2020	1.93	3/8/2030	3/10/2020	140.73018	129.3684735	119.0069973	109.5525293	100.9209877	93.03649199	85.83052343	79.2411759	73.21248638
200309A00016	3/9/2020	0.77	9/12/2022	3/9/2020	105.96638	104.5652669	103.1951564	101.8550222	100.5438837	99.2608035	98.00488474	96.77526901	95.57113426
200309A00027	3/9/2020	0.97	3/10/2025	3/9/2020	116.9603	112.6228958	108.4685657	104.4885565	100.6745855	97.0188142	93.51382138	90.15257821	86.92842489
200309A00046	3/9/2020	0.78	3/11/2025	3/9/2020	116.8202	112.4647873	108.2937802	104.2983414	100.4701125	96.80118383	93.28406712	89.91167053	86.67727494
200309A00056	3/9/2020	0.97	3/7/2025	3/9/2020	116.92737	112.6009936	108.456926	104.4864428	100.6812917	97.03366436	93.53616982	90.18180901	86.9639515
200309A00064	3/9/2020	0.55	3/9/2022	3/9/2020	103.53973	102.7033569	101.8804146	101.0705821	100.2735484	99.48901205	98.71668102	97.95627235	97.20751176

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200310A00019	3/10/2020	0.95	3/10/2023	3/10/2020	108.41174	106.4866712	104.6055442	102.7669891	100.9696941	99.21240059	97.49390022	95.8130326	94.16868274
200310A00025	3/10/2020	0.87	3/11/2024	3/10/2020	113.12031	109.9979395	106.9775442	104.0551535	101.2269835	98.48942285	95.83902411	93.27249464	90.78668863
200310A00042	3/10/2020	1.41	3/11/2030	3/10/2020	135.52426	124.3870614	114.23705	104.9818767	96.53826744	88.83108866	81.79251326	75.36127602	69.48200842
200310A00073	3/12/2020	2.12	3/11/2027	3/12/2020	130.7635	123.6324329	116.9343986	110.6408212	104.7251613	99.16276027	93.93069696	89.00765564	84.37380519
200311A00006	3/13/2020	1.12	3/10/2025	3/13/2020	117.5765	113.2268869	109.0607286	105.0692547	101.2441683	97.57761743	94.06216787	90.69077846	87.45677765
200311A00036	3/16/2020	1.03	4/15/2022	3/16/2020	104.34114	103.3890991	102.4543311	101.5363738	100.634777	99.74910632	98.87894286	98.02388216	97.18353377
200311A00040	3/12/2020	1.3	3/11/2025	3/12/2020	118.32795	113.9599746	109.7761633	105.7677202	101.9263211	98.24408744	94.71355945	91.32767108	88.07972678
200311A00056	3/13/2020	1.27	4/10/2024	3/13/2020	114.24481	111.0200494	107.902667	104.8885115	101.9736177	99.15419469	96.42661745	93.78741846	91.23328006
200311A00058	3/16/2020	1.1	10/14/2022	3/16/2020	106.74739	105.2760513	103.8322774	102.4153576	101.0246064	99.65936125	98.31898118	97.0028463	95.71035677
200312A00004	3/13/2020	1.23	1/24/2025	3/13/2020	117.53108	113.3285539	109.2983123	105.4322953	101.7228744	98.16282359	94.74529504	91.46379698	88.31217275
200312A00016	3/16/2020	1.09	2/15/2023	3/16/2020	108.35787	106.5041434	104.6917219	102.9192897	101.1855907	99.48942225	97.82963164	96.2051139	94.61480908
200312A00042	3/16/2020	1.38	3/16/2023	3/16/2020	109.28764	107.3350789	105.4272539	103.5628085	101.7404357	99.95887948	98.21693184	96.51343071	94.84725778
200313A00022	3/13/2020	1.11	3/8/2022	3/13/2020	103.893	103.0592575	102.2388279	101.4313967	100.636657	99.85431152	99.08407214	98.32565962	97.57880326
200316A00064	3/16/2020	0.99	3/16/2022	3/16/2020	103.89681	103.0387928	102.1948778	101.3647154	100.5479718	99.7443236	98.95345801	98.17507197	97.40887199
200317A00065	3/19/2020	2.05	3/19/2025	3/19/2020	121.52629	117.0667236	112.795316	108.7031148	104.7816406	101.022863	97.41917417	93.963364	90.64859713
200323A00007	3/23/2020	1.05	9/23/2021	3/23/2020	101.5852	101.2501619	100.9173375	100.5867001	100.2582282	99.93190071	99.6076966	99.28559521	98.96557612
200324A00020	3/24/2020	1.23	3/24/2022	3/24/2020	104.20871	103.3248549	102.4559167	101.6015163	100.7612915	99.93489194	99.12197891	98.32222455	97.53531155
200325A00029	3/25/2020	1.15	3/24/2023	3/25/2020	109.25495	107.2715458	105.3339661	103.4408568	101.5909141	99.78288193	98.01554953	96.2877498	94.59835717
200326A00029	3/26/2020	1.82	3/26/2027	3/26/2020	128.98963	121.8567839	115.1606724	108.8723842	102.9650604	97.41374081	92.19522081	87.2879192	82.67175695
200326A00030	3/26/2020	1.13	3/24/2023	3/26/2020	108.93047	106.9555029	105.026088	103.1408806	101.2985873	99.49796166	97.73780226	96.01695071	94.33428978
200327A00075	3/31/2020	1.75	3/29/2024	3/31/2020	115.55163	112.34493	109.2436972	106.2439068	103.341707	100.5334131	97.81549965	95.1845928	92.63746261
200330A00027	3/30/2020	0.62	3/30/2022	3/30/2020	103.86608	102.9640935	102.0776674	101.2063983	100.3499004	99.50780109	98.67974002	97.86536883	97.06435062
200330A00045	3/30/2020	1.47	3/30/2027	3/30/2020	126.75156	119.6724127	113.028622	106.7912891	100.9335754	95.43054183	90.25900585	85.39740925	80.82569676
200331A00060	3/31/2020	1.09	3/31/2025	3/31/2020	117.68831	113.2643592	109.0292534	104.9739838	101.090017	97.36926768	93.80407344	90.38716992	87.11166829
200401A00020	4/1/2020	0.72	3/29/2022	4/1/2020	103.84033	102.9429442	102.0609645	101.1939933	100.3416505	99.50356886	98.67939323	97.86878019	97.07139753
200401A00025	4/1/2020	0.54	4/1/2022	4/1/2020	103.82215	102.9142275	102.0220782	101.1452902	100.2834697	99.43623638	98.60322272	97.78407338	96.97844482
200402A00011	4/2/2020	0.8	3/31/2023	4/2/2020	108.38988	106.3983229	104.4530504	102.5527174	100.6960224	98.88170951	97.10856728	95.3754263	93.68115768
200402A00021	4/2/2020	0.77	10/2/2024	4/2/2020	115.12323	111.3178026	107.6570371	104.1346927	100.744832	97.48180344	94.34022648	91.31497666	88.40117221
200403A00006	4/3/2020	1.05	4/3/2025	4/3/2020	117.55154	113.120687	108.879389	104.8185839	100.9296891	97.20457382	93.63553322	90.21526371	86.93684003
200403A00014	4/3/2020	0.63	4/17/2023	4/3/2020	108.55881	106.509014	104.5080605	102.5544901	100.6468947	98.78391741	96.96425056	95.1866333	93.44984971
200403A00021	4/3/2020	0.74	4/29/2022	4/3/2020	104.25787	103.2631455	102.2872622	101.329687	100.3899093	99.46743703	98.56179636	97.67253048	96.79919899
200406A00006	4/6/2020	1.13	4/7/2025	4/6/2020	117.92748	113.476164	109.2157053	105.1369574	101.2312583	97.49040334	93.90661883	90.47253696	87.18117259
200406A00013	4/6/2020	0.83	4/1/2022	4/6/2020	103.97463	103.0673999	102.1759044	101.299734	100.4384966	99.5918133	98.75931787	97.94065631	97.1354863

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200406A00020	4/6/2020	0.65	4/6/2022	4/6/2020	103.98285	103.058776	102.1510264	101.2591673	100.3827845	99.5214782	98.67486204	97.84256289	97.02422014
200407A00001	4/8/2020	2.41	4/7/2025	4/8/2020	123.29839	118.7385717	114.3730263	110.1924723	106.1881179	102.3516347	98.67513087	95.15112617	91.77252822
200407A00002	4/8/2020	1.82	4/8/2024	4/8/2020	115.90529	112.6617073	109.5257308	106.4932157	103.5601979	100.7228873	97.97765923	95.32104613	92.74972996
200408A00019	4/10/2020	1.7	4/11/2022	4/10/2020	104.88883	103.946377	103.0207973	102.1116398	101.2184702	100.3408696	99.47843356	98.63077145	97.79750607
200408A00021	4/8/2020	0.99	4/4/2025	4/8/2020	117.95568	113.4955355	109.2266901	105.1399719	101.2266985	97.47864611	93.8880228	90.44744355	87.14990692
200413A00031	4/13/2020	0.73	4/13/2022	4/13/2020	104.04207	103.097669	102.1703047	101.2595214	100.3648778	99.48594783	98.62232057	97.77359919	96.93940052
200413A00032	4/13/2020	0.82	4/13/2023	4/13/2020	108.61132	106.5781383	104.5930582	102.654648	100.761531	98.91238013	97.10591581	95.34090403	93.61615435
200414A00016	4/16/2020	1.64	4/15/2024	4/16/2020	115.4488	112.1900493	109.0401442	105.9948628	103.0501703	100.2022102	97.44729545	94.78189986	92.20265038
200415A00019	4/15/2020	0.68	4/15/2022	4/15/2020	104.02229	103.0718423	102.1386513	101.2222511	100.3221919	99.43803994	98.56937653	97.71579765	96.8769132
200415A00030	4/15/2020	0.76	3/15/2023	4/15/2020	108.1027	106.1648631	104.2714356	102.4210603	100.6124352	98.84430922	97.11547946	95.42478918	93.77112545
200416A00005	4/16/2020	0.49	4/15/2022	4/16/2020	103.95384	103.0022217	102.0679086	101.1504311	100.2493376	99.36419247	98.49457555	97.64008117	96.80031775
200417A00016	4/21/2020	2.18	4/21/2025	4/21/2020	122.52407	117.9338738	113.5412618	109.3366987	105.3111602	101.4561022	97.76343329	94.2254879	90.83500189
200420A00047	4/20/2020	0.77	4/20/2023	4/20/2020	108.599	106.5449166	104.5398827	102.5824287	100.6711374	98.80464352	96.98163115	95.2008317	93.46102184
200424A00006	4/24/2020	0.6	4/24/2023	4/24/2020	108.58494	106.5137678	104.4924059	102.5193533	100.593161	98.71243293	96.87582442	95.08203932	93.32982816
200428A00013	4/30/2020	1.49	4/29/2024	4/30/2020	115.17011	111.8713864	108.6842665	105.6043604	102.6274808	99.74962761	96.96697923	94.27588297	91.67284676
200429A00003	4/29/2020	0.74	4/28/2023	4/29/2020	108.6372	106.5586797	104.530318	102.5505956	100.6180482	98.73126607	96.88889068	95.08961308	93.33217151
200429A00010	4/29/2020	0.78	4/29/2025	4/29/2020	117.317	112.7887509	108.4581539	104.3155739	100.3518935	96.55848555	92.92718403	89.45025674	86.12038007
200429A00015	4/29/2020	0.66	4/29/2024	4/29/2020	113.04707	109.769899	106.6041124	103.545318	100.5893242	97.73212762	94.96990387	92.29899805	89.71591642
200429A00017	5/4/2020	0.66	8/15/2022	5/4/2020	105.54116	104.1996435	102.8919085	101.6166959	100.3728056	99.1590961	97.97448061	96.81792401	95.6884397
200429A00018	5/4/2020	0.73	4/17/2023	5/4/2020	108.48259	106.4387004	104.4434291	102.4953229	100.5929829	98.73506084	96.92025713	95.14731866	93.41503685
200429A00043	5/1/2020	1.56	4/30/2025	5/1/2020	120.0009	115.4326543	111.0628341	106.8817915	102.8803988	99.05001822	95.38247231	91.87001734	88.50531785
200429A00044	5/1/2020	1.86	4/30/2025	5/1/2020	121.28143	116.6869064	112.2916437	108.0859631	104.0607047	100.2071999	96.5172423	92.98306022	89.59729168
200429A00045	5/1/2020	1.54	4/30/2025	5/1/2020	119.91553	115.3490375	110.9809135	106.8015134	102.8017118	98.97287277	95.30682097	91.79581449	88.4325196
200429A00047	5/1/2020	2.7	4/30/2025	5/1/2020	124.86692	120.1988121	115.7323106	111.4576435	107.365561	103.4473087	99.69459827	96.09958028	92.65481839
200429A00050	5/1/2020	2.61	4/30/2025	5/1/2020	124.48276	119.8225365	115.3636677	111.096392	107.0114692	103.1001542	99.35416727	95.76566741	92.32722624
200429A00052	5/1/2020	1.43	4/30/2024	5/1/2020	114.99568	111.6963745	108.5088195	105.4286163	102.4515676	99.57366443	96.79107633	94.1001426	91.49736364
200429A00053	5/1/2020	2.18	4/30/2025	5/1/2020	122.64733	118.0247752	113.602374	109.3704128	105.3196976	101.4415271	97.72766362	94.17030596	90.76206376
200429A00056	5/1/2020	1.54	4/30/2025	5/1/2020	119.91553	115.3490375	110.9809135	106.8015134	102.8017118	98.97287277	95.30682097	91.79581449	88.4325196
200429A00058	5/1/2020	1.83	4/30/2025	5/1/2020	121.15338	116.5614811	112.1687628	107.9655459	103.9426741	100.0914818	96.4037653	92.87175593	89.4880943
200430A00008	4/30/2020	0.94	4/30/2025	4/30/2020	117.35447	112.8405334	108.5232943	104.3931702	100.4411001	96.65850938	93.03728099	89.56972873	86.24857195
200430A00009	4/30/2020	1.16	4/30/2026	4/30/2020	121.88001	116.0628625	110.5542896	105.3363875	100.3923798	95.70654203	91.26413041	87.05131589	83.0551227
200430A00016	4/30/2020	0.82	4/30/2024	4/30/2020	113.08524	109.815394	106.6565426	103.6043138	100.6545351	97.80322079	95.04656332	92.38092362	89.8028229
200504A00004	5/4/2020	0.75	5/5/2025	5/4/2020	117.24821	112.701203	108.3535352	104.1954437	100.2176954	96.41155568	92.76875876	89.28148027	85.94231105

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200504A00015	5/4/2020	0.68	5/4/2023	5/4/2020	108.59015	106.4933672	104.4476282	102.4513728	100.503098	98.60135694	96.74475613	94.93195333	93.16165519
200505A00004	5/5/2020	0.77	5/5/2025	5/5/2020	117.33415	112.7853688	108.4359838	104.2762297	100.2968712	96.48917149	92.84486291	89.35611913	86.01552921
200505A00006	5/5/2020	0.39	11/4/2021	5/5/2020	101.89303	101.4351586	100.9813983	100.5316903	100.0859807	99.64421615	99.20634438	98.77231404	98.34207469
200506A00005	5/6/2020	0.97	5/6/2025	5/6/2020	117.54318	113.0053158	108.6659858	104.5154816	100.5446206	96.74471536	93.1075442	89.62532373	86.29068306
200507A00005	5/7/2020	0.67	5/5/2023	5/7/2020	108.5821	106.4822788	104.4336465	102.4346391	100.483747	98.57951713	96.72055019	94.90549831	93.13306284
200508A00004	5/8/2020	0.43	5/8/2023	5/8/2020	108.41073	106.2979434	104.2369911	102.226276	100.2642602	98.34946388	96.48046225	94.65588343	92.87440593
200511A00015	5/11/2020	0.6	2/1/2023	5/11/2020	107.3082	105.505579	103.7424313	102.017526	100.3296871	98.67778726	97.06074477	95.47752165	93.92712122
200511A00016	5/11/2020	0.71	2/1/2024	5/11/2020	111.76399	108.7934938	105.9169612	103.1307955	100.4315641	97.81599094	95.28094839	92.82344894	90.44063787
200511A00017	5/11/2020	0.83	2/3/2025	5/11/2020	116.04047	111.8349477	107.8032646	103.9372243	100.2290729	96.67146863	93.25745769	89.98045072	86.83420128
200511A00018	5/11/2020	0.98	2/2/2026	5/11/2020	120.09581	114.616162	109.4150808	104.476903	99.78694033	95.33140923	91.09736912	87.072666	83.24587984
200511A00020	5/11/2020	1.4	2/1/2028	5/11/2020	128.77154	120.5799459	112.9570945	105.8606228	99.25153585	93.09392494	87.35470751	82.00339	77.01185198
200511A00022	5/11/2020	1.6	2/1/2030	5/11/2020	137.07873	126.0072013	115.9045544	106.6811304	98.25599605	90.55605625	83.51525729	77.07387502	71.17787844
200511A00028	5/13/2020	1.02	5/13/2024	5/13/2020	113.86816	110.5439229	107.3338264	104.2333173	101.2380537	98.34389112	95.54687264	92.84321885	90.229319
200513A00002	5/13/2020	0.56	5/13/2024	5/13/2020	112.88914	109.5687793	106.362807	103.2666476	100.2759393	97.3865192	94.59441312	91.89582567	89.28713123
200527A00022	5/27/2020	0.53	5/27/2022	5/27/2020	104.3929	103.3107825	102.2509034	101.2125854	100.1951771	99.19805257	98.22061103	97.26227502	96.3224895
200529A00004	5/29/2020	0.56	5/29/2024	5/29/2020	113.06651	109.6913434	106.4341517	103.2901452	100.2547601	97.32364432	94.49264605	91.75780342	89.11533455
200529A00009	5/29/2020	0.42	5/30/2023	5/29/2020	108.65301	106.4689532	104.3400938	102.2646771	100.2410156	98.26748775	96.34253427	94.46465576	92.63240973
200601A00006	6/1/2020	0.6	6/1/2023	6/1/2020	108.74102	106.5561902	104.4265654	102.3503872	100.3259669	98.35168203	96.4259725	94.54733809	92.71433557
200604A00010	6/4/2020	0.89	6/4/2025	6/4/2020	117.48165	112.8493901	108.4237566	104.1944435	100.1517143	96.28636858	92.58970999	89.05351519	85.67000574
200604A00012	6/4/2020	1.59	6/4/2030	6/4/2020	138.14558	126.5806862	116.063676	106.4943893	97.78270421	89.84748839	82.61566076	76.02135612	70.00517996
200611A00010	6/11/2020	1.08	6/11/2027	6/11/2020	124.7362	117.4712332	110.6688192	104.297216	98.32701969	92.73097876	87.48382586	82.56212334	77.94412165
200611A00011	6/11/2020	1.2	6/9/2028	6/11/2020	128.27453	119.655806	111.6652414	104.2539906	97.37724196	90.9938649	85.06608966	79.5592166	74.44135201
200611A00013	6/11/2020	0.59	6/12/2023	6/11/2020	108.84459	106.6261488	104.4643138	102.3572618	100.3032386	98.30055939	96.34760582	94.44282245	92.58471396
200615A00019	6/17/2020	1.34	6/16/2025	6/17/2020	119.57971	114.8650868	110.3616069	106.0586804	101.9463063	98.01503833	94.2559509	90.66060755	87.2210312
200615A00023	6/17/2020	1.68	6/17/2024	6/17/2020	116.44127	112.9652543	109.6115796	106.3752254	103.25141	100.235577	97.32338245	94.51068436	91.79353132
200626A00015	6/26/2020	0.43	6/26/2023	6/26/2020	108.97986	106.712101	104.5030551	102.350793	100.2534623	98.20928613	96.21655903	94.27364353	92.37896685
200629A00005	6/29/2020	0.55	6/29/2022	6/29/2020	104.82604	103.638074	102.4767813	101.3412756	100.2307067	99.1442616	98.08116226	97.04066366	96.02205222
200630A00004	6/30/2020	0.66	7/1/2024	6/30/2020	113.2406	109.7727655	106.4286404	103.2030817	100.0911968	97.08832636	94.19003184	91.39208343	88.69044879
200701A00004	7/1/2020	0.54	7/1/2022	7/1/2020	104.83976	103.645389	102.4779857	101.336642	100.2204943	99.1287165	98.0605186	97.01514419	95.99186894
200709A00004	7/10/2020	1.4	7/10/2025	7/10/2020	120.10818	115.304153	110.7180642	106.3388332	102.1560039	98.15970943	94.34063541	90.68998558	87.19944985
200709A00005	7/10/2020	2.23	7/10/2030	7/10/2020	145.18573	133.163004	122.2316234	112.2867333	103.2340597	94.98879448	87.47460057	80.62272557	74.37121281
200709A00006	7/10/2020	2.58	7/10/2030	7/10/2020	148.85588	136.660536	125.5678228	115.4720243	106.2780779	97.90045387	90.26215306	83.29381606	76.93292897
200709A00007	7/10/2020	1.67	7/9/2027	7/10/2020	128.96602	121.4735557	114.4609562	107.8950197	101.7450139	95.98247854	90.5810452	85.51627283	80.76549688

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200720A00012	7/20/2020	0.77	7/15/2025	7/20/2020	117.3235	112.5629891	108.0198104	103.6828601	99.54166502	95.58634482	91.80757479	88.19655116	84.74495885
200720A00039	7/22/2020	2.48	7/21/2025	7/22/2020	125.12036	120.1711582	115.4465893	110.9351816	106.6261223	102.5092115	98.57482353	94.81387109	91.21777169
200720A00044	7/22/2020	2.22	7/21/2026	7/22/2020	128.68983	122.4163541	116.4866883	110.8801304	105.5773408	100.5602435	95.81193681	91.31661003	87.059467
200722A00010	7/22/2020	0.66	7/22/2024	7/22/2020	113.46107	109.9225821	106.5122579	103.2246822	100.0547042	96.9974241	94.04817881	91.20252895	88.45624641
200722A00011	7/22/2020	0.59	7/24/2023	7/22/2020	109.32733	106.9760475	104.6872185	102.4587166	100.2885103	98.17465377	96.11528272	94.10861017	92.15292247
200727A00016	7/27/2020	0.43	7/27/2023	7/27/2020	109.33809	106.9705788	104.6662677	102.4229925	100.2386864	98.11137077	96.03915043	94.02020914	92.05280577
200728A00007	7/28/2020	0.52	1/27/2022	7/28/2020	102.92774	102.2188371	101.5196391	100.8299465	100.1495668	99.47831271	98.81600177	98.16245648	97.51750396
200730A00001	7/30/2020	0.46	7/30/2024	7/30/2020	113.3787	109.8033827	106.3586401	103.0389013	99.83887637	96.75353578	93.77809544	90.90800289	88.13892435
200731A00005	7/31/2020	0.45	7/31/2024	7/31/2020	113.3543	109.7762672	106.3290038	103.0069331	99.80475283	96.7174218	93.74014515	90.86836038	88.09772439
200803A00005	8/3/2020	0.54	6/30/2023	8/3/2020	108.9391	106.6661504	104.4521569	102.2951762	100.1933433	98.14486907	96.14803666	94.2011979	92.30276997
200806A00002	8/6/2020	0.43	8/6/2024	8/6/2020	113.34435	109.7476958	106.2830919	102.9448775	99.72767295	96.62636526	93.63609262	90.75223026	87.97037705
200807A00004	8/7/2020	0.29	8/8/2022	8/7/2020	105.16088	103.8415078	102.5548851	101.2998103	100.0751358	98.87976937	97.71267044	96.57284714	95.45935347
200810A00004	8/10/2020	0.43	8/9/2024	8/10/2020	113.37362	109.7670791	106.2932445	102.9464152	99.72117196	96.61236519	93.61509896	90.7247167	87.93678765
200811A00003	8/11/2020	0.57	8/11/2025	8/11/2020	117.34968	112.4803639	107.8374229	103.4090714	99.18420983	95.15238011	91.30372445	87.62894695	84.11927792
200817A00011	8/17/2020	0.53	2/18/2025	8/17/2020	115.58681	111.3258251	107.2432315	103.330511	99.5796092	95.98290633	92.53319096	89.223635	86.04777063
200817A00014	8/17/2020	0.51	8/17/2022	8/17/2020	105.37636	104.0295792	102.7168779	101.4369794	100.1886679	98.97078696	97.782236	96.62196684	95.48898072
200818A00005	8/18/2020	1.05	8/18/2027	8/18/2020	124.99996	117.49887	110.4883901	103.9339326	97.80353452	92.06764056	86.69890817	81.67203	76.96357149
200818A00009	8/18/2020	1.7	8/18/2033	8/18/2020	150.23489	133.7427323	119.2042084	106.3776539	95.05241811	85.0447461	76.19422507	68.36071546	61.42169916
200819A00007	8/19/2020	0.38	8/21/2023	8/19/2020	109.4975	107.0524367	104.6743527	102.3608886	100.1097895	97.91890019	95.7861597	93.70959619	91.68732216
200827A00007	8/27/2020	0.77	8/27/2025	8/27/2020	117.70368	112.7960797	108.118109	103.6577229	99.40358382	95.34501526	91.471959	87.774935	84.24500435
200828A00002	8/28/2020	0.73	8/28/2026	8/28/2020	121.45557	115.2178882	109.3323599	103.7772384	98.53224296	93.57845217	88.89820458	84.47500718	80.29345122
200902A00018	9/4/2020	1.08	9/3/2025	9/4/2020	119.21031	114.2469973	109.5162832	105.0059721	100.7045851	96.60131038	92.68595933	88.94892699	85.38115482
200911A00006	9/11/2020	0.37	9/11/2023	9/11/2020	109.69937	107.1890411	104.7486069	102.3756457	100.0678399	97.82296986	95.63890889	93.51361829	91.44514315
200911A00020	9/15/2020	1.14	9/15/2025	9/15/2020	119.60675	114.5964494	109.8221495	105.2714963	100.9328477	96.79523151	92.84830315	89.0823061	85.48803514
200911A00021	9/15/2020	1.1	9/15/2025	9/15/2020	119.41855	114.4124732	109.6422552	105.0955451	100.7607066	96.62677316	92.68340554	88.92085229	85.32991299
200911A00022	9/15/2020	1.42	9/15/2025	9/15/2020	120.92418	115.8842831	111.0814096	106.5031549	102.1378355	97.97443998	94.00258639	90.21248279	86.59489019
200911A00023	9/15/2020	2.04	9/14/2027	9/15/2020	132.16675	124.3426339	117.0309657	110.1955408	103.8028987	97.82209881	92.22451692	86.9836606	82.07499949
200911A00024	9/15/2020	2.09	9/14/2027	9/15/2020	132.51967	124.6840267	117.3613721	110.5154744	104.1128446	98.12251474	92.51583552	87.26629075	82.34932786
200911A00025	9/15/2020	2.28	9/13/2030	9/15/2020	146.45386	134.134854	122.952224	112.7951075	103.5639902	95.16949295	87.53129251	80.57716166	74.24211575
200911A00026	9/15/2020	1.45	9/15/2025	9/15/2020	121.06533	116.0222653	111.2163303	106.6351184	102.2669414	98.10078374	94.1262596	90.33357314	86.71348181
200917A00002	9/17/2020	0.53	9/17/2025	9/17/2020	117.47396	112.4836445	107.7298074	103.200026	98.88259736	94.76649316	90.84131662	87.09726302	83.52508258
200922A00023	9/24/2020	2.5	9/26/2022	9/24/2020	108.45978	107.026431	105.6198234	104.2392551	102.8840502	101.5535558	100.2471414	98.96419739	97.70413464
200922A00027	9/24/2020	1.65	9/23/2025	9/24/2020	122.09695	117.0050022	112.1530801	107.5286406	103.1198599	98.91559029	94.90531764	91.07912226	87.42764207

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200922A00029	9/24/2020	2.73	9/25/2023	9/24/2020	115.30315	112.689417	110.1485689	107.6781559	105.2758218	102.9393038	100.6664282	98.45510645	96.30333104
200922A00030	9/24/2020	2.45	9/25/2023	9/24/2020	114.61222	112.0070367	109.4745566	107.0123282	104.6180011	102.2893177	100.0241096	97.8202933	95.67586603
200922A00033	9/24/2020	2.37	9/23/2024	9/24/2020	120.21366	116.3618878	112.6544863	109.0852609	105.648321	102.33806	99.14914016	96.07647829	93.11523184
200922A00034	9/24/2020	2.24	9/23/2026	9/24/2020	129.58046	123.0670572	116.9205775	111.1184705	105.6396871	100.4645706	95.57475696	90.95308393	86.58350594
200922A00035	9/24/2020	2.94	9/23/2024	9/24/2020	122.25602	118.3685933	114.6265329	111.0236144	107.553912	104.2117856	100.9918658	97.88903859	94.89843222
200922A00036	9/24/2020	1.55	9/23/2025	9/24/2020	121.6239	116.5426306	111.7010178	107.0865355	102.6873748	98.49240224	94.49111743	90.67361349	87.03054057
200922A00037	9/24/2020	2.76	9/23/2025	9/24/2020	127.34779	122.1373266	117.1709717	112.4360082	107.9204456	103.6129777	99.50293994	95.58026966	91.8354687
200922A00039	9/24/2020	3	9/23/2025	9/24/2020	128.48311	123.2470184	118.2559212	113.4970606	108.95841	104.628629	100.4970204	96.55349072	92.78851229
200922A00041	9/24/2020	2.68	9/23/2024	9/24/2020	121.32442	117.4532539	113.7270029	110.1394532	106.684695	103.3571038	100.1513243	97.0622567	94.08504257
200922A00043	9/24/2020	2.4	9/25/2023	9/24/2020	114.48884	111.885183	109.3541972	106.8934304	104.5005331	102.1732487	99.90940989	97.70693381	95.5638187
200922A00044	9/24/2020	2.61	9/25/2023	9/24/2020	115.00704	112.3969683	109.8597065	107.3928012	104.9938986	102.6607383	100.3911488	98.18304367	96.03441747
200925A00002	9/25/2020	0.74	9/25/2025	9/25/2020	117.80908	112.8076052	108.0433399	103.5038592	99.1774498	95.05306825	91.12029882	87.36931475	83.79084189
200925A00004	9/25/2020	0.53	9/25/2023	9/25/2020	109.87436	107.327857	104.8527578	102.446653	100.1072305	97.83227025	95.61963948	93.46728888	91.37324878
200925A00008	9/25/2020	0.74	9/25/2025	9/25/2020	117.80908	112.8076052	108.0433399	103.5038592	99.1774498	95.05306825	91.12029882	87.36931475	83.79084189
201022A00012	10/26/2020	2.25	10/24/2030	10/26/2020	146.60348	134.1255951	122.8114777	112.546466	103.2277375	94.76303116	87.06951491	80.07277952	73.70594434
201028A00003	10/30/2020	1.42	2/27/2026	10/30/2020	122.62027	116.9969238	111.6623313	106.600065	101.7947287	97.23188778	92.89800313	88.78036967	84.86705994
201028A00004	10/30/2020	1.55	12/29/2023	10/30/2020	113.71024	110.8166676	108.0118932	105.292628	102.6557291	100.0981915	97.61714078	95.20982641	92.87361564
201028A00006	10/30/2020	1.56	2/15/2024	10/30/2020	114.38199	111.3308846	108.3771953	105.5171467	102.7471377	100.0637343	97.46366011	94.9437882	92.50113259
201030A00004	11/2/2020	2.56	10/29/2040	11/2/2020	190.11001	160.1204519	135.3653809	114.8934553	97.93107472	83.84840188	72.13201385	62.36286633	54.19851835
201030A00005	11/2/2020	2.49	10/29/2040	11/2/2020	188.44648	158.6204163	134.0077248	113.660138	96.80664696	82.81960348	71.18743767	61.49267678	53.39421528
201116A00011	11/16/2020	0.71	11/15/2024	11/16/2020	114.79717	110.8692368	107.095605	103.4693946	99.98406879	96.63341697	93.41153659	90.31281614	87.33191906
201119A00008	11/19/2020	0.28	5/19/2022	11/19/2020	104.16865	103.1106918	102.0740437	101.058064	100.0621399	99.08568309	98.12812762	97.1889295	96.26756536
201204A00016	12/8/2020	1.58	12/8/2023	12/8/2020	113.50138	110.6766749	107.9372204	105.2799214	102.7018178	100.2000758	97.77198207	95.41493726	93.12645072
201208A00029	12/10/2020	1.52	12/9/2025	12/10/2020	122.33836	116.983159	111.8919691	107.0503902	102.4448825	98.06271352	93.89190503	89.92118442	86.13993922
201208A00031	12/10/2020	1.43	12/9/2024	12/10/2020	117.7839	113.7238927	109.825531	106.0814877	102.4848102	99.02889957	95.7074904	92.51463181	89.44466984
210114A00009	1/19/2021	2.66	1/17/2030	1/19/2021	147.43436	135.953033	125.4607018	115.866774	107.0894082	99.054625	91.69551386	84.95152328	78.76782602
210125A00006	1/27/2021	2.16	1/26/2027	1/27/2021	130.53528	123.5638287	117.007886	110.8404637	105.0364764	99.5725928	94.4271036	89.57979954	85.01185967
210125A00007	1/27/2021	2.98	1/27/2031	1/27/2021	155.96902	142.6693549	130.6296843	119.7234227	109.8373386	100.8700811	92.73087633	85.3383726	78.61961771
210128A00008	1/28/2021	0.54	4/9/2024	1/28/2021	111.99316	108.805606	105.7243618	102.7453234	99.86456439	97.0783308	94.38303279	91.77523641	89.25165604
210129A00008	1/29/2021	0.62	10/8/2024	1/29/2021	114.09066	110.2978749	106.6498108	103.1402066	99.76310376	96.51283137	93.38399115	90.37144266	87.47028971
210129A00013	1/29/2021	0.65	1/9/2025	1/29/2021	115.09365	110.9848507	107.0434054	103.2615534	99.63194352	96.147608	92.80194021	89.5886734	86.50186109
210201A00004	2/3/2021	1.15	2/3/2025	2/3/2021	117.31988	113.0896418	109.0339916	105.1447066	101.4140048	97.83451828	94.3992677	91.10163959	87.93536445
210210A00005	2/10/2021	0.52	2/13/2024	2/10/2021	111.34341	108.3421102	105.4368044	102.6237665	99.8994493	97.26046987	94.7036005	92.22576031	89.82400726

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210212A00008	2/12/2021	0.95	10/13/2026	2/12/2021	122.12828	115.7538	109.7451084	104.0794447	98.73557572	93.69368488	88.93527084	84.44305394	80.20088958
210212A00016	2/17/2021	1.32	2/18/2025	2/17/2021	118.1662	113.8716469	109.7559087	105.8104802	102.0273153	98.3988009	94.91773077	91.57728046	88.37098457
210216A00006	2/16/2021	1.44	2/15/2030	2/16/2021	137.34251	126.1257349	115.8978666	106.5667867	98.04940343	90.27072319	83.16302241	76.66510774	70.72165525
210216A00007	2/16/2021	1.3	2/16/2029	2/16/2021	132.65328	122.9358337	113.9882309	105.7456439	98.14902945	91.14458011	84.68323348	78.72023002	73.21471445
210216A00008	2/16/2021	0.71	2/17/2026	2/16/2021	119.68503	114.1394937	108.8790245	103.8874262	99.14951645	94.65105845	90.37869634	86.31989511	82.46288508
210216A00009	2/16/2021	0.92	2/16/2027	2/16/2021	123.92429	117.0394753	110.5733127	104.4981785	98.78842467	93.420224	88.37142979	83.62144813	79.15112033
210224A00011	2/26/2021	1.17	2/27/2023	2/26/2021	108.66462	106.7723739	104.9229255	103.1148911	101.3469471	99.61782747	97.92631986	96.27126306	94.65154415
210305A00013	3/5/2021	2.41	3/5/2036	3/5/2021	170.8701	149.3772184	130.8545157	114.8731694	101.0683668	89.12946437	78.7917022	69.82922148	62.04917425
210312A00004	3/12/2021	0.34	3/10/2023	3/12/2021	107.52711	105.6058787	103.7286136	101.8939391	100.1005404	98.347156	96.63257503	94.95563471	93.31521792
210312A00010	3/12/2021	0.63	3/12/2024	3/12/2021	111.9652	108.8669449	105.869853	102.9699998	100.1636395	97.44719638	94.81725627	92.27055761	89.80398367
210323A00007	3/23/2021	0.51	3/25/2024	3/23/2021	112.20365	109.049334	105.9990809	103.0488973	100.194964	97.43362955	94.76140199	92.17494069	89.67104899
210326A00002	3/26/2021	0.57	6/26/2024	3/26/2021	113.39217	109.9254095	106.582122	103.3571903	100.24574	97.24312885	94.34493399	91.54693995	88.84512759
210414A00001	4/14/2021	0.7	5/16/2024	4/14/2021	112.88635	109.5677092	106.3634666	103.2690464	100.2800827	97.39240876	94.60204687	91.90519847	89.29823506
210428A00006	4/28/2021	1.23	4/28/2026	4/28/2021	122.23986	116.4203475	110.9090555	105.68812	100.7408057	96.05142493	91.6052675	87.38853443	83.38827713
210428A00007	4/28/2021	1.74	10/27/2028	4/28/2021	133.92386	124.6120853	116.0075019	108.0528991	100.6959651	93.8888445	87.58773776	81.75253886	76.34650678
210428A00015	4/28/2021	2.02	4/28/2031	4/28/2021	146.21649	133.0635276	121.1998464	110.492379	100.8224083	92.0839587	84.18237153	77.0330464	70.56032768
171003A00007	10/3/2017	2.22	10/3/2022	10/3/2017	108.17655	106.7279633	105.3059567	103.9098569	102.5390155	101.192805	99.87061836	98.57186784	97.29598439
171003A00008	10/3/2017	2.88	10/4/2027	10/3/2017	138.35054	130.2540966	122.6881323	115.6151369	109.0004313	102.8119453	97.02000783	91.59715704	86.51796471
171005A00003	10/5/2017	2.02	10/5/2022	10/5/2017	108.10715	106.6500825	105.219892	103.8158974	102.4374393	101.08388	99.75460271	98.44901025	97.16652472
171010A00004	10/10/2017	1.92	10/12/2021	10/10/2017	102.20696	101.8152378	101.4265253	101.040788	100.6579919	100.2781031	99.90108859	99.52691568	99.1555522
171010A00005	10/10/2017	2.06	10/11/2022	10/10/2017	108.26296	106.7863143	105.3372094	103.9149433	102.5188331	101.1482183	99.80246004	98.4809406	97.18306209
171010A00024	10/10/2017	2.38	10/10/2023	10/10/2017	114.68821	112.0343884	109.4557727	106.9498052	104.5140332	102.1461011	99.84374654	97.60479587	95.42716011
171010A00037	10/10/2017	2.09	10/12/2021	10/10/2017	102.24065	101.8492185	101.460789	101.0753279	100.6928011	100.3131751	99.93641692	99.56249405	99.19137447
171010A00038	10/10/2017	2.23	10/11/2022	10/10/2017	108.30859	106.8347753	105.388409	103.9687844	102.5752221	101.2070651	99.86367799	98.54444611	97.24877449
171012A00026	10/12/2017	2.09	10/12/2021	10/12/2017	102.24065	101.8492185	101.460789	101.0753279	100.6928011	100.3131751	99.93641692	99.56249405	99.19137447
171013A00021	10/13/2017	2	10/17/2022	10/13/2017	108.27529	106.7801286	105.3131692	103.8736791	102.4609515	101.0743033	99.71307417	98.37662561	97.06434001
171016A00005	10/16/2017	2.2	10/17/2022	10/16/2017	108.38026	106.8872864	105.422429	103.984957	102.5741669	101.1893788	99.82993526	98.4952006	97.18455978
171016A00021	10/16/2017	2.2	10/17/2022	10/16/2017	108.38026	106.8872864	105.422429	103.984957	102.5741669	101.1893788	99.82993526	98.4952006	97.18455978
171018A00011	10/18/2017	2.68	10/18/2027	10/18/2017	138.36617	130.169814	122.5153465	115.3641273	108.6804612	102.4313597	96.58632262	91.11713866	85.99770238
171025A00026	10/25/2017	2.64	10/25/2024	10/25/2017	121.69875	117.7143262	113.8826341	110.1969959	106.6510667	103.238812	99.95449113	96.79264063	93.74805982
171025A00027	10/25/2017	2.36	10/25/2022	10/25/2017	108.73259	107.2126393	105.7217191	104.2590682	102.8239502	101.4156536	100.0334909	98.67679745	97.34493085
171026A00005	10/26/2017	2.16	10/26/2021	10/26/2017	102.50027	102.0675369	101.6384462	101.2129539	100.791015	100.3725851	99.95762074	99.54607895	99.13791759
171026A00007	10/26/2017	2.47	10/26/2023	10/26/2017	115.18547	112.473803	109.8403008	107.282261	104.7970905	102.3823012	100.0355054	97.75441053	95.53681526

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
171026A00008	10/26/2017	2.6	10/25/2024	10/26/2017	121.55144	117.5696591	113.7405293	110.0573805	106.5138707	103.1039678	99.82193364	96.66230706	93.61988963
171030A00021	10/30/2017	2.29	11/30/2022	10/30/2017	109.22702	107.5949926	105.9961818	104.4296553	102.8945168	101.3899025	99.91498003	98.46894646	97.05102737
171030A00022	10/30/2017	2.28	10/31/2022	10/30/2017	108.71476	107.1767696	105.6684832	104.1891094	102.7378867	101.3140799	99.91697881	98.54589731	97.20017217
171030A00094	10/30/2017	2.13	11/1/2021	10/30/2017	102.58727	102.1367718	101.6902256	101.2475777	100.8087774	100.3737746	99.94252017	99.51496581	99.09106404
171031A00007	10/31/2017	2.15	12/27/2021	10/31/2017	103.5239	102.9054665	102.2943952	101.6905576	101.0938259	100.5040753	99.92118393	99.34503284	98.77550571
171031A00012	10/31/2017	2.28	10/31/2022	10/31/2017	108.71476	107.1767696	105.6684832	104.1891094	102.7378867	101.3140799	99.91697881	98.54589731	97.20017217
171031A00061	10/31/2017	2.28	10/31/2022	10/31/2017	108.71476	107.1767696	105.6684832	104.1891094	102.7378867	101.3140799	99.91697881	98.54589731	97.20017217
171101A00021	11/1/2017	2.51	11/1/2023	11/1/2017	115.38855	112.6552308	110.0012121	107.4237286	104.9201325	102.4878844	100.1245476	97.8277836	95.59534743
171101A00022	11/1/2017	2.65	11/1/2024	11/1/2017	121.8475	117.8371847	113.9814108	110.2733863	106.7066576	103.2750886	99.97284346	96.79437008	93.73438477
171115A00028	11/15/2017	2.25	8/18/2021	11/15/2017	101.37721	101.1455627	100.9149843	100.6854678	100.4570057	100.2295909	100.0032161	99.77787406	99.55355775
171116A00021	11/16/2017	2.16	11/16/2022	11/16/2017	109.00759	107.4158314	105.8557826	104.3265714	102.8273606	101.3573426	99.91573831	98.50179597	97.11478974
171120A00017	11/20/2017	2.41	11/21/2022	11/20/2017	109.2633	107.6580177	106.0849398	104.5431749	103.031867	101.5501907	100.0973499	98.67257627	97.27512849
171127A00016	11/27/2017	2.28	11/27/2023	11/27/2017	115.61775	112.7908186	110.0484073	107.3874821	104.8051356	102.2985833	99.86515728	97.50230079	95.20756266
171129A00010	11/29/2017	2.32	11/29/2021	11/29/2017	103.15283	102.618504	102.0897003	101.5663306	101.0483114	100.5355612	100.0279999	99.5255491	99.02813206
171129A00020	11/29/2017	2.89	11/30/2026	11/29/2017	134.367	127.4810714	120.9939003	114.8802661	109.116674	103.6812283	98.55351515	93.71449475	89.14640186
171204A00020	12/4/2017	2.48	12/5/2022	12/4/2017	109.61399	107.9636253	106.3470221	104.7632291	103.211327	101.6904305	100.1996863	98.7382723	97.3053954
171205A00013	12/5/2017	2.4	12/6/2021	12/5/2017	103.31167	102.7561759	102.2066472	101.662991	101.1251133	100.5929222	100.066328	99.54524242	99.0295794
171205A00014	12/5/2017	2.49	12/5/2022	12/5/2017	109.62991	107.9794088	106.3626754	104.7787546	103.2267271	101.7057073	100.2148422	98.75330916	97.32031535
171206A00008	12/6/2017	2.36	12/6/2021	12/6/2017	103.29009	102.7346606	102.1851992	101.6416097	101.1037983	100.571673	100.045144	99.52412315	99.0085244
171206A00038	12/6/2017	2.69	12/6/2027	12/6/2017	139.06821	130.671199	122.8401159	115.5338162	108.7143514	102.3467085	96.3985684	90.84008511	85.64368415
171206A00040	12/6/2017	2.23	12/6/2022	12/6/2017	109.45419	107.7983921	106.1765658	104.5877511	103.0310198	101.5054781	100.0102649	98.54455048	97.10753474
171206A00041	12/6/2017	2.44	12/6/2024	12/6/2017	122.19923	118.0517232	114.0685613	110.242314	106.5659289	103.0327118	99.63630623	96.37067429	93.23007894
171206A00048	12/6/2017	3.04	12/6/2032	12/6/2017	168.58004	151.8043419	136.8839481	123.6024619	111.769804	101.2188923	91.80275293	83.39200734	75.87268464
171207A00019	12/7/2017	2.41	6/16/2022	12/7/2017	106.69055	105.5323438	104.3992125	103.290351	102.2049856	101.1423751	100.1018095	99.08260784	98.08411698
171207A00036	12/7/2017	2.23	12/7/2022	12/7/2017	109.47137	107.8123847	106.1874796	104.5956836	103.036064	101.5077229	100.0097953	98.54144762	97.10187637
171208A00006	12/8/2017	2.67	12/8/2026	12/8/2017	134.20004	127.2534937	120.7118654	114.5493929	108.742088	103.267605	98.10511924	93.23521615	88.63978805
171212A00024	12/12/2017	2.29	12/12/2022	12/12/2017	109.65409	107.9783772	106.3372708	104.7297779	103.1549434	101.6118479	100.0996064	98.61736614	97.16430554
171213A00032	12/13/2017	2.17	12/13/2021	12/13/2017	103.35785	102.7807842	102.2101605	101.6458707	101.0878096	100.5358742	99.98996397	99.44998045	98.91582736
171220A00004	12/20/2017	2.52	12/20/2021	12/20/2017	103.62664	103.0285693	102.4373943	101.852997	101.2752613	100.7040738	100.1393234	99.58090165	99.02870262
180102A00021	1/2/2018	2.82	1/2/2026	1/2/2018	129.11264	123.5168583	118.1980848	113.1410813	108.331534	103.7559917	99.40180886	95.25709299	91.3106552
180103A00007	1/3/2018	2.44	1/7/2022	1/3/2018	103.89268	103.2400247	102.5955565	101.9591262	101.330584	100.7097836	100.0965827	99.49084208	98.89242614
180103A00011	1/3/2018	2.35	1/3/2023	1/3/2018	110.13551	108.3891361	106.6797127	105.0061369	103.3673528	101.7623456	100.1901401	98.64979836	97.14041795
180103A00019	1/3/2018	2.51	1/3/2023	1/3/2018	110.17019	108.4275429	106.7217	105.0515657	103.4160898	101.8142632	100.2451159	98.70771482	97.20116218

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180103A00027	1/3/2018	2.51	1/3/2023	1/3/2018	110.17019	108.4275429	106.7217	105.0515657	103.4160898	101.8142632	100.2451159	98.70771482	97.20116218
180104A00013	1/4/2018	2.39	1/4/2023	1/4/2018	110.2201	108.4700172	106.7569997	105.0799447	103.437791	101.8295193	100.2541497	98.7107401	97.19838398
180104A00017	1/4/2018	2.77	1/3/2025	1/4/2018	123.30934	119.0641599	114.9895713	111.0777331	107.3212138	103.712967	100.2463083	96.91489523	93.71270665
180109A00028	1/9/2018	2.6	1/9/2025	1/9/2018	123.35665	119.0747543	114.9659708	111.022293	107.2361366	103.6003125	100.1080044	96.75274583	93.52840093
180110A00027	1/10/2018	2.6	1/10/2023	1/10/2018	110.44459	108.6787764	106.9505515	105.2587886	103.6024035	101.9803553	100.3916435	98.83530659	97.31041979
180110A00028	1/10/2018	2.85	1/10/2025	1/10/2018	123.73337	119.4574138	115.3539597	111.4150455	107.633125	104.001045	100.512022	97.15962075	93.93773414
180110A00029	1/10/2018	3.13	1/10/2028	1/10/2018	141.47776	132.9239007	124.9506387	117.5153929	110.5789249	104.1050614	98.06043937	92.41427291	87.13814111
180111A00007	1/11/2018	2.66	1/14/2025	1/11/2018	123.67208	119.3678286	115.2380788	111.274734	107.4701264	103.8169895	100.3084346	96.93792807	93.6992714
180111A00016	1/11/2018	2.57	1/11/2023	1/11/2018	110.41122	108.6427298	106.9119333	105.2176953	103.5589274	101.9345841	100.3436611	98.78519299	97.25825135
180116A00009	1/16/2018	2.49	1/14/2022	1/16/2018	104.04944	103.3752145	102.7097154	102.0527781	101.4042381	100.7639348	100.131712	99.5074171	98.89090161
180116A00014	1/16/2018	3.01	1/19/2027	1/16/2018	135.79887	128.696655	122.0139465	115.7236673	109.8006334	104.2214129	98.96419474	94.0086672	89.335907
180116A00015	1/16/2018	3.06	1/18/2028	1/16/2018	141.06341	132.4955587	124.5112255	117.0674769	110.1247654	103.6466427	97.59950075	91.95233541	86.67653146
180116A00031	1/16/2018	2.58	1/17/2023	1/16/2018	110.53375	108.746365	106.9973357	105.2855002	103.6097412	101.9689858	100.362204	98.78840583	97.24664004
180116A00046	1/16/2018	2.58	1/11/2023	1/16/2018	110.42822	108.6595852	106.9286412	105.2342585	103.5753485	101.9508657	100.3598057	98.80120305	97.27412922
180118A00004	1/18/2018	2.88	1/17/2025	1/18/2018	123.96369	119.660572	115.5317724	111.5692071	107.765218	104.112548	100.6043172	97.23400056	93.99540749
180118A00010	1/18/2018	2.51	8/18/2021	1/18/2018	101.43679	101.2050474	100.9743736	100.7447621	100.5162054	100.2886962	100.0622274	99.83679174	99.61238212
180123A00026	1/23/2018	2.57	1/14/2022	1/23/2018	104.10148	103.4270607	102.7613708	102.1042445	101.4555171	100.8150282	100.1826214	99.55814418	98.94144799
180124A00019	1/24/2018	2.41	1/24/2022	1/24/2018	104.24477	103.5388414	102.8424546	102.1554173	101.477542	100.8086464	100.1485529	99.49708865	98.85408514
180124A00020	1/24/2018	2.53	1/24/2023	1/24/2018	110.81286	108.9979169	107.2223077	105.4848191	103.7842921	102.1196147	100.48972	98.89358319	97.33022003
180124A00038	1/24/2018	2.51	9/1/2021	1/24/2018	101.68324	101.4111358	101.1404918	100.871294	100.6035309	100.3371909	100.0722629	99.80873538	99.54659745
180125A00022	1/25/2018	2.69	1/25/2023	1/25/2018	110.86612	109.0519754	107.2771179	105.5403386	103.84048	102.1764318	100.5471283	98.95154594	97.38870166
180126A00029	1/26/2018	2.88	1/27/2025	1/26/2018	124.12463	119.7858764	115.6239518	111.6306049	107.7980198	104.118793	100.5859084	97.19271472	93.93290393
180130A00070	1/30/2018	3.14	1/29/2027	1/30/2018	136.75637	129.5913815	122.8509601	116.5075966	110.5357176	104.9115367	99.61291911	94.61925806	89.91136076
180130A00084	1/30/2018	2.59	1/30/2023	1/30/2018	111.02582	109.1909823	107.3961916	105.6402015	103.9218217	102.2399112	100.5933751	98.98116264	97.40226478
180201A00033	2/1/2018	2.53	2/1/2022	2/1/2018	104.47299	103.7419871	103.0211953	102.3104017	101.6093992	100.9179865	100.2359676	99.56315224	98.89935482
180202A00012	2/2/2018	2.57	2/2/2022	2/2/2018	104.51955	103.7853219	103.0613965	102.3475545	101.6435863	100.9492879	100.2644611	99.58891287	98.92245555
180205A00018	2/5/2018	2.66	2/3/2023	2/5/2018	111.22234	109.373652	107.5655112	105.7966547	104.0658699	102.3719946	100.7139142	99.0905592	97.50090298
180205A00019	2/5/2018	2.88	2/5/2025	2/5/2018	124.90507	120.5047423	116.2850841	112.2375896	108.3542135	104.627339	101.0497517	97.61461557	94.31545031
180205A00050	2/5/2018	2.81	2/6/2023	2/5/2018	111.29531	109.441285	107.6280123	105.8542132	104.1186656	102.4201986	100.7576891	99.13005964	97.53627614
180207A00003	2/7/2018	3.28	2/7/2028	2/7/2018	142.98969	134.2842792	126.1748923	118.6174048	111.5711938	104.9988423	98.86586872	93.14048123	87.79335358
180214A00004	2/14/2018	2.71	2/14/2023	2/14/2018	111.51448	109.6298792	107.7872009	105.9851095	104.2223315	102.4976471	100.8098875	99.15793221	97.54070641
180216A00004	2/16/2018	2.75	2/16/2023	2/16/2018	111.62387	109.7322146	107.8827336	106.0740885	104.304994	102.5742196	100.8805864	99.22296408	97.60026875
180222A00023	2/22/2018	2.84	2/22/2022	2/22/2018	105.01554	104.2195335	103.4355771	102.6634003	101.902739	101.1533369	100.4149453	99.68732269	98.97023475

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180222A00025	2/22/2018	3.48	2/22/2033	2/22/2018	175.83296	158.306364	142.7376061	128.8954725	116.5772613	105.6051272	95.82291392	87.09340399	79.29593135
180222A00027	2/22/2018	3.24	2/22/2028	2/22/2018	144.26692	135.4095531	127.1631346	119.4820981	112.3245233	105.6518231	99.42846127	93.62169392	88.20133555
180226A00040	2/26/2018	2.79	2/28/2022	2/26/2018	105.09042	104.2758446	103.4738682	102.6841989	101.9065551	101.1406638	100.3862603	99.64308764	98.91089652
180306A00005	3/6/2018	2.65	3/4/2022	3/6/2018	105.13726	104.3090786	103.4939225	102.6914833	101.9014651	101.1235812	100.3575534	99.60311223	98.85999626
180306A00010	3/6/2018	2.8	2/15/2022	3/6/2018	104.85312	104.0790697	103.3164369	102.5649729	101.8244334	101.0945812	100.375186	99.66602399	98.96687773
180308A00011	3/8/2018	2.9	9/15/2022	3/8/2018	108.85733	107.4325807	106.0382113	104.6732602	103.3368036	102.0279565	100.7458708	99.48973363	98.25876516
180308A00015	3/8/2018	2.82	12/15/2021	3/8/2018	103.70679	103.123312	102.5463965	101.9759365	101.411824	100.8539534	100.3022213	99.75652655	99.21677041
180313A00026	3/13/2018	3.34	3/13/2028	3/13/2018	143.95665	135.0897231	126.837021	119.1526216	111.9942762	105.3230944	99.1032602	93.30177282	87.88821153
180320A00007	3/20/2018	2.92	3/21/2022	3/20/2018	105.58417	104.7030889	103.8366937	102.9846201	102.1465149	101.3220368	100.5108551	99.71265002	98.92711184
180327A00024	3/27/2018	2.79	5/26/2023	3/27/2018	113.59375	111.3689744	109.1999206	107.0848233	105.0219897	103.0097928	101.046668	99.1311102	97.26167106
180328A00010	3/28/2018	3.1	3/28/2025	3/28/2018	126.02849	121.4468896	117.0585815	112.8544029	108.8256741	104.9641695	101.2620915	97.71204591	94.30701899
180402A00005	4/2/2018	2.94	4/3/2023	4/2/2018	112.58547	110.543127	108.548296	106.599584	104.6956495	102.8351987	101.0169834	99.23979945	97.50248435
180403A00005	4/3/2018	2.72	4/3/2023	4/3/2018	112.45324	110.4067789	108.408025	106.4555766	104.5480839	102.6842453	100.8628056	99.08255343	97.34231997
180403A00006	4/3/2018	3.07	4/3/2028	4/3/2018	143.57586	134.5889349	126.2315368	118.4562382	111.2194176	104.4809348	98.20383734	92.35409158	86.90033874
180403A00041	4/3/2018	2.91	4/3/2025	4/3/2018	126.00092	121.3815751	116.9583711	112.7219559	108.6634702	104.7745213	101.047156	97.47383515	94.0474099
180410A00016	4/10/2018	2.89	4/11/2022	4/10/2018	105.95924	105.0114901	104.0806769	103.166351	102.2680767	101.3854337	100.5180164	99.66543294	98.82730487
180411A00014	4/11/2018	2.88	6/27/2022	4/11/2018	107.41463	106.2172517	105.046511	103.9015294	102.7814635	101.6855069	100.6128872	99.56286505	98.53473178
180412A00034	4/12/2018	3.23	4/15/2030	4/12/2018	156.30266	143.9950139	132.7688641	122.5231046	113.1665805	104.6170593	96.80031605	89.64931673	83.10348794
180425A00008	4/25/2018	2.89	4/25/2022	4/25/2018	106.3359	105.3412224	104.3651176	103.4070737	102.4665927	101.5431951	100.6364183	99.74581657	98.87095989
180425A00019	4/25/2018	3.02	10/25/2021	4/25/2018	102.84538	102.4146736	101.9875725	101.5640294	101.1439999	100.7274406	100.3143085	99.90456156	99.49815825
180425A00020	4/25/2018	3.11	10/25/2022	4/25/2018	109.83607	108.3075488	106.8082117	105.3372941	103.8940554	102.47778	101.0877762	99.72337583	98.38393265
180426A00011	4/26/2018	2.94	4/26/2023	4/26/2018	113.3236	111.1976069	109.1226791	107.09727	105.1198911	103.1891088	101.3035421	99.46186018	97.66278036
180426A00053	4/26/2018	2.94	4/26/2023	4/26/2018	113.3236	111.1976069	109.1226791	107.09727	105.1198911	103.1891088	101.3035421	99.46186018	97.66278036
180427A00010	4/27/2018	2.95	4/27/2023	4/27/2018	113.36302	111.2335372	109.1552716	107.126667	105.1462286	103.212517	101.3241456	99.47977814	97.67812694
180507A00005	5/7/2018	3.06	5/5/2023	5/7/2018	113.45459	111.3040752	109.2057683	107.1580722	105.1594486	103.2084166	101.3035503	99.44347624	97.62687107
180511A00035	5/11/2018	2.93	5/11/2023	5/11/2018	113.59549	111.4188233	109.2955461	107.2240046	105.2026098	103.2298326	101.3042015	99.42429957	97.58876233
180516A00019	5/16/2018	3.19	5/16/2023	5/16/2018	113.91522	111.7251317	109.5890186	107.5051989	105.4720583	103.4880437	101.5516605	99.6614702	97.81608761
180518A00014	5/18/2018	3.17	5/18/2023	5/18/2018	113.91329	111.7168271	109.5746438	107.4850479	105.4464112	103.4571677	101.5158107	99.62088983	97.77100896
180521A00005	5/21/2018	3.02	5/22/2023	5/21/2018	113.99855	111.7822962	109.6212242	107.5135977	105.4577495	103.4520764	101.4950367	99.58514679	97.72097886
180522A00018	5/22/2018	3.1	5/23/2022	5/22/2018	106.96622	105.8822177	104.8201605	103.7793896	102.7592698	101.7591905	100.7785652	99.81683025	98.87344332
180522A00019	5/22/2018	3.16	5/22/2023	5/22/2018	113.97141	111.7615319	109.6065651	107.5047883	105.4545455	103.4542445	101.5023532	99.59739776	97.73795925
180522A00039	5/22/2018	3.43	5/22/2028	5/22/2018	147.14848	137.8502225	129.2132231	121.1868246	113.7245033	106.7835153	100.3245707	94.3115372	88.71117135
180524A00024	5/24/2018	3	3/21/2022	5/24/2018	105.6513	104.7699109	103.9032077	103.0508296	102.2124235	101.3876478	100.576172	99.77767608	98.99185033

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180525A00001	5/25/2018	3.04	5/25/2023	5/25/2018	113.77881	111.5613891	109.3993033	107.2908118	105.2342389	103.2279738	101.270467	99.36022774	97.49582147
180525A00005	5/25/2018	3.32	5/25/2028	5/25/2018	146.32385	137.0440892	128.4256343	120.4177376	112.9738022	106.0510223	99.61005637	93.61472933	88.03176255
180529A00007	5/29/2018	2.83	6/1/2021	5/29/2018	100.07322	100.0620718	100.0509355	100.0398096	100.0286943	100.0175896	100.0064953	99.99541144	99.98433809
180529A00026	5/29/2018	2.67	6/1/2021	5/29/2018	100.07245	100.0612896	100.0501443	100.0390098	100.0278858	100.0167725	100.0056698	99.99457772	99.98349619
180529A00042	5/29/2018	3.42	5/30/2028	5/29/2018	145.75647	136.5366282	127.9732857	120.0160857	112.618787	105.7389101	99.33741208	93.37839201	87.82882254
180529A00044	5/29/2018	3.11	5/29/2024	5/29/2018	120.79243	117.3066934	113.9414605	110.6918662	107.5532757	104.521268	101.5916251	98.76032098	96.02351167
180529A00056	5/29/2018	3	5/26/2023	5/29/2018	113.71414	111.4942079	109.3297578	107.2190369	105.160363	103.1521188	101.1927492	99.28075784	97.41470481
180529A00060	5/29/2018	2.83	6/1/2021	5/29/2018	100.07322	100.0620718	100.0509355	100.0398096	100.0286943	100.0175896	100.0064953	99.99541144	99.98433809
180529A00063	5/29/2018	2.95	5/31/2022	5/29/2018	106.96799	105.8587838	104.7725449	103.708565	102.6661651	101.6446934	100.6435242	99.66205654	98.69971299
180530A00006	5/30/2018	2.87	5/31/2022	5/30/2018	106.8845	105.7757707	104.6899986	103.6264788	102.5845324	101.5635079	100.5627797	99.58174692	98.61983233
180530A00024	5/30/2018	3.44	5/30/2029	5/30/2018	151.56118	140.7610737	130.8249082	121.6787118	113.2552199	105.4932333	98.33704193	91.73590593	85.64358852
180530A00027	5/30/2018	3.61	6/1/2032	5/30/2018	170.68969	154.6880507	140.3725114	127.5548499	116.0688144	105.7674589	96.52081042	88.21382879	80.7446205
180530A00028	5/30/2018	3.67	5/31/2033	5/30/2018	177.32841	159.4576573	143.6148734	129.556664	117.070108	105.9687987	96.08941725	87.28876464	79.44118784
180530A00030	5/30/2018	3.68	5/30/2034	5/30/2018	183.29536	163.5369944	146.1797769	130.9155634	117.4773729	105.633695	95.18361084	85.95260614	77.78897623
180530A00039	5/30/2018	2.93	5/30/2023	5/30/2018	113.64181	111.4102223	109.2346597	107.1133487	105.044582	103.0267185	101.0581802	99.13744948	97.26306613
180530A00072	5/30/2018	3.06	5/30/2024	5/30/2018	120.64904	117.1624051	113.7964025	110.5461623	107.4070409	104.3746092	101.4446412	98.61310383	95.8761466
180531A00065	5/31/2018	2.65	6/1/2021	5/31/2018	100.07222	100.0610668	100.0499218	100.0387874	100.0276636	100.0165505	100.005448	99.9943561	99.98327476
180601A00018	6/1/2018	2.87	6/1/2023	6/1/2018	113.87533	111.6289669	109.4392049	107.3042429	105.2223488	103.1918579	101.21117	99.27874668	97.39310774
180601A00023	6/1/2018	3.3	6/1/2028	6/1/2018	146.27338	136.9695123	128.3303836	120.3048544	112.8459791	105.9106412	99.45922236	93.45530088	87.86537849
180604A00047	6/4/2018	2.97	6/3/2022	6/4/2018	107.04734	105.9281886	104.8324035	103.759262	102.7080675	101.6781515	100.6688723	99.67961421	98.70978541
180604A00048	6/4/2018	3.01	6/5/2023	6/4/2018	113.92235	111.6695797	109.473668	107.3327935	105.2452113	103.2092448	101.2232828	99.28577613	97.39523479
180604A00050	6/4/2018	3.15	6/4/2024	6/4/2018	121.02898	117.5204343	114.1336482	110.8636854	107.7058425	104.6556346	101.7087833	98.86120644	96.10900734
180607A00026	6/7/2018	2.92	6/7/2021	6/7/2018	100.18531	100.1574253	100.1295747	100.101755	100.0739663	100.0462085	100.0184815	99.9907852	99.96311964
180614A00008	6/14/2018	2.94	6/14/2021	6/14/2018	100.31603	100.2686042	100.2212367	100.1739311	100.1266873	100.0795051	100.0323844	99.98532508	99.93832703
180615A00066	6/15/2018	3	6/14/2024	6/15/2018	121.23195	117.6761354	114.2448167	110.9328967	107.7355225	104.648069	101.6661268	98.78549079	96.00214911
180618A00025	6/18/2018	3.01	4/13/2022	6/18/2018	106.10606	105.1513802	104.2138659	103.2930597	102.3885173	101.4998103	100.6265252	99.76826274	98.92463741
180618A00032	6/18/2018	2.93	6/18/2021	6/18/2018	100.39045	100.3318287	100.2732956	100.2148455	100.1564782	100.0981936	100.0399914	99.98187159	99.92383391
180619A00020	6/19/2018	3.1	6/19/2025	6/19/2018	128.11399	123.1885481	118.4823845	113.9845124	109.6845576	105.572722	101.6397484	97.87688706	94.27586516
180619A00021	6/19/2018	3.24	6/19/2028	6/19/2018	146.06707	136.7055072	128.0170177	119.9495109	112.455195	105.4902	99.01423611	92.99028379	87.38431204
180619A00023	6/19/2018	3.04	6/19/2023	6/19/2018	114.24778	111.9490624	109.7090801	107.5259214	105.3977547	103.3228217	101.2994338	99.32596887	97.40086821
180619A00031	6/19/2018	2.74	6/21/2021	6/19/2018	100.43963	100.3725652	100.3056029	100.2387417	100.1719815	100.1053221	100.0387632	99.97230453	99.90594597
180620A00017	6/20/2018	3.24	6/20/2028	6/20/2018	146.08215	136.7164101	128.0242616	119.953555	112.456448	105.489026	99.01095899	92.98519181	87.37766149
180620A00038	6/20/2018	3.4	6/20/2028	6/20/2018	145.91232	136.6116019	127.9777197	119.959178	112.5087207	105.5829623	99.14205105	93.14936402	87.57122899

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180621A00017	6/21/2018	3.42	6/21/2028	6/21/2018	146.08692	136.7762291	128.133191	120.1062328	112.6480313	105.7151403	99.26765349	93.26889829	87.6851578
180622A00003	6/22/2018	2.87	6/22/2022	6/22/2018	107.44839	106.2644813	105.1066203	103.9739511	102.865658	101.7809602	100.7191099	99.67939054	98.66111546
180622A00004	6/22/2018	3.47	12/22/2028	6/22/2018	149.33665	139.2248614	129.8826784	121.2472194	113.2610593	105.8717315	99.03127515	92.6958257	86.82524515
180622A00005	6/22/2018	3.5	7/2/2029	6/22/2018	152.62123	141.6553669	131.574416	122.3019328	113.7684707	105.9109027	98.67181486	91.99896138	85.84477389
180622A00018	6/22/2018	2.92	6/22/2023	6/22/2018	114.37613	112.060422	109.804149	107.6053728	105.4622298	103.3729319	101.3357623	99.34907227	97.41127788
180625A00041	6/25/2018	3.06	6/20/2023	6/25/2018	114.30998	112.0075501	109.7639955	107.5774022	105.4459318	103.3678199	101.3413721	99.36496086	97.43702215
180626A00045	6/26/2018	2.91	6/25/2021	6/26/2018	100.51914	100.4409364	100.3628595	100.2849084	100.2070828	100.1293826	100.0518073	99.97435681	99.89703071
180627A00017	6/27/2018	2.9	6/25/2021	6/27/2018	100.51836	100.4401568	100.3620805	100.2841301	100.2063052	100.1286056	100.0510311	99.9735812	99.89625576
180627A00026	6/27/2018	2.87	6/27/2023	6/27/2018	114.36015	112.029396	109.7587351	107.5461938	105.3898776	103.2879691	101.2387241	99.24046776	97.29159169
180627A00030	6/27/2018	3.02	6/27/2023	6/27/2018	114.35335	112.0292201	109.7648949	107.5584113	105.4078877	103.3115185	101.2675708	99.27438051	97.33034935
180627A00057	6/27/2018	2.98	6/27/2022	6/27/2018	107.52681	106.3287441	105.1573334	104.011692	102.8909764	101.7943797	100.7211296	99.6704862	98.64174077
180628A00034	6/28/2018	2.72	6/28/2021	6/28/2018	100.56625	100.4795714	100.3930405	100.3066571	100.220421	100.1343318	100.048389	99.96259233	99.87694146
180628A00081	6/28/2018	2.72	6/21/2021	6/28/2018	100.43829	100.3712286	100.3042674	100.2374074	100.1706484	100.1039901	100.0374323	99.97097481	99.90461739
180629A00071	6/29/2018	3.02	6/29/2023	6/29/2018	114.39084	112.0601069	109.7894618	107.5769263	105.4206054	103.3186811	101.2694088	99.27111338	97.32218606
180702A00012	7/2/2018	3.01	7/3/2023	7/2/2018	114.44414	112.1001934	109.8169161	107.5922998	105.4244222	103.3114394	101.2515823	99.24315301	97.28452104
180702A00034	7/2/2018	2.86	7/3/2023	7/2/2018	114.45114	112.1004864	109.8107938	107.5800451	105.4063047	103.2877167	101.2225005	99.20894698	97.24541557
180705A00003	7/5/2018	3.04	7/5/2023	7/5/2018	114.54843	112.197007	109.9065579	107.6750644	105.5005898	103.3812767	101.3153432	99.30107954	97.3368438
180705A00060	7/5/2018	3	7/6/2022	7/5/2018	107.71375	106.4859573	105.2861176	104.1132867	102.96656	101.8450727	100.7479979	99.67454437	98.62395493
180705A00061	7/5/2018	3	7/6/2022	7/5/2018	107.71375	106.4859573	105.2861176	104.1132867	102.96656	101.8450727	100.7479979	99.67454437	98.62395493
180705A00062	7/5/2018	3.04	7/6/2023	7/5/2018	114.56736	112.2125639	109.9188934	107.6843186	105.5068956	103.3847606	101.3161256	99.29927484	97.33256102
180706A00010	7/6/2018	2.92	7/6/2021	7/6/2018	100.72442	100.6151948	100.506221	100.3974943	100.2890135	100.180778	100.0727869	99.96503923	99.85753425
180706A00013	7/6/2018	3.01	7/6/2023	7/6/2018	114.50064	112.1465986	109.8536638	107.6198094	105.443092	103.3216483	101.2536907	99.23750368	97.27144054
180713A00011	7/13/2018	2.95	7/13/2021	7/13/2018	100.85978	100.7307258	100.6020144	100.4736463	100.34562	100.2179341	100.0905873	99.96357814	99.83690526
180713A00013	7/13/2018	2.88	7/13/2023	7/13/2018	114.68492	112.2999249	109.9773921	107.7152258	105.5114199	103.3640517	101.2712779	99.23133054	97.24251316
180713A00030	7/13/2018	2.8	7/13/2021	7/13/2018	100.85102	100.7218689	100.5930605	100.4645969	100.3364766	100.2086981	100.0812601	99.95416112	99.82739981
180713A00035	7/13/2018	3.02	7/13/2022	7/13/2018	107.88685	106.6353596	105.4128726	104.2183897	103.050956	101.90966	100.7936306	99.70203486	98.63407649
180716A00016	7/16/2018	3.03	7/14/2023	7/16/2018	114.69632	112.3148121	109.9956098	107.7366243	105.5358559	103.3913881	101.3013831	99.2640786	97.27778314
180716A00054	7/16/2018	3.59	7/16/2040	7/16/2018	218.28982	185.5833429	158.4198827	135.8134508	116.9590988	101.1988141	87.99398866	76.90316675	67.56403625
180716A00056	7/16/2018	3.1	7/16/2025	7/16/2018	128.57179	123.5442314	118.7438493	114.1590812	109.7790212	105.5933799	101.5924462	97.76705018	94.10853063
180717A00047	7/17/2018	3.3	9/17/2025	7/17/2018	129.80286	124.5569073	119.5553583	114.7854906	110.2353155	105.8935311	101.7494787	97.79310275	94.0149132
180717A00076	7/17/2018	3.03	7/17/2023	7/17/2018	114.75303	112.3614083	110.0325344	107.7643027	105.5546922	103.4017663	101.3036686	99.25861882	97.26490888
180718A00026	7/18/2018	3.03	7/18/2023	7/18/2018	114.77194	112.3769413	110.0448428	107.7735288	105.5609711	103.4052262	101.3044316	99.256801	97.26062078
180719A00059	7/19/2018	2.98	7/19/2021	7/19/2018	100.97646	100.8303919	100.6847571	100.5395542	100.3947811	100.2504359	100.1065167	99.9630217	99.8199489

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180719A00060	7/19/2018	3.05	7/19/2022	7/19/2018	108.0407	106.7689947	105.5271987	104.3142614	103.129185	101.9710173	100.8388489	99.73181117	98.64907362
180719A00063	7/19/2018	3.21	7/19/2024	7/19/2018	122.04481	118.3739364	114.8344303	111.4207792	108.1277392	104.9503207	101.8837738	98.92357525	96.06541577
180719A00064	7/19/2018	3.3	7/21/2025	7/19/2018	128.83289	123.8032294	119.0008765	114.4142554	110.0324465	105.8451485	101.8426392	98.01573946	94.35577945
180720A00006	7/20/2018	3.03	7/17/2023	7/20/2018	114.75303	112.3614083	110.0325344	107.7643027	105.5546922	103.4017663	101.3036686	99.25861882	97.26490888
180720A00008	7/20/2018	3	7/20/2022	7/20/2018	108.00107	106.7264213	105.4818167	104.2662074	103.0785883	101.9180007	100.7835289	99.67429827	98.58947296
180720A00011	7/20/2018	2.93	7/20/2021	7/20/2018	100.98787	100.8389784	100.6905315	100.5425317	100.3949769	100.2478652	100.1011945	99.95496277	99.80916814
180720A00030	7/20/2018	2.79	7/20/2021	7/20/2018	100.9793	100.830289	100.6817277	100.5336154	100.3859498	100.2387289	100.0919508	99.94561333	99.79971459
180720A00049	7/20/2018	2.93	7/20/2021	7/20/2018	100.98787	100.8389784	100.6905315	100.5425317	100.3949769	100.2478652	100.1011945	99.95496277	99.80916814
180720A00068	7/20/2018	2.89	7/20/2023	7/20/2018	114.84026	112.4312886	110.0858343	107.8017516	105.5769841	103.4095618	101.297597	99.2392798	97.23287426
180724A00025	7/24/2018	2.93	7/25/2022	7/24/2018	108.16915	106.8749158	105.6115977	104.3780939	103.173358	101.9963925	100.8462451	99.72200677	98.62280929
180727A00028	7/27/2018	3.25	7/27/2026	7/27/2018	135.6587	129.1440584	122.9856364	117.1619628	111.652981	106.4399488	101.5053445	96.83278027	92.40692268
180727A00037	7/27/2018	3.13	7/27/2023	7/27/2018	115.17084	112.742807	110.3790885	108.0774964	105.8359361	103.6524021	101.5249729	99.45180708	97.43113878
180727A00039	7/27/2018	3.48	7/27/2028	7/27/2018	147.12628	137.6444375	128.8503386	120.6902398	113.1148778	106.0790747	99.54137766	93.46373302	87.81118983
180730A00004	7/30/2018	3.14	7/28/2023	7/30/2018	115.21296	112.7812722	110.4140606	108.1091249	105.8643632	103.677763	101.5473963	99.47141537	97.44804861
180730A00023	7/30/2018	3.13	7/30/2024	7/30/2018	122.51214	118.7840507	115.1906889	111.7263418	108.3855774	105.1632307	102.0543876	99.05437124	96.15872894
180730A00041	7/30/2018	3.14	7/31/2023	7/30/2018	115.26929	112.82767	110.4509899	108.1370256	105.8836529	103.6888376	101.5506319	99.46716934	97.43666056
180730A00081	7/30/2018	3.5	7/28/2028	7/30/2018	147.30402	137.8118617	129.0083061	120.8395301	113.256198	106.213067	99.66862577	93.5847676	87.92649386
180731A00004	7/31/2018	2.97	7/31/2023	7/31/2018	115.2319	112.7836807	110.4007112	108.0807534	105.8216685	103.6214096	101.478016	99.38960961	97.35438992
180801A00012	8/1/2018	3.03	8/16/2021	8/1/2018	101.51784	101.2916605	101.0664976	100.8423483	100.6192054	100.3970624	100.1759123	99.95574848	99.73656431
180801A00014	8/1/2018	3.03	8/2/2021	8/1/2018	101.24932	101.0633622	100.8780933	100.6935094	100.5096065	100.3263809	100.1438289	99.96194663	99.7807305
180801A00015	8/1/2018	3.16	8/1/2023	8/1/2018	115.3341	112.8886403	110.5082798	108.1907933	105.9340484	103.7360036	101.5947041	99.50827686	97.47492633
180802A00006	8/2/2018	2.99	8/2/2023	8/2/2018	115.31557	112.8601649	110.470331	108.1438157	105.8784647	103.6722162	101.5230961	99.42921302	97.38875442
180808A00009	8/8/2018	3.12	8/7/2023	8/8/2018	115.35435	112.8900882	110.491837	108.1573229	105.8843684	103.6708901	101.5148932	99.41446734	97.36778202
180809A00029	8/9/2018	2.99	9/9/2021	8/9/2018	101.96381	101.6681982	101.3743152	101.082142	100.7916636	100.5028652	100.2157321	99.93024997	99.64640442
180813A00013	8/13/2018	2.99	12/5/2022	8/13/2018	110.42571	108.7685822	107.1453424	105.5550334	103.9967325	102.469551	100.9726326	99.50515186	98.06631298
180813A00016	8/13/2018	2.92	8/13/2021	8/13/2018	101.43703	101.2195027	101.002926	100.7872897	100.5725875	100.3588134	100.1459613	99.93402511	99.72299891
180813A00026	8/13/2018	2.87	8/11/2023	8/13/2018	115.20458	112.7225185	110.307371	107.9568132	105.6686237	103.4406776	101.2709413	99.15746802	97.09839285
180813A00059	8/13/2018	3.01	8/11/2023	8/13/2018	115.17273	112.698228	110.2902984	107.9466368	105.665037	103.4433883	101.2796708	99.17195021	97.11837374
180814A00032	8/14/2018	3.1	8/14/2025	8/14/2018	129.05948	123.922127	119.0207429	114.3431002	109.8776867	105.613654	101.5407752	97.64940468	93.93044415
180814A00033	8/14/2018	3.25	8/13/2027	8/14/2018	141.51117	133.448233	125.9032209	118.8399712	112.2250429	106.0274984	100.2187017	94.77213506	89.66323012
180815A00009	8/15/2018	2.93	8/16/2021	8/15/2018	101.49549	101.2693413	101.0442137	100.8200994	100.5969916	100.3748834	100.153768	99.93363883	99.71448916
180815A00011	8/15/2018	2.97	8/15/2022	8/15/2018	108.46117	107.0998042	105.772571	104.4781955	103.2154681	101.9832379	100.7804094	99.60593885	98.4588315
180815A00021	8/15/2018	3.01	8/15/2023	8/15/2018	115.24633	112.7585855	110.3380492	107.9823766	105.6893305	103.4567711	101.2826513	99.16501127	97.10197406

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180816A00024	8/16/2018	3.01	8/16/2023	8/16/2018	115.26473	112.7736759	110.3499872	107.9913116	105.6954039	103.4601174	101.2833979	99.1632791	97.09787814
180816A00038	8/16/2018	3.38	8/16/2028	8/16/2018	146.61626	137.0807757	128.2421509	120.0455297	112.4406678	105.3815183	98.82585949	92.73495646	87.07325525
180816A00043	8/16/2018	2.83	8/16/2022	8/16/2018	108.47916	107.1115703	105.7783975	104.4783522	103.2102108	101.9728091	100.7650391	99.58584534	98.43422217
180817A00013	8/17/2018	2.94	2/15/2022	8/17/2018	104.95698	104.1824947	103.4194343	102.6675472	101.926589	101.1963223	100.4765168	99.76694869	99.06740038
180817A00022	8/17/2018	2.87	8/17/2023	8/17/2018	115.31533	112.8133244	110.3791797	108.0105247	105.7050911	103.4607099	101.2753065	99.14689527	97.07357486
180820A00055	8/20/2018	3.37	8/21/2028	8/20/2018	146.60937	137.0560409	128.2020935	119.9923791	112.3763923	105.3078547	98.74433888	92.64692749	86.9799046
180821A00002	8/22/2018	2.89	8/23/2021	8/22/2018	101.6172	101.3709291	101.1258607	100.8819814	100.6392827	100.3977559	100.1573926	99.91818435	99.68012289
180821A00011	8/21/2018	2.98	8/21/2023	8/21/2018	115.28588	112.7791138	110.340484	107.9675989	105.658175	103.4100292	101.2210735	99.08930997	97.0128256
180823A00033	8/23/2018	2.85	8/23/2023	8/23/2018	115.37868	112.8572701	110.4046718	108.0184575	105.6963119	103.4360221	101.235472	99.09263714	97.00557987
180823A00035	8/23/2018	3.05	8/22/2025	8/23/2018	128.96041	123.7981715	118.8741687	114.1760041	109.6920008	105.4111592	101.3231132	97.41808912	93.68686791
180823A00053	8/23/2018	3.2	8/23/2028	8/23/2018	146.73385	137.1071133	128.1878819	119.9201861	112.2527846	105.138738	98.53502401	92.40219039	86.70403963
180823A00055	8/23/2018	3.44	8/23/2033	8/23/2018	178.22017	159.7831916	143.4828843	129.0577878	116.2797976	104.9497522	94.8936215	85.95921531	78.01333774
180824A00023	8/24/2018	2.79	8/24/2021	8/24/2018	101.62894	101.3796104	101.1315104	100.8846286	100.6389558	100.3944833	100.1512022	99.90910395	99.66817979
180827A00020	8/27/2018	3.21	8/27/2025	8/27/2018	129.03688	123.87777	118.9568406	114.2616817	109.7806103	105.5026218	101.4173458	97.51500589	93.7863808
180827A00032	8/27/2018	2.96	8/29/2022	8/27/2018	108.71575	107.309494	105.9391718	104.6034129	103.3009194	102.0304582	100.7908561	99.58099678	98.39981734
180827A00034	8/27/2018	2.99	8/28/2023	8/27/2018	115.43794	112.9077	110.4467198	108.0525462	105.7228402	103.4553669	101.2479895	99.09866412	97.00543488
180827A00060	8/27/2018	2.9	8/27/2021	8/27/2018	101.69442	101.4366336	101.1801502	100.92496	100.6710534	100.4184206	100.1670521	99.91693858	99.66807063
180831A00018	8/31/2018	2.95	8/31/2022	8/31/2018	108.72886	107.3204513	105.9473231	104.608152	103.3016837	102.0267255	100.7821421	99.56685207	98.37982535
180904A00004	9/4/2018	2.89	9/5/2023	9/4/2018	115.71239	113.1469609	110.6522445	108.2257752	105.8651915	103.5682338	101.332739	99.15663593	97.03793985
180904A00012	9/4/2018	3.35	9/4/2030	9/4/2018	159.79151	146.7685479	134.9322358	124.1675164	114.3710831	105.4501175	97.32117313	89.90918319	83.1465782
180904A00014	9/4/2018	3.37	9/1/2028	9/4/2018	146.77382	137.1746266	128.2806316	120.0360599	112.3898429	105.2951974	98.70924239	92.5926539	86.90935109
180905A00015	9/5/2018	2.85	9/1/2022	9/5/2018	108.79295	107.380073	106.002278	104.6582646	103.3467941	102.0666882	100.816825	99.59613586	98.40360206
180906A00013	9/6/2018	2.81	9/7/2021	9/6/2018	101.89501	101.6050495	101.3167535	101.0301045	100.7450882	100.4616906	100.1798978	99.89969626	99.6210723
180906A00020	9/6/2018	2.81	9/7/2021	9/6/2018	101.89501	101.6050495	101.3167535	101.0301045	100.7450882	100.4616906	100.1798978	99.89969626	99.6210723
180910A00033	9/10/2018	3.43	9/8/2028	9/10/2018	147.37297	137.7260776	128.7889733	120.5054689	112.8241169	105.6977853	99.08327363	92.94096529	87.23451179
160630A00091	6/30/2016	1.51	6/30/2021	6/30/2016	100.48316	100.3910235	100.2990557	100.2072584	100.1156312	100.0241735	99.93288488	99.84176493	99.75081317
160701A00007	7/1/2016	1.42	7/1/2021	7/1/2016	100.48928	100.3943314	100.2995645	100.2049803	100.1105784	100.0163582	99.92231923	99.82846091	99.73478274
160701A00020	7/1/2016	2.13	7/1/2026	7/1/2016	127.92863	121.7445713	115.8964879	110.3643382	105.1293825	100.1740931	95.48206961	91.03795999	86.8273879
160701A00027	7/1/2016	1.93	7/1/2024	7/1/2016	117.46067	113.9241108	110.513089	107.222403	104.0470983	100.9824569	98.0239836	95.16739463	92.40860585
160701A00028	7/1/2016	2.16	7/1/2026	7/1/2016	128.09749	121.9089519	116.0565692	110.5202883	105.2813611	100.3222526	95.62655518	91.17890998	86.96493424
160705A00005	7/5/2016	1.49	7/5/2023	7/5/2016	111.44138	109.1183094	106.8557766	104.6517712	102.5043645	100.4117074	98.37202597	96.38361827	94.44485025
160705A00009	7/5/2016	1.21	7/6/2021	7/5/2016	100.54839	100.4392469	100.3303539	100.2217087	100.1133106	100.0051587	99.89725207	99.78958987	99.68217125
160705A00104	7/5/2016	2.1	7/6/2026	7/5/2016	127.82149	121.6230126	115.7621532	110.2187152	104.9738241	100.0098298	95.31022021	90.85954133	86.64332397

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160706A00014	7/6/2016	1.41	7/6/2021	7/6/2016	100.5602	100.4511471	100.3423426	100.2337847	100.1254725	100.0174052	99.90958188	99.80200175	99.69466395
160706A00019	7/6/2016	1.41	7/6/2021	7/6/2016	100.5602	100.4511471	100.3423426	100.2337847	100.1254725	100.0174052	99.90958188	99.80200175	99.69466395
160706A00026	7/6/2016	2.19	7/6/2027	7/6/2016	132.49015	124.8963947	117.7863908	111.1267782	104.8866727	99.03746706	93.55265142	88.40764856	83.57966296
160706A00027	7/6/2016	2.29	7/6/2028	7/6/2016	137.24004	128.2002664	119.8184597	112.0432804	104.8276517	98.12838626	91.90584516	86.12362864	80.74829538
160706A00028	7/6/2016	2.39	7/6/2029	7/6/2016	142.42331	131.8695311	122.1778197	113.2731884	105.0875404	97.55900655	90.63134493	84.25340212	78.37862834
160706A00029	7/6/2016	2.49	7/8/2030	7/6/2016	147.88725	135.7449378	124.7009951	114.6501086	105.4975803	97.15820621	89.55527933	82.61970222	76.28919614
160706A00030	7/6/2016	2.59	7/7/2031	7/6/2016	153.63332	139.836079	127.4048888	116.1968731	106.0848028	96.95530508	88.70728939	81.25055962	74.50458951
160707A00034	7/7/2016	1.25	7/7/2021	7/7/2016	100.56693	100.4549601	100.3432514	100.231804	100.1206168	100.0096889	99.89901933	99.78860723	99.67845164
160708A00002	7/8/2016	1.46	7/8/2021	7/8/2016	100.59467	100.4799673	100.3655389	100.2513837	100.1375008	100.0238891	99.91054755	99.79747528	99.68467125
160712A00016	7/12/2016	1.32	7/12/2021	7/12/2016	100.64669	100.520583	100.3948034	100.2693538	100.1442328	100.0194391	99.89497147	99.77082846	99.64700881
160712A00023	7/12/2016	1.79	7/12/2023	7/12/2016	111.87857	109.5353456	107.2534688	105.0308838	102.865624	100.7558048	98.69961865	96.69533194	94.74128085
160714A00020	9/6/2016	2.28	9/4/2026	9/6/2016	129.58819	123.1379823	117.048373	111.2972436	105.8639545	100.7292392	95.87510474	91.28474039	86.94243292
160714A00053	7/14/2016	1.58	7/15/2021	7/14/2016	100.71376	100.5792467	100.4451092	100.3113434	100.1779476	100.0449203	99.91225987	99.77996486	99.64803369
160718A00010	7/18/2016	1.65	7/18/2023	7/18/2016	111.99544	109.6253912	107.3178782	105.0707918	102.8821096	100.7498943	98.67228895	96.64751331	94.67385958
160726A00005	7/26/2016	2.28	7/27/2026	7/26/2016	129.10899	122.803486	116.8443679	111.2107226	105.8830185	100.8430045	96.0736179	91.55890102	87.28392276
160801A00001	8/1/2016	1.97	8/1/2024	8/1/2016	118.04262	114.3959017	110.8815371	107.4939054	104.2276595	101.0777152	98.03923592	95.10761878	92.27848174
160802A00003	8/2/2016	2.53	8/1/2031	8/2/2016	155.27702	141.1901689	128.509685	117.0873246	106.7911978	97.50389005	89.12080496	81.54870434	74.70442163
160808A00011	8/8/2016	1.6	8/9/2021	8/8/2016	101.09082	100.8852054	100.6804444	100.476527	100.2734479	100.071202	99.86978405	99.6691889	99.46941148
160810A00032	8/10/2016	1.32	8/10/2021	8/10/2016	101.06489	100.8562971	100.6485807	100.441734	100.2357516	100.0306278	99.82635732	99.6229347	99.42035461
160811A00011	8/11/2016	2.25	8/11/2026	8/11/2016	129.12167	122.7650222	116.7600842	111.085463	105.7211918	100.6486231	95.85033373	91.31003737	87.01250359
160812A00005	8/12/2016	1.69	8/12/2022	8/12/2016	106.79564	105.4552316	104.1482807	102.8735461	101.6298485	100.4160652	99.23112721	98.07401594	96.94376022
160815A00006	8/15/2016	2.23	8/17/2026	8/15/2016	129.07946	122.7036815	116.6816981	110.9919281	105.6142312	100.5298024	95.72107512	91.17163251	86.86612542
160815A00007	8/15/2016	2.23	8/17/2026	8/15/2016	129.07946	122.7036815	116.6816981	110.9919281	105.6142312	100.5298024	95.72107512	91.17163251	86.86612542
160816A00003	8/16/2016	1.63	8/16/2023	8/16/2016	112.38157	109.9174539	107.5202923	105.1877478	102.9175818	100.7076539	98.55591652	96.46041008	94.41925809
160825A00054	8/29/2016	2.49	8/30/2021	8/29/2016	101.64276	101.3764769	101.1115821	100.8480696	100.5859285	100.3251482	100.0657182	99.80762787	99.55086701
160830A00007	8/30/2016	1.65	8/30/2021	8/30/2016	101.42199	101.1560867	100.8915763	100.6284466	100.3666868	100.1062862	99.84723433	99.58952072	99.33313504
160830A00032	8/30/2016	1.82	8/30/2022	8/30/2016	107.238	105.8410751	104.4795682	103.1521408	101.8575222	100.5945044	99.36193811	98.15872921	96.9838356
160830A00034	8/30/2016	1.9	8/30/2023	8/30/2016	112.86988	110.3644352	107.9278359	105.5576505	103.251559	101.0073436	98.82288363	96.6961498	94.62519967
160906A00017	9/6/2016	1.65	9/7/2021	9/6/2016	101.54352	101.2544518	100.9670398	100.6812679	100.3971219	100.1145879	99.83365219	99.5543011	99.27652119
160916A00016	9/16/2016	1.66	9/16/2021	9/16/2016	101.68025	101.3651198	101.0519523	100.7407283	100.4314298	100.1240387	99.81853749	99.51490864	99.21313491
160920A00004	9/20/2016	1.68	9/20/2021	9/20/2016	101.74752	101.4207611	101.0961099	100.7735418	100.4530365	100.1345745	99.81813599	99.50370186	99.19125303
160922A00014	9/22/2016	2.06	9/22/2026	9/22/2016	129.52024	122.9774632	116.8041977	110.9776848	105.4766819	100.2813551	95.3731784	90.73484085	86.35016067
160922A00050	9/22/2016	2.24	9/22/2025	9/22/2016	124.87474	119.7233443	114.8138721	110.1336977	105.6709222	101.414327	97.35333095	93.47795084	89.77876441

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160923A00030	9/23/2016	1.41	9/23/2021	9/23/2016	101.73117	101.395518	101.0620852	100.7308466	100.4017808	100.0748663	99.75008212	99.42740739	99.1068216
160923A00032	9/23/2016	1.67	9/25/2023	9/23/2016	113.06223	110.468506	107.9474194	105.4965223	103.1134603	100.7959728	98.54188838	96.34912067	94.2156647
160926A00004	9/26/2016	1.66	9/26/2023	9/26/2016	113.05209	110.4554603	107.9316071	105.4780734	103.0925043	100.7726379	98.51630139	96.32140672	94.18594695
160926A00023	9/26/2016	1.74	9/26/2022	9/26/2016	107.40595	105.9803789	104.5814037	103.2083326	101.8604935	100.5372375	99.23793731	97.9619871	96.70880096
160929A00004	9/29/2016	1.74	9/29/2022	9/29/2016	107.44033	106.0094374	104.6046017	103.2251691	101.870509	100.5400111	99.23308454	97.94915737	96.68767544
160930A00005	9/30/2016	2.03	9/30/2024	9/30/2016	119.09394	115.2393602	111.530076	107.9598521	104.5227577	101.2131462	98.02564025	94.95511725	91.99669617
160930A00010	9/30/2016	1.47	9/30/2022	9/30/2016	107.25531	105.8199114	104.4107416	103.027143	101.6684786	100.334132	99.02350664	97.73602496	96.47112767
161003A00004	10/3/2016	1.91	10/3/2023	10/3/2016	113.40043	110.7852244	108.2436452	105.7732109	103.3715375	101.0363349	98.76540252	96.55662555	94.40797077
161004A00040	10/4/2016	1.45	10/4/2021	10/4/2016	101.9077	101.5398857	101.174731	100.8122036	100.4522753	100.0949179	99.74010413	99.38780668	99.03799885
161006A00013	10/6/2016	2.07	10/6/2025	10/6/2016	125.00734	119.7834142	114.8073019	110.0659795	105.5471778	101.2393311	97.13153311	93.21349609	89.47551252
161014A00006	10/14/2016	1.74	10/14/2021	10/14/2016	102.13714	101.7401508	101.3462526	100.9554088	100.5675841	100.1827432	99.80085195	99.42187628	99.04578285
161020A00002	10/20/2016	1.96	8/15/2023	10/20/2016	112.78506	110.3264124	107.9343388	105.6065225	103.3407447	101.1348834	98.98690837	96.89487617	94.85692555
161031A00007	10/31/2016	1.91	10/31/2022	10/31/2016	108.16387	106.6302074	105.126167	103.6509632	102.2038368	100.7840545	99.39090821	98.02371371	96.68180965
161109A00018	11/9/2016	2.63	11/9/2026	11/9/2016	132.50491	125.7452011	119.373812	113.3664008	107.7002795	102.3542893	97.30868935	92.54505509	88.04618348
161115A00011	11/15/2016	2.46	11/15/2023	11/15/2016	115.49021	112.7114997	110.0146426	107.396742	104.8550231	102.3868262	99.98960148	97.66090348	95.39838616
161117A00015	11/17/2016	2.08	11/17/2021	11/17/2016	102.82957	102.3314785	101.8382117	101.3497	100.8658747	100.3866686	99.91201551	99.44185079	98.97611086
161213A00014	12/13/2016	2.07	12/13/2021	12/13/2016	103.30189	102.7250034	102.1545601	101.5904491	101.0325654	100.480806	99.93507044	99.39526019	98.86127902
161214A00023	12/14/2016	3.3	12/15/2031	12/14/2016	166.55069	151.3268936	137.6569711	125.3729941	114.326027	104.3838912	95.42920105	87.3576385	80.07643717
161215A00001	12/15/2016	2.5	12/15/2021	12/15/2016	103.52595	102.9430588	102.3667303	101.7968526	101.2333177	100.6760201	100.1248565	99.57972575	99.04052922
161215A00014	12/15/2016	2.66	12/15/2022	12/15/2016	110.08058	108.3959702	106.74619	105.1302411	103.5471587	101.9960148	100.4759156	98.98600023	97.52543946
161222A00030	12/22/2016	3.09	12/22/2026	12/22/2016	137.00367	129.9259594	123.2620054	116.9853671	111.0714367	105.4973004	100.2416123	95.28447882	90.60735247
161223A00028	12/23/2016	2.23	12/23/2021	12/23/2016	103.56472	102.9572463	102.3568848	101.7635133	101.17701	100.5972563	100.024136	99.45753577	98.8973448
170109A00031	1/9/2017	2.29	1/10/2022	1/9/2017	103.85006	103.1885584	102.5354763	101.8906521	101.2539297	100.6251568	100.0041851	99.39087004	98.78507039
170110A00020	1/10/2017	2.4	1/10/2024	1/10/2017	116.6751	113.6940787	110.8053497	108.0054529	105.2910842	102.6590866	100.1064428	97.63026722	95.22779984
170110A00022	1/10/2017	2.27	1/10/2023	1/10/2017	110.12081	108.3537549	106.6243905	104.931584	103.2742469	101.6513335	100.0618393	98.50479892	96.97928392
170110A00023	1/10/2017	2.08	1/10/2022	1/10/2017	103.78223	103.1201093	102.4664299	101.8210286	101.1837486	100.5544373	99.93294556	99.31912823	98.71284361
170111A00009	1/11/2017	3.16	1/11/2028	1/11/2017	141.7148	133.1492685	125.165188	117.7199052	110.7741162	104.2915883	98.23890439	92.58522939	87.30209759
170111A00011	1/11/2017	3.24	1/11/2029	1/11/2017	147.65454	137.5356108	128.1931849	119.563353	111.5877971	104.21327	97.39112886	91.07691369	85.22996728
170111A00012	1/11/2017	3.31	1/11/2030	1/11/2017	153.77921	142.037072	131.2979569	121.4704665	112.4719958	104.2278441	96.67041989	89.73852942	83.37674027
170111A00014	1/11/2017	3.47	1/12/2032	1/11/2017	166.86431	151.6313447	137.9569168	125.6720284	114.626869	104.6885472	95.7390988	87.67373924	80.39932811
170111A00016	1/11/2017	3.51	1/11/2033	1/11/2017	172.87966	155.8538665	140.7097656	127.2274213	115.2137388	104.4990604	94.93420958	86.38792115	78.74460607
170117A00045	1/17/2017	2.21	1/18/2022	1/17/2017	103.9357	103.2498975	102.5731265	101.9052136	101.2459855	100.5952736	99.95291349	99.31874508	98.69261227
170120A00009	1/20/2017	3.67	1/22/2035	1/20/2017	186.85677	165.8688582	147.5396279	131.5137193	117.4851649	105.1902889	94.40165995	84.92293617	76.58446616

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170120A00010	1/20/2017	3.71	1/22/2036	1/20/2017	193.19586	170.2006741	150.2983179	133.0502574	118.0825153	105.0758607	93.75753383	83.89425764	75.28633211
170120A00011	1/20/2017	3.75	1/20/2037	1/20/2017	199.38846	174.3510405	152.8731643	134.4216901	118.546273	104.8661102	93.05886853	82.85142455	74.01211165
170123A00039	1/23/2017	2.79	1/23/2026	1/23/2017	130.15589	124.4370775	119.004834	113.8431983	108.9371889	104.2727395	99.83663847	95.61647091	91.60056637
170130A00031	1/30/2017	2.96	7/30/2025	1/30/2017	127.43738	122.4073186	117.6061403	113.0221103	108.6441697	104.4618898	100.465432	96.64551078	92.99335907
170130A00054	3/30/2017	2.33	4/29/2022	3/30/2017	105.77041	104.7678215	103.7841707	102.8189298	101.8715859	100.9416448	100.0286305	99.13208427	98.2515637
170203A00012	2/3/2017	3.63	2/2/2035	2/3/2017	186.37545	165.3757943	147.0427319	131.0190733	116.9973772	104.7127858	93.93692278	84.47269444	76.1498544
170207A00013	2/7/2017	2.05	2/7/2022	2/7/2017	104.23792	103.4896425	102.7520916	102.0250329	101.3082435	100.6015069	99.90461241	99.21735544	98.53953695
170207A00023	2/7/2017	2.26	2/7/2022	2/7/2017	104.31416	103.5665835	102.8297056	102.1032949	101.3871293	100.6809932	99.98467666	99.29797591	98.62069262
170215A00037	2/15/2017	2.71	5/23/2022	2/15/2017	106.56824	105.4864439	104.4265671	103.3879462	102.3699464	101.3719581	100.3933954	99.43369505	98.49231561
170215A00039	2/15/2017	2.72	11/7/2022	2/15/2017	109.49451	107.9293855	106.394871	104.8901443	103.4144106	101.9669029	100.5468808	99.15362888	97.78645645
170215A00040	2/15/2017	2.59	5/15/2023	2/15/2017	112.65442	110.4808203	108.3607754	106.2926169	104.2747448	102.3056197	100.3837604	98.50774083	96.6761879
170216A00043	2/16/2017	3.17	2/16/2027	2/16/2017	137.1991	129.9581824	123.1495142	116.7448681	110.7180225	105.0446034	99.70194373	94.66895377	89.92600262
170217A00014	2/17/2017	2.27	2/14/2022	2/17/2017	104.44262	103.6733066	102.9153071	102.1683735	101.4322644	100.7067458	99.99159001	99.28657611	98.59148929
170223A00003	2/23/2017	2.05	2/23/2022	2/23/2017	104.50994	103.7119612	102.926131	102.1521762	101.3898291	100.6388301	99.89892725	99.16987593	98.45143873
170224A00019	2/24/2017	2.21	2/24/2022	2/24/2017	104.56991	103.7697334	102.981765	102.20573	101.441359	100.6883904	99.9465707	99.21565359	98.49540011
170224A00020	2/24/2017	3.08	2/24/2027	2/24/2017	136.73575	129.4807422	122.6605574	116.2466959	110.2126873	104.533934	99.18756741	94.15231657	89.40838741
170224A00021	2/24/2017	3.4	2/24/2032	2/24/2017	166.4836	151.1128447	137.3307558	124.9633699	113.8566737	103.8742175	94.89502709	86.81177335	79.52916751
170224A00039	5/24/2017	3.17	5/24/2027	5/24/2017	138.59171	130.9558189	123.7948314	117.0766574	110.7715408	104.8518763	99.29204372	94.06825472	89.15841301
170224A00044	5/24/2017	3.29	5/24/2029	5/24/2017	150.1023	139.3851585	129.5249438	120.4483686	112.0887796	104.3855248	97.28338496	90.7320604	84.68570955
170228A00014	2/28/2017	2.89	3/1/2027	2/28/2017	136.71785	129.405563	122.5337917	116.0735391	109.9978805	104.2818034	98.9020603	93.83703429	89.06661511
170228A00018	2/28/2017	2.25	2/28/2022	2/28/2017	104.66976	103.8570076	103.056835	102.26895	101.4930713	100.7289263	99.97625047	99.23478734	98.50428791
170303A00021	3/3/2017	2.2	3/3/2022	3/3/2017	104.76402	103.9405475	103.1299831	102.332024	101.5463777	100.7727611	100.0108996	99.26052662	98.52138397
170307A00033	3/7/2017	2.2	3/7/2022	3/7/2017	104.83351	103.9974687	103.1747325	102.3649812	101.5679092	100.7832203	100.0106275	99.24985269	98.50062625
170310A00032	3/10/2017	2.27	3/10/2022	3/10/2017	104.9422	104.0964746	103.2643543	102.4455084	101.6396209	100.846386	100.0655073	99.29669765	98.53967873
170313A00027	3/13/2017	2.27	3/14/2022	3/13/2017	105.01252	104.1542101	103.3099004	102.4792499	101.6619289	100.8576184	100.0660094	99.2868027	98.51970833
170313A00032	3/13/2017	3.69	6/14/2032	3/13/2017	171.92533	155.8025149	141.3814596	128.4717943	116.9054247	106.5338202	97.22564419	88.86468219	81.34802907
170313A00034	3/13/2017	3.31	3/15/2027	3/13/2017	138.49898	131.1202137	124.186342	117.6681184	111.5383764	105.7718676	100.3451163	95.23628538	90.42505392
170313A00035	3/13/2017	3.31	3/15/2027	3/13/2017	138.49898	131.1202137	124.186342	117.6681184	111.5383764	105.7718676	100.3451163	95.23628538	90.42505392
170314A00005	3/14/2017	2.29	3/14/2022	3/14/2017	105.02891	104.1705258	103.3261424	102.495419	101.678026	100.8736442	100.0819647	99.30268828	98.53552498
170314A00006	3/14/2017	2.67	3/14/2024	3/14/2017	118.54672	115.3342819	112.2263317	109.218829	106.3079158	103.4899089	100.7612901	98.11869836	95.5589208
170316A00018	3/16/2017	2.8	3/18/2024	3/16/2017	118.54191	115.326809	112.2163359	109.2064619	106.2933442	103.4733114	100.7428548	98.0986201	95.53739956
170321A00013	3/21/2017	2.18	3/21/2022	3/21/2017	105.06007	104.1800587	103.3147499	102.4637766	101.6267847	100.8034317	99.99338612	99.1963274	98.41194501
170322A00010	3/22/2017	2.11	3/22/2022	3/22/2017	105.01843	104.1355444	103.2674586	102.413803	101.5742198	100.7483635	99.93589929	99.13650352	98.34986276

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170322A00015	3/22/2017	2.31	3/22/2022	3/22/2017	105.08962	104.207767	103.3406779	102.4879806	101.6493191	100.824349	100.0127369	99.21416054	98.42830758
170322A00022	3/22/2017	3.89	9/23/2041	3/22/2017	226.67029	191.5975465	162.7249756	138.8994562	119.1892928	102.8406215	89.24258581	77.89948296	68.40845848
170322A00023	3/22/2017	3.82	9/22/2039	3/22/2017	214.3782	183.7766652	158.1428281	136.6283202	118.5345422	103.2855101	90.40574075	79.50222252	70.24969863
170322A00024	3/22/2017	3.72	9/22/2036	3/22/2017	197.06867	172.7326787	151.7956079	133.7574027	118.19429	104.7467843	93.10963226	83.02337267	74.26724802
170322A00025	3/22/2017	3.58	3/22/2033	3/22/2017	174.94822	157.5117705	142.0280064	128.2657509	116.0223798	105.1201588	95.40307054	86.73405959	78.99263971
170322A00026	3/22/2017	3.22	3/22/2028	3/22/2017	143.17164	134.2985731	126.0426203	118.3575469	111.2008167	104.5332742	98.31886001	92.52435032	87.11912063
170323A00009	3/23/2017	2.1	3/23/2022	3/23/2017	105.02711	104.1411159	103.2700217	102.4134551	101.5710552	100.7424725	99.92736945	99.12541899	98.33630477
170323A00013	3/23/2017	2.1	3/23/2022	3/23/2017	105.02711	104.1411159	103.2700217	102.4134551	101.5710552	100.7424725	99.92736945	99.12541899	98.33630477
170327A00070	3/29/2017	3.05	3/29/2027	3/29/2017	138.17838	130.7150538	123.7058583	117.120791	110.9319819	105.1135297	99.6413531	94.49305393	89.64779161
170327A00075	3/27/2019	2.47	3/28/2022	3/27/2019	105.33116	104.4297841	103.5437867	102.672778	101.8163803	100.9742285	100.1459696	99.33126198	98.52977539
170328A00015	3/28/2017	2.75	11/29/2024	3/28/2017	122.66869	118.5513437	114.5959696	110.7952946	107.1424142	103.6307722	100.2541404	97.00660035	93.88252636
170417A00043	4/17/2017	2.14	4/18/2022	4/17/2017	105.4032	104.4365547	103.4875908	102.555823	101.6407868	100.7420347	99.85913462	98.99166995	98.13923843
170417A00057	4/17/2017	2.32	4/17/2023	4/17/2017	111.63884	109.5629009	107.5362116	105.5573035	103.6247597	101.7372147	99.89335227	98.09190337	96.33164407
170417A00068	4/17/2019	2.59	4/17/2024	4/17/2019	118.41333	115.1030888	111.9032517	108.809529	105.8178266	102.9242316	100.1250033	97.41656445	94.79549326
170419A00024	4/19/2017	2.45	4/21/2025	4/19/2017	124.34086	119.6950125	115.2492042	110.993766	106.9195522	103.0179048	99.28062504	95.69994665	92.2685104
170424A00009	4/24/2017	2.04	4/25/2022	4/24/2017	105.53664	104.5460801	103.5740416	102.6200112	101.6834922	100.764006	99.86109123	98.97430318	98.10321281
170427A00044	4/27/2017	3.02	4/27/2027	4/27/2017	137.21762	129.722701	122.6888368	116.0852383	109.8833273	104.0565662	98.58030216	93.43162431	88.58923179
170427A00046	4/27/2017	3.1	4/27/2028	4/27/2017	142.75178	133.7632845	125.4086747	117.6398663	110.4126602	103.6864096	97.42371748	91.59016127	86.15404212
170428A00030	4/28/2017	2.25	4/28/2022	4/28/2017	105.67702	104.6780365	103.6978657	102.7359844	101.7918846	100.865077	99.95509004	99.06146922	98.18377623
170501A00008	5/1/2017	2.23	5/2/2022	5/1/2017	105.72699	104.7152579	103.7228263	102.749145	101.7936867	100.8559433	99.93542578	99.03166277	98.14420004
170504A00038	5/4/2017	2.09	5/4/2022	5/4/2017	105.73817	104.7184894	103.7184083	102.7373637	101.774816	100.8302458	99.90315305	98.99305603	98.09949067
170508A00010	5/8/2017	2.43	5/8/2024	5/8/2017	118.74937	115.3540867	112.0744482	108.9058634	105.8439552	102.8845449	100.0236417	97.25743334	94.58227715
170509A00006	5/9/2017	2.3	5/9/2022	5/9/2017	105.90594	104.8715569	103.8573239	102.8626562	101.8869914	100.9297888	99.99052794	99.06870772	98.16384562
170515A00005	5/15/2017	2.04	5/16/2022	5/15/2017	105.89439	104.8363197	103.7993204	102.7827663	101.7860572	100.8086162	99.84988861	98.90934079	97.98645929
170515A00054	5/15/2017	3.2	5/17/2032	5/15/2017	167.66969	151.7631305	137.5385439	124.8079661	113.4053745	103.184027	94.01413376	85.78082047	78.38234492
170515A00056	5/15/2017	3.2	5/17/2032	5/15/2017	167.66969	151.7631305	137.5385439	124.8079661	113.4053745	103.184027	94.01413376	85.78082047	78.38234492
170517A00027	5/17/2017	1.99	5/17/2022	5/17/2017	105.86125	104.8002316	103.7604035	102.7411358	101.7418231	100.7618837	99.80075842	98.85790927	97.93281869
170519A00034	5/19/2017	1.97	5/19/2022	5/19/2017	105.87488	104.8075232	103.7616065	102.7364868	101.7315486	100.7462003	99.77987333	98.83202104	97.9021174
170524A00011	5/24/2017	2.54	5/24/2024	5/24/2017	118.8734	115.4344826	112.1141822	108.9077292	105.810577	102.8183877	99.92702136	97.13252595	94.43112741
170530A00002	5/30/2017	2.15	5/31/2022	5/30/2017	106.13312	105.0286529	103.9470816	102.8877025	101.8498381	100.8328383	99.83607888	98.85896026	97.90090641
170530A00026	5/30/2017	1.81	6/1/2021	5/30/2017	100.06286	100.0517106	100.0405737	100.0294473	100.0183316	100.0072265	99.99613201	99.98504809	99.97397474
170530A00027	5/30/2017	1.97	5/31/2022	5/30/2017	106.07751	104.9713553	103.8881685	102.8272405	101.7878909	100.7694667	99.77134108	98.79291197	97.83360095
170530A00060	5/30/2017	2.12	3/25/2022	5/30/2017	104.98002	104.0894969	103.2140271	102.3532341	101.5067514	100.6742245	99.85531047	99.04967765	98.25700502

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170531A00005	5/31/2017	1.94	5/31/2022	5/31/2017	106.04618	104.9402044	103.857193	102.7964379	101.7572587	100.7390026	99.74104261	98.76277692	97.80362707
170531A00080	5/31/2017	2.3	5/31/2024	5/31/2017	118.71567	115.2445975	111.8942257	108.6596651	105.5362525	102.5195409	99.60528817	96.78944645	94.0681517
170602A00007	6/2/2017	1.94	6/2/2021	6/2/2017	100.07898	100.0650621	100.0511529	100.0372572	100.023375	100.0095063	99.99565109	99.98180934	99.96798102
170602A00023	6/2/2017	2.09	6/2/2023	6/2/2017	112.23619	110.0045081	107.8291927	105.708447	103.6405431	101.6238208	99.65668424	97.73759896	95.86508908
170602A00033	6/2/2017	2.09	6/2/2022	6/2/2017	106.1044	104.9937907	103.9063398	102.8413301	101.7980724	100.7759057	99.77419535	98.79233202	97.82973035
170606A00014	6/6/2017	1.9	6/6/2022	6/6/2017	106.10503	104.9797622	103.8782601	102.7997772	101.7435977	100.7090353	99.69543156	98.7021545	97.72859739
170606A00017	6/6/2017	1.9	6/6/2022	6/6/2017	106.10503	104.9797622	103.8782601	102.7997772	101.7435977	100.7090353	99.69543156	98.7021545	97.72859739
170608A00017	6/8/2017	1.95	6/8/2022	6/8/2017	106.19195	105.0598625	103.9518105	102.8670391	101.8048205	100.7644568	99.74527891	98.74664463	97.76793753
170609A00006	6/9/2017	1.89	12/9/2021	6/9/2017	103.13573	102.5712602	102.0129595	101.4607316	100.9144777	100.374101	99.83950704	99.31060311	98.78729862
170609A00009	6/9/2017	1.82	6/9/2021	6/9/2017	100.18896	100.155496	100.1220674	100.0886781	100.0553282	100.0220175	99.98874596	99.95551353	99.92232012
170609A00025	6/9/2017	2.13	6/9/2022	6/9/2017	106.26585	105.1322378	104.0227266	102.9365547	101.8729914	100.8313364	99.81091776	98.81109106	97.83123758
170609A00043	6/9/2017	3.07	6/9/2032	6/9/2017	166.33163	150.4085646	136.1804406	123.4567233	112.0692443	101.8694753	92.72614228	84.52314126	77.1577149
170612A00003	6/12/2017	1.97	6/13/2022	6/12/2017	106.29822	105.1496923	104.0258884	102.9260126	101.8493069	100.7950451	99.76253068	98.75109614	97.76010081
170613A00032	6/13/2017	2.45	6/13/2025	6/13/2017	125.1401	120.2976577	115.6708329	111.2488348	107.0214784	102.9791425	99.1127358	95.41366396	91.87379988
170613A00033	6/13/2017	2.3	6/13/2024	6/13/2017	118.9215	115.4060146	112.0138454	108.739943	105.5794985	102.5279284	99.58086315	96.73413552	93.98376976
170615A00034	6/15/2017	2.13	6/15/2022	6/15/2017	106.3683	105.2151567	104.0869242	102.9828052	101.9020329	100.8438725	99.80761994	98.79260006	97.7981652
170616A00019	6/16/2017	2.64	6/16/2027	6/16/2017	136.51221	128.817072	121.6075421	114.8503874	108.5148238	102.5723202	96.99642202	91.76258984	86.84805046
170622A00016	6/22/2017	2.11	6/22/2022	6/22/2017	106.46574	105.28991	104.1399499	103.0150129	101.9142893	100.8370038	99.78241387	98.74980818	97.73850476
170622A00037	6/22/2017	3.27	6/22/2033	6/22/2017	171.99867	154.3698796	138.7603625	124.9260775	112.6537209	101.7567088	92.07170574	83.45561905	75.78299604
170622A00038	6/22/2017	3.32	6/22/2034	6/22/2017	178.08451	158.5812093	141.4692996	126.4398313	113.2253627	101.5941877	91.34539368	82.3046261	74.32045312
170623A00028	6/23/2017	2.79	6/23/2027	6/23/2017	136.42397	128.7513343	121.5627669	114.8251313	108.5077349	102.5821327	97.02195117	91.80272662	86.90175707
170626A00017	6/26/2017	1.8	6/28/2021	6/26/2017	100.48677	100.4001552	100.3136927	100.2273777	100.1412097	100.0551885	99.96931363	99.8835848	99.79800162
170628A00008	6/28/2017	2.04	9/15/2021	6/28/2017	101.78203	101.4695639	101.1590307	100.8504077	100.5436773	100.2388219	99.93582436	99.63466762	99.33533487
170628A00056	6/28/2017	1.97	6/28/2022	6/28/2017	106.55314	105.3556015	104.1848488	103.0399896	101.9201727	100.8245841	99.75244432	98.70300731	97.67555823
170629A00020	6/29/2017	2.03	6/29/2021	6/29/2017	100.51489	100.4255293	100.3363272	100.2472836	100.1583979	100.0696699	99.98109914	99.89268517	99.80442762
170629A00073	6/29/2017	2.2	6/29/2023	6/29/2017	112.91942	110.5985675	108.3377483	106.1349838	103.988376	101.8961046	99.85642265	97.86765326	95.92818595
170630A00008	6/30/2017	2.35	7/1/2024	6/30/2017	119.37391	115.7937153	112.3406119	109.0093289	105.7948459	102.6923821	99.69738323	96.80550938	94.01262319
170630A00009	6/30/2017	2.53	6/30/2025	6/30/2017	125.74806	120.8364359	116.1454004	111.6638183	107.3811787	103.2875591	99.37358871	95.63041466	92.0496702
170630A00010	6/30/2017	2.63	6/30/2026	6/30/2017	131.7063	125.393585	119.4231423	113.7745557	108.4287422	103.3678533	98.57518901	94.03511686	89.73299828
170630A00036	6/30/2017	2.01	6/30/2022	6/30/2017	106.63245	105.4280417	104.2507161	103.0995649	101.9737231	100.8723635	99.7946945	98.73995836	97.70742931
170706A00013	7/6/2017	2.27	7/6/2022	7/6/2017	106.87587	105.6532765	104.4585525	103.2907573	102.1489881	101.0323822	99.94011469	98.87139624	97.82547142
170706A00028	7/6/2017	2.09	7/6/2022	7/6/2017	106.82725	105.6024726	104.4056662	103.235878	102.0922009	100.9737684	99.87975165	98.80935787	97.76182823
170706A00090	7/6/2017	2.48	7/6/2023	7/6/2017	113.32198	110.9812117	108.7012735	106.4801464	104.3158951	102.206664	100.1506727	98.14621322	96.1916454

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170717A00033	7/17/2017	2.19	7/18/2022	7/17/2017	107.00378	105.741901	104.5096731	103.3060586	102.1300697	100.9807635	99.85723962	98.75863793	97.68413606
170720A00009	7/20/2017	2.14	7/20/2022	7/20/2017	106.97897	105.7108647	104.472705	103.2634361	102.0820559	100.9276081	99.79917988	98.69589908	97.61693222
170721A00007	7/21/2017	1.8	7/21/2021	7/21/2017	100.84862	100.6969502	100.5457469	100.3950075	100.2447298	100.0949117	99.94555103	99.79664577	99.64819378
170724A00014	7/24/2017	2.14	7/25/2022	7/24/2017	107.05204	105.7677089	104.5140614	103.2900072	102.0945082	100.9265743	99.78526099	98.66966616	97.57892818
170724A00016	7/24/2017	2.5	7/24/2024	7/24/2017	119.72702	116.0780751	112.5605319	109.1688474	105.8977504	102.7422267	99.69750414	96.75903954	93.92250582
170728A00029	7/28/2017	2.1	1/27/2022	7/28/2017	104.01403	103.3009233	102.5975566	101.9037356	101.219267	100.5439628	99.87764012	99.22012078	98.57123131
170728A00030	7/28/2017	2.18	7/27/2022	7/28/2017	107.13466	105.8434109	104.5831478	103.352769	102.1512215	100.9775016	99.83065136	98.70975652	97.61394384
170728A00031	7/28/2017	2.27	1/27/2023	7/28/2017	110.1679	108.3541319	106.5797463	104.8435322	103.1443257	101.4810106	99.8525156	98.25781206	96.69591199
170728A00033	7/28/2017	2.46	1/29/2024	7/28/2017	116.71931	113.6879622	110.7517321	107.9069959	105.1502974	102.4783374	99.88796497	97.37617005	94.94007548
170731A00004	7/31/2017	2.16	7/29/2022	7/31/2017	107.14487	105.8471442	104.5807111	103.3444521	102.1372993	100.9582343	99.80628599	98.68052741	97.58007346
170731A00012	7/31/2017	1.82	8/2/2021	7/31/2017	101.04148	100.8556431	100.6705003	100.4860439	100.30227	100.119175	99.93675493	99.7550061	99.57392476
170731A00028	7/31/2017	2.16	8/1/2022	7/31/2017	107.19645	105.8887309	104.6127823	103.3674566	102.151662	100.9643576	99.80455126	98.67129622	97.56368882
170802A00027	8/2/2017	2.16	8/2/2022	8/2/2017	107.21364	105.9025938	104.6234728	103.3751247	102.1564496	100.9663992	99.80397423	98.66822131	97.55823057
170803A00013	8/3/2017	2.14	8/3/2022	8/3/2017	107.20626	105.8920375	104.6099035	103.3586901	102.1372891	100.9446449	99.77975115	98.64164795	97.52941924
170803A00020	8/3/2017	2.84	8/3/2027	8/3/2017	137.28863	129.4430514	122.1002086	115.2251381	108.7854989	102.7513586	97.09500111	91.79075021	86.81480878
170803A00032	8/3/2017	2.12	8/3/2023	8/3/2017	113.32311	110.8878545	108.5178258	106.2107776	103.9645626	101.777126	99.64650038	97.57080123	95.54822251
170804A00020	8/4/2017	2.13	8/1/2022	8/4/2017	107.15975	105.8522736	104.5765625	103.3314705	102.1159056	100.9288273	99.76924333	98.63620713	97.52881512
170808A00036	8/8/2017	2.04	11/15/2021	8/8/2017	102.77731	102.2852389	101.7978787	101.3151638	100.8370278	100.3634056	99.89423348	99.42944876	98.96899
170809A00005	8/9/2017	2.61	8/11/2025	8/9/2017	126.01728	120.9783103	116.1706224	111.582261	107.2019648	103.0191203	99.02371944	95.20632203	91.55801918
170815A00006	8/15/2017	2.5	8/15/2024	8/15/2017	120.07427	116.3486554	112.7593767	109.3005753	105.9666897	102.7524348	99.65278661	96.66296692	93.77842952
170818A00003	8/18/2017	2.23	8/20/2024	8/18/2017	119.75604	116.0063805	112.3948091	108.9153535	105.5623472	102.3304076	99.21441974	96.20952059	93.31108484
170818A00004	8/18/2017	1.95	8/18/2021	8/18/2017	101.30846	101.0769266	100.8464582	100.6170513	100.3886985	100.1613925	99.93512609	99.70989212	99.48568348
170818A00035	8/18/2017	1.77	8/18/2021	8/18/2017	101.28366	101.0519796	100.821375	100.5918346	100.3633511	100.135917	99.90952505	99.68416812	99.45983902
170818A00037	8/18/2017	2.08	8/18/2022	8/18/2017	107.38708	106.0233514	104.6941055	103.3980463	102.1339431	100.9006251	99.69697839	98.52194197	97.37450505
170821A00038	8/23/2017	2.39	8/23/2024	8/23/2017	120.36142	116.5917669	112.9611494	109.4635444	106.0932354	102.8447927	99.7130577	96.69312625	93.78033458
170822A00012	8/22/2017	2.11	8/22/2022	8/22/2017	107.49354	106.1161945	104.7739822	103.465575	102.1897083	100.9451799	99.73084626	98.54561886	97.3884609
170822A00017	8/22/2017	2.11	8/22/2022	8/22/2017	107.49354	106.1161945	104.7739822	103.465575	102.1897083	100.9451799	99.73084626	98.54561886	97.3884609
170822A00018	8/22/2017	2.25	8/22/2023	8/22/2017	113.57766	111.0881513	108.6664954	106.3103037	104.0172978	101.7852999	99.61222731	97.49608714	95.43497158
170824A00031	8/24/2017	1.98	8/24/2021	8/24/2017	101.41202	101.1632491	100.9157014	100.6693673	100.4242378	100.180304	99.93755733	99.69598908	99.45559069
170824A00037	8/24/2017	1.98	8/24/2021	8/24/2017	101.41202	101.1632491	100.9157014	100.6693673	100.4242378	100.180304	99.93755733	99.69598908	99.45559069
170824A00038	8/24/2017	2.23	8/24/2023	8/24/2017	113.56247	111.0670115	108.6397011	106.2781414	103.9800389	101.7432014	99.56553279	97.44502753	95.379766
170825A00025	8/25/2017	2.12	8/25/2022	8/25/2017	107.5577	106.1702328	104.8183962	103.5008285	102.2162398	100.9634042	99.74115575	98.54838518	97.38403611
170828A00030	8/28/2017	1.96	9/1/2021	8/28/2017	101.53559	101.2637481	100.9933664	100.7244298	100.4569268	100.190846	99.92617591	99.66290542	99.40102341

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170828A00031	8/28/2017	2.07	8/1/2022	8/28/2017	107.08635	105.7793591	104.5041231	103.2594983	102.044393	100.8577667	99.69862746	98.56602894	97.45906771
170829A00018	8/29/2017	1.9	8/30/2021	8/29/2017	101.4877	101.221679	100.9570542	100.6938106	100.4319373	100.1714237	99.91225928	99.65443356	99.39793622
170829A00022	8/29/2017	1.72	8/30/2021	8/29/2017	101.45923	101.1930553	100.9282746	100.6648783	100.4028557	100.142196	99.88288861	99.624923	99.36828879
170829A00023	8/29/2017	1.83	8/29/2022	8/29/2017	107.42124	106.0210777	104.6568079	103.3270665	102.0305542	100.7660363	99.53233855	98.32834358	97.1529875
170829A00025	8/29/2017	1.9	8/30/2021	8/29/2017	101.4877	101.221679	100.9570542	100.6938106	100.4319373	100.1714237	99.91225928	99.65443356	99.39793622
170831A00004	8/31/2017	2	8/31/2023	8/31/2017	113.48827	110.9649657	108.5111365	106.1243355	103.8022215	101.5425562	99.34319933	97.20210256	95.11730514
170831A00006	8/31/2017	1.87	8/31/2022	8/31/2017	107.49413	106.0914182	104.7239585	103.3904261	102.0895652	100.8201816	99.58113852	98.37135386	97.18979634
170831A00021	8/31/2017	1.99	2/25/2022	8/31/2017	104.41759	103.6150297	102.8247645	102.0465129	101.2800027	100.5249697	99.78115786	99.0483184	98.32620999
170831A00029	8/31/2017	1.87	8/31/2022	8/31/2017	107.49413	106.0914182	104.7239585	103.3904261	102.0895652	100.8201816	99.58113852	98.37135386	97.18979634
170831A00050	8/31/2017	1.72	6/14/2021	8/31/2017	100.26301	100.2155787	100.1682102	100.120904	100.0736601	100.0264783	99.97935855	99.93230067	99.88530455
170831A00051	8/31/2017	1.75	8/31/2021	8/31/2017	101.48279	101.2136999	100.9460397	100.6797959	100.4149574	100.1515129	99.88945155	99.62876238	99.36943464
170831A00052	8/31/2017	1.78	11/30/2021	8/31/2017	102.93112	102.3939674	101.8624095	101.3363548	100.8157183	100.3004164	99.79036774	99.28549217	98.78571136
170906A00005	9/6/2017	1.69	9/7/2021	9/6/2017	101.57538	101.2860292	100.9983325	100.7122801	100.4278579	100.1450518	99.86384795	99.58423273	99.30619259
170906A00020	9/6/2017	2.14	9/6/2023	9/6/2017	113.55199	111.017241	108.55241	106.1550667	103.8228819	101.5536265	99.34516625	97.19545663	95.10253844
170906A00036	9/6/2017	1.81	9/6/2022	9/6/2017	107.47629	106.0676163	104.6922225	103.3489243	102.036598	100.7541723	99.50062535	98.27498174	97.07631
170906A00037	9/6/2017	1.99	9/6/2022	9/6/2017	107.54636	106.1399561	104.7667232	103.4254876	102.1151305	100.8345851	99.58283382	98.35890524	97.16187169
170907A00002	9/7/2017	1.69	9/7/2021	9/7/2017	101.57538	101.2860292	100.9983325	100.7122801	100.4278579	100.1450518	99.86384795	99.58423273	99.30619259
170907A00050	9/7/2017	1.69	9/7/2021	9/7/2017	101.57538	101.2860292	100.9983325	100.7122801	100.4278579	100.1450518	99.86384795	99.58423273	99.30619259
170908A00016	9/10/2018	1.94	9/10/2021	9/10/2018	101.67431	101.3763802	101.080211	100.7857825	100.4930792	100.2020861	99.91278792	99.62516992	99.33921738
170911A00032	9/11/2017	1.85	9/12/2022	9/11/2017	107.59104	106.1754687	104.7912126	103.4372379	102.1125538	100.8162126	99.5473079	98.3049723	97.08837504
170911A00044	9/11/2017	1.73	9/13/2021	9/11/2017	101.68055	101.3737558	101.0688229	100.7657362	100.4644788	100.1650341	99.86738564	99.57151716	99.27741265
170912A00008	9/12/2017	1.98	12/15/2021	9/12/2017	103.23208	102.6501473	102.0747727	101.5058412	100.943245	100.3868785	99.83663865	99.29242447	98.75413728
170912A00009	9/12/2017	2.11	12/15/2022	9/12/2017	109.18902	107.5119581	105.8695874	104.2609126	102.6849731	101.1408442	99.62763593	98.14449082	96.69058285
170912A00031	9/12/2017	1.89	9/12/2022	9/12/2017	107.64492	106.2289582	104.844321	103.4899721	102.1649202	100.8682176	99.59895775	98.35627295	97.13933233
170913A00025	9/13/2017	1.94	8/16/2021	9/13/2017	101.27418	101.048381	100.8236023	100.5998356	100.3770742	100.1553111	99.93453974	99.71475329	99.49594516
170913A00027	9/13/2017	2.08	9/13/2022	9/13/2017	107.72561	106.3110702	104.9274176	103.5736487	102.2487992	100.9519464	99.68220745	98.43873664	97.22072371
170914A00039	9/14/2017	2.23	9/16/2024	9/14/2017	120.1657	116.3229356	112.623977	109.0626219	105.6329767	102.3294362	99.14666755	96.07959538	93.12338741
170915A00001	9/15/2017	2.43	9/16/2024	9/15/2017	120.32215	116.4905849	112.8020591	109.2504152	105.8298029	102.5346578	99.35968478	96.29984415	93.350337
170915A00005	9/15/2017	1.81	9/15/2021	9/15/2017	101.73644	101.4237872	101.1130642	100.8042562	100.4973453	100.192314	99.88914495	99.58782111	99.28832551
170915A00031	9/15/2017	2.1	9/15/2023	9/15/2017	113.96622	111.3916225	108.8885905	106.4546653	104.0874925	101.7848155	99.54447078	97.36438273	95.24255986
170918A00108	9/18/2017	1.97	9/20/2022	9/18/2017	107.8376	106.4121192	105.0153573	103.6464718	102.3046502	100.9891115	99.69910496	98.4339089	97.19282884
170919A00073	9/19/2017	2.28	9/19/2024	9/19/2017	120.38997	116.5337735	112.8220883	109.2486921	105.8076693	102.4933922	99.30050535	96.22391047	93.25875266
170928A00020	9/29/2017	2.29	9/29/2022	9/29/2017	108.20778	106.7711999	105.3607759	103.9758542	102.6158011	101.2800037	99.96786862	98.67882113	97.41230476

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
171002A00012	10/2/2017	2.08	10/1/2021	10/2/2017	102.05658	101.6974711	101.3408899	100.986805	100.6351903	100.2860199	99.93926856	99.59491112	99.25292288
020619A00062	6/19/2002	5.86	6/20/2022	6/19/2002	110.70494	109.5079224	108.3369761	107.1912509	106.0699363	104.9722561	103.8974668	102.8448556	101.8137395
020627A00001	6/27/2002	6.07	6/27/2022	6/27/2002	110.99295	109.7738601	108.5817451	107.4157168	106.2749237	105.1585509	104.0658186	102.9959797	101.9483183
020916A00006	9/16/2002	5.38	9/16/2022	9/16/2002	112.23648	110.7862239	109.3664609	107.9762381	106.6146413	105.2807947	103.9738584	102.6930265	101.4375259
020920A00012	9/20/2002	5.4	9/20/2022	9/20/2002	112.35939	110.9037078	109.4772434	108.0791329	106.7085509	105.3647043	104.0468307	102.7541967	101.4860971
050902A00032	9/2/2005	4.69	8/22/2025	9/2/2005	136.57615	131.2450187	126.157868	121.3020488	116.6656525	112.2374594	108.0068941	103.9639838	100.0993203
050923A00096	9/23/2005	4.86	9/22/2025	9/23/2005	138.05145	132.5799772	127.3623516	122.3853905	117.6366702	113.1044753	108.7777553	104.6460824	100.6996136
060308A00014	3/8/2006	5.44	3/16/2026	3/8/2006	144.05735	137.8375336	131.93209	126.3233263	120.9946476	115.9304795	111.1161999	106.538075	102.1832007
060908A00017	9/8/2006	5.27	9/15/2021	9/8/2006	102.80175	102.4869667	102.1741258	101.8632097	101.5542005	101.2470808	100.941833	100.63844	100.3368848
061220A00034	12/20/2006	5.07	12/30/2021	12/20/2006	105.41287	104.7781012	104.1509873	103.5313938	102.9191861	102.3142324	101.7164043	101.1255762	100.5416257
061221A00005	12/21/2006	5.28	12/30/2021	12/21/2006	105.47676	104.8425841	104.2160486	103.5970148	102.9853486	102.3809188	101.7835975	101.1932597	100.6097834
071231A00068	12/31/2007	4.93	12/30/2022	12/31/2007	114.36725	112.5960297	110.8620199	109.1641184	107.5012687	105.8724555	104.2767024	102.7130701	101.1806549
080910A00065	9/10/2008	5.03	9/15/2023	9/10/2008	120.7361	118.0862099	115.5093476	113.0030153	110.5648205	108.1924701	105.8837648	103.6365947	101.4489351
081205A00033	12/5/2008	4.77	12/7/2023	12/5/2008	122.06466	119.1283363	116.2797718	113.5157923	110.8333643	108.2295834	105.7016683	103.2469542	100.8628875
081209A00008	12/9/2008	4.87	12/15/2023	12/9/2008	122.52471	119.5560466	116.6766339	113.8832254	111.1727137	108.5421252	105.9886131	103.5094512	101.102028
081211A00029	12/11/2008	4.57	12/15/2023	12/11/2008	121.71079	118.7531198	115.8844487	113.1015329	110.4012728	107.7807023	105.236982	102.7673927	100.3693297
081219A00069	12/19/2008	4.26	12/22/2023	12/19/2008	121.02408	118.0529372	115.1717639	112.3772593	109.6662694	107.0357768	104.4828944	102.0048582	99.59902129
091210A00005	12/10/2009	5.08	12/16/2024	12/10/2009	131.90176	127.5558935	123.3810663	119.3695518	115.5140148	111.807494	108.24338	104.8153957	101.5175775
100824A00009	8/24/2010	3.91	9/2/2025	8/24/2010	132.39935	127.1454048	122.1338131	117.3519704	112.7880048	108.4307309	104.2696059	100.2946882	96.49659903
100923A00051	9/23/2010	3.4	9/30/2021	9/23/2010	102.50228	102.1451039	101.7904109	101.4381776	101.0883783	100.740988	100.3959818	100.0533353	99.71302443
100930A00008	9/30/2010	3.82	9/30/2025	9/30/2010	132.49054	127.1401067	122.0397944	117.1765887	112.5382225	108.1131262	103.8903843	99.8596955	96.01133464
110103A00009	1/3/2011	3.99	1/3/2022	1/3/2011	104.8461	104.2012273	103.564294	102.9351564	102.3136718	101.6997008	101.0931078	100.4937601	99.90152813
110302A00007	3/2/2011	4.86	3/16/2026	3/2/2011	140.99228	134.8491082	129.0174316	123.4796918	118.2194195	113.2211597	108.4704028	103.953522	99.65771452
110505A00022	5/5/2011	4.59	5/15/2026	5/5/2011	140.81504	134.4570506	128.4318966	122.7203052	117.3042262	112.1667442	107.2920011	102.6651244	98.2721609
110601A00013	6/1/2011	3.49	6/15/2021	6/1/2011	100.36728	100.3169819	100.2667474	100.2165804	100.1664809	100.1164486	100.0664834	100.0165853	99.96675401
110805A00013	8/5/2011	3.43	8/16/2021	8/5/2011	101.60726	101.3809374	101.1556336	100.9313437	100.708061	100.4857784	100.2644894	100.0441871	99.82486492
110810A00020	8/10/2011	2.86	8/16/2021	8/10/2011	101.49591	101.2695851	101.0442855	100.820002	100.5967277	100.3744557	100.1531793	99.93289155	99.71358592
110824A00004	8/24/2011	3.11	8/30/2023	8/24/2011	116.12928	113.5771835	111.0951301	108.6806471	106.3313734	104.0450519	101.8195244	99.65272598	97.54268012
111006A00022	10/6/2011	3.08	10/15/2021	10/6/2011	102.67839	102.2771958	101.8791437	101.4841976	101.092321	100.7034782	100.317634	99.93475362	99.55480295
111031A00013	10/31/2011	2.82	11/1/2021	10/31/2011	102.92759	102.4757611	102.0278944	101.5839412	101.1438502	100.7075711	100.2750545	99.84625183	99.4211154
111201A00005	12/1/2011	3.16	12/15/2021	12/1/2011	103.89894	103.314831	102.7372918	102.1662132	101.601487	101.0430075	100.4906714	99.94437739	99.40402668
120112A00013	1/12/2012	2.76	1/16/2024	1/12/2012	117.7878	114.7724507	111.8508028	109.0193279	106.2746553	103.6135652	101.0329812	98.52996212	96.10169555
120112A00014	1/12/2012	3.43	1/15/2032	1/12/2012	168.65485	153.1920464	139.3158374	126.8537488	115.6529363	105.5778589	96.50823665	88.33725989	80.97001631

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
120113A00013	1/13/2012	3.87	1/15/2032	1/13/2012	171.70194	156.201148	142.2797277	129.7667722	118.5107569	108.37725	99.24690153	91.01367871	83.58331565
120119A00010	1/18/2012	2.43	1/31/2022	1/18/2012	104.38471	103.6570914	102.9395949	102.2320097	101.5341317	100.8457619	100.1667071	99.49677916	98.83579498
120126A00006	1/26/2012	2.93	1/31/2022	1/26/2012	104.66144	103.9337056	103.2160758	102.5083414	101.8102985	101.1217493	100.4425009	99.77236588	99.11116166
120127A00019	1/27/2012	3.87	1/30/2032	1/27/2012	171.9508	156.3770565	142.3952865	129.8326564	118.5360036	108.3694988	99.21260055	90.95826018	83.51134608
120130A00009	1/30/2012	2.79	1/31/2022	1/30/2012	104.56359	103.8362371	103.1189887	102.4116318	101.7139629	101.025784	100.3469024	99.67713057	99.01628615
120306A00004	3/6/2012	2.95	3/15/2023	3/6/2012	112.23474	110.25683	108.3241071	106.4351909	104.5887574	102.7835342	101.0182985	99.29187392	97.60312881
120315A00021	3/15/2012	3.12	3/15/2022	3/15/2012	105.63405	104.7711656	103.9223683	103.0873176	102.2656815	101.4571382	100.6613765	99.87809468	99.1070007
120330A00009	3/30/2012	2.98	3/30/2022	3/30/2012	105.80805	104.8982152	104.0040064	103.1250198	102.2608693	101.4111814	100.5755954	99.75376225	98.94534457
120411A00013	4/11/2012	3.59	4/15/2027	4/11/2012	140.79702	133.2349556	126.1337967	119.4629886	113.1941544	107.30093	101.7588119	96.54501668	91.63835164
120503A00014	5/3/2012	2.4	5/16/2022	5/3/2012	106.25473	105.1946878	104.1557461	103.1372762	102.1386775	101.1593725	100.1988058	99.25644323	98.33177089
120515A00020	5/15/2012	2.28	5/16/2022	5/15/2012	106.13461	105.0752318	104.0369375	103.0191063	102.0211374	101.0424537	100.0825	99.14074242	98.21666702
120601A00012	6/1/2012	1.93	6/15/2021	6/1/2012	100.28903	100.2387911	100.1886239	100.1385241	100.0884916	100.0385263	99.9886281	99.93879679	99.88903224
120709A00015	7/9/2012	2.5	7/15/2022	7/9/2012	107.3158	106.0615213	104.836481	103.6396665	102.4701107	101.32689	100.2091222	99.11596401	98.04660918
120709A00016	7/9/2012	3.2	7/15/2027	7/9/2012	139.51484	131.6659359	124.3148891	117.4273873	110.9716651	104.9183019	99.24003627	93.91159634	88.90954385
120726A00001	7/26/2012	2.36	8/1/2022	7/26/2012	107.44111	106.1317795	104.854247	103.6073639	102.3900375	101.2012264	100.0399375	98.90522351	97.79618019
120824A00023	8/24/2012	2.4	8/30/2022	8/24/2012	107.9965	106.5942627	105.2275344	103.8949778	102.5953197	101.3273494	100.089915	98.88192014	97.70232036
120907A00023	9/7/2012	2.05	9/15/2022	9/7/2012	107.89298	106.4721751	105.0817442	103.720719	102.3881743	101.0832241	99.80501951	98.5527466	97.32562484
120907A00024	9/7/2012	2.31	9/16/2024	9/7/2012	120.45132	116.603589	112.8997995	109.3337476	105.8995351	102.591552	99.40446121	96.33318293	93.37288089
121116A00006	11/16/2012	2.64	11/13/2025	11/16/2012	127.53209	122.1424858	117.0131216	112.1300563	107.4801657	103.0510945	98.8312064	94.80953911	90.97576122
121116A00021	11/16/2012	2.35	11/17/2025	11/16/2012	126.95011	121.5369076	116.3865517	111.4848876	106.8185989	102.3751526	98.14274908	94.11027501	90.26725989
121116A00022	11/16/2012	2.78	11/16/2029	11/16/2012	149.56465	138.1361098	127.6756485	118.0960077	109.3182174	101.2707732	93.88889593	87.11386694	80.89243313
121121A00003	11/21/2012	2.3	11/30/2022	11/21/2012	109.24279	107.6106313	106.0116927	104.4450407	102.9097789	101.4050436	99.93000212	98.48385166	97.0658177
130107A00002	1/7/2013	3.22	1/18/2028	1/7/2013	142.25887	133.6498497	125.6263864	118.1454238	111.167302	104.655468	98.57621583	92.89845003	87.59346986
130117A00010	1/17/2013	1.98	1/31/2022	1/17/2013	104.07006	103.343677	102.6274081	101.9210385	101.2243641	100.5371864	99.85931215	99.1905535	98.53072749
130117A00011	1/17/2013	2.18	1/30/2023	1/17/2013	110.30473	108.4764647	106.6881172	104.9384496	103.226275	101.5504558	99.90990017	98.30356057	96.73043091
130211A00017	2/11/2013	3.27	2/15/2028	2/11/2013	143.02748	134.2921922	126.1567407	118.5765853	111.5107331	104.9214359	98.7739164	93.03611819	87.67847846
130212A00016	2/12/2013	2.13	2/15/2022	2/12/2013	104.35609	103.5841072	102.8235206	102.0740815	101.335546	100.6076774	99.89024561	99.18302719	98.48580507
130314A00027	3/14/2013	2.38	3/15/2023	3/14/2013	111.44418	109.4687705	107.5385997	105.6522893	103.8085111	102.0059889	100.2434959	98.51985241	96.83392369
130405A00007	4/5/2013	2.91	4/17/2028	4/5/2013	142.52753	133.5271321	125.1612766	117.3818845	110.1447514	103.4092214	97.1378846	91.29630273	85.85275906
130424A00004	4/24/2013	2.46	4/24/2025	4/24/2013	124.42848	119.7708426	115.3141259	111.048605	106.9650766	103.0548297	99.309616	95.72162302	92.28344879
130508A00013	5/8/2013	2.23	5/15/2023	5/8/2013	112.22356	110.0485483	107.9272524	105.8579966	103.8391729	101.8692343	99.94669242	98.07011459	96.23812131
130513A00007	5/13/2013	2.54	5/15/2023	5/13/2013	112.551	110.3784943	108.2595176	106.192406	104.17556	102.2074409	100.2865681	98.41151598	96.58091208
130517A00013	5/17/2013	2.07	5/17/2022	5/17/2013	105.94156	104.8800977	103.8398356	102.8201398	101.8204049	100.8400491	99.87851289	98.93525835	98.00976771

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
130530A00008	5/30/2013	2.29	6/1/2021	5/30/2013	100.0672	100.0560576	100.0449264	100.0338058	100.0226956	100.011596	100.0005068	99.98942815	99.97835994
130531A00021	5/31/2013	3.22	5/30/2028	5/31/2013	145.6065	136.3341675	127.7243513	119.7260924	112.2926132	105.3809505	98.9516249	92.96834151	87.3977174
130606A00013	6/6/2013	2.94	6/15/2023	6/6/2013	113.95695	111.6735426	109.4482862	107.2792961	105.1647671	103.1029655	101.0922263	99.13094959	97.21759741
130712A00004	7/12/2013	2.82	7/15/2021	7/12/2013	100.89077	100.7559404	100.6214866	100.4874065	100.3536985	100.2203609	100.0873923	99.95479103	99.82255554
130821A00018	8/21/2013	3.37	8/30/2022	8/21/2013	109.44724	108.0318367	106.6522552	105.3071445	103.9952198	102.7152597	101.4661022	100.2466412	99.05582292
130904A00036	9/4/2013	3.57	9/15/2023	9/4/2013	117.55559	114.9369425	112.3908291	109.9147617	107.5063571	105.1633311	102.8834933	100.6647426	98.50506287
130904A00039	9/4/2013	4.19	9/15/2028	9/4/2013	155.31156	145.2759296	135.9767054	127.3556244	119.3593364	111.9389647	105.0497082	98.65048123	92.70358711
130926A00008	9/26/2013	2.91	9/30/2021	9/26/2013	102.35952	102.0023195	101.6476103	101.2953655	100.9455593	100.5981666	100.2531625	99.91052223	99.57022173
130926A00009	9/26/2013	4	10/2/2028	9/26/2013	154.03488	143.9836085	134.6749043	126.049756	118.0541357	110.638555	103.7576618	97.36987499	91.4370531
131106A00003	11/6/2013	3.57	11/15/2023	11/6/2013	118.40062	115.5837963	112.8496972	110.1954002	107.6181038	105.115123	102.6838835	100.3219163	98.02685286
131113A00036	11/13/2013	3.14	11/15/2021	11/13/2013	103.30538	102.8118006	102.3229465	101.8387481	101.3591387	100.8840534	100.4134281	99.94720002	99.48530772
131217A00024	12/17/2013	4.34	1/2/2029	12/17/2013	157.0139	146.5595595	136.8974705	127.9629456	119.6969216	112.0454395	104.9591772	98.39302738	92.30571667
140313A00030	3/13/2014	3.27	3/15/2024	3/13/2014	120.36291	117.1202334	113.9828951	110.9468257	108.0081422	105.1631371	102.4082685	99.74015207	97.15555256
140521A00019	5/21/2014	3.43	5/22/2028	5/21/2014	147.14848	137.8502225	129.2132231	121.1868246	113.7245033	106.7835153	100.3245707	94.3115372	88.71117135
140626A00036	6/26/2014	3.55	6/26/2029	6/26/2014	154.70388	143.5975035	133.3869781	123.9949388	115.3510968	107.3915582	100.0582108	93.29817217	87.06329352
140710A00027	7/10/2014	2.8	7/17/2023	7/10/2014	114.57986	112.1833883	109.8499299	107.5773659	105.3636629	103.2068724	101.1051272	99.05663658	97.05968274
140815A00029	8/15/2014	2.56	10/15/2021	8/15/2014	102.47434	102.0736395	101.6760767	101.2816169	100.8902239	100.501862	100.1164958	99.73409082	99.35461283
140815A00032	8/15/2014	3.59	10/15/2029	8/15/2014	155.13189	143.6642478	133.1492435	123.502347	114.6469517	106.51359	99.03923481	92.16667214	85.84393781
140820A00026	8/20/2014	2.94	8/19/2024	8/20/2014	122.21361	118.4253738	114.7761535	111.259953	107.8710793	104.6041243	101.4539484	98.41566455	95.48462428
140827A00037	8/27/2014	2.55	8/30/2021	8/27/2014	101.65853	101.392219	101.1272968	100.863757	100.6015887	100.3407812	100.0813242	99.82320696	99.5664193
140827A00038	8/27/2014	3.07	8/30/2024	8/27/2014	122.30913	118.4972302	114.82598	111.2892833	107.8813573	104.596709	101.430119	98.3766255	95.4315093
140908A00064	9/8/2014	2.57	11/30/2021	9/8/2014	103.30078	102.7630471	102.2308956	101.7042433	101.1830052	100.6670982	100.1564409	99.65095344	99.15055771
140908A00065	9/8/2014	2.63	2/28/2022	9/8/2014	104.96578	104.1517447	103.3503028	102.5611622	101.7840414	101.0186675	100.2647759	99.52210978	98.79041989
140929A00098	9/29/2014	2.62	9/29/2021	9/29/2014	102.21133	101.8576892	101.506488	101.1577016	100.8113051	100.4672741	100.1255844	99.78621229	99.4491343
141015A00020	10/15/2014	2.13	10/15/2021	10/15/2014	102.33792	101.9371694	101.5395615	101.1450625	100.7536359	100.3652458	99.97985673	99.59743396	99.21794323
141015A00025	10/15/2014	2.48	10/17/2022	10/15/2014	108.7857	107.2896252	105.8217166	104.3812477	102.9675135	101.5798326	100.2175461	98.88001693	97.5666287
141017A00020	10/17/2014	2.28	10/18/2021	10/17/2014	102.4484	102.0386508	101.6321879	101.2289687	100.8289543	100.4321067	100.0383881	99.64776158	99.26019075
141208A00008	12/8/2014	3.02	12/16/2024	12/8/2014	123.98141	119.7831447	115.751557	111.8790857	108.1585535	104.5831499	101.1464094	97.84219236	94.66466657
150105A00026	1/5/2015	2.54	1/5/2024	1/5/2015	116.98226	114.0126312	111.1345326	108.3445513	105.6394256	103.0160383	100.4714087	98.00268642	95.60714372
150116A00040	1/16/2015	2.07	1/18/2022	1/16/2015	103.84304	103.1575819	102.4811558	101.8135844	101.1546948	100.5043182	99.86229042	99.22845125	98.60264472
150121A00004	1/21/2015	1.97	1/24/2022	1/21/2015	103.9459	103.2411225	102.5458726	101.8599613	101.1832013	100.5154106	99.85641155	99.20603154	98.56410228
150123A00010	1/23/2015	2.02	1/31/2022	1/23/2015	104.09802	103.371536	102.655158	101.9486804	101.251899	100.5646153	99.88663614	99.21777355	98.5578446
150130A00050	1/30/2015	1.87	1/31/2022	1/30/2015	103.99314	103.2670646	102.5510957	101.8450233	101.1486431	100.4617568	99.78417116	99.11569833	98.45615544

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150203A00005	2/3/2015	2.11	2/3/2022	2/3/2015	104.13887	103.4041105	102.6796951	101.9654046	101.2610279	100.5663596	99.88119993	99.20535467	98.53863478
150206A00017	2/6/2015	2.05	2/7/2022	2/6/2015	104.23792	103.4896425	102.7520916	102.0250329	101.3082435	100.6015069	99.90461241	99.21735544	98.53953695
150220A00020	2/20/2015	2.42	2/18/2022	2/20/2015	104.62451	103.8423016	103.071773	102.3126608	101.5647127	100.8276835	100.1013352	99.38543686	98.67976395
150220A00021	2/20/2015	2.72	2/20/2024	2/20/2015	117.83312	114.7166304	111.6996965	108.7784498	105.9491997	103.2084275	100.5527771	97.9790456	95.48417562
150317A00012	3/17/2015	2.46	3/18/2024	3/17/2015	117.98706	114.7695854	111.6571028	108.6455629	105.7311007	102.9100246	100.1788065	97.53407441	94.97260362
150319A00012	3/19/2015	3.13	3/19/2029	3/19/2015	147.67916	137.3098908	127.7537278	118.9424639	110.8139562	103.3115545	96.38358939	89.98291024	84.0664685
150401A00008	4/1/2015	2.62	4/1/2025	4/1/2015	124.08952	119.5335764	115.1707849	110.9919573	106.9883893	103.1518335	99.47447297	95.94889667	92.5680761
150407A00009	4/7/2015	2.03	4/7/2022	4/7/2015	105.22193	104.288713	103.3720019	102.4713596	101.5863663	100.7166166	99.86171917	99.02129582	98.19498122
150407A00010	4/7/2015	2.21	4/10/2023	4/7/2015	111.58009	109.5209497	107.5103004	105.5467042	103.6287764	101.7551819	99.92463382	98.13589084	96.38775546
150422A00017	4/22/2015	2.16	4/22/2022	4/22/2015	105.48961	104.5101549	103.5488325	102.6051397	101.678595	100.7687342	99.87510972	98.99728991	98.13485827
150422A00019	4/22/2015	2.62	4/22/2025	4/22/2015	124.40473	119.772857	115.3400624	111.0967403	107.0338012	103.1426401	99.41510748	95.84348297	92.42045046
150512A00029	5/12/2015	3.03	5/12/2025	5/12/2015	126.47481	121.732061	117.1955064	112.8550691	108.7012198	104.7249439	100.9177112	97.27144667	93.77850389
150519A00012	5/19/2015	2.44	5/19/2022	5/19/2015	106.23204	105.1644719	104.1183035	103.0928983	102.0876426	101.1019468	100.1352439	99.18698875	98.25665703
150519A00013	5/19/2015	2.98	5/19/2025	5/19/2015	126.37469	121.6097369	117.0529881	112.6942125	108.5237422	104.5324346	100.7116406	97.0531751	93.54928979
150601A00148	6/1/2015	3.45	7/30/2021	6/1/2015	101.27233	101.0947127	100.9177222	100.7413529	100.5656015	100.3904649	100.2159397	100.0420228	99.86871102
150601A00149	6/1/2015	3.45	7/30/2021	6/1/2015	101.27233	101.0947127	100.9177222	100.7413529	100.5656015	100.3904649	100.2159397	100.0420228	99.86871102
150601A00182	6/1/2015	3.85	7/18/2022	6/1/2015	108.90467	107.630663	106.3865016	105.1711461	103.9836036	102.8229261	101.6882085	100.578586	99.49323181
150601A00222	6/1/2015	2.2	9/27/2022	6/1/2015	108.01285	106.5817806	105.177068	103.798034	102.444027	101.1144169	99.80859462	98.52597065	97.26597475
150601A00404	6/1/2015	4.29	1/17/2029	6/1/2015	156.3167	145.8339472	136.1499655	127.1992121	118.9218653	111.2632985	104.173603	97.60715568	91.52222997
150601A00405	6/1/2015	4.63	1/17/2034	6/1/2015	194.34411	174.4308342	156.8517666	141.3163735	127.571885	115.3982036	104.60352	95.02053839	86.50322226
150601A00484	6/1/2015	2.45	6/23/2021	6/1/2015	100.45285	100.380203	100.3076712	100.235253	100.1629482	100.0907566	100.0186777	99.94671151	99.87485763
150601A00494	6/1/2015	2.37	6/25/2021	6/1/2015	100.48156	100.4033149	100.3251988	100.2472095	100.1693466	100.0916099	100.0139989	99.93651351	99.85915333
150601A00512	6/1/2015	3.79	7/16/2029	6/1/2015	155.02887	143.9087751	133.6877178	124.2878151	115.6383312	107.6749894	100.3393495	93.57824913	87.34330049
150601A00514	6/1/2015	3.07	11/15/2024	6/1/2015	124.07142	119.9595277	116.0077883	112.2090827	108.5566455	105.0440491	101.6651844	98.41424351	95.2857027
150601A00515	6/1/2015	2.95	1/16/2024	6/1/2015	118.2087	115.1874676	112.2600777	109.4229972	106.6728507	104.0064144	101.4206077	98.9124857	96.47923208
150601A00522	6/1/2015	4.52	7/25/2030	6/1/2015	168.80783	155.6137877	143.5939522	132.6365008	122.6408554	113.5164934	105.1818919	97.56358766	90.59534092
150601A00530	6/1/2015	3.08	7/24/2024	6/1/2015	122.08225	118.381252	114.813479	111.3733033	108.055377	104.8546131	101.766171	98.78544218	95.90803786
150601A00531	6/1/2015	3.28	7/24/2024	6/1/2015	122.21627	118.5260545	114.9683553	111.5375912	108.2284533	105.0358909	101.9550973	98.98149613	96.1107285
150601A00608	6/1/2015	2.45	6/30/2021	6/1/2015	100.56654	100.4743221	100.3822784	100.2904054	100.1987025	100.1071694	100.0158055	99.9246103	99.83358346
150601A00616	6/1/2015	2.72	9/30/2022	6/1/2015	108.77376	107.3299163	105.9124098	104.5205806	103.1537894	101.8114174	100.4928659	99.19755517	97.92492364
150601A00644	6/1/2015	2.64	6/30/2022	6/1/2015	107.16028	105.9548917	104.7765402	103.6243281	102.4973931	101.3949102	100.3160902	99.26017739	98.226448
150601A00648	6/1/2015	2.71	12/30/2022	6/1/2015	110.37193	108.6393905	106.943268	105.2824836	103.6560048	102.062839	100.5020316	98.97266439	97.47385352
150601A00665	6/1/2015	3.82	1/14/2033	6/1/2015	176.40293	159.155196	143.8087305	130.1415739	117.9588388	107.0892784	97.38230541	88.70540127	80.94186127

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00667	6/1/2015	3.88	1/16/2036	6/1/2015	195.11177	171.9984265	151.9857838	134.6350107	119.5717783	106.4764703	95.07592427	85.13645537	76.45795976
150601A00696	6/1/2015	2.83	3/13/2025	6/1/2015	124.48339	119.986353	115.6777783	111.5486942	107.5906139	103.7955028	100.1557517	96.66415138	93.31386889
150601A00731	6/1/2015	2.4	4/29/2022	6/1/2015	105.80573	104.8029527	103.8191205	102.8537006	101.90618	100.9760645	100.0628781	99.1661619	98.28547348
150601A00733	6/1/2015	2.72	5/1/2025	6/1/2015	125.48062	120.7776859	116.2783498	111.9727169	107.8514241	103.9056114	100.1268915	96.50732254	93.03938171
150601A00734	6/1/2015	2.92	5/1/2025	6/1/2015	125.64248	120.9550926	116.4701076	112.1777112	108.0686147	104.1340268	100.3656249	96.75552687	93.29626597
150601A00737	6/1/2015	2.68	12/31/2024	6/1/2015	123.37587	119.1231201	115.0413279	111.1226318	107.3595846	103.7451243	100.2725525	96.93551246	93.72797004
150601A00768	6/1/2015	2.34	5/13/2022	6/1/2015	105.99394	104.9464347	103.9195754	102.9127581	101.9254002	100.9569415	100.0068431	99.07458628	98.15967196
150601A00916	6/1/2015	7.27	4/5/2030	6/1/2015	194.24668	180.3338632	167.5945784	155.9217766	145.2187604	135.3981334	126.3808587	118.095418	110.4770592
150601A00930	6/1/2015	7.1	8/30/2030	6/1/2015	196.58992	181.9278448	168.5521756	156.3408967	145.1842684	134.9835274	125.6497308	117.102727	109.2702409
150610A00017	6/10/2015	2.9	6/15/2023	6/10/2015	113.87051	111.5880517	109.3637242	107.195644	105.0820064	103.0210785	101.0111956	99.05075822	97.13822908
150623A00025	6/23/2015	2.65	6/30/2022	6/23/2015	107.21247	106.0067584	104.8280929	103.6755717	102.5483322	101.4455495	100.3664342	99.3102304	98.27621434
150630A00008	6/30/2015	2.41	6/30/2022	6/30/2015	107.08495	105.8777767	104.6977245	103.543889	102.4154039	101.311441	100.2312078	99.1739455	98.13892738
150715A00009	7/15/2015	2.67	7/15/2022	7/15/2015	107.51538	106.2598331	105.0335482	103.8355092	102.6647482	101.5203412	100.4014055	99.30709728	98.23660993
150720A00011	7/20/2015	2.69	7/20/2023	7/20/2015	114.38634	111.9825763	109.6422221	107.3631326	105.1432545	102.9806212	100.8733477	98.81962697	96.81772589
150720A00012	7/20/2015	2.99	7/21/2025	7/20/2015	128.15757	123.1216945	118.3141409	113.7232484	109.3380232	105.1480952	101.1436787	97.31553605	93.65494296
150721A00027	7/21/2015	3.74	7/22/2030	7/21/2015	161.2199	148.3959604	136.7206895	126.0843519	116.3882615	107.5436163	99.47045957	92.09675534	85.35756506
150727A00013	7/27/2015	3.04	7/28/2025	7/27/2015	127.77006	122.7394429	117.9373758	113.3521605	108.9727689	104.7888003	100.7904418	96.96843117	93.31402255
150803A00053	8/3/2015	2.49	8/3/2022	8/3/2015	107.63645	106.3193843	105.0344526	103.7804883	102.5563819	101.3610766	100.1935648	99.05288548	97.9381214
150814A00004	8/14/2015	2.32	8/15/2022	8/14/2015	107.81434	106.4545206	105.1288799	103.8361385	102.575083	101.3445593	100.1434686	98.9707644	97.82544911
150817A00073	8/17/2015	2.06	8/17/2021	8/17/2015	101.33358	101.1046731	100.876809	100.6499847	100.4241931	100.1994269	99.97567922	99.75294303	99.53121142
150817A00097	8/17/2015	3.1	8/17/2026	8/17/2015	134.10822	127.5958336	121.4427369	115.6270833	110.1284775	104.927874	100.0074791	95.35066132	90.94186883
150817A00099	8/17/2015	3.19	8/17/2027	8/17/2015	139.9024	131.9235677	124.4574083	117.4681204	110.9225997	104.7902195	99.04263263	93.65358807	88.59876518
150824A00072	8/24/2015	2.14	8/24/2022	8/24/2015	107.74471	106.356241	105.0033906	103.6848	102.3991812	101.1453095	99.92202061	98.72820628	97.56281134
150824A00097	8/24/2015	2.67	8/25/2025	8/24/2015	127.24161	122.1074003	117.2110168	112.540043	108.0827911	103.8282536	99.76605819	95.88642698	92.18013859
150825A00007	8/25/2015	2.46	8/25/2022	8/25/2015	107.99738	106.6068687	105.2520353	103.9315235	102.6440418	101.3883628	100.1633193	98.96780046	97.80074867
150826A00038	8/26/2015	2.94	8/26/2026	8/26/2015	134.33282	127.7493165	121.5315376	115.6570946	110.1051002	104.8560589	99.89176536	95.19521143	90.75050023
150902A00002	9/2/2015	2.25	9/2/2021	9/2/2015	101.63032	101.3554387	101.0820508	100.8101408	100.5396968	100.2707068	100.0031592	99.73704237	99.47234478
150923A00041	9/23/2015	2.23	9/23/2022	9/23/2015	108.22802	106.7966155	105.3930039	104.0164058	102.6660747	101.3412916	100.041364	98.76562431	97.51342887
150930A00011	9/30/2015	2.06	9/30/2021	9/30/2015	102.0332	101.6770415	101.3233679	100.9721486	100.6233581	100.2769714	99.93296366	99.59131052	99.25198788
151002A00041	10/2/2015	1.76	10/4/2021	10/2/2015	102.01974	101.6516736	101.286268	100.923491	100.5633144	100.2057101	99.85065064	99.49810885	99.14805796
151002A00075	10/2/2015	2.04	10/3/2022	10/2/2015	108.10248	106.6515776	105.2273399	103.8290912	102.45618	101.1079759	99.783869	98.48326898	97.20560429
151106A00011	11/6/2015	3.1	1/15/2026	11/6/2015	130.73119	125.0527146	119.6566804	114.5274631	109.6503894	105.0116767	100.5983732	96.3983038	92.40001806
151109A00020	11/9/2015	2.79	11/9/2023	11/9/2015	116.2506	113.4808859	110.7921653	108.1815906	105.6464346	103.1840827	100.7920271	98.46786202	96.20927899

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
151116A00025	11/16/2015	3.04	11/14/2025	11/16/2015	129.50499	124.0660233	118.8892473	113.9606197	109.266925	104.7957215	100.5352922	96.47459791	92.6032353
151211A00004	12/11/2015	2.48	12/15/2023	12/11/2015	116.4587	113.5629587	110.7550103	108.0316459	105.3897952	102.8265205	100.33901	97.92457123	95.58062561
151211A00055	12/11/2015	2.62	12/11/2024	12/11/2015	122.96892	118.7904116	114.7778575	110.9237271	107.2208794	103.6625376	100.2422678	96.95396017	93.79180997
151223A00065	12/23/2015	2.15	12/23/2021	12/23/2015	103.51768	102.9103619	102.3101583	101.7169432	101.1305951	100.5509952	99.97802761	99.4115788	98.851538
151223A00066	12/23/2015	2.34	12/23/2022	12/23/2015	109.9274	108.2158912	106.5401515	104.8991313	103.291826	101.717269	100.1745307	98.66271637	97.18096443
151223A00070	12/23/2015	2.57	12/26/2023	12/23/2015	116.89495	113.9579981	111.1108368	108.3501504	105.6727678	103.0756569	100.555917	98.11077241	95.73756581
151223A00072	12/23/2015	2.81	12/23/2025	12/23/2015	129.78014	124.1759414	118.848293	113.7820302	108.9629059	104.3775285	100.0133059	95.85839271	91.9016422
151223A00077	12/23/2015	3.57	12/24/2035	12/23/2015	193.93321	170.7650968	150.711862	133.3325234	118.2508851	105.1457146	93.74245223	83.80620876	75.13584436
151229A00079	12/29/2015	3	12/30/2025	12/29/2015	129.97565	124.3692746	119.0397302	113.9718232	109.1512762	104.5646705	100.19939	96.04356779	92.08603798
151229A00080	12/29/2015	3.49	12/30/2030	12/29/2015	161.23716	147.7818046	135.5854334	124.5227884	114.4817142	105.3617205	97.07271301	89.53386813	82.67263453
151229A00081	12/29/2015	3.76	12/31/2035	12/29/2015	193.73459	170.7916	150.9216427	133.6906515	118.7282229	105.7179792	94.38943097	84.51110141	75.88471142
160104A00014	1/4/2016	2.49	1/4/2023	1/4/2016	110.15396	108.4084934	106.6999311	105.0271757	103.3891725	101.7849082	100.2134084	98.67373642	97.16499082
160113A00030	1/13/2016	2.52	1/13/2025	1/13/2016	123.10411	118.8139612	114.6977461	110.7473971	106.9552736	103.314135	99.81711664	96.45770776	93.22973113
160119A00019	1/19/2016	2.95	1/19/2027	1/19/2016	135.42193	128.3307756	121.6586503	115.3785035	109.4651744	103.8952531	98.64694905	93.69997006	89.0354111
160119A00027	1/19/2016	3.25	1/18/2030	1/19/2016	153.28935	141.5431081	130.8027414	120.9763925	111.9810581	103.7416942	96.19041306	89.26576667	82.9121039
160119A00028	1/19/2016	3.34	1/21/2031	1/19/2016	159.90254	146.4296169	134.2261063	123.1649355	113.1324014	104.0266968	95.75660845	88.2403632	81.40460595
160119A00029	1/19/2016	3.39	1/20/2032	1/19/2016	165.83565	150.6364441	136.9963224	124.745861	113.7349161	103.8303336	94.9139455	86.88081166	79.63767623
160119A00030	1/19/2016	3.44	1/18/2033	1/19/2016	172.03112	155.0283385	139.9089806	126.4524982	114.4653039	103.7773472	94.23914058	85.71917603	78.10167721
160120A00010	1/20/2016	1.99	10/20/2021	1/20/2016	102.33139	101.9165127	101.5049997	101.0968103	100.6919043	100.2902421	99.89178488	99.49649428	99.10433261
160129A00066	1/29/2016	3.04	1/29/2031	1/29/2016	158.62571	145.0868625	132.832563	121.7335426	111.6741908	102.5510496	94.27147724	86.75246549	79.91959151
160129A00067	1/29/2016	2.53	1/29/2026	1/29/2016	128.90699	123.1983008	117.7769653	112.6269118	107.7330642	103.0812711	98.65824376	94.45149826	90.44930189
160129A00068	1/29/2016	1.97	1/30/2023	1/29/2016	109.93539	108.1104922	106.325445	104.5790157	102.8700194	101.19732	99.55982764	97.9564961	96.38632088
160211A00033	2/11/2016	1.67	2/11/2022	2/11/2016	103.9524	103.1941908	102.4470129	101.710625	100.9847947	100.269296	99.56390933	98.86842136	98.1826247
160211A00035	2/11/2016	2.25	2/11/2025	2/11/2016	121.83005	117.4866799	113.3225549	109.3292072	105.4986251	101.8232252	98.2958263	94.9096252	91.65817421
160212A00029	2/12/2016	1.8	2/11/2022	2/12/2016	104.04735	103.2887534	102.5411899	101.8044204	101.0782124	100.3623397	99.65658282	98.96072834	98.27456879
160212A00043	2/12/2016	1.8	2/14/2022	2/12/2016	104.0953	103.3274273	102.5708528	101.8253294	101.0906162	100.3664791	99.65269088	98.94903082	98.25528433
160212A00044	2/12/2016	1.93	2/13/2023	2/12/2016	109.84165	107.9800838	106.1598395	104.3796132	102.6381524	100.9342574	99.26677824	97.6346125	96.03670243
160216A00002	2/16/2016	1.88	2/16/2022	2/16/2016	104.18685	103.4125398	102.6497101	101.8981063	101.1574817	100.4275971	99.70821995	98.99912447	98.30009131
160216A00028	2/16/2016	1.69	2/16/2022	2/16/2016	104.12269	103.3475944	102.5840077	101.8316741	101.0903461	100.3597834	99.63975268	98.93002732	98.23038713
160307A00027	3/7/2016	2.71	3/6/2026	3/7/2016	129.47487	123.6563791	118.1352599	112.8946547	107.9187557	103.1927371	98.70268856	94.4355525	90.37906715
160307A00028	3/7/2016	2.91	3/7/2028	3/7/2016	140.58339	131.8575228	123.7370665	116.1767189	109.1348073	102.5729767	96.45590761	90.75106069	85.42844302
160328A00013	3/28/2016	2.17	3/28/2024	3/28/2016	117.27908	114.0389328	110.9052892	107.8740791	104.9414111	102.1035638	99.35697616	96.69824067	94.12409531
160328A00014	3/28/2016	2.49	3/27/2026	3/28/2016	129.54906	123.6225829	118.0028735	112.6724815	107.6150363	102.8151759	98.25847915	93.93140406	89.82122938

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160328A00045	3/28/2016	2.49	3/27/2026	3/28/2016	129.54906	123.6225829	118.0028735	112.6724815	107.6150363	102.8151759	98.25847915	93.93140406	89.82122938
160329A00045	3/29/2016	2.12	3/29/2024	3/29/2016	117.14276	113.9014661	110.7668243	107.7347564	104.8013621	101.9629112	99.21583472	96.5567176	93.98229073
160330A00054	3/30/2016	2.9	3/31/2031	3/30/2016	157.93886	144.1912153	131.7698278	120.5393151	110.3787715	101.1801509	92.84684034	85.29239816	78.43943728
160420A00002	4/20/2016	1.96	11/16/2022	4/20/2016	108.48762	106.9036015	105.3510839	103.8292089	102.337146	100.8740942	99.43928073	98.03195959	96.65141058
160422A00026	4/22/2016	2.62	4/22/2026	4/22/2016	129.69221	123.7023107	118.0258678	112.6448498	107.5423581	102.7025459	98.11054798	93.75241482	89.61505135
160504A00004	5/4/2016	2.3	5/4/2026	5/4/2016	129.05938	123.0139093	117.288	111.8631037	106.7218425	101.8479304	97.22609944	92.84203049	88.68228966
160510A00012	5/10/2016	1.49	10/12/2021	5/10/2016	102.04184	101.6505064	101.2621833	100.8768333	100.4944222	100.1149164	99.73828261	99.36448831	98.99350134
160524A00027	5/24/2016	3.06	5/27/2031	5/24/2016	158.57518	144.6762274	132.1328411	120.8049776	110.5677544	101.3097377	92.93143202	85.34394505	78.46780887
160601A00016	6/1/2016	1.74	6/1/2021	6/1/2016	100.06107	100.0499321	100.0388061	100.0276907	100.0165858	100.0054914	99.9944075	99.98333407	99.97227108
160603A00004	6/3/2016	1.65	6/3/2021	6/3/2016	100.08994	100.0732316	100.0565436	100.0398723	100.0232178	100.0065798	99.98995851	99.97335382	99.95676569
160603A00021	6/3/2016	1.66	6/3/2021	6/3/2016	100.0901	100.0733986	100.0567105	100.0400391	100.0233844	100.0067463	99.99012486	99.97352002	99.95693175
160606A00004	6/6/2016	2.43	6/8/2026	6/6/2016	129.31159	123.1682032	117.3545737	111.8512444	106.6400138	101.7038442	97.02678068	92.59387686	88.3911255
160606A00005	6/6/2016	2.92	6/6/2031	6/6/2016	157.08678	143.2268548	130.7240365	119.437679	109.2424065	100.0263835	91.68978953	84.14347237	77.30775852
160606A00043	6/8/2016	2.23	12/15/2021	6/8/2016	103.37336	102.7909702	102.2151369	101.6457505	101.082703	100.5258889	99.97520491	99.43055009	98.89182571
160610A00009	6/10/2016	1.89	6/12/2023	6/10/2016	111.6422	109.3931755	107.2013907	105.0649992	102.9822287	100.9513772	98.97080957	97.03895434	95.15430081
160610A00036	6/10/2016	1.42	6/10/2021	6/10/2016	100.19023	100.1539783	100.117774	100.0816134	100.0454964	100.0094229	99.9733928	99.93740604	99.90146253
160613A00047	6/15/2016	2.18	6/16/2025	6/15/2016	123.28981	118.4965848	113.917082	109.5405986	105.3570329	101.3568426	97.53101094	93.87101461	90.36879371
160614A00066	6/14/2016	1.35	6/14/2021	6/14/2016	100.24548	100.1980638	100.1507103	100.1034191	100.0561903	100.0090235	99.96191874	99.91487583	99.86789465
160615A00023	6/15/2016	1.38	6/15/2021	6/15/2016	100.26143	100.2112238	100.1610803	100.1110042	100.0609954	100.0110537	99.96117911	99.91137135	99.86163034
160615A00045	6/15/2016	1.59	6/15/2021	6/15/2016	100.26742	100.2172501	100.167146	100.1171088	100.0671383	100.0172344	99.96739706	99.91762605	99.86792126
160616A00027	6/16/2016	2.27	6/16/2026	6/16/2016	128.52489	122.3754231	116.5575367	111.0515922	105.8392179	100.9032214	96.22750758	91.79700283	87.5975845
160616A00034	6/16/2016	1.97	6/17/2024	6/16/2016	117.39238	113.9010604	110.5324847	107.28162	104.1436713	101.1140689	98.18845691	95.36268119	92.63277904
160617A00045	6/17/2016	1.55	6/17/2021	6/17/2016	100.29493	100.2391732	100.1834969	100.1278981	100.0723764	100.0169319	99.96156432	99.90627351	99.85105933
160620A00015	6/20/2016	1.71	6/20/2023	6/20/2016	111.70148	109.4214397	107.1999652	105.0351432	102.9251402	100.8681967	98.86262313	96.90679693	94.99915896
160620A00026	6/20/2016	1.39	6/21/2021	6/20/2016	100.34933	100.282345	100.2154603	100.1486767	100.0819939	100.0154118	99.94893005	99.8825485	99.8162669
160624A00005	6/24/2016	1.52	6/24/2021	6/24/2016	100.396	100.3206837	100.2454898	100.170415	100.0954591	100.0206218	99.94590278	99.87130184	99.79681869
160624A00011	6/24/2016	1.83	6/26/2023	6/24/2016	111.72398	109.4321201	107.1993295	105.0236663	102.9032727	100.8363657	98.82123395	96.85623433	94.93978827
160624A00026	6/24/2016	1.52	6/24/2021	6/24/2016	100.396	100.3206837	100.2454898	100.170415	100.0954591	100.0206218	99.94590278	99.87130184	99.79681869
160627A00025	6/27/2016	1.65	6/27/2022	6/27/2016	106.0349	104.8458948	103.6833957	102.5465292	101.4344554	100.3463708	99.28150615	98.23912493	97.21852131
160627A00040	6/27/2016	1.28	6/28/2021	6/27/2016	100.44184	100.3552678	100.268844	100.1825675	100.0964381	100.0104553	99.92461887	99.83892837	99.75338345
160627A00070	6/27/2016	1.52	9/27/2021	6/27/2016	101.79974	101.4527645	101.1081415	100.765851	100.4258695	100.0881738	99.75274092	99.41954822	99.0885734
160628A00030	6/28/2016	1.48	6/28/2021	6/28/2016	100.45128	100.3647761	100.2784237	100.1922177	100.1061578	100.0202435	99.93447459	99.84885065	99.76337136
160628A00038	6/28/2016	1.88	6/27/2025	6/28/2016	122.80021	117.9617695	113.3410132	108.9269464	104.7091971	100.6779734	96.82402742	93.13862195	89.61349903

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160628A00040	6/28/2016	1.56	6/28/2023	6/28/2016	111.49237	109.1905988	106.9483902	104.7637795	102.634885	100.5599021	98.53709866	96.56481192	94.64144494
160628A00049	6/28/2016	1.88	6/27/2025	6/28/2016	122.80021	117.9617695	113.3410132	108.9269464	104.7091971	100.6779734	96.82402742	93.13862195	89.61349903
160628A00050	6/28/2016	1.56	6/28/2023	6/28/2016	111.49237	109.1905988	106.9483902	104.7637795	102.634885	100.5599021	98.53709866	96.56481192	94.64144494
160628A00068	6/28/2016	1.28	6/28/2021	6/28/2016	100.44184	100.3552678	100.268844	100.1825675	100.0964381	100.0104553	99.92461887	99.83892837	99.75338345
160629A00052	6/29/2016	1.29	6/29/2021	6/29/2016	100.457	100.3676049	100.2783719	100.1892983	100.1003837	100.0116276	99.92302975	99.8345896	99.74630677
160630A00011	6/30/2016	1.8	6/30/2023	6/30/2016	111.71852	109.4145021	107.1700905	104.9833194	102.8523052	100.7752407	98.75039195	96.77609408	94.85074835
160630A00012	6/30/2016	2.11	6/30/2025	6/30/2016	123.16421	118.3280487	113.7092235	109.2967623	105.0803152	101.0501108	97.19692084	93.51202617	89.98718598
160630A00019	6/30/2016	1.52	7/1/2021	6/30/2016	100.49876	100.4038002	100.3090244	100.2144314	100.1200207	100.0257917	99.93174391	99.83787682	99.7441899
160630A00021	6/30/2016	1.59	6/30/2023	6/30/2016	111.58857	109.2794701	107.0302387	104.838895	102.7035433	100.6223655	98.59361696	96.61562311	94.68677579
160630A00049	6/30/2016	1.51	6/30/2021	6/30/2016	100.48316	100.3910235	100.2990557	100.2072584	100.1156312	100.0241735	99.93288488	99.84176493	99.75081317
200207A00009	2/7/2020	1.58	2/7/2025	2/7/2020	119.70958	115.4035256	111.2755708	107.3172934	103.5207293	99.87833979	96.38298597	93.02790451	89.80668543
200220A00002	2/20/2020	1.76	2/20/2025	2/20/2020	119.97108	115.6348268	111.4789772	107.4949432	103.6746052	100.0102812	96.49469971	93.12097498	89.88258387
200220A00029	2/20/2020	1.72	2/21/2023	2/20/2020	109.58534	107.7022769	105.8614536	104.0615164	102.3011705	100.5791761	98.89434614	97.2455427	95.63167488
200221A00006	2/21/2020	1.5	2/21/2025	2/21/2020	119.55828	115.2098424	111.0429432	107.0489179	103.2195725	99.54715575	96.02433222	92.64415658	89.40005029
200221A00016	2/21/2020	1.69	2/21/2025	2/21/2020	119.69975	115.3655852	111.2119121	107.2301318	103.4121143	99.75016776	96.23701206	92.86575362	89.62986207
200221A00031	2/21/2020	1.69	2/21/2025	2/21/2020	119.69975	115.3655852	111.2119121	107.2301318	103.4121143	99.75016776	96.23701206	92.86575362	89.62986207
200225A00005	2/25/2020	1.57	2/25/2025	2/25/2020	119.26079	114.9223671	110.765177	106.7805613	102.9603333	99.2967489	95.78247989	92.4105884	89.17450332
200225A00015	2/25/2020	1.54	2/26/2024	2/25/2020	114.47079	111.3842138	108.3971251	105.5056194	102.7059824	99.99467408	97.36831943	94.82369887	92.35773986
200225A00017	2/25/2020	1.94	2/25/2030	2/25/2020	140.70829	129.389077	119.0632163	109.6383443	101.0311458	93.16641961	85.97624894	79.3992599	73.3799596
200225A00046	2/25/2020	1.54	2/23/2024	2/25/2020	114.43073	111.3540641	108.3763091	105.4936001	102.7022538	99.99875963	97.3797697	94.84209	92.38267189
200226A00002	2/26/2020	1.53	2/27/2023	2/26/2020	109.32684	107.4283155	105.5727125	103.7586406	101.9847729	100.2498399	98.5526262	96.89196761	95.26674825
200226A00008	2/26/2020	1.38	2/26/2025	2/26/2020	119.12936	114.7731789	110.5995446	106.5997136	102.7654174	99.08883634	95.56257167	92.17961991	88.93334881
200226A00012	2/26/2020	1.54	2/28/2022	2/26/2020	104.11667	103.3063146	102.5085137	101.7229746	100.9494166	100.1875676	99.43716344	98.69794806	97.96967289
200227A00012	2/27/2020	1.41	2/27/2023	2/27/2020	109.1061	107.2096683	105.3561169	103.5440574	101.7721643	100.0391691	98.34385742	96.68506609	95.06168022
200228A00012	3/3/2020	1.4	3/3/2025	3/3/2020	118.64045	114.294138	110.1301896	106.1398739	102.3149385	98.64757737	95.13040274	91.75642035	88.51900545
200228A00014	2/28/2020	1.4	2/28/2025	2/28/2020	118.60348	114.2683415	110.1148	106.1341527	102.3181775	98.65909819	95.1495572	91.78258988	88.55160066
200228A00059	2/28/2020	1.79	2/28/2030	2/28/2020	139.2331	127.9699503	117.6977329	108.3241555	99.76597392	91.94806329	84.80258579	78.26824846	72.28964014
200228A00063	2/28/2020	1.32	2/28/2023	2/28/2020	108.95453	107.0565597	105.2015618	103.3881444	101.614977	99.88078671	98.18435506	96.52451482	94.90014746
200228A00067	2/28/2020	1.4	2/28/2025	2/28/2020	118.60348	114.2683415	110.1148	106.1341527	102.3181775	98.65909819	95.1495572	91.78258988	88.55160066
200302A00045	3/4/2020	1.31	3/4/2025	3/4/2020	118.28475	113.9419745	109.7815916	105.7948725	101.9735633	98.3098554	94.79635904	91.4260772	88.19238234
200303A00001	3/3/2020	1.15	3/3/2025	3/3/2020	118.24895	113.8931604	109.7206413	105.7226044	101.890738	98.21718075	94.69449375	91.31563503	88.07393547
200303A00012	3/3/2020	1.71	3/1/2030	3/3/2020	138.44057	127.2094084	116.9675466	107.6227806	99.09195123	91.30001326	84.1792039	77.66830079	71.71195928
200303A00018	3/3/2020	1.27	3/3/2025	3/3/2020	118.10927	113.7734291	109.6196273	105.6391475	101.8237496	98.16563886	94.65743869	91.2921653	88.06320397

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200304A00008	3/4/2020	1.03	11/15/2021	3/4/2020	102.29245	101.8017595	101.315771	100.8344182	100.357635	99.88535629	99.41751846	98.95405897	98.49491646
200304A00010	3/4/2020	1.2	3/4/2027	3/4/2020	125.8529	118.8555488	112.2856289	106.114809	100.3167893	94.86714384	89.7431772	84.92379156	80.38936569
200304A00021	3/4/2020	0.94	3/4/2024	3/4/2020	113.24111	110.1397926	107.1392831	104.235635	101.4250849	98.70404441	96.06909112	93.51695899	91.04453001
200304A00034	3/4/2020	1.12	3/4/2024	3/4/2020	113.3251	110.2327595	107.2407167	104.3450463	101.5420111	98.82804786	96.1997574	93.65389568	91.1873654
200305A00008	3/10/2020	1.01	6/19/2023	3/10/2020	109.83668	107.58661	105.3942621	103.2577624	101.1753082	99.14516888	97.16568263	95.23525303	93.35234601
200305A00029	3/5/2020	1.14	3/5/2025	3/5/2020	117.60111	113.2683475	109.1178131	105.1407809	101.3290029	97.67467565	94.1704137	90.80922397	87.58448232
200306A00039	3/6/2020	0.88	3/6/2023	3/6/2020	108.22594	106.3155535	104.4486431	102.623834	100.8398092	99.09530652	97.38911557	95.72007522	94.08707101
200306A00063	3/6/2020	0.64	3/16/2022	3/6/2020	103.70252	102.8440772	101.9997594	101.1692245	100.3521372	99.54817314	98.75701818	97.97836823	97.21192876
200306A00099	3/10/2020	1.92	3/10/2031	3/10/2020	144.55625	131.6710639	120.0350544	109.5206321	100.0138449	91.41285918	83.6266147	76.57363498	70.1809747
200309A00004	3/9/2020	0.71	3/8/2024	3/9/2020	112.60708	109.5020446	106.4982749	103.5918198	100.7789106	98.05595244	95.41951464	92.86632188	90.39324594
200309A00019	3/9/2020	0.89	3/11/2024	3/9/2020	112.72848	109.6222075	106.6172115	103.7095554	100.8954875	98.17142717	95.53395561	92.97980742	90.50586247
200309A00020	3/9/2020	0.96	3/10/2025	3/9/2020	116.91922	112.5826298	108.4290882	104.4498433	100.6366133	96.98156065	93.47726495	90.11669819	86.89320138
200309A00033	3/9/2020	1.06	3/9/2026	3/9/2020	120.83895	115.2245487	109.9004667	104.8501568	100.0581061	95.50976678	91.19149087	87.09046895	83.1946739
200309A00041	3/9/2020	0.73	3/9/2022	3/9/2020	103.60109	102.7656098	101.9435229	101.1345141	100.3382735	99.55450069	98.78290484	98.02320397	97.27512479
200316A00013	3/16/2020	1	4/15/2022	3/16/2020	104.31381	103.3619057	102.4272729	101.509449	100.607984	99.72244348	98.8524086	97.99747492	97.157252
200318A00043	3/18/2020	1.06	3/20/2023	3/18/2020	109.02369	107.0555511	105.1327527	103.2539306	101.4177767	99.62303233	97.86848568	96.15296988	94.47536085
200323A00010	3/23/2020	1.19	3/23/2022	3/23/2020	104.16066	103.2800887	102.4143237	101.5629973	100.7257507	99.90223714	99.09212109	98.29507783	97.51079311
200326A00026	3/26/2020	1.32	3/26/2024	3/26/2020	114.20806	111.0311248	107.9586076	104.9865135	102.1110242	99.32848813	96.63541234	94.02845452	91.5044157
200327A00036	3/27/2020	0.77	9/27/2023	3/27/2020	110.86117	108.2887724	105.7886721	103.3584385	100.9957339	98.69831263	96.46401699	94.29077321	92.17658768
200327A00074	3/31/2020	1.76	3/29/2024	3/31/2020	115.58197	112.3748121	109.2731364	106.2729143	103.3702933	100.5615885	97.84327421	95.2119761	92.66446398
200403A00016	4/3/2020	0.63	4/17/2023	4/3/2020	108.55881	106.509014	104.5080605	102.5544901	100.6468947	98.78391741	96.96425056	95.1866333	93.44984971
200415A00035	4/17/2020	2.16	4/16/2025	4/17/2020	122.37144	117.8007827	113.4262473	109.2384022	105.228317	101.387535	97.70804604	94.18226004	90.80298313
200420A00011	4/20/2020	0.7	4/19/2024	4/20/2020	113.06031	109.8144302	106.6778849	103.6464053	100.715912	97.8825075	95.14246628	92.4922267	89.92838265
200430A00017	4/30/2020	0.94	4/30/2025	4/30/2020	117.35447	112.8405334	108.5232943	104.3931702	100.4411001	96.65850938	93.03728099	89.56972873	86.24857195
200504A00013	5/4/2020	1.26	5/4/2027	5/4/2020	125.6552	118.4911205	111.775174	105.4771296	99.56894417	94.02459186	88.81990953	83.93245423	79.34137247
200505A00005	5/5/2020	0.77	5/5/2025	5/5/2020	117.33415	112.7853688	108.4359838	104.2762297	100.2968712	96.48917149	92.84486291	89.35611913	86.01552921
200515A00001	5/15/2020	0.59	5/15/2023	5/15/2020	108.51777	106.3877818	104.3104646	102.2841799	100.3073528	98.37846793	96.4960672	94.65874682	92.86515505
200527A00021	5/27/2020	0.53	11/26/2021	5/27/2020	102.18601	101.6634193	101.146152	100.6341234	100.1272544	99.62546736	99.1286863	98.63683667	98.14984542
200601A00009	6/1/2020	0.84	6/2/2025	6/1/2020	117.24461	112.623644	108.208635	103.9893205	99.95600439	96.09952431	92.41121873	88.88289697	85.50681091
200604A00014	6/4/2020	2.42	6/4/2040	6/4/2020	185.42838	156.4842389	132.5180236	112.6391153	96.12068754	82.36887355	70.89786391	61.3097685	53.2783131
200605A00007	6/5/2020	0.52	6/5/2023	6/5/2020	108.93414	106.7292478	104.5803726	102.4857174	100.4435576	98.45223602	96.51016051	94.61580026	92.76768316
200709A00003	7/10/2020	1.63	7/10/2026	7/10/2020	125.2118	119.0690353	113.2625307	107.7721074	102.5789048	97.66528895	93.01476665	88.61190482	84.44225668
200709A00008	7/10/2020	1.88	7/10/2026	7/10/2020	126.62619	120.4457567	114.6030733	109.0778904	103.8512788	98.9055405	94.22412137	89.79153087	85.59326786

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200720A00014	7/20/2020	0.35	7/20/2022	7/20/2020	105.00121	103.743398	102.5154216	101.3162268	100.1448125	99.00022363	97.88154836	96.78791576	95.71849355
200720A00034	7/20/2020	0.77	7/21/2025	7/20/2020	117.37836	112.596961	108.0346	103.6800398	99.52269007	95.55256242	91.76023239	88.13680414	84.67387748
200720A00042	7/22/2020	2.04	7/21/2026	7/22/2020	127.66508	121.4190574	115.5157498	109.9345112	104.656052	99.66234377	94.93652937	90.46284035	86.22652049
200730A00002	7/30/2020	0.67	11/6/2024	7/30/2020	114.56076	110.6657523	106.9227211	103.3249392	99.86601142	96.5398592	93.34070333	90.26304737	87.30166225
200814A00011	8/18/2020	1.58	8/16/2030	8/18/2020	138.70866	126.8588097	116.1035524	106.3362544	97.46118429	89.39234427	82.05243378	75.3719289	69.28826343
200818A00007	8/18/2020	1.31	8/20/2029	8/18/2020	132.8166	122.5088195	113.0642412	104.4063044	96.46561285	89.17922898	82.49004076	76.34619418	70.70058364
200818A00008	8/18/2020	1.5	8/18/2031	8/18/2020	141.21662	127.9147972	115.9618494	105.2142359	95.54436194	86.83873634	78.99634713	71.92723211	65.55121961
200911A00019	9/15/2020	1.84	9/14/2027	9/15/2020	130.75505	122.9770624	115.7093401	108.915806	102.5631153	96.62043509	91.05924254	85.85314	80.97768603
200922A00040	9/24/2020	2	9/23/2024	9/24/2020	118.88791	115.0592895	111.3743858	107.8270315	104.4113585	101.1217819	97.95298492	94.89990406	91.9577158
200928A00003	9/28/2020	0.55	9/26/2025	9/28/2020	117.64342	112.6207036	107.8369554	103.2796268	98.93689318	94.79760717	90.85125598	87.08792216	83.49824688
201006A00007	10/8/2020	1.47	10/10/2023	10/8/2020	112.4014	109.7763842	107.2259279	104.7474965	102.3386564	99.99707068	97.72049465	95.50677176	93.35382948
201015A00017	10/15/2020	0.29	10/17/2022	10/15/2020	105.79688	104.3207446	102.8724639	101.4513194	100.056614	98.68767365	97.34384694	96.0245038	94.72903479
201028A00005	10/30/2020	1.85	10/31/2025	10/30/2020	123.51092	118.2582751	113.2584651	108.4980153	103.9642423	99.64520066	95.5296353	91.60693849	87.86710906
210128A00010	1/28/2021	0.57	7/9/2024	1/28/2021	113.02327	109.5334803	106.168956	102.9244545	99.79498992	96.77581656	93.86241513	91.05048057	88.33591033
210209A00029	2/12/2021	0.8	12/15/2025	2/12/2021	118.75379	113.4652911	108.4394233	103.6617851	99.11884239	94.79787156	90.68690636	86.77468856	83.05062225
210212A00014	2/17/2021	1.38	2/17/2026	2/17/2021	122.30896	116.7260981	111.4285285	106.4000996	101.6256733	97.09105167	92.78291228	88.68874891	84.79681648
210428A00008	4/28/2021	1.93	4/26/2030	4/28/2021	141.25721	129.6905291	119.1561418	109.5566851	100.8044301	92.82028816	85.53292091	78.87794574	72.79722647
210507A00008	5/7/2021	1.94	5/7/2031	5/7/2021	145.39175	132.247022	120.3951247	109.7022284	100.0489799	91.32887115	83.44679966	76.31779589	69.86589878
210514A00033	5/18/2021	2.8	5/18/2028	5/18/2021	140.6926	131.7004662	123.3492032	115.5897357	108.3769879	101.6695404	95.42931551	89.62129176	84.21324372
210528A00003	5/28/2021	0.63	5/28/2024	5/28/2021	112.79392	109.4378173	106.198725	103.071903	100.0528367	97.13721969	94.32094357	91.6000871	88.97090673
190528A00005	5/28/2019	2.42	6/15/2023	5/28/2019	112.83324	110.5621613	108.3489799	106.1918184	104.0888785	102.0384339	100.0388261	98.08846175	96.18580913
190528A00006	5/28/2019	2.43	9/15/2023	5/28/2019	114.39868	111.8264177	109.325475	106.8934098	104.5278808	102.2266433	99.98754484	97.80852063	95.68758907
190528A00009	5/28/2019	2.45	5/15/2024	5/28/2019	118.43682	115.0346575	111.7489222	108.5749717	105.5083785	102.5449168	99.68055205	96.91143098	94.2338724
190528A00015	5/28/2019	2.42	5/27/2022	5/28/2019	106.34341	105.2503466	104.1796777	103.1307227	102.1028263	101.0953594	100.1077178	99.13932058	98.1896097
190528A00039	5/28/2019	2.38	11/29/2021	5/28/2019	103.18401	102.6495922	102.1206946	101.5972318	101.0791201	100.5662782	100.0586258	99.55608458	99.05857777
190528A00042	5/28/2019	2.38	11/29/2021	5/28/2019	103.18401	102.6495922	102.1206946	101.5972318	101.0791201	100.5662782	100.0586258	99.55608458	99.05857777
190529A00005	5/29/2019	2.31	11/29/2021	5/29/2019	103.14763	102.6133226	102.0845346	101.5611804	101.0431766	100.5304417	100.0228955	99.52045985	99.02305778
190529A00009	5/29/2019	2.35	5/31/2022	5/29/2019	106.34184	105.2361856	104.1534474	103.0929181	102.0539199	101.0358021	100.0379402	99.05973433	98.10060806
190529A00011	5/29/2019	2.36	5/30/2023	5/29/2019	112.43735	110.2186979	108.0558154	105.9469285	103.8903372	101.8844077	99.92756909	98.01831034	96.15517773
190529A00023	5/29/2019	2.38	5/29/2024	5/29/2019	118.44102	114.9924991	111.6635046	108.4492103	105.3450135	102.3465242	99.4495537	96.65010426	93.94435911
190529A00028	5/29/2019	2.38	5/29/2024	5/29/2019	118.44102	114.9924991	111.6635046	108.4492103	105.3450135	102.3465242	99.4495537	96.65010426	93.94435911
190529A00032	5/29/2019	2.38	5/29/2024	5/29/2019	118.44102	114.9924991	111.6635046	108.4492103	105.3450135	102.3465242	99.4495537	96.65010426	93.94435911
190529A00050	5/29/2019	2.31	11/29/2021	5/29/2019	103.14763	102.6133226	102.0845346	101.5611804	101.0431766	100.5304417	100.0228955	99.52045985	99.02305778

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190529A00069	5/29/2019	2.34	11/29/2021	5/29/2019	103.16322	102.6288667	102.1000318	101.576631	101.058581	100.5458002	100.0382085	99.53572759	99.03828063
190530A00003	5/30/2019	2.21	5/27/2022	5/30/2019	106.2576	105.1630393	104.0909456	103.0406284	102.0114299	101.0027181	100.0138864	99.04435148	98.09355305
190530A00004	5/30/2019	2.24	5/30/2023	5/30/2019	112.50476	110.279232	108.1097478	105.9945285	103.9318622	101.920104	99.95767242	98.0430464	96.17476278
190530A00006	5/30/2019	2.25	5/30/2024	5/30/2019	118.53826	115.073167	111.7285075	108.4994066	105.3812144	102.3694964	99.46002238	96.64875539	93.93184184
190530A00007	5/30/2019	2.35	11/30/2021	5/30/2019	103.18582	102.6484361	102.1166324	101.5903252	101.0694297	100.5538627	100.043543	99.5383906	99.03832752
190530A00009	5/30/2019	2.25	5/30/2024	5/30/2019	118.53826	115.073167	111.7285075	108.4994066	105.3812144	102.3694964	99.46002238	96.64875539	93.93184184
190530A00021	5/30/2019	2.21	5/27/2022	5/30/2019	106.2576	105.1630393	104.0909456	103.0406284	102.0114299	101.0027181	100.0138864	99.04435148	98.09355305
190530A00024	5/30/2019	2.25	5/30/2024	5/30/2019	118.53826	115.073167	111.7285075	108.4994066	105.3812144	102.3694964	99.46002238	96.64875539	93.93184184
190530A00034	5/30/2019	2.44	5/30/2024	5/30/2019	118.65005	115.1950722	111.8599041	108.6396994	105.529842	102.5259288	99.62375922	96.81932416	94.10879616
190531A00007	6/5/2019	2.14	6/4/2021	6/5/2019	100.11645	100.0969325	100.0774335	100.0579547	100.0384961	100.0190577	99.99963954	99.98024148	99.96086351
190531A00035	5/31/2019	2.29	5/31/2022	5/31/2019	106.27922	105.1739258	104.0915376	103.0313534	101.9926953	100.974913	99.97738181	98.99950211	98.04069756
190603A00002	6/3/2019	2.03	6/2/2023	6/3/2019	112.10867	109.8783655	107.7044004	105.5849776	103.5183701	101.5029184	99.53702734	97.61916325	95.74785091
190603A00003	6/3/2019	2.05	6/3/2024	6/3/2019	117.95217	114.4837764	111.1363424	107.9049563	104.7849326	101.7718039	98.86130937	96.0493835	93.33214615
190603A00005	6/3/2019	2.25	6/3/2024	6/3/2019	118.09816	114.6393785	111.3009438	108.0779718	104.9658106	101.960024	99.05638063	96.25084255	93.53955568
190603A00032	6/3/2019	1.98	6/3/2022	6/3/2019	106.13895	105.0229699	103.9303564	102.860385	101.8123576	100.7856045	99.77948306	98.79337621	97.82669133
190603A00033	6/3/2019	2.05	6/3/2024	6/3/2019	117.95217	114.4837764	111.1363424	107.9049563	104.7849326	101.7718039	98.86130937	96.0493835	93.33214615
190603A00046	6/3/2019	2.17	6/3/2022	6/3/2019	106.20553	105.0911903	104.0001496	102.9316841	101.8850988	100.8597267	99.85492787	98.87008787	97.90461646
190603A00050	6/3/2019	2.19	6/3/2021	6/3/2019	100.09897	100.0822528	100.0655571	100.0488781	100.0322158	100.0155701	99.99894108	99.98232867	99.96573285
190604A00007	6/4/2019	2.23	7/8/2021	6/4/2019	100.68271	100.5679184	100.4533965	100.3391479	100.2251718	100.1114671	99.99803278	99.88486792	99.77197149
190604A00009	6/4/2019	2.23	6/4/2021	6/4/2019	100.11624	100.0967433	100.077263	100.0578029	100.0383627	100.0189425	99.99954224	99.9801619	99.96080146
190604A00031	6/4/2019	2.25	6/5/2023	6/4/2019	112.30274	110.0675199	107.8887932	105.7647551	103.6936709	101.6738743	99.70376319	97.7817977	95.90649658
190604A00033	6/4/2019	2.23	6/4/2021	6/4/2019	100.11624	100.0967433	100.077263	100.0578029	100.0383627	100.0189425	99.99954224	99.9801619	99.96080146
190604A00048	6/4/2019	2.23	6/4/2021	6/4/2019	100.11624	100.0967433	100.077263	100.0578029	100.0383627	100.0189425	99.99954224	99.9801619	99.96080146
190605A00004	6/5/2019	2.11	1/12/2022	6/5/2019	103.76864	103.1014422	102.4428132	101.7925876	101.1506053	100.51671	99.89074944	99.27257523	98.66204259
190605A00005	6/5/2019	2.01	6/5/2024	6/5/2019	117.85228	114.3791765	111.0273795	107.791953	104.6681911	101.6516075	98.73792312	95.92305604	93.20311053
190605A00017	6/5/2019	2.12	6/4/2021	6/5/2019	100.1141	100.0945993	100.0751209	100.0556626	100.0362243	100.0168059	99.99740749	99.97802899	99.95867037
190605A00034	6/5/2019	2.11	6/6/2022	6/5/2019	106.19342	105.0696898	103.9696546	102.8925725	101.8377305	100.8044454	99.79206123	98.79994871	97.8275035
190605A00035	6/5/2019	2.18	6/5/2023	6/5/2019	112.15357	109.9199618	107.7428179	105.6203305	103.5507659	101.5324586	99.56380744	97.64327337	95.76937596
190605A00058	6/5/2019	2.14	12/5/2022	6/5/2019	109.07285	107.4269874	105.8148086	104.2353595	102.6877233	101.1710168	99.68438885	98.22701926	96.79811701
190606A00023	6/6/2019	2.23	6/6/2024	6/6/2019	118.07877	114.6108973	111.2639319	108.0329628	104.9133057	101.9004943	98.99026887	96.17856526	93.46150464
190606A00025	6/6/2019	2.18	6/4/2021	6/6/2019	100.11527	100.0957687	100.0762894	100.05683	100.0373907	100.0179713	99.9985719	99.9791924	99.95983278
190606A00029	6/6/2019	2.96	6/6/2034	6/6/2019	172.30504	153.2514382	136.5395472	121.8668042	108.971257	97.62592739	87.63398163	78.8245892	71.04936824
190607A00005	6/7/2019	1.92	6/7/2022	6/7/2019	106.1431	105.0144483	103.9097026	102.8281062	101.7689375	100.7315042	99.71514262	98.71921572	97.74311192

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190607A00012	6/7/2019	2.13	6/7/2022	6/7/2019	106.23171	105.104603	104.0013291	102.921138	101.863311	100.8271588	99.81202038	98.81726128	97.84227238
190607A00018	6/7/2019	2.19	6/7/2024	6/7/2019	117.96394	114.4947567	111.146632	107.9146379	104.7940807	101.7804856	98.86958486	96.05730673	93.33976544
190610A00018	6/10/2019	2.52	6/10/2026	6/10/2019	129.8386	123.6747099	117.8417702	112.3202467	107.091862	102.1395081	97.44716521	92.99982679	88.78343005
190611A00015	6/11/2019	2.32	6/11/2024	6/11/2019	118.44787	114.9584117	111.5909792	108.3405985	105.2025255	102.1722381	99.24542392	96.41796984	93.68595089
190611A00047	6/11/2019	2.26	6/11/2021	6/11/2019	100.23371	100.1946844	100.1557059	100.1167752	100.077892	100.0390563	100.000268	99.96152708	99.92283335
190612A00011	6/12/2019	2.2	6/30/2022	6/12/2019	106.70378	105.5011737	104.325569	103.1760612	102.0517892	100.951929	99.87569248	98.82232487	97.79110335
190614A00018	6/14/2019	2.21	6/14/2021	6/14/2019	100.28145	100.2340506	100.1867128	100.1394369	100.0922227	100.0450701	99.99797891	99.95094911	99.90398053
190618A00002	6/18/2019	2.11	6/18/2025	6/18/2019	123.70494	118.8765731	114.2641392	109.8567988	105.6443165	101.6170259	97.76579469	94.08199166	90.55745652
190619A00009	6/19/2019	2.26	6/19/2024	6/19/2019	118.37393	114.8605334	111.4706901	108.1993263	105.0416108	101.9929401	99.04892603	96.2053842	93.45832331
190619A00024	6/19/2019	2.21	7/19/2022	6/19/2019	107.0448	105.7794648	104.5439347	103.337162	102.1581516	101.0059539	99.87966212	98.77840996	97.70136939
190620A00010	6/20/2019	2.04	6/20/2022	6/20/2019	106.35458	105.1857316	104.0424706	102.9239647	101.8294163	100.7580623	99.70917124	98.68204238	97.6760038
190620A00024	6/20/2019	2.05	6/21/2021	6/20/2019	100.38741	100.3204482	100.2535913	100.1868347	100.1201782	100.0536217	99.98716486	99.92080755	99.85454952
190620A00026	6/20/2019	2.09	6/20/2023	6/20/2019	112.19932	109.9201865	107.6994523	105.5352118	103.4256405	101.3689872	99.36357036	97.40777473	95.50004815
190620A00045	6/20/2019	2.14	6/20/2024	6/20/2019	117.99447	114.484061	111.0972331	107.8289111	104.6742582	101.6286655	98.68774038	95.84729407	93.10333137
190620A00057	6/25/2019	2.09	5/15/2023	6/25/2019	111.62025	109.4575607	107.3481977	105.2905077	103.2828968	101.3238318	99.41183709	97.54549233	95.72342968
190621A00021	6/21/2019	2.12	6/21/2022	6/21/2019	106.45975	105.2871193	104.1402172	103.0182085	101.9202895	100.8456908	99.79367544	98.76353717	97.754599
190621A00040	6/21/2019	2.12	6/21/2021	6/21/2019	100.39209	100.325126	100.258265	100.1915043	100.1248439	100.0582833	99.99182253	99.92546123	99.85919921
190621A00041	6/21/2019	2.12	6/21/2022	6/21/2019	106.45975	105.2871193	104.1402172	103.0182085	101.9202895	100.8456908	99.79367544	98.76353717	97.754599
190624A00008	6/24/2019	2.08	6/24/2022	6/24/2019	106.46641	105.284258	104.1282487	102.9975216	101.8912546	100.8086607	99.74898649	98.71151014	97.69553984
190624A00026	6/24/2019	2.08	6/24/2022	6/24/2019	106.46641	105.284258	104.1282487	102.9975216	101.8912546	100.8086607	99.74898649	98.71151014	97.69553984
190624A00052	6/24/2019	1.89	6/24/2022	6/24/2019	106.39602	105.2121076	104.0544127	102.9220751	101.8142689	100.730204	99.66912374	98.63030336	97.61304826
190625A00003	6/25/2019	2.03	6/27/2022	6/25/2019	106.46116	105.269566	104.1045208	102.9651471	101.8506042	100.7600876	99.69282714	98.64808529	97.62515544
190625A00007	6/25/2019	2.06	6/25/2021	6/25/2019	100.45281	100.3746686	100.2966487	100.2187545	100.1409858	100.0633423	99.98582365	99.90842967	99.83116003
190625A00012	6/25/2019	2.12	6/25/2024	6/25/2019	118.00264	114.4764242	111.0747725	107.7925458	104.6248515	101.5670289	98.61463646	95.76344021	93.00940239
190625A00013	6/25/2019	2.01	6/24/2022	6/25/2019	106.3885	105.2068142	104.0512672	102.9209953	101.8151767	100.7330246	99.67378554	98.63673801	97.62119034
190625A00017	6/25/2019	2.02	12/15/2022	6/25/2019	109.04313	107.3673016	105.7261434	104.1186589	102.5438882	101.0009072	99.48882654	98.00678928	96.55396995
190625A00023	6/25/2019	2.47	6/25/2027	6/25/2019	134.27478	126.6630385	119.5330673	112.8518223	106.5886987	100.7153366	95.20544445	90.03463768	85.18029052
190625A00024	6/25/2019	2.26	6/25/2025	6/25/2019	123.76503	118.9325118	114.3164051	109.9058211	105.690485	101.6606947	97.80728503	94.1215951	90.59543747
190626A00010	6/26/2019	2.1	6/26/2023	6/26/2019	112.31633	110.0178854	107.7786438	105.5966625	103.4700794	101.397108	99.37603336	97.40520866	95.48305202
190626A00015	6/26/2019	2.15	6/26/2024	6/26/2019	118.11665	114.5854557	111.1790657	107.8923318	104.7203484	101.6584431	98.70216288	95.84726329	93.08969668
190626A00019	6/26/2019	2.1	6/24/2022	6/26/2019	106.48867	105.3063848	104.1502434	103.0193862	101.9129911	100.830271	99.77047248	98.7328736	97.71678256
190626A00020	6/26/2019	2.08	6/25/2021	6/26/2019	100.45438	100.3762279	100.2982066	100.220311	100.142541	100.0648962	99.98737621	99.9099809	99.83270993
190626A00033	6/26/2019	2.08	6/22/2021	6/26/2019	100.40565	100.3358958	100.266247	100.1967047	100.1272686	100.0579385	99.98871423	99.9195955	99.8505821

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190627A00009	6/27/2019	1.93	6/27/2023	6/27/2019	112.29178	109.984103	107.7360364	105.5456233	103.410983	101.3303114	99.30187714	97.32401774	95.39513663
190627A00037	6/27/2019	1.93	6/27/2023	6/27/2019	112.29178	109.984103	107.7360364	105.5456233	103.410983	101.3303114	99.30187714	97.32401774	95.39513663
190627A00038	6/27/2019	2.12	6/27/2023	6/27/2019	112.37615	110.0740321	107.8312651	105.6458957	103.5160554	101.4399515	99.41586311	97.44213794	95.51718893
190627A00052	6/27/2019	2.1	6/27/2022	6/27/2019	106.53968	105.3476107	104.1820964	103.0422609	101.9272632	100.8362986	99.76859679	98.72342009	97.70006173
190628A00004	6/28/2019	2.12	6/28/2023	6/28/2019	112.39208	110.0867893	107.8409743	105.6526848	103.5200458	101.4412587	99.41459711	97.43840341	95.51108557
190628A00024	6/28/2019	2.09	6/28/2022	6/28/2019	106.54544	105.350176	104.181604	103.0388417	101.9210417	100.8273934	99.75712108	98.70948165	97.68376337
190701A00007	7/2/2019	2.09	7/1/2022	7/2/2019	106.59642	105.3912925	104.213293	103.0615172	101.9350972	100.8332029	99.75504023	98.69984908	97.66690142
190701A00017	7/1/2019	1.9	7/1/2022	7/1/2019	106.52484	105.317898	104.1381738	102.9847511	101.8567581	100.7533615	99.67376392	98.61720198	97.5829448
190701A00023	7/1/2019	1.95	7/1/2024	7/1/2019	118.04163	114.4831793	111.0512392	107.7405587	104.546137	101.463212	98.48724744	95.61392042	92.83911007
190703A00004	7/3/2019	2.08	7/5/2022	7/3/2019	106.64086	105.422902	104.2326529	103.0691726	101.931566	100.8189773	99.73058823	98.66561591	97.6233108
190703A00017	7/3/2019	2.33	5/4/2026	7/3/2019	128.28649	122.2910279	116.6118932	111.230754	106.1304386	101.2948523	96.70890413	92.35843953	88.23017716
190703A00019	7/3/2019	2.08	7/5/2022	7/3/2019	106.64086	105.422902	104.2326529	103.0691726	101.931566	100.8189773	99.73058823	98.66561591	97.6233108
190703A00022	7/3/2019	2.08	7/5/2022	7/3/2019	106.64086	105.422902	104.2326529	103.0691726	101.931566	100.8189773	99.73058823	98.66561591	97.6233108
190708A00001	7/8/2019	1.99	7/8/2022	7/8/2019	106.74657	105.5159078	104.3134957	103.1383706	101.9896117	100.8663394	99.76771274	98.69292748	97.64121401
190708A00011	7/8/2019	2.2	7/8/2024	7/8/2019	118.46463	114.8888718	111.4405568	108.1143755	104.9052738	101.8084399	98.8192913	95.9334622	93.14679146
190708A00021	7/8/2019	1.99	7/8/2022	7/8/2019	106.74657	105.5159078	104.3134957	103.1383706	101.9896117	100.8663394	99.76771274	98.69292748	97.64121401
190709A00018	7/9/2019	2.24	7/9/2024	7/9/2019	118.61379	115.0323234	111.5785745	108.24722	105.0331912	101.9316629	98.93804005	96.04794478	93.25720488
190710A00012	7/10/2019	2.18	7/10/2023	7/10/2019	112.7202	110.3736933	108.0884414	105.8624042	103.6936233	101.580221	99.52039687	97.51242348	95.55464285
190710A00022	7/10/2019	2.22	7/10/2024	7/10/2019	118.56216	114.9782718	111.5222927	108.1888835	104.9729643	101.8696991	98.87448292	95.9829286	93.1908553
190711A00016	7/11/2019	2.17	7/11/2022	7/11/2019	106.84712	105.6087565	104.3989953	103.2168503	102.0613841	100.9317011	99.82694566	98.74629942	97.6889796
190711A00022	7/11/2019	2	7/11/2023	7/11/2019	112.67361	110.3177941	108.0236694	105.7891705	103.6123189	101.4912186	99.42405136	97.40907328	95.4446107
190712A00009	7/12/2019	2.19	7/12/2023	7/12/2019	112.77532	110.4219278	108.1300899	105.897751	103.7229384	101.6037614	99.53840695	97.52513574	95.56227873
190715A00010	7/15/2019	2.23	7/15/2024	7/15/2019	118.67243	115.0703973	111.5973804	108.2479711	105.0170263	101.899651	98.8911853	95.98719068	93.18343826
190715A00014	7/15/2019	2.16	3/30/2022	7/15/2019	105.09875	104.1923037	103.3014363	102.4257511	101.5648627	100.7183986	99.88599867	99.06731479	98.26201013
190715A00024	7/15/2019	2.17	7/15/2021	7/15/2019	100.79277	100.6581644	100.5239357	100.3900788	100.2565922	100.1234742	99.99072345	99.85833826	99.72631712
190715A00027	7/15/2019	1.99	7/15/2021	7/15/2019	100.77961	100.6449103	100.510585	100.3766331	100.2430529	100.1098429	99.97700158	99.84452728	99.71241846
190715A00028	7/17/2019	2.17	1/18/2022	7/17/2019	103.90923	103.2235216	102.5468491	101.8790338	101.2199024	100.5692863	99.92702118	99.29294684	98.66690726
190715A00029	7/17/2019	2.16	4/18/2022	7/17/2019	105.42159	104.4548546	103.505799	102.5739406	101.658815	100.7599745	99.87698727	99.00943645	98.15691983
190716A00046	7/16/2019	2.19	7/18/2022	7/16/2019	107.00378	105.741901	104.5096731	103.3060586	102.1300697	100.9807635	99.85723962	98.75863793	97.68413606
190717A00008	7/17/2019	2.22	7/17/2024	7/17/2019	118.66941	115.0609	111.5818223	108.2267484	104.9905104	101.8681905	98.85510718	95.94680198	93.13902729
190719A00002	7/19/2019	2.12	4/21/2022	7/19/2019	105.43547	104.4593873	103.5013188	102.5607692	101.6372613	100.730335	99.8395469	98.96446896	98.10468837
190719A00006	7/19/2019	2.17	7/19/2024	7/19/2019	118.53114	114.9183779	111.4354171	108.0767987	104.837332	101.7120783	98.69633636	95.78562935	92.97569271
190724A00005	7/24/2019	2.12	7/26/2021	7/24/2019	100.96653	100.8007762	100.6355644	100.4708944	100.3067636	100.1431693	99.980109	99.81758	99.65557978

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190724A00021	7/24/2019	2.33	7/23/2027	7/24/2019	134.83911	127.0656155	119.7909307	112.9803846	106.6019027	100.6257955	95.02456848	89.77274814	84.84672269
190724A00022	7/24/2019	1.94	7/23/2021	7/24/2019	100.90199	100.744628	100.587759	100.4313854	100.2755049	100.1201151	99.96521367	99.81079837	99.65686686
190724A00024	7/24/2019	2.49	7/24/2029	7/24/2019	145.24501	134.4303368	124.5043967	115.3893756	107.0146657	99.31616004	92.23562189	85.72011827	79.72151104
190726A00005	7/26/2019	1.97	7/26/2022	7/26/2019	107.03041	105.7403728	104.4812711	103.2520059	102.0515269	100.8788327	99.7329677	98.61301974	97.51811756
190729A00008	7/29/2019	2.18	1/29/2024	7/29/2019	115.92127	112.9012102	109.97599	107.1420005	104.3957939	101.7340794	99.15371392	96.65169483	94.22515229
190729A00017	7/29/2019	1.97	7/29/2021	7/29/2019	101.00407	100.8296514	100.6558306	100.4826082	100.3099812	100.1379466	99.96650132	99.79564232	99.62536664
190731A00004	7/31/2019	2.18	7/31/2024	7/31/2019	118.74586	115.090572	111.5677435	108.1717545	104.8972602	101.7391776	98.69267159	95.7531401	92.91620164
190731A00028	7/31/2019	1.93	7/29/2022	7/31/2019	107.03296	105.7332773	104.4649891	103.2269692	102.0181448	100.8374932	99.68403893	98.55685102	97.45504062
190801A00007	8/1/2019	2.17	8/2/2021	8/1/2019	101.09084	100.9051002	100.7200481	100.5356802	100.3519928	100.168982	99.98664415	99.80497544	99.62397219
190801A00010	8/1/2019	1.97	8/1/2023	8/1/2019	112.94488	110.5201841	108.1603224	105.8630647	103.6262816	101.4479348	99.32607265	97.25882544	95.24440114
190802A00003	8/2/2019	2.01	8/2/2024	8/2/2019	118.19355	114.5411173	111.0213313	107.6285459	104.357399	101.2027919	98.15987472	95.22403223	92.39087063
190802A00016	8/2/2019	2.01	7/12/2023	8/2/2019	112.37178	110.0229658	107.7356104	105.5076607	103.337147	101.2221809	99.16095222	97.15172403	95.19282969
190802A00029	8/2/2019	2	8/2/2022	8/2/2019	107.01745	105.7076951	104.4298471	103.1827508	101.9653067	100.7764673	99.61523377	98.48065325	97.37181639
190805A00004	8/5/2019	1.7	8/5/2022	8/5/2019	106.8672	105.5460558	104.2573844	103.0000032	101.7727838	100.5746515	99.40458197	98.26159862	97.14476962
190805A00007	8/5/2019	1.88	8/5/2022	8/5/2019	106.91945	105.6006991	104.3143176	103.0591223	101.8339899	100.6378505	99.46968456	98.32851972	97.21342828
190805A00008	8/5/2019	1.88	8/4/2023	8/5/2019	112.43259	110.0116896	107.6556214	105.3621552	103.1291574	100.9545861	98.83648603	96.77298437	94.76228628
190805A00011	8/5/2019	1.91	8/5/2024	8/5/2019	117.89295	114.236019	110.7122395	107.3159339	104.0417056	100.8844244	97.83921112	94.90142321	92.06664161
190805A00049	8/5/2019	1.88	8/4/2023	8/5/2019	112.43259	110.0116896	107.6556214	105.3621552	103.1291574	100.9545861	98.83648603	96.77298437	94.76228628
190805A00050	8/5/2019	1.91	8/5/2024	8/5/2019	117.89295	114.236019	110.7122395	107.3159339	104.0417056	100.8844244	97.83921112	94.90142321	92.06664161
190806A00012	8/6/2019	1.93	8/6/2021	8/6/2019	101.11032	100.9131943	100.7168511	100.5212823	100.3264833	100.1324496	99.93917654	99.7466597	99.55489457
190806A00026	8/6/2019	1.71	8/7/2023	8/6/2019	112.43506	109.9979102	107.6263631	105.3181527	103.0711082	100.8831528	98.75229879	96.67664248	94.6543601
190807A00012	8/7/2019	1.76	2/7/2023	8/7/2019	109.44436	107.6043656	105.8049198	104.0447464	102.3226271	100.6373945	98.98792922	97.37315737	95.79204833
190807A00014	8/7/2019	1.75	8/7/2023	8/7/2019	112.17597	109.748912	107.3870741	105.0882019	102.8501413	100.6708311	98.54829809	96.48065272	94.46608431
190807A00020	8/7/2019	1.57	2/7/2024	8/7/2019	114.74307	111.7018228	108.7571731	105.9053971	103.1429446	100.4664288	97.87261753	95.35842473	92.92090252
190807A00021	8/7/2019	2	8/7/2026	8/7/2019	127.63577	121.3328023	115.3785158	109.7517246	104.4326527	99.40282875	94.64499244	90.14300778	85.88178352
190807A00023	8/7/2019	1.77	8/7/2024	8/7/2019	117.43945	113.7837876	110.2614975	106.8668847	103.594534	100.4392978	97.39628081	94.46082584	91.62850027
190807A00036	8/7/2019	1.75	8/7/2023	8/7/2019	112.17597	109.748912	107.3870741	105.0882019	102.8501413	100.6708311	98.54829809	96.48065272	94.46608431
190807A00045	8/7/2019	1.77	8/7/2024	8/7/2019	117.43945	113.7837876	110.2614975	106.8668847	103.594534	100.4392978	97.39628081	94.46082584	91.62850027
190807A00054	8/7/2019	1.66	8/6/2021	8/7/2019	101.07358	100.8763345	100.6798753	100.4841931	100.2892831	100.0951407	99.90176138	99.70914053	99.51727363
190808A00009	8/8/2019	1.89	8/8/2024	8/8/2019	117.86574	114.1997294	110.6675101	107.263359	103.9818413	100.8177909	97.76629498	94.82268011	91.98249828
190808A00015	8/8/2019	1.92	8/9/2021	8/8/2019	101.15607	100.9503597	100.745502	100.5414882	100.3383131	100.1359714	99.93445801	99.73376774	99.53389551
190808A00025	8/8/2019	1.7	8/8/2024	8/8/2019	117.74381	114.0667402	110.524178	107.1103642	103.8198238	100.6473529	97.58800373	94.63706964	91.79007173
190808A00041	8/8/2019	1.74	8/6/2021	8/8/2019	101.08922	100.8919535	100.6954718	100.4997672	100.3048349	100.1106703	99.91726873	99.72462575	99.5327368

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190808A00047	8/8/2019	1.89	8/8/2024	8/8/2019	117.86574	114.1997294	110.6675101	107.263359	103.9818413	100.8177909	97.76629498	94.82268011	91.98249828
190808A00052	8/8/2019	1.7	8/8/2024	8/8/2019	117.74381	114.0667402	110.524178	107.1103642	103.8198238	100.6473529	97.58800373	94.63706964	91.79007173
190809A00001	8/9/2019	1.88	8/9/2022	8/9/2019	106.98499	105.6529445	104.353907	103.0866587	101.8500438	100.6429621	99.46436544	98.3132547	97.18867706
190809A00005	8/9/2019	1.88	7/11/2022	8/9/2019	106.51005	105.2738075	104.0661288	102.8860332	101.7325843	100.6048873	99.50208725	98.42336671	97.36794362
190809A00008	8/9/2019	1.87	8/3/2023	8/9/2019	112.39452	109.9771164	107.6243857	105.3341062	103.1041521	100.9324885	98.81716703	96.75632131	94.74816249
190809A00011	8/9/2019	1.69	8/9/2024	8/9/2019	117.72301	114.0430892	110.4978926	107.081639	103.7888406	100.6142815	97.55300297	94.60028804	91.75164819
190809A00012	8/9/2019	1.69	8/9/2024	8/9/2019	117.72301	114.0430892	110.4978926	107.081639	103.7888406	100.6142815	97.55300297	94.60028804	91.75164819
190809A00015	8/9/2019	1.88	8/9/2022	8/9/2019	106.98499	105.6529445	104.353907	103.0866587	101.8500438	100.6429621	99.46436544	98.3132547	97.18867706
190809A00022	8/9/2019	1.88	8/9/2024	8/9/2019	117.84511	114.1762682	110.6414257	107.2348449	103.9510779	100.784947	97.73152858	94.78613874	91.94432003
190812A00003	8/12/2019	1.67	8/12/2024	8/12/2019	117.69482	114.0058034	110.4521447	107.0280289	103.7279289	100.5465929	97.47902804	94.52048603	91.66644907
190812A00006	8/12/2019	1.86	8/12/2024	8/12/2019	117.81737	114.1394719	110.5962036	107.181793	103.8907535	100.7178712	97.65818896	94.70699186	91.85979329
190813A00007	8/13/2019	1.89	8/15/2022	8/13/2019	107.09597	105.7438849	104.4257678	103.1403515	101.8864311	100.6628599	99.46854659	98.30245139	97.16358339
190813A00016	8/13/2019	1.88	8/13/2024	8/13/2019	117.90021	114.2177282	110.6701398	107.2516489	103.9567549	100.7802302	97.71710531	94.76265343	91.9123771
190814A00005	8/14/2019	1.65	8/14/2024	8/14/2019	117.65272	113.9580221	110.3991082	106.9701273	103.6655267	100.4800305	97.40862374	94.44653733	91.58923421
190814A00008	8/14/2019	1.84	8/14/2024	8/14/2019	117.77562	114.0920721	110.5435712	107.1243156	103.8287931	100.6517663	97.58825576	94.63352608	91.78307154
190814A00010	8/14/2019	1.84	4/5/2023	8/14/2019	110.47889	108.451476	106.4714258	104.537353	102.6479166	100.8018231	98.99782514	97.23471892	95.51134282
190814A00015	8/14/2019	1.84	8/14/2024	8/14/2019	117.77562	114.0920721	110.5435712	107.1243156	103.8287931	100.6517663	97.58825576	94.63352608	91.78307154
190815A00012	8/15/2019	1.81	8/15/2024	8/15/2019	117.68541	114.0002118	110.4502364	107.0296693	103.7329866	100.55494	97.49054013	94.53504214	91.68393174
190815A00032	8/15/2019	1.83	8/13/2021	8/15/2019	101.20253	100.9853708	100.7691548	100.5538779	100.3395339	100.1261168	99.91362037	99.70203869	99.4913658
190816A00006	8/16/2019	1.77	8/16/2024	8/16/2019	117.56036	113.8741065	110.3232329	106.9019148	103.6046176	100.4260822	97.36131005	94.40554731	91.55427151
190816A00007	8/16/2019	1.77	8/16/2023	8/16/2019	112.35436	109.8977487	107.507755	105.182056	102.9184284	100.7147464	98.56897601	96.4791703	94.44346492
190816A00011	8/16/2019	1.77	8/16/2024	8/16/2019	117.56036	113.8741065	110.3232329	106.9019148	103.6046176	100.4260822	97.36131005	94.40554731	91.55427151
190816A00013	8/16/2019	2.2	8/16/2029	8/16/2019	141.13357	130.4862779	120.721044	111.7601199	103.5330016	95.97571789	89.03019208	82.64366994	76.76820554
190816A00014	8/16/2019	1.77	8/16/2024	8/16/2019	117.56036	113.8741065	110.3232329	106.9019148	103.6046176	100.4260822	97.36131005	94.40554731	91.55427151
190816A00016	8/16/2019	2.2	8/16/2029	8/16/2019	141.13357	130.4862779	120.721044	111.7601199	103.5330016	95.97571789	89.03019208	82.64366994	76.76820554
190816A00021	8/16/2019	1.77	8/16/2023	8/16/2019	112.35436	109.8977487	107.507755	105.182056	102.9184284	100.7147464	98.56897601	96.4791703	94.44346492
190816A00031	8/16/2019	1.77	8/16/2024	8/16/2019	117.56036	113.8741065	110.3232329	106.9019148	103.6046176	100.4260822	97.36131005	94.40554731	91.55427151
190816A00035	8/16/2019	1.77	8/16/2023	8/16/2019	112.35436	109.8977487	107.507755	105.182056	102.9184284	100.7147464	98.56897601	96.4791703	94.44346492
190819A00005	8/19/2019	1.62	8/21/2023	8/19/2019	112.43151	109.9514641	107.5391523	105.192194	102.908312	100.6853296	98.52116512	96.41382687	94.36140833
190819A00020	8/19/2019	1.79	8/19/2022	8/19/2019	107.0341	105.6695708	104.3396402	103.0430063	101.7784312	100.5447375	99.34080503	98.16556718	97.01800771
190819A00026	8/19/2019	1.62	8/19/2024	8/19/2019	117.61603	113.905995	110.3328211	106.890589	103.57368	100.3767571	97.29474846	94.32283218	91.4564219
190819A00030	8/19/2019	2.01	8/20/2029	8/19/2019	141.05285	130.318137	120.4770665	111.4505616	103.166938	95.56117754	88.57427459	82.15265053	76.24762762
190820A00005	8/21/2019	1.76	2/27/2023	8/21/2019	109.74992	107.8473893	105.9878542	104.169925	102.3922726	100.6536256	98.95276637	97.28852885	95.65979532

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190820A00008	8/20/2019	1.76	8/20/2024	8/20/2019	117.57934	113.880069	110.3170609	106.8844321	103.5765945	100.38824	97.31432393	94.35004991	91.4908556
190820A00012	8/20/2019	1.76	8/19/2022	8/20/2019	106.99583	105.6315614	104.3018886	103.0055079	101.7411816	100.5077326	99.30404076	98.1290395	96.98171275
190820A00013	8/20/2019	1.76	8/21/2023	8/20/2019	112.4041	109.9316334	107.5265583	105.1865099	102.9092266	100.6925464	98.53440146	96.43281314	94.38588718
190820A00020	8/20/2019	1.76	8/20/2024	8/20/2019	117.57934	113.880069	110.3170609	106.8844321	103.5765945	100.38824	97.31432393	94.35004991	91.4908556
190820A00021	8/20/2019	2.13	8/20/2029	8/20/2019	140.52067	129.8852516	120.1325983	111.1847723	102.9711131	95.42751698	88.49579594	82.12310212	76.26141153
190820A00054	8/20/2019	1.76	8/18/2022	8/20/2019	106.97978	105.6188383	104.2923293	102.9989596	101.7374998	100.5067806	99.30568922	98.13316592	96.98820103
190821A00009	8/21/2019	1.79	8/22/2022	8/21/2019	107.08252	105.7080024	104.3685747	103.0629035	101.7897256	100.5478402	99.33610497	98.15343269	96.99878776
190821A00016	8/21/2019	1.79	8/22/2022	8/21/2019	107.08252	105.7080024	104.3685747	103.0629035	101.7897256	100.5478402	99.33610497	98.15343269	96.99878776
190821A00017	8/21/2019	1.8	8/21/2024	8/21/2019	117.73198	114.0269375	110.4584511	107.0206168	103.7078312	100.5147714	97.43637903	94.46784495	91.60459482
190821A00021	8/21/2019	1.79	8/18/2022	8/21/2019	107.01796	105.6567614	104.3299958	103.036374	101.7746664	100.5437036	99.34237258	98.16961367	97.02441704
190821A00028	8/21/2019	1.8	8/21/2023	8/21/2019	112.49859	110.0249934	107.6188181	105.2776931	102.9993561	100.7816442	98.62248907	96.51991139	94.47201631
190821A00030	8/21/2019	1.8	8/21/2024	8/21/2019	117.73198	114.0269375	110.4584511	107.0206168	103.7078312	100.5147714	97.43637903	94.46784495	91.60459482
190822A00016	8/22/2019	1.84	8/22/2022	8/22/2019	107.14674	105.7717824	104.4319197	103.1258209	101.8522229	100.6099245	99.39778329	98.21471178	97.05967419
190823A00005	8/23/2019	1.62	8/23/2024	8/23/2019	117.66991	113.9461875	110.3602307	106.906063	103.5780116	100.3706889	97.2789762	94.29800774	91.42315642
190826A00004	8/26/2019	1.74	8/26/2022	8/26/2019	107.08228	105.6948977	104.3432448	103.025956	101.7417347	100.4893488	99.26762651	98.07545302	96.91176696
190826A00006	8/26/2019	1.72	8/26/2024	8/26/2019	117.51996	113.8026573	110.222907	106.774736	103.4524779	100.2507513	97.16444365	94.18869529	91.31888506
190826A00018	8/26/2019	1.9	8/27/2029	8/26/2019	140.08823	129.3696407	119.5462409	110.5385982	102.2747303	94.68936573	87.72328416	81.32272563	75.43885984
190826A00025	8/26/2019	1.76	11/26/2024	8/26/2019	118.87579	114.8379703	110.9593469	107.2327759	103.6514722	100.2089917	96.89921281	93.71631804	90.65477711
190826A00034	8/26/2019	1.9	8/24/2029	8/26/2019	140.05578	129.3493088	119.5362241	110.5373264	102.2808349	94.70165494	87.74072115	81.34440934	75.46400825
190826A00038	8/26/2019	1.74	8/26/2022	8/26/2019	107.08228	105.6948977	104.3432448	103.025956	101.7417347	100.4893488	99.26762651	98.07545302	96.91176696
190826A00056	8/26/2019	1.72	8/26/2024	8/26/2019	117.51996	113.8026573	110.222907	106.774736	103.4524779	100.2507513	97.16444365	94.18869529	91.31888506
190826A00057	8/26/2019	1.87	8/26/2025	8/26/2019	122.80071	117.7832664	112.9990147	108.4357643	104.0820428	99.92704505	95.96058996	92.17308017	88.55546463
190826A00058	8/26/2019	1.91	8/26/2026	8/26/2019	127.33003	120.9715913	114.9682285	109.2981646	103.9410843	98.87802611	94.09128429	89.56431799	85.28166773
190826A00060	8/26/2019	2.02	8/26/2027	8/26/2019	131.83977	124.0904911	116.8455305	110.0693766	103.7292075	97.79467511	92.23770519	87.03231428	82.15444258
190827A00001	8/27/2019	1.74	8/27/2024	8/27/2019	117.60323	113.8813366	110.2972497	106.8449852	103.5188617	100.3134844	97.22372781	94.24472043	91.37182995
190827A00022	8/27/2019	1.83	8/27/2021	8/27/2019	101.42221	101.1648919	100.90887	100.6541396	100.4006908	100.1485141	99.89760004	99.6479391	99.39952197
190827A00039	8/27/2019	1.78	8/26/2022	8/27/2019	107.13412	105.7463816	104.3943746	103.076738	101.792175	100.5394532	99.31740069	98.12490257	96.96089725
190828A00008	8/28/2019	1.75	8/29/2022	8/28/2019	107.13688	105.7416698	104.3821943	103.0570902	101.7650656	100.5048924	99.27540279	98.07548549	96.90408229
190828A00009	8/28/2019	1.71	8/28/2024	8/28/2019	117.51151	113.7880106	110.2024942	106.7489635	103.4217255	100.2153743	97.1247742	94.14504431	91.27154359
190828A00015	8/28/2019	2.04	8/28/2029	8/28/2019	139.76034	129.1290461	119.3830898	110.4440856	102.2409831	94.70934361	87.79069106	81.43193074	75.58482741
190828A00020	8/28/2019	1.95	5/28/2027	8/28/2019	130.47185	123.074216	116.1418129	109.6429997	103.5484432	97.8309411	92.46525645	87.42796588	82.69732032
190829A00005	8/30/2019	2.06	8/30/2023	8/30/2019	113.25215	110.7421115	108.3010157	105.9264307	103.6160333	101.3676032	99.17901665	97.04824195	94.9733341
190829A00031	8/29/2019	1.54	8/29/2024	8/29/2019	117.46932	113.729936	110.1295177	106.6620174	103.3216926	100.1030909	97.00103213	94.01059353	91.12709428

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190829A00045	8/29/2019	1.9	8/28/2026	8/29/2019	127.29415	120.9299841	114.9215666	109.2470575	103.8860843	98.81963384	94.02995321	89.5004588	85.21565225
190830A00002	8/30/2019	1.93	8/28/2026	8/30/2019	127.46862	121.099689	115.0866979	109.4077985	104.0426094	98.97210887	94.17853604	89.64529978	85.35689457
190830A00010	9/3/2019	1.75	9/1/2023	9/3/2019	112.5402	110.0327201	107.5942513	105.2223687	102.9147538	100.6691896	98.48355522	96.35582089	94.28404288
190830A00012	8/30/2019	1.76	8/30/2024	8/30/2019	117.71287	113.9796845	110.3849637	106.9226948	103.5871704	100.3729697	97.27494207	94.28819161	91.40806233
190830A00021	8/30/2019	1.76	8/30/2024	8/30/2019	117.71287	113.9796845	110.3849637	106.9226948	103.5871704	100.3729697	97.27494207	94.28819161	91.40806233
190903A00004	9/3/2019	1.77	9/6/2022	9/3/2019	107.25414	105.8498129	104.4786202	103.1393887	101.8310007	100.5523904	99.30254109	98.08048247	96.88528769
190904A00007	9/4/2019	1.69	9/1/2023	9/4/2019	112.39649	109.8907379	107.4539636	105.0837388	102.7777464	100.5337703	98.34969081	96.22347899	94.15319211
190904A00008	9/4/2019	1.69	9/3/2024	9/4/2019	117.51889	113.7765547	110.1733592	106.7032775	103.3605825	100.1398328	97.03585686	94.04373701	91.15879539
190904A00019	9/4/2019	1.69	9/4/2024	9/4/2019	117.5318	113.7861211	110.1797844	106.7067555	103.3613011	100.137974	97.03159619	94.0372438	91.15023257
190905A00003	9/5/2019	1.76	9/5/2024	9/5/2019	117.79162	114.0383438	110.4247346	106.9447411	103.5926201	100.3629142	97.25043541	94.25024995	91.35766379
190905A00015	9/5/2019	1.78	9/6/2022	9/5/2019	107.26742	105.8630013	104.4917158	103.1523932	101.8439157	100.5652174	99.31528167	98.09313805	96.89785969
190905A00035	9/5/2019	1.82	9/7/2021	9/5/2019	101.59203	101.3028681	101.0153653	100.7295028	100.4452668	100.1626431	99.88161804	99.60217802	99.32430957
190906A00004	9/6/2019	1.78	9/6/2022	9/6/2019	107.26742	105.8630013	104.4917158	103.1523932	101.8439157	100.5652174	99.31528167	98.09313805	96.89785969
190906A00005	9/6/2019	1.77	9/6/2023	9/6/2019	112.66018	110.1362344	107.6819791	105.2949826	102.972923	100.7135778	98.51481905	96.37460862	94.29099325
190906A00012	9/6/2019	1.76	9/6/2024	9/6/2019	117.80474	114.0481207	110.431363	106.9484155	103.593529	100.36124	97.2463542	94.24393144	91.34927132
190906A00014	9/6/2019	1.57	9/6/2024	9/6/2019	117.67897	113.9108734	110.2834045	106.7904637	103.426259	100.1852867	97.06231478	94.05236802	91.15071295
190906A00018	9/6/2019	1.76	9/6/2024	9/6/2019	117.80474	114.0481207	110.431363	106.9484155	103.593529	100.36124	97.2463542	94.24393144	91.34927132
190909A00025	9/9/2019	1.88	9/9/2024	9/9/2019	118.26888	114.4948751	110.8615412	107.3627989	103.9928741	100.7462778	97.61779027	94.602446	91.69551939
190910A00013	9/10/2019	1.9	9/9/2022	9/10/2019	107.45696	106.0481587	104.6715349	103.3259853	102.0104576	100.723947	99.46549378	98.23418061	97.02913029
190910A00030	9/10/2019	1.86	9/10/2024	9/10/2019	118.21152	114.4353826	110.8000777	107.2995273	103.9279522	100.6798582	97.5500206	94.53346827	91.6254702
190912A00031	9/12/2019	1.75	9/12/2024	9/12/2019	118.39757	114.5981722	110.9409278	107.4196893	104.0286172	100.7621599	97.61503714	94.58222525	91.65894276
190912A00033	9/12/2019	1.77	9/12/2023	9/12/2019	113.11576	110.5606706	108.0765221	105.6608648	103.3113534	101.0257409	98.80187407	96.6376885	94.53120415
190912A00034	9/12/2019	1.76	9/12/2022	9/12/2019	107.46982	106.0551172	104.6717185	103.318586	101.9947293	100.6992012	99.43109573	98.18954582	96.97372113
190913A00014	9/13/2019	2.08	9/13/2024	9/13/2019	119.03329	115.2335327	111.5755909	108.0533556	104.6610162	101.3930474	98.24419288	95.2094509	92.28405992
190913A00025	9/13/2019	2.04	3/15/2022	9/13/2019	104.74633	103.8874853	103.042689	102.2115937	101.3938682	100.5891916	99.79725343	99.01775294	98.25039874
190916A00008	9/16/2019	2.05	9/16/2021	9/16/2019	101.80141	101.4860323	101.1726226	100.8611575	100.551619	100.2439891	99.93825011	99.63438463	99.33237537
190916A00009	9/16/2019	2.04	9/16/2022	9/16/2019	107.70295	106.2855354	104.8980232	103.5394807	102.2090106	100.9057526	99.62888229	98.37760855	97.15117221
190917A00035	9/19/2019	2.02	10/16/2023	9/19/2019	113.87701	111.2141679	108.6273549	106.1139645	103.6715005	101.2975662	98.98986059	96.74617333	94.56438096
190919A00007	9/19/2019	2.04	9/19/2024	9/19/2019	118.97522	115.1576286	111.4830096	107.9452149	104.5383991	101.2570009	98.09572736	95.04953945	92.11363818
210429A00005	4/29/2021	2.08	4/29/2031	4/29/2021	146.91652	133.7240001	121.8240111	111.0831654	101.3824628	92.61567489	84.68791776	77.51438933	71.01925346
210527A00019	5/27/2021	1	5/27/2026	5/27/2021	122.18502	116.2370293	110.6101432	105.2854026	100.2450634	95.47251462	90.95219983	86.6695449	82.61089082
210527A00009	5/27/2021	0.5	5/28/2024	5/27/2021	112.86255	109.4936982	106.242545	103.1043179	100.0744666	97.14865151	94.32273291	91.59276009	88.95496174
210507A00009	5/7/2021	2.02	5/7/2032	5/7/2021	149.98857	135.2537288	122.0944499	110.3339195	99.81598728	90.40266083	81.9719137	74.4157678	67.63861419

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
010824A00028	8/24/2001	6.24	8/24/2021	8/24/2001	102.45991	102.209385	101.9600916	101.7120185	101.4651565	101.219497	100.9750311	100.7317501	100.4896455
011029A00020	10/29/2001	5.73	10/29/2021	10/29/2001	104.12824	103.6821104	103.2398119	102.8012905	102.3664981	101.9353871	101.507911	101.084024	100.6636809
080909A00042	9/9/2008	4.74	9/11/2023	9/9/2008	120.3169	117.6768615	115.1095593	112.6124887	110.1832473	107.8195342	105.5191444	103.2799641	101.0999662
081215A00091	12/15/2008	4.19	12/15/2023	12/15/2008	121.10709	118.1484043	115.2789887	112.4955848	109.7950766	107.1744829	104.63095	102.1617454	99.76425174
110527A00007	5/27/2011	3.98	6/1/2021	5/27/2011	100.08604	100.0748799	100.0637325	100.0525957	100.0414694	100.0303536	100.0192484	100.0081536	99.99706933
110818A00006	8/18/2011	3.09	8/30/2021	8/18/2011	101.80046	101.5338984	101.2687291	101.0049432	100.7425298	100.4814783	100.2217781	99.9634187	99.70638985
110818A00012	8/18/2011	2.86	8/31/2022	8/18/2011	108.79289	107.3810429	106.0046101	104.6622634	103.3527425	102.0748485	100.8274406	99.60943237	98.41978858
110825A00016	8/25/2011	3.06	8/31/2022	8/25/2011	109.05526	107.6415731	106.2633276	104.9192003	103.6079299	102.3283166	101.0792188	99.85954924	98.66827186
110919A00026	9/19/2011	2.66	9/30/2021	9/19/2011	102.27199	101.9149791	101.5604604	101.2084049	100.8587872	100.5115819	100.1667642	99.82430942	99.48419348
111024A00022	10/24/2011	3.11	10/30/2023	10/24/2011	117.29805	114.5380799	111.8580133	109.2550706	106.7265862	104.2700036	101.8828698	99.56283053	97.3076257
120228A00010	2/28/2012	2.34	3/2/2022	2/28/2012	104.85656	104.0357494	103.2277519	102.4322702	101.6490154	100.8777073	100.1180742	99.36985253	98.63278671
120411A00012	4/11/2012	2.87	4/15/2022	4/11/2012	106.01741	105.0569635	104.1139053	103.187762	102.2780812	101.3844267	100.5063772	99.64352644	98.7954819
121101A00011	11/1/2012	2.03	11/1/2022	11/1/2012	108.5647	107.021506	105.5082283	104.0240648	102.5682459	101.1400288	99.73869588	98.36355425	97.01393414
121116A00007	11/16/2012	1.99	11/16/2021	11/16/2012	102.76958	102.2745964	101.7843795	101.2988619	100.8179764	100.3416565	99.86983751	99.40245568	98.93944851
131011A00006	10/11/2013	3.28	10/15/2021	10/11/2013	102.75687	102.3554867	101.9572465	101.5621132	101.1700507	100.7810229	100.3949948	100.0119316	99.63179915
140411A00009	4/11/2014	3.1	4/11/2024	4/11/2014	120.36349	117.031768	113.8105811	110.6956529	107.6829009	104.7684226	101.9484866	99.21952394	96.57812033
140423A00036	4/23/2014	4.03	4/23/2029	4/23/2014	156.2885	145.4365473	135.4377188	126.2200639	117.7180598	109.8720091	102.6274933	95.93488129	89.74888549
140815A00030	8/15/2014	2.96	10/16/2023	8/15/2014	116.25626	113.5632563	110.9469542	108.4047305	105.9340683	103.5325516	101.1978606	98.92776688	96.72012973
140922A00026	9/22/2014	3.02	9/30/2024	9/22/2014	123.23288	119.2913389	115.4980108	111.8465401	108.3308769	104.9452615	101.6842091	98.54249538	95.51514237
141024A00010	10/24/2014	2.81	10/24/2024	10/24/2014	122.88902	118.8719021	115.0087864	111.2929414	107.7179651	104.2777691	100.9665617	97.77883106	94.70933096
150319A00013	3/19/2015	3.25	3/19/2030	3/19/2015	154.19365	142.1773988	131.207123	121.1858693	112.0261569	103.6490034	95.9830588	88.96383195	82.53299867
150331A00004	3/31/2015	2.08	3/31/2022	3/31/2015	105.14672	104.2355276	103.3400749	102.4599554	101.5947778	100.7441643	99.90774939	99.08517998	98.27611447
150408A00004	4/8/2015	2.17	4/10/2023	4/8/2015	111.50142	109.4430685	107.4331964	105.4703621	103.5531813	101.6803197	99.8504905	98.06245289	96.31500974
150518A00026	5/18/2015	2.08	11/18/2021	5/18/2015	102.88645	102.3847638	101.8879712	101.3960005	100.9087817	100.426246	99.94832599	99.47495559	99.00606992
150601A00470	6/1/2015	2.98	5/31/2024	6/1/2015	120.77946	117.2756441	113.8933891	110.6277728	107.4741034	104.427907	101.4849153	98.64105533	95.89243923
150601A00638	6/1/2015	2.51	9/30/2021	6/1/2015	102.17869	101.8222164	101.4682267	101.1166928	100.7675895	100.4208915	100.0765741	99.73461284	99.39498368
150601A00640	6/1/2015	2.57	12/31/2021	6/1/2015	103.82639	103.1949473	102.5711723	101.9549227	101.3460627	100.7444601	100.1499857	99.56251342	98.98192007
150601A00664	6/1/2015	3.78	1/16/2032	6/1/2015	169.93887	154.530557	140.6951638	128.2622838	117.0808559	107.0168735	97.95137676	89.77869077	82.40487833
150601A00668	6/1/2015	3.89	1/16/2037	6/1/2015	200.91058	175.769391	154.1958895	135.6564106	119.7000811	105.945577	94.07006016	83.79992456	74.90304707
150601A00830	6/1/2015	6.743	7/31/2025	6/1/2015	145.04498	139.6057264	134.4100774	129.4456361	124.7007106	120.1642735	115.825919	111.6758245	107.7047137
150603A00017	6/3/2015	2.84	6/3/2025	6/3/2015	126.70521	121.8627225	117.2342862	112.8092631	108.5776039	104.5298119	100.6569097	96.95040745	93.40227375
150603A00018	6/3/2015	2.84	6/3/2025	6/3/2015	126.70521	121.8627225	117.2342862	112.8092631	108.5776039	104.5298119	100.6569097	96.95040745	93.40227375
150610A00009	6/10/2015	3.03	6/10/2025	6/10/2015	127.65464	122.7688897	118.0996976	113.6362645	109.3683909	105.2864403	101.3813054	97.64437554	94.06750695

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150717A00009	7/17/2015	2.18	7/19/2021	7/17/2015	100.87227	100.7262045	100.5805724	100.4353736	100.290606	100.1462677	100.0023568	99.8588714	99.71580952
150817A00077	8/17/2015	2.49	8/17/2023	8/17/2015	114.42079	111.9293973	109.5056409	107.1471521	104.8516694	102.6170304	100.4411667	98.32209852	96.25793041
150819A00012	8/19/2015	3.04	8/19/2025	8/19/2015	128.11998	123.0080092	118.1311999	113.4773487	109.0349671	104.7932299	100.7419331	96.87145384	93.17271343
150923A00049	9/23/2015	1.97	9/23/2021	9/23/2015	101.9162	101.5801585	101.2463397	100.9147171	100.5852691	100.2579744	99.93281174	99.60976044	99.28879992
151211A00007	12/11/2015	2.73	12/15/2025	12/11/2015	129.25298	123.689121	118.3988674	113.3672722	108.58029	104.0247149	99.68812614	95.55883645	91.62584502
160119A00026	1/19/2016	3.14	1/19/2029	1/19/2016	146.90283	136.784663	127.4455502	118.8211865	110.8529079	103.4871649	96.67505179	90.37187975	84.53679279
160329A00044	3/29/2016	1.79	3/29/2022	3/29/2016	104.8624	103.9587508	103.0706064	102.1975719	101.3392642	100.4953135	99.66536208	98.84906401	98.0460847
160624A00010	6/24/2016	1.66	6/24/2022	6/24/2016	105.99893	104.8195954	103.6663598	102.5383642	101.4347875	100.3548439	99.29778076	98.26287737	97.24944282
160624A00063	6/24/2016	1.52	6/24/2022	6/24/2016	105.9839	104.8024688	103.6472227	102.5172964	101.4118653	100.33014	99.27136472	98.2348156	97.21979886
160628A00039	6/28/2016	2.01	6/29/2026	6/28/2016	128.19158	121.9757201	116.0980927	110.5384902	105.2780258	100.2990358	95.58499372	91.12043048	86.89086132
160628A00054	6/28/2016	1.28	6/28/2021	6/28/2016	100.44184	100.3552678	100.268844	100.1825675	100.0964381	100.0104553	99.92461887	99.83892837	99.75338345
160630A00034	6/30/2016	1.51	6/28/2021	6/30/2016	100.45387	100.3673656	100.281011	100.1948027	100.1087406	100.0228241	99.93705294	99.8514268	99.7659453
160701A00039	7/1/2016	1.92	7/1/2026	7/1/2016	127.70821	121.4982252	115.6266706	110.0733017	104.8191983	99.84666728	95.13915575	90.68117141	86.45820877
160705A00006	7/5/2016	1.38	7/5/2022	7/5/2016	105.99634	104.7799152	103.5912284	102.4293424	101.2933592	100.1824206	99.09570606	98.03243038	96.99184201
160706A00006	7/6/2016	1.47	7/6/2023	7/6/2016	111.41159	109.0857254	106.820539	104.6140083	102.4641978	100.3692524	98.32739227	96.33690985	94.39616596
160714A00023	8/10/2016	2.49	8/10/2028	8/10/2016	139.2753	130.0353693	121.4747177	113.5397634	106.1814252	99.35472513	93.01842321	87.13468815	81.66879788
160714A00029	8/10/2016	2.27	8/10/2026	8/10/2016	129.22459	122.8685367	116.86395	111.1894636	105.8251345	100.752337	95.95366754	91.41285732	87.11469185
160714A00054	7/14/2016	2.03	7/15/2024	7/14/2016	117.9992	114.4082615	110.9460432	107.6071445	104.3864321	101.279021	98.28026039	95.38572059	92.59118123
160726A00024	7/26/2016	1.61	7/26/2021	7/26/2016	100.88255	100.716903	100.5517967	100.3872319	100.2232059	100.0597162	99.89676021	99.73433525	99.57243879
160728A00022	7/28/2016	1.37	7/28/2021	7/28/2016	100.88565	100.7142201	100.543368	100.3730924	100.2033904	100.0342591	99.86569575	99.69769744	99.53026138
160804A00014	8/4/2016	1.99	8/5/2024	8/4/2016	118.16744	114.5059045	110.9776456	107.5769816	104.2985117	101.1371017	98.08786842	95.14616549	92.30757031
160909A00024	9/9/2016	1.7	9/9/2021	9/9/2016	101.58846	101.2935692	101.0004007	100.7089388	100.4191685	100.1310751	99.844644	99.55986067	99.27671087
160921A00020	9/21/2016	1.97	9/21/2023	9/21/2016	113.36762	110.7899071	108.284025	105.8475375	103.4781071	101.1734908	98.93153522	96.75017283	94.62741752
160922A00009	9/22/2016	1.55	9/22/2022	9/22/2016	107.28085	105.8574204	104.4619798	103.093736	101.7519234	100.4358052	99.14467221	97.87784149	96.634655
160922A00051	9/22/2016	2.5	9/22/2028	9/22/2016	139.87566	130.4626146	121.750849	113.6844777	106.2123368	99.2875666	92.86722853	86.91195864	81.38565316
160926A00046	9/26/2016	1.66	9/26/2023	9/26/2016	113.05209	110.4554603	107.9316071	105.4780734	103.0925043	100.7726379	98.51630139	96.32140672	94.18594695
161004A00034	10/4/2016	1.67	10/4/2021	10/4/2016	101.95756	101.5899833	101.2250544	100.8627469	100.5030324	100.1458832	99.79127184	99.43917133	99.08955503
161006A00011	10/6/2016	1.64	10/6/2022	10/6/2016	107.58506	106.1288577	104.6995661	103.2965051	101.9190134	100.5664517	99.23820134	97.93366363	96.6522591
161013A00038	10/13/2016	1.52	10/13/2021	10/13/2016	102.06841	101.6741109	101.2828667	100.8946396	100.5093948	100.1270978	99.74771473	99.37121233	98.99755773
161212A00040	12/12/2016	2.45	12/12/2023	12/12/2016	116.32601	113.4416726	110.6445809	107.9315577	105.2995599	102.7456754	100.2671165	97.86121346	95.52540886
190521A00047	5/21/2019	2.54	5/19/2023	5/21/2019	112.62248	110.4364937	108.3046672	106.2253069	104.1967856	102.2175385	100.2860598	98.40090049	96.56066552
190523A00015	5/23/2019	2.51	4/1/2024	5/23/2019	117.90593	114.6544162	111.5098588	108.4681678	105.5254306	102.6779046	99.9220098	97.25432009	94.67155614
190523A00016	5/23/2019	2.48	2/15/2023	5/23/2019	110.8654	108.9883186	107.1529834	105.3580702	103.6023104	101.8844893	100.2034426	98.55805415	96.94725344

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190523A00024	5/23/2019	2.47	10/31/2022	5/23/2019	108.99764	107.4574366	105.9469699	104.4654547	103.0121285	101.5862551	100.1871232	98.81404564	97.46635833
190524A00015	5/24/2019	2.24	5/24/2022	5/24/2019	106.23565	105.1506298	104.0876928	103.046173	102.025428	101.0248411	100.0438198	99.08179448	98.13821751
190524A00040	5/24/2019	2.47	5/24/2024	5/24/2019	118.649	115.2136184	111.8967615	108.6936633	105.5997799	102.6107765	99.72251591	96.93104881	94.23260366
190529A00012	5/29/2019	2.34	11/29/2021	5/29/2019	103.16322	102.6288667	102.1000318	101.576631	101.058581	100.5458002	100.0382085	99.53572759	99.03828063
190529A00020	5/29/2019	2.38	5/29/2024	5/29/2019	118.44102	114.9924991	111.6635046	108.4492103	105.3450135	102.3465242	99.4495537	96.65010426	93.94435911
190530A00045	5/30/2019	2.44	5/30/2024	5/30/2019	118.65005	115.1950722	111.8599041	108.6396994	105.529842	102.5259288	99.62375922	96.81932416	94.10879616
190531A00009	6/5/2019	2.1	6/3/2022	6/5/2019	106.26531	105.1486051	104.0552784	102.9846042	101.935884	100.9084479	99.90165305	98.91488216	97.94754239
190531A00037	5/31/2019	2.61	5/31/2029	5/31/2019	145.64655	135.0139648	125.2405454	116.2522685	107.9818519	100.368109	93.35536755	86.89294654	80.93468488
190603A00031	6/3/2019	1.98	6/3/2022	6/3/2019	106.13895	105.0229699	103.9303564	102.860385	101.8123576	100.7856045	99.77948306	98.79337621	97.82669133
190603A00041	6/3/2019	2.01	6/3/2021	6/3/2019	100.09764	100.0809112	100.0642007	100.047507	100.0308303	100.0141704	99.99752731	99.98090103	99.96429152
190603A00048	6/3/2019	2.24	6/3/2024	6/3/2019	118.06579	114.6075277	111.269594	108.0471101	104.9354243	101.930101	99.02690911	96.22181125	93.51095363
190604A00008	6/4/2019	2.23	6/4/2021	6/4/2019	100.11624	100.0967433	100.077263	100.0578029	100.0383627	100.0189425	99.99954224	99.9801619	99.96080146
190606A00028	6/6/2019	2.74	6/6/2029	6/6/2019	145.26716	134.7024854	124.9903642	116.0573974	107.8368653	100.2680901	93.29585993	86.8699101	80.94445657
190610A00017	6/10/2019	2.29	6/10/2024	6/10/2019	118.33473	114.8502211	111.487498	108.2415991	105.1077929	102.0815689	99.15862598	96.33486122	93.6063594
190617A00004	6/17/2019	2.2	6/15/2021	6/17/2019	100.29802	100.2478224	100.197692	100.1476285	100.0976318	100.0477018	99.99783826	99.94804114	99.89831028
190617A00026	6/17/2019	2.17	6/17/2022	6/17/2019	106.44618	105.2862534	104.1515223	103.0411681	101.9544117	100.8905066	99.84873773	98.82841965	97.82889481
190620A00025	6/20/2019	2.04	6/20/2022	6/20/2019	106.35458	105.1857316	104.0424706	102.9239647	101.8294163	100.7580623	99.70917124	98.68204238	97.6760038
190620A00027	6/20/2019	2.14	6/20/2024	6/20/2019	117.99447	114.484061	111.0972331	107.8289111	104.6742582	101.6286655	98.68774038	95.84729407	93.10333137
190621A00015	6/21/2019	2.2	6/21/2024	6/21/2019	118.20684	114.6898688	111.2967632	108.022434	104.8620302	101.81093	98.86472792	96.0192237	93.27041106
190621A00019	6/21/2019	2.12	6/21/2021	6/21/2019	100.39209	100.325126	100.258265	100.1915043	100.1248439	100.0582833	99.99182253	99.92546123	99.85919921
190621A00023	6/21/2019	1.93	6/21/2022	6/21/2019	106.38993	105.215551	104.0669796	102.9433755	101.8439313	100.7678745	99.7144651	98.68299391	97.6727812
190625A00021	6/25/2019	1.88	6/26/2023	6/25/2019	112.16608	109.862813	107.619003	105.4326936	103.302011	101.2251579	99.20040908	97.22610814	95.30066409
190627A00010	6/27/2019	1.97	6/27/2024	6/27/2019	118.04826	114.5026836	111.082791	107.7833847	104.5995113	101.5264534	98.55971605	95.69501534	92.92826658
190701A00009	7/3/2019	2.14	7/2/2024	7/3/2019	118.17355	114.6221149	111.196742	107.8921997	104.7035112	101.625937	98.65496208	95.7862836	93.01579947
190703A00021	7/3/2019	2.11	7/2/2021	7/3/2019	100.571	100.4731705	100.3755323	100.2780894	100.1808412	100.0837872	99.98692677	99.89025934	99.79378432
190711A00020	7/11/2019	1.98	7/11/2022	7/11/2019	106.78624	105.5457414	104.3339363	103.149838	101.9925048	100.861037	99.75457496	98.67229679	97.61341623
190729A00006	7/29/2019	2.14	7/29/2022	7/29/2019	107.12058	105.8230118	104.5567348	103.3206294	102.1136276	100.9347113	99.78290917	98.6572945	97.55698222
190730A00007	7/30/2019	2.19	7/30/2024	7/30/2019	118.76529	115.1128636	111.5926955	108.1991736	104.9269657	101.7710007	98.72645422	95.7887344	92.95346921
190730A00016	7/30/2019	2	7/30/2024	7/30/2019	118.64668	114.9832436	111.4527806	108.0496347	104.7684343	101.6040714	98.55168715	95.60665729	92.76457943
190802A00017	8/2/2019	2.01	11/15/2023	8/2/2019	114.31031	111.5470551	108.8652961	106.2621509	103.7348552	101.2807599	98.89732498	96.58211449	94.33279155
190805A00009	8/5/2019	1.91	8/5/2024	8/5/2019	117.89295	114.236019	110.7122395	107.3159339	104.0417056	100.8844244	97.83921112	94.90142321	92.06664161
190805A00029	8/5/2019	1.93	8/5/2022	8/5/2019	106.98119	105.6620361	104.3752512	103.1196593	101.8941368	100.6976138	99.52907048	98.38753433	97.27207749
190808A00011	8/8/2019	1.86	8/8/2023	8/8/2019	112.4461	110.0128285	107.6449928	105.3403306	103.0966783	100.9119658	98.78421169	96.71151825	94.69206738

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190808A00023	8/8/2019	1.68	11/8/2023	8/8/2019	113.74241	111.0000451	108.3381616	105.753927	103.2446265	100.8076574	98.44052372	96.14083114	93.90628209
190808A00049	8/8/2019	1.89	8/8/2024	8/8/2019	117.86574	114.1997294	110.6675101	107.263359	103.9818413	100.8177909	97.76629498	94.82268011	91.98249828
190814A00009	8/14/2019	1.84	8/14/2024	8/14/2019	117.77562	114.0920721	110.5435712	107.1243156	103.8287931	100.6517663	97.58825576	94.63352608	91.78307154
190816A00022	8/16/2019	1.77	8/16/2024	8/16/2019	117.56036	113.8741065	110.3232329	106.9019148	103.6046176	100.4260822	97.36131005	94.40554731	91.55427151
190816A00036	8/16/2019	1.77	8/16/2024	8/16/2019	117.56036	113.8741065	110.3232329	106.9019148	103.6046176	100.4260822	97.36131005	94.40554731	91.55427151
190819A00001	8/19/2019	1.82	8/19/2021	8/19/2019	101.29434	101.0599784	100.826715	100.5945378	100.3634392	100.1334118	99.90444792	99.67654027	99.44968149
190819A00004	8/20/2019	1.81	5/24/2024	8/20/2019	116.53323	113.1311847	109.8467955	106.6753271	103.6122641	100.6532993	97.79432169	95.03140716	92.36080833
190820A00029	8/20/2019	1.76	8/20/2024	8/20/2019	117.57934	113.880069	110.3170609	106.8844321	103.5765945	100.38824	97.31432393	94.35004991	91.49085556
190820A00030	8/20/2019	1.76	4/16/2024	8/20/2019	115.83305	112.5652982	109.4067408	106.3531415	103.4004495	100.5447934	97.78247205	95.10994586	92.52382911
190826A00029	8/26/2019	1.53	8/26/2024	8/26/2019	117.3949	113.666298	110.0759981	106.6179807	103.2865373	100.0762471	96.98196077	93.99878412	91.12206369
190826A00063	8/26/2019	2.05	8/28/2028	8/26/2019	135.88116	126.7053406	118.2109472	110.3437803	103.0542313	96.29687098	90.03007512	84.21568621	78.81870668
190828A00031	8/28/2019	1.71	8/28/2024	8/28/2019	117.51151	113.7880106	110.2024942	106.7489635	103.4217255	100.2153743	97.1247742	94.14504431	91.27154359
190829A00012	8/29/2019	1.54	8/29/2024	8/29/2019	117.46932	113.729936	110.1295177	106.6620174	103.3216926	100.1030909	97.00103213	94.01059353	91.12709428
190829A00015	8/30/2019	2.06	8/30/2022	8/30/2019	107.55186	106.1527389	104.7890714	103.4595216	102.1628177	100.8977506	99.66316992	98.45798063	97.28113964
190829A00029	8/29/2019	1.75	7/14/2023	8/29/2019	111.81902	109.4702347	107.1830704	104.9554555	102.7854102	100.6710371	98.61051708	96.60210533	94.64412759
190829A00050	8/29/2019	1.73	8/29/2024	8/29/2019	117.59458	113.8665444	110.2767201	106.8191066	103.4880037	100.2779983	97.18394785	94.20096398	91.32439847
190917A00022	9/17/2019	2.02	9/16/2022	9/17/2019	107.67581	106.2585852	104.8712661	103.5129133	102.1826295	100.8795548	99.60286447	98.35176772	97.12550543
190917A00028	9/17/2019	2.02	3/1/2023	9/17/2019	110.26131	108.3476853	106.4773819	104.6489991	102.8612013	101.1127103	99.40230217	97.7288042	96.09109224
190917A00044	9/17/2019	1.86	9/17/2021	9/17/2019	101.78383	101.4653321	101.1488333	100.8343189	100.52177	100.2111682	99.90249528	99.5957332	99.29086417
190917A00045	9/17/2019	1.86	9/17/2021	9/17/2019	101.78383	101.4653321	101.1488333	100.8343189	100.52177	100.2111682	99.90249528	99.5957332	99.29086417
190918A00007	9/20/2019	1.95	12/15/2022	9/20/2019	108.92966	107.2547909	105.6145757	104.0080171	102.4341555	100.8920674	99.38086367	97.89968809	96.44771548
190919A00025	9/19/2019	1.8	9/19/2024	9/19/2019	118.67173	114.8455104	111.1629553	107.6178782	104.2043926	100.916899	97.75006883	94.69882948	91.75835063
190920A00018	9/20/2019	1.98	9/20/2022	9/20/2019	107.67703	106.2555226	104.8626142	103.4974658	102.1592692	100.8472479	99.56065525	98.29877336	97.06091143
190924A00010	9/24/2019	1.95	9/24/2021	9/24/2019	101.89854	101.5599762	101.2236597	100.8895691	100.5576824	100.2279778	99.90043377	99.57502926	99.25174333
190925A00011	9/25/2019	1.89	9/25/2024	9/25/2019	118.52085	114.6923726	111.0078278	107.4610423	104.0461421	100.7575359	97.58989991	94.53816317	91.59749447
190926A00012	9/26/2019	1.93	9/27/2021	9/26/2019	101.9398	101.5925235	101.2476024	100.9050154	100.5647388	100.2267495	99.89102449	99.55754114	99.22627712
190927A00012	10/1/2019	1.96	10/1/2024	10/1/2019	118.85571	115.0019902	111.2936876	107.7245577	104.2886594	100.9803365	97.79420289	94.72512783	91.76822265
190930A00041	9/30/2019	1.94	10/25/2021	9/30/2019	102.3911	101.9615515	101.5355963	101.1131921	100.6942947	100.2788604	99.86684665	99.45821124	99.05291281
190930A00069	9/30/2019	1.9	9/29/2023	9/30/2019	113.31469	110.7133475	108.1849171	105.7269539	103.3371075	101.0131194	98.7528192	96.5541204	94.41501676
191001A00006	10/1/2019	1.83	6/18/2024	10/1/2019	116.94711	113.45984	110.0953141	106.8484982	103.7145925	100.6890231	97.76743014	94.94565621	92.21973549
191003A00002	10/3/2019	1.58	10/4/2021	10/3/2019	101.95468	101.5867645	101.2215046	100.8588725	100.49884	100.1413792	99.78646234	99.43406243	99.08415267
191003A00019	10/3/2019	1.71	9/27/2024	10/3/2019	117.90074	114.0768581	110.3969994	106.8549893	103.4449522	100.1612946	96.99868954	93.95206247	91.01657815
191004A00004	10/4/2019	1.54	10/4/2024	10/4/2019	117.93745	114.0757608	110.3606238	106.7857157	103.3450207	100.0328131	96.84364158	93.77231498	90.81388805

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191004A00032	10/4/2019	2.01	1/3/2028	10/4/2019	133.06968	124.8283177	117.1502448	109.9940419	103.3215495	97.09759078	91.28972313	85.86801188	80.80482381
191007A00027	10/7/2019	1.69	10/7/2022	10/7/2019	107.47605	106.0207442	104.5923412	103.1901567	101.8135298	100.4618213	99.13441299	97.83070624	96.55012175
191008A00031	10/8/2019	1.52	10/8/2024	10/8/2019	117.91795	114.0432807	110.3161286	106.7301084	103.2791459	99.95746126	96.75955234	93.68018036	90.71435569
191018A00015	10/18/2019	1.89	10/18/2021	10/18/2019	102.25901	101.8501216	101.4445019	101.0421153	100.6429231	100.2468875	99.8539709	99.46413659	99.0773483
191025A00010	10/25/2019	2.24	7/25/2028	10/25/2019	137.05802	127.9568979	119.5227925	111.7033069	104.4504291	97.72014059	91.47206403	85.66914334	80.27735392
191104A00019	11/5/2019	1.9	2/1/2022	11/5/2019	103.95777	103.2297836	102.5119579	101.8040837	101.1059551	100.417372	99.73813946	99.06806821	98.40697382
191120A00005	11/20/2019	2.63	11/20/2034	11/20/2019	169.22758	149.719903	132.6941677	117.8193929	104.8103532	93.42105216	83.43915143	74.68121449	66.98864316
191120A00010	11/20/2019	1.88	1/20/2022	11/20/2019	103.74961	103.0585049	102.3765875	101.7036726	101.0395827	100.3841451	99.73719144	99.0985577	98.46808411
191120A00024	11/20/2019	2.23	11/16/2029	11/20/2019	142.46767	131.4317148	121.3343991	112.0909987	103.624842	95.86650777	88.75310558	82.22763135	76.23838929
191121A00004	11/21/2019	1.77	11/21/2024	11/21/2019	119.43359	115.3865926	111.4988011	107.7630859	104.1726752	100.7211374	97.4023618	94.21054049	91.14015191
191206A00020	12/9/2019	1.91	12/15/2021	12/9/2019	103.19252	102.610717	102.0354707	101.4666666	100.9041967	100.3479556	99.7978401	99.2537493	98.71558451
191218A00014	12/18/2019	2.04	12/18/2024	12/18/2019	120.24136	116.1062194	112.136166	108.3236851	104.6616449	101.1432785	97.76216358	94.51220186	91.38760129
191226A00020	12/26/2019	2.44	12/21/2029	12/26/2019	144.93101	133.6588888	123.3528982	113.9250759	105.2958946	97.39341713	90.15253547	83.51429048	77.42526211
170111A00013	1/11/2017	3.4	1/10/2031	1/11/2017	160.4059	146.9497775	134.757294	123.7023344	113.6720109	104.5652126	96.29131999	88.76906572	81.92552494
170117A00046	1/17/2017	2.55	1/17/2024	1/17/2017	116.77837	113.7835806	110.8818315	108.069622	105.3436068	102.7005905	100.1375196	97.65147501	95.23966507
170215A00038	2/15/2017	2.71	8/22/2022	2/15/2017	108.26422	106.8815547	105.5341213	104.220584	102.9396758	101.6901918	100.4709862	99.28096794	98.11909805
170215A00041	2/15/2017	2.6	10/16/2023	2/15/2017	115.34506	112.6636054	110.058597	107.5274158	105.0675529	102.6765998	100.3522436	98.09226297	95.89452382
170216A00010	2/16/2017	2.37	2/16/2022	2/16/2017	104.55175	103.7759171	103.0115802	102.2584848	101.5163842	100.7850386	100.0642154	99.35368848	98.65323827
170216A00045	2/16/2017	3.73	2/17/2037	2/16/2017	199.40895	174.2508741	152.6852939	134.1718269	118.2543639	104.5475251	92.72535162	82.51185438	73.67310939
170317A00059	3/17/2017	2.47	3/17/2023	3/17/2017	111.65201	109.6680082	107.7295121	105.8351398	103.9835646	102.1735113	100.4037533	98.67311046	96.98044696
170320A00014	3/20/2017	2.22	3/21/2022	3/20/2017	105.09365	104.2134867	103.3480236	102.4968978	101.6597551	100.8362531	100.0260602	99.22885584	98.44432942
170327A00072	3/29/2017	3.09	3/29/2027	3/29/2017	138.43987	130.9686035	123.9518127	117.3594836	111.1637284	105.3386294	99.86008946	94.7056958	89.854594
170410A00007	4/10/2017	2.1	4/11/2022	4/10/2017	105.35274	104.4064967	103.4772037	102.564409	101.6676762	100.7865837	99.92072508	99.06970749	98.23315168
170427A00047	4/27/2017	3.18	4/27/2029	4/27/2017	148.6987	138.1422235	128.4232723	119.4708228	111.2202228	103.6125906	96.59427226	90.11635309	84.13421689
170518A00011	5/18/2017	1.94	5/18/2022	5/18/2017	105.82782	104.7638583	103.721204	102.6992253	101.6973118	100.7148769	99.75135694	98.80620953	97.87891298
170519A00002	5/19/2017	2.15	5/19/2022	5/19/2017	105.93943	104.8734743	103.8288934	102.8050537	101.801342	100.8171691	99.85196858	98.90519586	97.9763269
170530A00006	5/30/2017	2.15	5/31/2022	5/30/2017	106.13312	105.0286529	103.9470816	102.8877025	101.8498381	100.8328383	99.83607888	98.85896026	97.90090641
170531A00003	5/31/2017	1.94	5/31/2022	5/31/2017	106.04618	104.9402044	103.857193	102.7964379	101.7572587	100.7390026	99.74104261	98.76277692	97.80362707
170602A00034	6/2/2017	1.76	6/2/2021	6/2/2017	100.07788	100.0639437	100.0500222	100.0361143	100.0222202	100.0083396	99.99447275	99.98061947	99.96677979
170609A00007	6/9/2017	1.96	6/9/2022	6/9/2017	106.21958	105.0841662	103.9729283	102.8851007	101.8199495	100.7767712	99.75489124	98.75366235	97.7724633
170613A00007	6/13/2017	2.01	6/11/2021	6/13/2017	100.22396	100.1849392	100.1459692	100.1070468	100.0681719	100.0293446	99.99056465	99.95183201	99.91314659
170614A00012	6/14/2017	1.9	6/14/2022	6/14/2017	106.23926	105.0879215	103.9614312	102.8589922	101.7798406	100.7232443	99.68850196	98.67494077	97.68191545
170630A00027	6/30/2017	2.35	6/28/2024	6/30/2017	119.32522	115.7556979	112.3126182	108.9907452	105.7850955	102.6909233	99.70370687	96.81913665	94.03310369

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170724A00015	7/24/2017	2.32	7/24/2023	7/24/2017	113.2681	110.8714552	108.5382255	106.2662546	104.0534829	101.8979377	99.79772877	97.7510444	95.75614699
170725A00047	7/25/2017	2.19	7/25/2022	7/25/2017	107.11219	105.827466	104.5734353	103.349004	102.1531341	100.9848353	99.84316279	98.72721442	97.63612839
170726A00034	7/26/2017	2.05	7/26/2021	7/26/2017	100.95501	100.7892642	100.6240669	100.4594113	100.2952949	100.131715	99.96866897	99.80615425	99.64416827
170728A00032	7/28/2017	2.36	7/27/2023	7/28/2017	113.40992	111.0022317	108.6584223	106.3763205	104.1538446	101.989001	99.87987991	97.82465102	95.82155932
170731A00006	7/31/2017	2.16	8/1/2022	7/31/2017	107.19645	105.8887309	104.6127823	103.3674566	102.151662	100.9643576	99.80455126	98.67129622	97.56368882
170731A00029	7/31/2017	2.34	7/31/2023	7/31/2017	113.43014	111.0098742	108.6540879	106.360577	104.1272302	101.9520264	99.83302997	97.76838611	95.75631694
170814A00084	8/14/2017	1.91	8/15/2022	8/14/2017	107.29561	105.9393242	104.6171527	103.3278207	102.0701166	100.842888	99.64503747	98.47552013	97.33333993
170906A00034	9/6/2017	1.87	9/7/2021	9/6/2017	101.60629	101.3171082	101.0295786	100.7436896	100.459427	100.176777	99.89572564	99.61625947	99.33836498
170907A00059	9/7/2017	1.99	9/7/2022	9/7/2017	107.55667	106.1491808	104.774536	103.4315858	102.1192333	100.8364322	99.58218411	98.35553542	97.15557513
170908A00017	9/9/2019	2.32	9/9/2024	9/9/2019	119.82632	116.0254236	112.365948	108.8417862	105.4471381	102.1764897	99.02459762	95.98647361	93.05737029
170921A00063	9/21/2017	2.23	9/21/2022	9/21/2017	108.03032	106.6052194	105.2084358	103.8391535	102.4965855	101.179975	99.88859381	98.62174132	97.37874287
171005A00006	10/5/2017	2.32	10/7/2024	10/5/2017	120.81339	116.8908139	113.1169676	109.4854262	105.990079	102.625111	99.38498609	96.26443283	93.25843
171011A00013	10/11/2017	2.77	10/13/2026	10/11/2017	132.98365	126.3055961	120.0058586	114.0610475	108.4493371	103.1503521	98.14506437	93.41569714	88.9456367
171016A00033	10/16/2017	2.2	10/17/2022	10/16/2017	108.38026	106.8872864	105.422429	103.984957	102.5741669	101.1893788	99.82993526	98.4952006	97.18455978
171026A00009	10/26/2017	2.75	10/27/2025	10/26/2017	127.8173	122.4788295	117.3954115	112.5535221	107.9404265	103.5441274	99.35331853	95.35734104	91.54614327
171026A00010	10/26/2017	2.84	10/26/2026	10/26/2017	133.5847	126.8433698	120.4861584	114.4891738	108.8301305	103.4882338	98.44407258	93.67951989	89.17764212
171030A00020	10/30/2017	2.16	1/14/2022	10/30/2017	103.83478	103.1613488	102.4966368	101.8404794	101.1927122	100.5531747	99.92171066	99.29816788	98.68239779
171031A00029	10/31/2017	2.43	10/31/2023	10/31/2017	115.1658	112.4385075	109.7902623	107.2183196	104.7200425	102.2929018	99.93447061	97.64241969	95.41451279
171101A00023	11/1/2017	2.78	11/3/2025	11/1/2017	128.06753	122.6994275	117.5888061	112.7219617	108.0859874	103.6687276	99.45872947	95.44519907	91.61795989
171214A00005	12/14/2017	2.29	12/14/2022	12/14/2017	109.6888	108.0067176	106.3594437	104.7459804	103.1653638	101.6166662	100.0989945	98.61148844	97.15331932
171218A00020	12/18/2017	2.99	12/20/2027	12/18/2017	140.15773	131.7237025	123.8585696	116.520887	109.672443	103.2779891	97.30499557	91.72342764	86.50554194
171219A00025	12/19/2017	2.33	12/19/2022	12/19/2017	109.841	108.1424053	106.4791583	104.8502282	103.2546283	101.6914093	100.159658	98.65849473	97.18707266
171219A00063	12/19/2017	2.8	12/20/2027	12/19/2017	140.06639	131.5845094	123.6766237	116.3008102	109.4184238	102.9938234	96.99412319	91.38896538	86.15031348
180102A00020	1/2/2018	2.5	1/3/2023	1/2/2018	110.15342	108.4109196	106.7052203	105.0352269	103.3998893	101.7981987	100.2291848	98.69191479	97.18549094
180116A00010	1/16/2018	2.58	1/17/2023	1/16/2018	110.53375	108.746365	106.9973357	105.2855002	103.6097412	101.9689858	100.362204	98.78840583	97.24664004
180118A00037	1/18/2018	2.88	1/21/2025	1/18/2018	124.02806	119.7106916	115.5686439	111.5937657	107.7783361	104.1150396	100.596942	97.21746799	93.97038006
180126A00028	1/26/2018	2.69	1/26/2023	1/26/2018	110.88404	109.0667635	107.2888827	105.5491876	103.8465158	102.1797523	100.5478268	98.94971195	97.38442058
180130A00085	1/30/2018	2.79	1/30/2025	1/30/2018	124.44623	120.0746527	115.8819406	111.8597142	108.0000382	104.2953976	100.7386724	97.32311471	94.04232594
180223A00022	2/23/2018	2.93	2/23/2023	2/23/2018	111.82713	109.9169742	108.0497034	106.2239415	104.4383711	102.6917315	100.9828149	99.31046427	97.67357033
180226A00015	2/26/2018	2.85	9/28/2022	2/26/2018	108.97074	107.53157	106.1185541	104.7310369	103.3683859	102.0299889	100.7152532	99.42360511	98.15448873
180406A00014	4/6/2018	2.95	4/6/2023	4/6/2018	112.66123	110.608959	108.604618	106.6468004	104.7341472	102.865348	101.0391389	99.25430074	97.50965678
180425A00007	4/25/2018	2.98	4/25/2023	4/25/2018	113.38482	111.2612818	109.1886769	107.1654687	105.1901741	103.2613651	101.3776655	99.53774948	97.74033885
180514A00033	5/14/2018	3.36	5/15/2028	5/14/2018	146.48206	137.2346846	128.6436037	120.6586567	113.233769	106.3265995	99.8982201	93.91282331	88.33745748

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180521A00025	5/21/2018	3.24	5/21/2025	5/21/2018	128.23296	123.4029355	118.7843047	114.3666623	110.1401693	106.0955226	102.2239226	98.51704357	94.96700512
180529A00066	5/29/2018	2.99	5/26/2023	5/29/2018	113.69313	111.473421	109.309191	107.1986857	105.1402231	103.1321862	101.1730197	99.26122746	97.39536976
180530A00014	5/30/2018	2.93	5/30/2023	5/30/2018	113.64181	111.4102223	109.2346597	107.1133487	105.044582	103.0267185	101.0581802	99.13744948	97.26306613
180530A00026	5/30/2018	3.55	5/30/2031	5/30/2018	164.2983	150.092904	137.2661762	125.6760182	115.195699	105.7121178	97.12427415	89.34191606	82.28434543
180615A00031	6/15/2018	2.92	6/15/2021	6/15/2018	100.33414	100.2839076	100.2337462	100.1836518	100.1336241	100.0836632	100.0337689	99.98394091	99.93417928
180618A00026	6/18/2018	3.05	4/13/2023	6/18/2018	113.01146	110.9338416	108.9051963	106.924073	104.9890699	103.0988363	101.2520696	99.44751377	97.68395716
180625A00040	6/25/2018	3	6/24/2022	6/25/2018	107.49041	106.3020904	105.1400053	104.003295	102.8911348	101.8027357	100.7373419	99.69422953	98.67270475
180629A00039	6/29/2018	2.91	6/29/2021	6/29/2018	100.59337	100.5039425	100.4146709	100.3255579	100.236603	100.1478058	100.059166	99.97068314	99.8823568
180703A00015	7/3/2018	3.06	7/3/2023	7/3/2018	114.55488	112.2096953	109.9252014	107.6993937	105.530349	103.4162229	101.3552455	99.34571818	97.38600989
180713A00027	7/13/2018	3.23	7/13/2028	7/13/2018	146.3547	136.8936463	128.1182896	119.9751392	112.4151566	105.3933603	98.86846977	92.80258155	87.1608762
180719A00011	7/19/2018	3	11/12/2021	7/19/2018	103.18078	102.6963755	102.2165274	101.7411702	101.2702409	100.8036777	100.3414199	99.88340797	99.42958347
180801A00013	8/1/2018	3.04	10/15/2021	8/1/2018	102.66269	102.2615376	101.8635232	101.4686145	101.0767751	100.6879693	100.3021618	99.91931802	99.53940371
180820A00036	8/20/2018	3	8/21/2023	8/20/2018	115.33312	112.8257938	110.3866139	108.0131906	105.7032398	103.4545781	101.2651174	99.13285909	97.05589017
180823A00013	8/23/2018	2.97	8/23/2023	8/23/2018	115.29883	112.7857245	110.3410666	107.9624482	105.6475704	103.3942356	101.200342	99.06387876	96.98292105
180829A00008	8/29/2018	3.23	8/30/2027	8/29/2018	141.61642	133.4892146	125.8875322	118.7744458	112.1158265	105.8801161	100.038119	94.56281171	89.42916994
180829A00044	8/29/2018	2.98	8/26/2022	8/29/2018	108.68946	107.2908986	105.9282699	104.6001987	103.3053827	102.0425841	100.8106261	99.60838885	98.43480612
180831A00016	8/31/2018	2.99	8/31/2023	8/31/2018	115.49221	112.9521886	110.4818286	108.0786759	105.7403897	103.4647318	101.2495613	99.09282974	96.99257547
180913A00030	9/13/2018	3.33	9/12/2025	9/13/2018	129.86091	124.6302647	119.6427263	114.8856346	110.3470651	106.0157788	101.8811785	97.93326836	94.16261611
180913A00040	9/13/2018	2.89	9/13/2021	9/13/2018	102.03118	101.7236905	101.4180699	101.1142987	100.8123599	100.5122369	100.2139132	99.91737262	99.62259904
180914A00026	9/14/2018	3.15	9/14/2023	9/14/2018	116.13507	113.5445918	111.0257671	108.5761409	106.1933586	103.8751634	101.6193913	99.42396692	97.28689872
180914A00029	9/14/2018	3.48	9/14/2028	9/14/2018	147.87695	138.1894465	129.2156659	120.8990614	113.1878592	106.0346278	99.39589257	93.23178536	87.50572794
180917A00054	9/17/2018	3.17	9/15/2023	9/17/2018	116.20241	113.6080509	111.0855003	108.6322975	106.2460867	103.9246094	101.6656998	99.46728017	97.32735678
181002A00018	10/2/2018	3.1	10/4/2021	10/2/2018	102.4743	102.1055573	101.7394721	101.3760143	101.0151557	100.6568685	100.3011251	99.94789858	99.59716217
181005A00037	10/9/2018	3.4	10/3/2025	10/9/2018	131.32109	125.9638281	120.8584147	115.9916873	111.3512399	106.9253754	102.7030609	98.67388666	94.82802799
181009A00060	10/9/2018	3.07	10/12/2021	10/9/2018	102.64857	102.2557984	101.8660443	101.4792714	101.0954455	100.7145327	100.3365	99.96131446	99.58894404
181107A00008	11/7/2018	3.42	11/7/2023	11/7/2018	117.85222	115.0680323	112.3649464	109.7401227	107.1908377	104.71448	102.3085447	99.9706286	97.69842529
181116A00015	11/19/2018	3.29	2/15/2024	11/19/2018	119.40254	116.2792515	113.2551449	110.3263816	107.4893047	104.7404268	102.0764203	99.49410903	96.99045975
181119A00018	11/19/2018	3.28	11/17/2023	11/19/2018	117.67818	114.8644563	112.13361	109.4827023	106.9089201	104.4095674	101.9820596	99.62391795	97.33276503
181120A00023	11/20/2018	3.15	11/19/2021	11/20/2018	103.38841	102.8828301	102.3821943	101.8864345	101.3954794	100.9092595	100.4277063	99.95075276	99.47833315
181211A00031	12/11/2018	2.95	12/11/2023	12/11/2018	117.66205	114.7628896	111.9512372	109.2239028	106.5778392	104.0101297	101.5179824	99.09872333	96.74979068
181220A00027	12/20/2018	2.97	2/28/2022	12/20/2018	105.23064	104.4154569	103.6128793	102.8226152	102.044383	101.2779097	100.5229303	99.77918774	99.04643272
190102A00026	1/2/2019	2.62	1/4/2022	1/2/2019	104.01613	103.371187	102.7342376	102.1051314	101.4837242	100.869875	100.2634465	99.66430458	99.07231834
190115A00025	1/15/2019	2.96	1/12/2024	1/15/2019	117.84342	114.8493915	111.947895	109.1354666	106.4087957	103.7647191	101.2002131	98.71238667	96.29847399

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190117A00004	1/17/2019	2.9	1/18/2022	1/17/2019	104.3924	103.7048812	103.0264108	102.3568142	101.6959181	101.0435535	100.3995558	99.76376465	99.13602378
190123A00034	1/23/2019	2.98	1/23/2025	1/23/2019	125.08728	120.7264063	116.5430416	112.5289101	108.6761739	104.9774082	101.4255764	98.01400718	94.73637319
190129A00061	1/30/2019	2.92	2/1/2022	1/30/2019	104.67362	103.9428044	103.222178	102.5115306	101.8106559	101.1193533	100.4374276	99.76468888	99.10095246
190201A00013	2/1/2019	2.89	2/1/2024	2/1/2019	117.99724	114.9383488	111.9755641	109.1052125	106.3237941	103.6279685	101.0145463	98.48048059	96.02285977
150817A00016	8/17/2015	2.24	8/17/2021	8/17/2015	101.35808	101.1293065	100.901577	100.6748847	100.4492223	100.2245828	100.0009593	99.77834471	99.55673226
150819A00011	8/19/2015	2.53	8/19/2022	8/19/2015	107.97813	106.6071343	105.2708471	103.9679668	102.6972524	101.4575235	100.247657	99.06658328	97.9132835
150821A00018	8/21/2015	2.6	8/21/2024	8/21/2015	121.06242	117.2872894	113.6510747	110.1477751	106.7716892	103.5174019	100.3797672	97.35389278	94.43512549
150824A00040	8/24/2015	2.36	8/24/2022	8/24/2015	107.85026	106.4639952	105.1132317	103.7966197	102.5128767	101.2607837	100.0391812	98.84696595	97.68308711
150904A00021	9/4/2015	2.52	9/5/2023	9/4/2015	114.82015	112.265538	109.7814104	107.3653006	105.0148542	102.7278182	100.5020361	98.33544284	96.22605981
150923A00045	9/23/2015	1.97	9/23/2021	9/23/2015	101.9162	101.5801585	101.2463397	100.9147171	100.5852691	100.2579744	99.93281174	99.60976044	99.28879992
151002A00081	10/2/2015	2.29	10/2/2023	10/2/2015	114.71184	112.0755715	109.5135013	107.0231218	104.6020295	102.2479157	99.95856222	97.73183727	95.56569153
151005A00053	10/5/2015	1.99	10/5/2021	10/5/2015	102.08932	101.7185494	101.3504691	100.9850541	100.6222753	100.2621043	99.90451308	99.54947383	99.19695928
160307A00026	3/7/2016	2.2	3/7/2023	3/7/2016	110.69908	108.7617558	106.8684746	105.0178482	103.208548	101.4393006	99.70888454	98.01612756	96.35990426
160330A00056	3/30/2016	2.26	3/31/2025	3/30/2016	123.2306	118.677144	114.3172585	110.1417124	106.1417671	102.3091437	98.63599612	95.11488611	91.73876021
160331A00024	3/31/2016	1.91	3/31/2022	3/31/2016	104.89877	103.9901895	103.0972876	102.2196601	101.3569178	100.5086845	99.67459676	98.85430306	98.04746349
160401A00016	4/1/2016	2.42	4/1/2025	4/1/2016	123.25409	118.7149552	114.3684425	110.2053872	106.217105	102.3953675	98.73237608	95.22073685	91.85343791
160606A00003	6/6/2016	1.66	6/7/2021	6/6/2016	100.15019	100.1223427	100.0945222	100.0667327	100.0389741	100.0112463	99.98354925	99.95588296	99.92824734
160615A00031	6/15/2016	2.51	6/17/2030	6/15/2016	149.73351	137.4893197	126.3483972	116.2053555	106.9653912	98.54317008	90.86183633	83.85213063	77.4516036
160701A00019	7/1/2016	1.73	7/3/2023	7/1/2016	111.60908	109.2969456	107.0448128	104.850697	102.712695	100.6289814	98.59780495	96.61748463	94.6864064
160706A00010	7/6/2016	1.99	7/7/2025	7/6/2016	122.71986	117.8696987	113.2385033	108.8151756	104.5892436	100.5508237	96.69058428	92.99971101	89.46987547
160725A00010	7/25/2016	1.61	7/26/2021	7/25/2016	100.88255	100.716903	100.5517967	100.3872319	100.2232059	100.0597162	99.89676021	99.73433525	99.57243879
160815A00005	8/15/2016	2.23	8/17/2026	8/15/2016	129.07946	122.7036815	116.6816981	110.9919281	105.6142312	100.5298024	95.72107512	91.17163251	86.86612542
160825A00055	8/29/2016	2.32	8/30/2021	8/29/2016	101.59808	101.3318741	101.0670571	100.8036221	100.5415582	100.2808547	100.0215012	99.76348714	99.50680221
160830A00031	8/30/2016	1.65	8/31/2021	8/30/2016	101.43718	101.1683809	100.9010088	100.6350493	100.3704911	100.1073232	99.84553469	99.58511473	99.32605261
160830A00037	8/30/2016	2.16	8/29/2025	8/30/2016	124.18595	119.12795	114.305025	109.7048814	105.3159504	101.1273365	97.12877351	93.31058381	89.66364084
160830A00038	8/30/2016	2.24	8/28/2026	8/30/2016	129.27149	122.8533069	116.7930551	111.0687894	105.6600355	100.5476842	95.71389204	91.14198989	86.81639857
160830A00061	8/30/2018	1.89	8/30/2023	8/30/2018	112.84598	110.3408304	107.9045121	105.5346017	103.2287793	100.9848274	98.80062532	96.67414404	94.60344127
160922A00049	9/22/2016	1.79	9/22/2022	9/22/2016	107.43636	106.0145922	104.6207373	103.2540046	101.9136317	100.598885	99.3090581	98.04347069	96.80146728
160926A00074	9/26/2016	1.38	9/27/2021	9/26/2016	101.77989	101.4326257	101.0877285	100.7451698	100.4049257	100.0669731	99.73128868	99.3978499	99.06663424
161115A00010	11/15/2016	2.09	11/15/2021	11/15/2016	102.80131	102.3091735	101.8217454	101.3389631	100.8607601	100.3870714	99.91783323	99.45298291	98.99245899
161123A00008	11/23/2016	2.2	11/23/2021	11/23/2016	102.98909	102.4729158	101.9619065	101.4559861	100.9550786	100.4591099	99.96800724	99.48169917	99.00011574
161208A00007	12/8/2016	2.6	12/8/2023	12/8/2016	116.24702	113.3854843	110.6100524	107.9176061	105.3051588	102.7698517	100.3089471	97.91982243	95.59996466
161213A00017	12/13/2016	2.24	12/13/2022	12/13/2016	109.5906	107.9123842	106.2688651	104.6590456	103.0819667	101.5367053	100.0223723	98.5381119	97.08309904

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190522A00021	5/23/2019	2.47	10/15/2021	5/23/2019	102.43903	102.0384086	101.6409304	101.2465549	100.8552456	100.4669669	100.0816835	99.69936073	99.31996454
190523A00022	5/23/2019	2.47	10/12/2022	5/23/2019	108.66919	107.1895823	105.7375743	104.3124597	102.9135538	101.5401947	100.1917421	98.86757667	97.56709911
190528A00007	5/28/2019	2.44	11/15/2023	5/28/2019	115.43777	112.6597466	109.9635605	107.3463158	104.8052378	102.3376677	99.94105586	97.61295731	95.3510264
190528A00028	5/28/2019	2.42	5/30/2023	5/28/2019	112.56413	110.3441216	108.1799043	106.0697095	104.0118366	102.004651	100.0465808	98.13611446	96.27179756
190529A00031	5/29/2019	2.36	5/30/2023	5/29/2019	112.43735	110.2186979	108.0558154	105.9469285	103.8903372	101.8844077	99.92756909	98.01831034	96.15517773
190529A00049	5/29/2019	2.32	6/29/2021	5/29/2019	100.54075	100.45137	100.362145	100.2730785	100.18417	100.0954193	100.0068257	99.91838905	99.83010882
190529A00089	5/29/2019	2.38	5/29/2024	5/29/2019	118.44102	114.9924991	111.6635046	108.4492103	105.3450135	102.3465242	99.4495537	96.65010426	93.94435911
190530A00008	5/30/2019	2.38	5/30/2025	5/30/2019	124.62852	119.8428821	115.2688235	110.895842	106.7140141	102.7139614	98.88681691	95.22419452	91.71816016
190530A00025	5/30/2019	2.36	6/1/2021	5/30/2019	100.06798	100.0568373	100.0457054	100.034584	100.0234732	100.0123729	100.0012831	99.99020376	99.97913489
190530A00029	5/30/2019	2.25	5/30/2024	5/30/2019	118.53826	115.073167	111.7285075	108.4994066	105.3812144	102.3694964	99.46002238	96.64875539	93.93184184
190530A00031	5/30/2019	2.21	5/31/2022	5/30/2019	106.32814	105.2205627	104.1359727	103.0736616	102.0329485	101.01318	100.0137288	99.03399242	98.07339196
190531A00003	5/31/2019	2.31	10/29/2021	5/31/2019	102.61506	102.173285	101.7353017	101.3010621	100.8705185	100.4436239	100.020332	99.60059765	99.18437602
190531A00013	5/31/2019	2.31	12/6/2022	5/31/2019	109.3604	107.7091152	106.0916582	104.507068	102.9544221	101.432832	99.94144175	98.47942639	97.04599042
190531A00038	5/31/2019	2.82	5/31/2034	5/31/2019	173.07341	153.8038755	136.9094662	122.0827439	109.0575923	97.603475	87.52051597	78.63528293	70.79716813
190603A00040	6/3/2019	2.11	6/3/2022	6/3/2019	106.1424	105.0284154	103.9377305	102.8696158	101.8233761	100.7983448	99.79388203	98.80937339	97.84422879
190604A00030	6/4/2019	2.2	6/3/2022	6/4/2019	106.2371	105.1225777	104.0313591	102.9627183	101.9159601	100.8904176	99.88545079	98.90044511	97.93481029
190605A00012	6/5/2019	1.92	6/6/2022	6/5/2019	106.12626	105.0008733	103.8992504	102.8206485	101.7643517	100.7296737	99.71595591	98.72256645	97.7488985
190605A00020	6/5/2019	2.19	2/5/2024	6/5/2019	116.05702	113.0131271	110.0654019	107.2101545	104.4438662	101.7631793	99.16488869	96.64593328	94.20338858
190606A00026	6/6/2019	2.23	6/6/2023	6/6/2019	112.27637	110.0384305	107.8571078	105.7305888	103.6571332	101.6350689	99.66278891	97.73874836	95.86146149
190607A00009	6/7/2019	2.14	6/7/2022	6/7/2019	106.24235	105.1151799	104.0118455	102.9315947	101.8737088	100.8374986	99.82230301	98.82748753	97.85244304
190607A00011	6/7/2019	1.94	6/7/2021	6/7/2019	100.1608	100.1329153	100.1050588	100.0772336	100.0494397	100.0216769	99.99394519	99.96624456	99.93857493
190607A00023	6/7/2019	1.92	6/7/2022	6/7/2019	106.1431	105.0144483	103.9097026	102.8281062	101.7689375	100.7315042	99.71514262	98.71921572	97.74311192
190614A00005	6/14/2019	1.99	6/14/2022	6/14/2019	106.3369	105.1849846	104.0579276	102.9549303	101.8752286	100.8180904	99.78281379	98.76872605	97.77518161
190617A00027	6/17/2019	2.21	6/16/2023	6/17/2019	112.39563	110.1263499	107.9149951	105.7596865	103.6586227	101.6100742	99.61237994	97.66394389	95.76323206
190619A00007	6/19/2019	2.21	6/20/2022	6/19/2019	106.54183	105.3718635	104.2275016	103.1079114	102.012295	100.9398886	99.88996064	98.86180986	97.854764
190620A00055	6/25/2019	2.08	4/17/2023	6/25/2019	111.16243	109.0913235	107.0693765	105.0951178	103.167133	101.2840594	99.44458319	97.64743775	95.89140147
190701A00006	7/1/2019	2.11	7/1/2021	7/1/2019	100.55468	100.4596657	100.3648377	100.2701927	100.1757299	100.0814491	99.98734949	99.8934307	99.79969218
190701A00008	7/3/2019	2.1	7/3/2023	7/3/2019	112.42859	110.1072594	107.8461239	105.6431915	103.4965536	101.4043794	99.36491246	97.37646689	95.43742391
190712A00001	7/12/2019	2.05	7/12/2024	7/12/2019	118.54307	114.9403147	111.4666222	108.1165839	104.8850563	101.7671441	98.75818646	95.85374423	93.04958765
190717A00007	7/17/2019	2.18	10/14/2022	7/17/2019	108.30177	106.8185869	105.3631769	103.934828	102.5328487	101.1565708	99.80534781	98.47855459	97.17558625
190724A00025	7/24/2019	1.96	7/24/2023	7/24/2019	112.79427	110.3961958	108.0617322	105.788712	103.5750651	101.418809	99.31804429	97.27095046	95.27578182
190726A00017	7/26/2019	2.44	7/24/2026	7/26/2019	129.98263	123.6640902	117.691801	112.0449021	106.7039049	101.6505957	96.86794516	92.34002429	88.05192718
190729A00009	7/29/2019	2.19	7/29/2024	7/29/2019	118.75056	115.101573	111.5846186	108.1941026	104.9247056	101.7713689	98.72927951	95.79385612	92.96073661

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190731A00029	7/31/2019	1.93	7/29/2022	7/31/2019	107.03296	105.7332773	104.4649891	103.2269692	102.0181448	100.8374932	99.68403893	98.55685102	97.45504062
190802A00004	8/2/2019	2	8/2/2022	8/2/2019	107.01745	105.7076951	104.4298471	103.1827508	101.9653067	100.7764673	99.61523377	98.48065325	97.37181639
190805A00048	8/5/2019	1.88	8/5/2022	8/5/2019	106.91945	105.6006991	104.3143176	103.0591223	101.8339899	100.6378505	99.46968456	98.32851972	97.21342828
190806A00027	8/6/2019	1.71	8/7/2023	8/6/2019	112.43506	109.9979102	107.6263631	105.3181527	103.0711082	100.8831528	98.75229878	96.67664248	94.6543601
190807A00053	8/7/2019	1.66	8/6/2021	8/7/2019	101.07358	100.8763345	100.6798753	100.4841931	100.2892831	100.0951407	99.90176138	99.70914053	99.51727363
190808A00050	8/8/2019	1.7	8/8/2024	8/8/2019	117.74381	114.0667402	110.524178	107.1103643	103.8198238	100.6473529	97.58800373	94.63706964	91.79007173
190809A00020	8/9/2019	2.44	8/9/2034	8/9/2019	168.01367	148.803113	132.0037296	117.2985593	104.4138592	93.11301276	83.19132529	74.47157258	66.80018962
190809A00021	8/9/2019	2.12	8/9/2029	8/9/2019	141.96603	131.2319912	121.387617	112.3544891	104.0614906	96.44409302	89.4437131	83.00713568	77.08599551
190814A00003	8/14/2019	2.01	8/14/2029	8/14/2019	140.98573	130.2754196	120.4551471	111.4462941	103.1775788	95.58433614	88.60787014	82.19487352	76.29690655
190815A00007	8/15/2019	1.81	7/6/2023	8/15/2019	111.83197	109.5079867	107.2444782	105.0394404	102.8909481	100.7971554	98.75629161	96.76665735	94.82662135
190819A00022	8/19/2019	1.8	8/19/2024	8/19/2019	117.70491	114.0066829	110.4445574	107.0126637	103.7054249	100.5175434	97.4439839	94.479959	91.62091455
190820A00019	8/20/2019	1.76	8/21/2023	8/20/2019	112.4041	109.9316334	107.5265583	105.1865099	102.9092266	100.6925464	98.53440146	96.43281314	94.38588718
190826A00028	8/26/2019	1.56	8/26/2022	8/26/2019	107.02743	105.6374884	104.283395	102.9637811	101.677344	100.4228459	99.19910984	98.00501598	96.83949828
190826A00030	8/26/2019	1.72	8/26/2026	8/26/2019	127.21543	120.8267104	114.7958291	109.1007826	103.7210514	98.63748677	93.83221092	89.28852483	84.99082363
190826A00065	8/26/2019	2.09	8/28/2029	8/26/2019	140.23144	129.5800589	119.8152178	110.8584461	102.6386158	95.09121621	88.15770509	81.78492656	75.92458886
190828A00019	8/28/2019	2	3/28/2028	8/28/2019	133.86433	125.2983521	117.335641	109.9307065	103.0417072	96.63013764	90.66054687	85.10028219	79.9192553
190830A00023	8/30/2019	1.78	9/15/2022	8/30/2019	107.34038	105.9265902	104.5429924	103.1886224	101.8625619	100.5639313	99.2918876	98.04562281	96.8243618
190904A00020	9/4/2019	1.69	9/1/2023	9/4/2019	112.39649	109.8907379	107.4539636	105.0837388	102.7777464	100.5337703	98.34969081	96.22347899	94.15319211
190910A00017	9/16/2019	1.86	9/16/2024	9/16/2019	118.29217	114.4958543	110.8415905	107.323258	103.9350411	100.6714078	97.52709472	94.49709202	91.57662955
190910A00027	9/10/2019	1.86	9/9/2022	9/10/2019	107.40348	105.9950601	104.6188119	103.2736312	101.9584659	100.6723115	99.41420841	98.18323946	96.97852761
190918A00003	9/18/2019	1.95	9/19/2022	9/18/2019	107.61129	106.1915041	104.8006294	103.4378019	102.1021917	100.7930017	99.50946627	98.25084958	97.01644409
190923A00012	9/23/2019	2.43	9/25/2034	9/23/2019	168.41717	148.9933388	132.0276418	117.1945303	104.2131225	92.84088212	82.86821494	74.11384937	66.42088432
190923A00020	9/23/2019	2.05	9/24/2029	9/23/2019	141.82687	130.933991	120.9561722	111.8118932	103.4272772	95.73534276	88.67532867	82.19208765	76.23554218
190925A00004	9/25/2019	1.7	9/24/2024	9/25/2019	118.38099	114.5440979	110.8517189	107.2976439	103.8759611	100.5810444	97.40753763	94.35034012	91.4045932
190930A00008	9/30/2019	1.9	10/10/2023	9/30/2019	113.48198	110.8433532	108.2795908	105.7881479	103.3665817	101.0125466	98.7237895	96.49814579	94.33353516
190930A00035	9/30/2019	1.93	9/30/2024	9/30/2019	118.73345	114.885205	111.1820714	107.6178261	104.1865444	100.8825857	97.70057838	94.63540538	91.68219083
190930A00070	9/30/2019	1.93	9/27/2024	9/30/2019	118.69175	114.8540171	111.1606938	107.6055951	104.1828319	100.8867975	97.71215249	94.65381051	91.70692485
190930A00075	9/30/2019	2.19	9/29/2027	9/30/2019	133.38095	125.4661177	118.0717004	111.1608623	104.6995548	98.65628959	93.00193365	87.70952233	82.75408769
191002A00016	10/2/2019	1.79	10/2/2023	10/2/2019	113.08654	110.4784513	107.9437293	105.4799039	103.0846019	100.7555435	98.49053801	96.2874797	94.14434425
191009A00018	10/9/2019	1.74	10/12/2021	10/9/2019	102.10627	101.7151602	101.3270474	100.9419012	100.5596875	100.1803728	99.80392425	99.43030925	99.05949583
191009A00028	10/9/2019	1.76	10/9/2024	10/9/2019	118.24205	114.3725882	110.6501725	107.0684477	103.6213675	100.3031776	97.10840023	94.03181928	91.06846631
191011A00013	10/11/2019	1.88	10/11/2022	10/11/2019	107.80796	106.3379445	104.8953054	103.4793418	102.0893761	100.7247533	99.38483963	98.06902209	96.77670739
191031A00033	10/31/2019	2.2	5/31/2028	10/31/2019	136.118	127.2445188	119.0098768	111.3647801	104.26398	97.66592275	91.53242953	85.82840634	80.52157977

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191104A00023	11/4/2019	2.24	8/4/2028	11/4/2019	137.1712	128.0306938	119.5623522	111.713195	104.4346905	97.68235783	91.41540874	85.5964215	80.1910463
191106A00004	11/6/2019	2.01	11/6/2024	11/6/2019	119.54558	115.5604631	111.7299258	108.0471412	104.5056216	101.0992003	97.82201356	94.66848429	91.63330625
191106A00022	11/6/2019	2.34	1/2/2030	11/6/2019	144.09228	132.8136945	122.5060285	113.0805396	104.4570337	96.5629984	89.33283007	82.70714283	76.63214985
191108A00011	11/8/2019	2.08	10/18/2024	11/8/2019	119.53499	115.6126587	111.8402197	108.2111551	104.7192634	101.358645	98.12368558	95.00904113	92.00962308
191113A00016	11/15/2019	2.02	8/15/2024	11/15/2019	118.41245	114.7149555	111.1530182	107.7208146	104.4128093	101.2237428	98.14861514	95.18267142	92.32138759
191119A00027	11/19/2019	1.8	11/19/2024	11/19/2019	119.51961	115.4775763	111.5942899	107.8626548	104.2759292	100.8277091	97.51190957	94.32274695	91.25472201
191122A00005	11/22/2019	2.03	11/22/2027	11/22/2019	134.05453	125.8772697	118.251265	111.1365268	104.4961689	98.29614812	92.50503122	87.09378187	82.03556636
191125A00036	11/25/2019	2.29	11/23/2029	11/25/2019	143.13015	132.039872	121.8942337	112.6078111	104.1033205	96.31080042	89.16688388	82.61414598	76.60051936
191126A00026	11/26/2019	1.91	11/25/2026	11/26/2019	129.3629	122.6010655	116.2333054	110.2346158	104.5817111	99.25289309	94.22793484	89.48797302	85.01540929
191220A00001	12/20/2019	2.62	12/19/2031	12/20/2019	156.04759	141.4967485	128.4422977	116.7219048	106.1916374	96.72379389	88.20499788	80.53452555	73.62283556
191230A00012	12/30/2019	1.77	12/1/2023	12/30/2019	114.31915	111.4968004	108.7592538	106.1034458	103.5264465	101.0254505	98.59777065	96.24083206	93.95216688
170111A00020	1/11/2017	2.27	1/11/2022	1/11/2017	103.85454	103.1900258	102.5340059	101.886318	101.2468039	100.6153096	99.99168462	99.37578242	98.76746004
170120A00008	1/20/2017	3.63	1/20/2034	1/20/2017	180.45812	161.432243	144.6644774	129.8717143	116.8078237	105.2586502	95.03770745	85.98247137	77.95118687
170130A00008	1/30/2017	2.58	1/30/2023	1/30/2017	110.76268	108.9345558	107.1462609	105.3965639	103.6842828	102.0082839	100.3674797	98.7608262	97.18732084
170203A00031	2/3/2017	2.09	2/3/2022	2/3/2017	104.19827	103.4622885	102.7366802	102.0212264	101.315715	100.6199398	99.93370013	99.25680096	98.58905247
170216A00041	2/16/2017	2.37	2/16/2022	2/16/2017	104.55175	103.7759171	103.0115802	102.2584848	101.5163842	100.7850386	100.0642154	99.35368848	98.65323827
170313A00033	3/13/2017	3.31	3/15/2027	3/13/2017	138.49898	131.1202137	124.186342	117.6681184	111.5383764	105.7718676	100.3451163	95.23628538	90.42505392
170405A00013	4/5/2017	2.07	4/5/2022	4/5/2017	105.22334	104.2963058	103.3855594	102.4906721	101.6112323	100.7468425	99.89711868	99.06169001	98.2401979
170524A00047	5/24/2017	2.22	5/24/2023	5/24/2017	112.35945	110.154281	108.0042509	105.9076185	103.8627129	101.8679276	99.92171753	98.02259643	96.16913385
170530A00064	5/30/2017	2.32	3/27/2023	5/30/2017	111.26134	109.2536931	107.2923733	105.3760352	103.5033765	101.6731416	99.88411877	98.13513906	96.42507399
170531A00004	5/31/2017	1.79	6/1/2021	5/31/2017	100.06264	100.0514879	100.0403511	100.0292249	100.0181094	100.0070045	99.9959102	99.98482647	99.97375332
170602A00015	6/2/2017	1.76	6/2/2021	6/2/2017	100.07788	100.0639437	100.0500222	100.0361143	100.0222202	100.0083396	99.99447275	99.98061947	99.96677979
170602A00026	6/2/2017	2.25	6/3/2024	6/2/2017	118.60096	115.1222295	111.7647318	108.5235439	105.3939713	102.3715381	99.45197493	96.63120856	93.90535122
170608A00020	6/8/2017	2.27	6/10/2024	6/8/2017	118.77602	115.2723613	111.8913702	108.6280368	105.4775871	102.4354708	99.49734933	96.65908425	93.91672695
170612A00013	6/12/2017	1.83	6/14/2021	6/12/2017	100.26822	100.2207859	100.1734128	100.1261022	100.0788538	100.0316676	99.98454336	99.93748103	99.89048046
170622A00015	6/22/2017	1.99	6/22/2021	6/22/2017	100.39938	100.329631	100.2599876	100.1904506	100.1210199	100.0516952	99.98247627	99.9133629	99.84435483
170622A00036	6/22/2017	3.23	6/22/2032	6/22/2017	166.10734	150.2841074	136.1431968	123.4955253	112.1742149	102.0318801	92.93825998	84.7781484	77.44958358
170731A00027	7/31/2017	2	7/30/2021	7/31/2017	101.01116	100.8340384	100.6575411	100.4816617	100.306397	100.1317439	99.95769914	99.78425956	99.61142203
170801A00020	8/1/2017	2.02	8/2/2021	8/1/2017	101.0632	100.8774963	100.692482	100.5081519	100.324502	100.1415287	99.95922821	99.77759674	99.59663063
170822A00019	8/22/2017	2.44	8/22/2024	8/22/2017	119.97514	116.2287599	112.6202032	109.1435172	105.7930489	102.5634285	99.44955292	96.44657073	93.54986731
170822A00020	8/22/2017	2.59	8/22/2025	8/22/2017	126.0847	121.0077141	116.1652283	111.545044	107.1356719	102.9262881	98.9066915	95.0672635	91.39893095
170830A00030	8/30/2017	2	3/30/2022	8/30/2017	104.96035	104.0545649	103.1643494	102.2893084	101.4290565	100.5832214	99.75144322	98.93337382	98.12867658
170830A00044	8/30/2017	1.94	8/30/2021	8/30/2017	101.49821	101.2321738	100.9675307	100.7042688	100.4423774	100.1818457	99.92266327	99.66481962	99.40830441

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170831A00022	8/31/2017	2.27	2/29/2024	8/31/2017	116.66113	113.5331665	110.506018	107.5757294	104.7385375	101.9908559	99.3292649	96.75050215	94.25145422
170906A00006	9/6/2017	1.81	9/6/2022	9/6/2017	107.47629	106.0676163	104.6922225	103.3489243	102.036598	100.7541723	99.50062535	98.27498174	97.07631
171012A00027	10/12/2017	2.21	10/12/2022	10/12/2017	108.29654	106.8197584	105.3705298	103.9481452	102.5519214	101.1811977	99.83533522	98.51371587	97.21574153
171018A00001	10/18/2017	1.96	10/18/2021	10/18/2017	102.32009	101.9106624	101.5045124	101.1016043	100.7018992	100.305359	99.91194605	99.52162344	99.13435474
171026A00006	10/26/2017	2.32	10/26/2022	10/26/2017	108.69063	107.1679415	105.6743859	104.2092002	102.7716441	101.3610025	99.97658429	98.61772153	97.28376847
171026A00011	10/26/2017	2.94	10/26/2027	10/26/2017	139.07	130.8695574	123.2109786	116.0556057	109.3677325	103.1143623	97.26498948	91.79139924	86.66748461
171030A00023	10/30/2017	2.9	11/1/2027	10/30/2017	138.85971	130.6447486	122.9740916	115.8088101	109.1129504	102.8532944	96.99913831	91.52208981	86.39588319
171103A00017	11/3/2017	2.09	11/3/2022	11/3/2017	108.68704	107.1368852	105.616889	104.1262433	102.6641694	101.2299157	99.82275644	98.44199066	97.08694105
171130A00005	11/30/2017	2.45	11/30/2022	11/30/2017	109.47932	107.8452123	106.2443562	104.6758214	103.1387105	101.6321591	100.1553334	98.70742967	97.28767267
171208A00008	12/8/2017	2.25	12/8/2022	12/8/2017	109.52059	107.8581528	106.2299049	104.6348685	103.0721064	101.5407163	100.0398292	98.56860779	97.12624474
171211A00033	12/11/2017	2.26	12/12/2022	12/11/2017	109.60567	107.9303664	106.2896612	104.6825621	103.1081143	101.5653986	100.0535301	98.57165632	97.11895588
171212A00027	12/12/2017	2.21	12/13/2021	12/12/2017	103.38023	102.8030965	102.2324007	101.6680394	101.1099073	100.5579015	100.0119214	99.47186856	98.93764669
171213A00019	12/13/2017	2.17	12/13/2021	12/13/2017	103.35785	102.7807842	102.2101605	101.6458707	101.0878096	100.5358742	99.98996397	99.44998045	98.91582736
171227A00018	12/27/2017	2.83	12/27/2024	12/27/2017	123.43143	119.2067734	115.1511085	111.2567077	107.5162423	103.9227609	100.4696675	97.15070139	93.95991775
180104A00018	1/4/2018	2.97	1/4/2027	1/4/2018	135.34452	128.3073605	121.6834312	115.4462227	109.5710658	104.0349966	98.8166289	93.89603781	89.2546517
180117A00016	1/17/2018	2.46	7/19/2021	1/17/2018	100.90101	100.7550325	100.609488	100.4643751	100.3196918	100.1754363	100.0316065	99.88820061	99.74521675
180129A00004	1/29/2018	2.63	1/31/2022	1/29/2018	104.45175	103.7248445	103.0080319	102.3011066	101.603865	100.9161093	100.2376469	99.56829021	98.90785701
180130A00091	1/30/2018	2.74	1/25/2023	1/30/2018	110.95321	109.138283	107.3626543	105.6251181	103.9245168	102.2597393	100.6297197	99.03343418	97.46989916
180207A00002	2/7/2018	3.13	2/6/2026	2/7/2018	131.23178	125.4666111	119.9913033	114.7896326	109.8463819	105.1472692	100.6788848	96.42863236	92.38467479
180207A00022	2/7/2018	2.79	2/7/2023	2/7/2018	111.27808	109.4212048	107.6051991	105.8287771	104.0907114	102.3898261	100.7249934	99.09513157	97.49920223
180226A00034	2/26/2018	2.82	6/27/2022	2/26/2018	107.34733	106.1503562	104.9800176	103.8354318	102.7157558	101.6201832	100.5479418	99.49829236	98.4705264
180226A00043	2/26/2018	2.73	9/27/2021	2/26/2018	102.21309	101.8652242	101.5197214	101.1765556	100.8357033	100.4971411	100.1608461	99.82679562	99.49496731
180308A00016	3/8/2018	2.88	6/1/2022	3/8/2018	106.91417	105.8021064	104.713136	103.6465462	102.6016522	101.5777968	100.5743493	99.59070375	98.62627823
180323A00013	3/23/2018	3.18	3/23/2028	3/23/2018	144.26464	135.2941595	126.9490634	119.1824003	111.9509808	105.2150549	98.93802097	93.08616159	87.62840195
180410A00017	4/10/2018	3.02	10/10/2023	4/10/2018	116.29651	113.6224353	111.0240151	108.4986816	106.0439684	103.6575071	101.3370226	99.08032931	96.8853267
180411A00001	4/11/2018	2.84	1/25/2022	4/11/2018	104.48499	103.7760732	103.0767559	102.3868481	101.7061608	101.03451	100.3717169	99.71760686	99.07201027
180427A00011	4/27/2018	3.03	4/27/2022	4/27/2018	106.39726	105.3976449	104.4167794	103.4541429	102.5092308	101.5815569	100.6706527	99.77606662	98.89736294
180430A00012	4/30/2018	2.95	7/15/2021	4/30/2018	100.89722	100.7624963	100.6281469	100.4941697	100.360563	100.2273253	100.094455	99.96195055	99.82981047
180430A00078	10/30/2018	3.24	10/30/2023	10/30/2018	117.23394	114.4831715	111.8118776	109.2173007	106.6967948	104.2478215	101.867945	99.5548275	97.30622429
180503A00040	5/3/2018	3.3	5/5/2025	5/3/2018	127.51528	122.7753892	118.2403157	113.900105	109.7453414	105.767115	101.9569916	98.30698482	94.80953
180514A00032	5/14/2018	3.27	5/14/2026	5/14/2018	134.53191	128.3090868	122.4149994	116.8305143	111.5377142	106.5198121	101.7610744	97.2467491	92.96299948
180514A00035	5/14/2018	3.07	5/14/2024	5/14/2018	120.8873	117.4385118	114.1075697	110.8897795	107.7806603	104.7759351	101.8715208	99.06351796	96.34820121
180518A00020	5/21/2018	3.08	3/15/2022	5/21/2018	105.60117	104.7384367	103.8897876	103.0548834	102.2333921	101.4249921	100.6293719	99.84623017	99.0752747

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180521A00072	5/21/2018	2.96	5/23/2022	5/21/2018	106.95325	105.8673682	104.803506	103.7609973	102.7392038	101.7375123	100.7553338	99.79210207	98.84727256
180522A00037	5/22/2018	3.01	5/22/2023	5/22/2018	113.97762	111.7615953	109.6007418	107.4933294	105.4376909	103.4322236	101.4753855	99.5656933	97.7017193
180529A00043	5/29/2018	2.99	5/30/2023	5/29/2018	113.7686	111.535646	109.3587485	107.2361298	105.1660815	103.1469618	101.1771919	99.2552536	97.37968596
180530A00084	5/30/2018	2.61	6/1/2021	5/30/2018	100.07178	100.0606213	100.0494766	100.0383426	100.0272193	100.0161065	100.0050044	99.99391287	99.9828319
180531A00015	5/31/2018	2.95	5/31/2023	5/31/2018	113.70248	111.4672107	109.2881114	107.1633972	105.0913545	103.0703362	101.0987587	99.17509905	97.29789203
180604A00027	6/4/2018	2.87	6/4/2021	6/4/2018	100.12873	100.1092171	100.0897261	100.0702552	100.0508044	100.0313735	100.0119626	99.99257159	99.97320049
180611A00030	6/11/2018	2.91	6/12/2023	6/11/2018	114.16658	111.883609	109.6587225	107.4900453	105.375777	103.3141885	101.3036189	99.34247233	97.42921447
180612A00005	6/12/2018	3.09	6/12/2023	6/12/2018	114.2246	111.947354	109.7279232	107.5644491	105.4551427	103.398286	101.3922284	99.43538379	97.52622713
180612A00018	6/12/2018	2.88	6/10/2022	6/12/2018	107.22395	106.0795132	104.9594756	103.8630608	102.7895268	101.7381624	100.7082859	99.69924292	98.71040568
180618A00011	6/18/2018	3.02	6/20/2022	6/18/2018	107.43402	106.2587271	105.10912	103.9843635	102.883658	101.8062376	100.751369	99.71834901	98.70650377
180620A00026	6/20/2018	2.91	6/18/2021	6/20/2018	100.38927	100.3306593	100.2721272	100.2136781	100.1553118	100.0970281	100.038827	99.98070817	99.92267149
180620A00044	6/20/2018	2.89	6/20/2023	6/20/2018	114.27314	111.9646608	109.7153297	107.5232229	105.38649	103.3033551	101.2721131	99.29112628	97.35882097
180622A00006	6/22/2018	3.53	12/21/2029	6/22/2018	155.62171	143.8766414	133.1269621	123.2825839	114.2620304	105.9915715	98.40444875	91.44018271	85.04395195
180625A00009	6/25/2018	3	6/27/2022	6/25/2018	107.54924	106.3510426	105.1794979	104.0337245	102.912879	101.8161543	100.7427781	99.69201043	98.66314256
180625A00039	6/25/2018	2.93	6/25/2021	6/25/2018	100.5207	100.4424957	100.3644174	100.2864649	100.2086381	100.1309365	100.0533599	99.97590804	99.89858061
180716A00037	7/16/2018	3.01	7/18/2022	7/16/2018	107.97359	106.705519	105.4672028	104.2575982	103.0757148	101.9206071	100.7913724	99.68714805	98.60710948
180719A00004	7/19/2018	3.07	7/19/2023	7/19/2018	114.88137	112.4819548	110.1456177	107.8702285	105.6537514	103.4942356	101.3898116	99.33868663	97.33914097
051003A00009	10/3/2005	5.15	10/15/2025	10/3/2005	139.15513	133.5990041	128.3031352	123.2539043	118.4384809	113.8447697	109.4613643	105.2775045	101.2830363
100809A00029	8/9/2010	4.23	8/15/2025	8/9/2010	133.53832	128.320411	123.3405307	118.586398	114.0464449	109.7097683	105.5660879	101.6057061	97.81947113
111024A00027	10/24/2011	3.11	10/30/2023	10/24/2011	117.29805	114.5380799	111.8580133	109.2550706	106.7265862	104.2700036	101.8828698	99.56283053	97.3076257
111216A00001	12/16/2011	3.95	12/30/2031	12/16/2011	172.58382	157.0897163	143.1676058	130.6480266	119.3806683	109.232114	100.0838606	91.83057945	84.37858884
111223A00006	12/23/2011	2.98	12/30/2021	12/23/2011	104.07895	103.4496313	102.8279101	102.2136493	101.6067153	101.0069775	100.4143086	99.8285842	99.24968276
120113A00012	1/13/2012	3.62	1/15/2027	1/13/2012	139.56848	132.3696913	125.593626	119.2131004	113.2028294	107.5392815	102.2005475	97.16621976	92.41728138
120127A00018	1/27/2012	3.64	2/1/2027	1/27/2012	139.96056	132.6905178	125.8503114	119.412106	113.3500243	107.6399977	102.2596293	97.18806847	92.40589566
120202A00020	2/2/2012	2.7	2/15/2022	2/2/2012	104.77894	104.0051947	103.2428673	102.4917055	101.7514651	101.021909	100.3028069	99.59393491	98.89507584
120320A00005	3/20/2012	3.18	3/30/2022	3/20/2012	105.98104	105.0703887	104.1753649	103.2955732	102.430627	101.5801528	100.7437897	99.92118846	99.11201151
120517A00007	5/17/2012	2.42	5/31/2023	5/17/2012	112.90299	110.6701476	108.4935651	106.3714532	104.3020919	102.2838282	100.3150728	98.39429758	96.52003251
121031A00004	10/31/2012	2.07	10/31/2022	10/31/2012	108.60812	107.0675862	105.556858	104.0751406	102.6216684	101.1957027	99.79652971	98.42345998	97.07582723
121227A00024	12/27/2012	2.2	12/30/2021	12/27/2012	103.60491	102.9772387	102.3571501	101.744508	101.1391788	100.5410322	99.94994109	99.3657812	98.78843122
130531A00019	5/31/2013	2.09	6/1/2021	5/31/2013	100.06598	100.0548294	100.0436897	100.0325607	100.0214423	100.0103345	99.99923734	99.98815076	99.97707475
130712A00005	7/12/2013	3.25	7/17/2023	7/12/2013	115.59713	113.1890157	110.8441683	108.5604535	106.3358307	104.1683446	102.0561214	99.99736404	97.99034857
131024A00019	10/24/2013	3.23	10/30/2023	10/24/2013	117.60744	114.843478	112.159512	109.5527576	107.0205465	104.5603195	102.1696211	99.84609464	97.58747769
131217A00023	12/17/2013	3.74	1/2/2024	12/17/2013	119.82539	116.8353688	113.9368152	111.1263346	108.4006869	105.7567744	103.1916347	100.7024334	98.28645782

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
140131A00025	1/31/2014	3.28	1/30/2023	1/31/2014	111.99233	110.1530223	108.353758	106.593297	104.8704511	103.1840812	101.5330943	99.91644099	98.33311379
140908A00063	9/8/2014	2.5	8/31/2021	9/8/2014	101.66297	101.3937786	101.1260092	100.8596541	100.5947019	100.3311416	100.0689623	99.80815315	99.54870338
141028A00012	10/28/2014	2.73	10/28/2022	10/28/2014	109.33126	107.7974346	106.2930576	104.8173515	103.3695654	101.948974	100.5548763	99.18659525	97.84347619
150105A00027	1/5/2015	2.23	1/5/2022	1/5/2015	103.79091	103.1437638	102.5046822	101.8735102	101.2501014	100.6343131	100.0260061	99.42504456	98.83129585
150213A00025	2/13/2015	2.37	2/14/2022	2/13/2015	104.51652	103.7468979	102.9885953	102.2413616	101.5049556	100.779143	100.0636962	99.35839425	98.66302226
150316A00043	3/16/2015	2.37	3/16/2023	3/16/2015	111.44388	109.4651907	107.5318529	105.6424878	103.7957687	101.9904204	100.2252167	98.49897828	96.81057019
150413A00034	4/13/2015	2.25	4/13/2022	4/13/2015	105.41807	104.4668098	103.5326789	102.6152136	101.7139708	100.8285228	99.95845698	99.10337489	98.26289178
150506A00014	5/6/2015	2.21	5/6/2022	5/6/2015	105.88918	104.862443	103.8555557	102.8679467	101.8990662	100.9483851	100.0153943	99.09960336	98.20053988
150601A00485	6/1/2015	3.09	6/21/2024	6/1/2015	121.51091	117.9282614	114.47161	111.1357705	107.9158073	104.807018	101.8049212	98.9052441	96.10391157
150601A00490	6/1/2015	3.19	7/2/2024	6/1/2015	121.51567	117.9098154	114.4314759	111.0753677	107.8364654	104.7099826	101.6913598	98.77625116	95.96051369
150601A00495	6/1/2015	2.99	6/27/2024	6/1/2015	121.29259	117.6942966	114.2230962	110.8737372	107.6412192	104.5207797	101.5078806	98.59819652	95.78760309
150601A00523	6/1/2015	4.55	7/25/2031	6/1/2015	176.19737	161.1509026	147.5685361	135.2982989	124.2048088	114.1673761	105.0783365	96.84158109	89.37125883
150601A00548	6/1/2015	2.55	8/13/2021	6/1/2015	101.34991	101.1325235	100.9160808	100.700578	100.4860089	100.2723674	100.0596474	99.8478429	99.63694795
150601A00594	6/1/2015	3.2	10/20/2026	6/1/2015	135.38317	128.6128412	122.226362	116.199948	110.5114122	105.1400463	100.0665147	95.27275675	90.74189639
150601A00609	6/1/2015	2.52	9/30/2021	6/1/2015	102.18214	101.8256616	101.4716643	101.120123	100.7710122	100.4243069	100.0799821	99.73801355	99.39837712
150601A00642	6/1/2015	2.6	3/31/2022	6/1/2015	105.46669	104.5553918	103.6598056	102.7795261	101.9141633	101.0633405	100.2266936	99.40387042	98.59453058
150601A00650	6/1/2015	2.75	3/31/2023	6/1/2015	112.08886	110.0606136	108.0793794	106.1437824	104.2525004	102.4042583	100.5978257	98.83201531	97.10568087
150601A00689	6/1/2015	2.81	2/28/2025	6/1/2015	124.18596	119.7411251	115.4812674	111.3975521	107.4816306	103.725606	100.1220058	96.66375553	93.34415496
150601A01024	6/1/2015	5.33	2/27/2026	6/1/2015	142.67194	136.5520986	130.7394957	125.216855	119.9679767	114.9776652	110.2316607	105.7165751	101.4198334
150610A00008	6/10/2015	3.58	6/10/2030	6/10/2015	160.83643	148.0985924	136.4934165	125.9135618	116.2624023	107.452908	99.40664641	92.0528912	85.32782865
150610A00037	6/10/2015	2.48	6/10/2022	6/10/2015	106.79464	105.6527064	104.535136	103.441152	102.3700134	101.32101	100.2934605	99.28671174	98.30013655
150722A00014	7/22/2015	2.32	7/22/2021	7/22/2015	100.93159	100.777136	100.623161	100.4696638	100.3166423	100.1640942	100.0120173	99.86040956	99.70926867
150819A00013	8/19/2015	3.51	8/19/2030	8/19/2015	159.23531	146.3980887	134.7218805	124.0948073	114.4163557	105.5961636	97.5529436	90.21352734	83.51201402
150821A00017	8/21/2015	2.22	8/23/2022	8/21/2015	107.83022	106.4443956	105.0940384	103.7777985	102.4943959	101.2426136	100.0212943	98.8293366	97.6656914
150824A00095	8/24/2015	2.34	8/24/2023	8/24/2015	114.18573	111.6754936	109.2339068	106.8585509	104.5471121	102.2973789	100.107237	97.97466362	95.89772271
150826A00039	8/26/2015	3.22	8/27/2029	8/26/2015	152.60357	141.3496647	131.0230512	121.5420357	112.8325526	104.82741	97.46561562	90.69177372	84.45554283
150827A00029	8/27/2015	2.74	8/27/2024	8/27/2015	121.65267	117.8479912	114.1838499	110.654144	107.2530815	103.9751626	100.8151622	97.76811451	94.82929739
150909A00018	9/9/2015	2.28	9/9/2021	9/9/2015	101.75722	101.4620071	101.1685173	100.8767356	100.5866469	100.2982366	100.0114898	99.72639229	99.44292968
151223A00074	12/23/2015	3.01	12/23/2027	12/23/2015	141.66594	133.1184677	125.1490556	117.7154755	110.7788043	104.3031466	98.2553827	92.60494073	87.32358715
160119A00025	1/19/2016	3.05	1/19/2028	1/19/2016	141.00201	132.4327529	124.4473579	117.0028531	110.0596535	103.5812769	97.5340855	91.8870485	86.61152708
160122A00029	1/22/2016	2.48	1/22/2025	1/22/2016	123.08458	118.7654381	114.6223994	110.6472479	106.8322042	103.169899	99.65334812	96.27593001	93.03136446
160329A00006	3/29/2016	2.12	3/29/2023	3/29/2016	110.91052	108.9000329	106.9360557	105.0172365	103.1422709	101.3099005	99.51891096	97.76813028	96.05642691
160615A00043	6/15/2016	1.59	6/15/2021	6/15/2016	100.26742	100.2172501	100.167146	100.1171088	100.0671383	100.0172344	99.96739706	99.91762605	99.86792126

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160616A00028	6/16/2016	1.81	6/16/2023	6/16/2016	111.53004	109.2702693	107.0682274	104.9220413	102.8299154	100.7901256	98.80101598	96.86099551	94.96853502
160620A00003	6/20/2016	1.59	6/21/2021	6/20/2016	100.35664	100.2897089	100.2228784	100.1561482	100.0895181	100.0229878	99.95655731	99.89022624	99.82399441
160628A00031	6/28/2016	1.77	6/28/2023	6/28/2016	111.62212	109.3254129	107.088003	104.9079454	102.7833702	100.7124838	98.69356446	96.72495924	94.80508048
160701A00026	7/1/2016	1.43	7/1/2021	7/1/2016	100.49023	100.3952783	100.3005105	100.2059254	100.1115227	100.0173016	99.9232617	99.8294025	99.73572346
160707A00032	7/7/2016	1.52	7/7/2023	7/7/2016	111.53781	109.2073939	106.9378291	104.7270842	102.5732162	100.4743625	98.42873645	96.43462405	94.49038001
160727A00002	7/27/2016	1.87	7/27/2023	7/27/2016	112.28934	109.8945929	107.5634528	105.2937541	103.0834227	100.930473	98.83300253	96.78918808	94.79728147
160830A00035	8/30/2016	2.06	8/30/2024	8/30/2016	118.76545	115.014237	111.4019903	107.9226769	104.570572	101.3402382	98.22650931	95.22447418	92.3294624
160916A00014	9/16/2016	1.66	9/16/2021	9/16/2016	101.68025	101.3651198	101.0519523	100.7407283	100.4314298	100.1240387	99.81853749	99.51490864	99.21313491
160923A00033	9/23/2016	2.04	9/23/2026	9/23/2016	129.41362	122.8704338	116.6969804	110.8704793	105.3696718	100.1747082	95.26704757	90.62936495	86.24546517
160926A00022	9/26/2016	1.6	9/24/2021	9/26/2016	101.78193	101.4436139	101.1075418	100.7736943	100.4420495	100.1125856	99.78528115	99.46011502	99.13706629
160928A00014	9/28/2016	1.37	9/28/2021	9/28/2016	101.7911	101.4409396	101.0931777	100.7477905	100.404754	100.0640442	99.72563763	99.38951099	99.05564137
161006A00012	10/6/2016	1.98	10/7/2024	10/6/2016	119.57719	115.6764929	111.9239006	108.3130148	104.8377469	101.4923024	98.27116554	95.16908373	92.18105405
161013A00037	10/13/2016	1.52	10/13/2021	10/13/2016	102.06841	101.6741109	101.2828667	100.8946396	100.5093948	100.1270978	99.74771473	99.37121233	98.99755773
190208A00005	2/8/2019	2.63	2/8/2023	2/8/2019	111.26057	109.3964414	107.5734668	105.7903498	104.0458507	102.3387819	100.6680046	99.03242671	97.43100022
190208A00009	2/8/2019	2.67	2/8/2024	2/8/2019	117.93223	114.842221	111.8501072	108.9521137	106.144645	103.4242713	100.7877194	98.23186378	95.75371934
190215A00006	2/15/2019	2.89	2/15/2024	2/15/2019	118.24172	115.1351204	112.1272952	109.2144198	106.3928499	103.6591106	101.0098862	98.44201173	95.95246503
190219A00020	2/19/2019	2.88	2/16/2024	2/19/2019	118.23014	115.120545	112.1099086	109.1943931	106.3703445	103.634278	100.9828693	98.41294516	95.92147575
190222A00021	2/22/2019	2.95	8/21/2024	2/22/2019	121.73478	117.9616918	114.3270312	110.8248298	107.4494195	104.1954159	101.0577014	98.03141056	95.11191488
190226A00020	2/26/2019	2.64	2/26/2024	2/26/2019	118.15525	115.0049059	111.9559109	109.0042878	106.1462529	103.3782004	100.6966925	98.09845	95.58034351
190314A00018	3/14/2019	2.53	3/14/2022	3/14/2019	105.22559	104.3663143	103.5210461	102.6894479	101.87119	101.0659531	100.273428	99.49331525	98.72532481
190326A00002	3/26/2019	2.56	9/26/2022	3/26/2019	108.54297	107.1090141	105.7018039	104.3206437	102.9648573	101.6337915	100.3268154	99.04331925	97.78271361
190326A00003	3/26/2019	2.57	3/27/2023	3/26/2019	111.74194	109.72955	107.7635842	105.8426898	103.9655623	102.1309432	100.3376186	98.58441715	96.87020809
190326A00032	3/26/2019	2.4	3/26/2024	3/26/2019	117.94342	114.6999681	111.5629155	108.5281871	105.5918907	102.7503046	99.99986893	97.33717765	94.75897099
190401A00010	4/1/2019	2.62	4/1/2024	4/1/2019	118.24064	114.9841025	111.8346455	108.7881772	105.8407806	102.9887094	100.2283798	97.55636203	94.9693734
190409A00031	4/9/2019	2.64	4/9/2024	4/9/2019	118.43469	115.1496781	111.9734452	108.9017981	105.9307306	103.0564124	100.2751803	97.58353023	94.97810914
190430A00002	4/30/2019	2.4	11/2/2022	4/30/2019	109.13452	107.5838328	106.0632557	104.5719816	103.1092342	101.6742643	100.2663487	98.88478833	97.5289081
190507A00004	5/7/2019	2.88	5/7/2029	5/7/2019	147.77698	137.1475383	127.3681088	118.3661327	110.0756001	102.4364288	95.3939037	88.89817221	82.90378909
190507A00014	5/7/2019	2.6	5/7/2024	5/7/2019	118.77827	115.3973652	112.1312501	108.9753831	105.9254318	102.9772596	100.1269154	97.3706242	94.70477836
190508A00008	5/8/2019	2.36	5/9/2022	5/8/2019	106.08889	105.0516869	104.0347166	103.0373869	102.0591329	101.099411	100.1576981	99.23349082	98.32630415
190514A00056	5/14/2019	2.32	5/15/2023	5/14/2019	112.40999	110.2330085	108.1097834	106.0386371	104.0179603	102.046205	100.1218818	98.24355698	96.40985009
190515A00055	5/15/2019	2.26	5/15/2023	5/15/2019	112.2857	110.110035	107.9880961	105.9182101	103.8987687	101.9282245	100.0050889	98.12792872	96.29536424
200103A00009	1/3/2020	1.9	1/3/2024	1/3/2020	114.74702	111.8238125	108.9905798	106.2439781	103.5808096	100.9980177	98.49267927	96.06199792	93.70329765
200115A00014	1/17/2020	1.88	9/15/2022	1/17/2020	107.47582	106.0610536	104.6764941	103.3211794	101.9941907	100.6946478	99.42170753	98.17456127	96.95243353

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200115A00017	1/15/2020	1.88	1/17/2023	1/15/2020	109.33097	107.5543044	105.8158005	104.1142949	102.4486759	100.8178761	99.22087043	97.65667418	96.12434073
200115A00022	1/15/2020	1.88	10/14/2022	1/15/2020	107.87	106.3901048	104.937927	103.5127529	102.1138925	100.7406793	99.39246819	98.06863562	96.76857806
200115A00024	1/15/2020	1.88	1/17/2023	1/15/2020	109.33097	107.5543044	105.8158005	104.1142949	102.4486759	100.8178761	99.22087043	97.65667418	96.12434073
200122A00028	1/22/2020	1.84	1/21/2022	1/22/2020	103.73895	103.0448945	102.3600978	101.6843789	101.0175582	100.3594608	99.70991626	99.06875867	98.43582633
200122A00035	1/22/2020	1.94	1/22/2025	1/22/2020	120.32122	116.0715911	111.9953815	108.0845059	104.3313069	100.7285299	97.26929924	93.94709587	90.75573636
200124A00008	1/24/2020	1.92	1/22/2027	1/24/2020	130.0619	123.0795813	116.5141626	110.3385462	104.5275383	99.05770809	93.9072546	89.05588421	84.48469837
200127A00013	1/27/2020	1.56	1/27/2023	1/27/2020	109.16912	107.3601386	105.5905303	103.8590838	102.1646335	100.5060614	98.88229449	97.29230301	95.73509772
200128A00015	1/28/2020	1.81	1/28/2025	1/28/2020	119.88283	115.6224034	111.5365848	107.6171938	103.8564902	100.247143	96.78220591	93.45509449	90.25956482
200129A00010	1/29/2020	1.76	1/31/2022	1/29/2020	103.84366	103.1191473	102.4047045	101.7001257	101.0052078	100.3197534	99.64357002	98.97647075	98.31827352
200130A00021	1/30/2020	1.54	1/30/2023	1/30/2020	109.17913	107.3611201	105.5828304	103.843032	102.1405436	100.4742326	98.84301246	97.24584027	95.68171462
200131A00015	2/5/2020	1.73	2/5/2025	2/5/2020	119.6636	115.3816414	111.2761465	107.3388023	103.5617435	99.937523	96.45908739	93.11975298	89.913184
200131A00047	1/31/2020	1.68	1/31/2023	1/31/2020	109.19673	107.3798677	105.6026808	103.8639416	102.1624703	100.4971357	98.86685229	97.2705785	95.70731397
200203A00011	2/3/2020	1.7	2/15/2023	2/3/2020	109.4583	107.594321	105.7718439	103.9895459	102.2461656	100.5404948	98.871376	97.23769919	95.63839977
200204A00016	2/4/2020	1.72	2/6/2023	2/4/2020	109.35799	107.521779	105.7259754	103.9693172	102.2505919	100.5686375	98.92233978	97.31062969	95.73248118
200214A00013	2/18/2020	1.78	11/10/2021	2/18/2020	102.57412	102.0972847	101.6248803	101.1568483	100.6931278	100.2336595	99.77838493	99.32724669	98.8801885
200218A00004	2/18/2020	1.73	2/21/2023	2/18/2020	109.60356	107.7203231	105.8793319	104.07923	102.3187224	100.5965694	98.91158373	97.26262741	95.64860947
200218A00028	2/18/2020	1.73	2/21/2023	2/18/2020	109.60356	107.7203231	105.8793319	104.07923	102.3187224	100.5965694	98.91158373	97.26262741	95.64860947
200221A00004	2/21/2020	1.69	2/21/2025	2/21/2020	119.69975	115.3655852	111.2119121	107.2301318	103.4121143	99.75016776	96.23701206	92.86575362	89.62986207
200221A00014	2/21/2020	1.49	2/21/2023	2/21/2020	109.41883	107.5328174	105.689189	103.8865877	102.1237119	100.3993158	98.71220636	97.06124022	95.44532134
200224A00002	2/24/2020	1.56	2/24/2023	2/24/2020	109.33794	107.4482555	105.6011305	103.7951929	102.0291322	100.3016947	98.61167958	96.95793635	95.33936221
200224A00020	2/24/2020	1.59	2/24/2025	2/24/2020	119.33017	114.9936	110.8380518	106.8548842	103.0359256	99.37344592	95.86012971	92.48905103	89.25364969
200224A00046	2/24/2020	1.59	2/24/2025	2/24/2020	119.33017	114.9936	110.8380518	106.8548842	103.0359256	99.37344592	95.86012971	92.48905103	89.25364969
200226A00017	2/26/2020	1.53	2/27/2023	2/26/2020	109.32684	107.4283155	105.5727125	103.7586406	101.9847729	100.2498399	98.5526262	96.89196761	95.26674825
200227A00009	2/27/2020	1.47	2/27/2025	2/27/2020	118.87725	114.5399374	110.3841322	106.4011468	102.5827695	98.92123384	95.40919077	92.0396835	88.80612358
200227A00022	2/27/2020	1.41	2/27/2023	2/27/2020	109.1061	107.2096683	105.3561169	103.5440574	101.7721643	100.0391691	98.34385742	96.68506609	95.06168022
200227A00030	2/27/2020	1.59	2/27/2026	2/27/2020	123.50939	117.864024	112.5082312	107.4255468	102.6005389	98.01873925	93.66657661	89.53131569	85.60100031
200228A00019	2/28/2020	1.21	2/20/2025	2/28/2020	118.36785	114.0459836	109.9046865	105.9353382	102.1297883	98.48032674	94.97965674	91.62086955	88.39742116
200228A00020	2/28/2020	1.32	2/24/2023	2/28/2020	108.89859	107.0130541	105.1699956	103.368047	101.6059005	99.88230434	98.19605977	96.54601836	94.93107918
200228A00025	2/28/2020	1.57	3/2/2027	2/28/2020	127.12804	120.1390577	113.5747229	107.4069893	101.6098135	96.15900388	91.03207841	86.20813397	81.66772672
200228A00026	2/28/2020	2.14	2/28/2035	2/28/2020	162.39674	142.9773647	126.091277	111.393348	98.5871206	87.41772836	77.6658747	69.14270972	61.68546712
200228A00040	2/28/2020	1.14	2/28/2023	2/28/2020	108.87752	106.9756993	105.1170163	103.3000739	101.5235342	99.7861177	98.08659926	96.42380569	94.79661276
200302A00028	3/2/2020	1.25	2/26/2024	3/2/2020	113.61945	110.5452424	107.5702175	104.6904817	101.9023304	99.20223293	96.58682305	94.05288976	91.59736871
200302A00034	3/2/2020	1.25	3/1/2024	3/2/2020	113.67043	110.5827937	107.5950633	104.7033228	101.9038403	99.1930587	96.5675862	94.02418681	91.55977198

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200302A00036	3/2/2020	1.45	3/2/2026	3/2/2020	122.81063	117.1721322	111.8235329	106.7483266	101.9310484	97.35719868	93.01317684	88.88621996	84.96434596
200304A00038	3/4/2020	1.01	3/1/2022	3/4/2020	103.71742	102.9057552	102.1067203	101.3200214	100.5453748	99.78250567	99.0311472	98.29104073	97.56193524
200305A00035	3/5/2020	1.25	3/5/2026	3/5/2020	121.79529	116.1713006	110.837238	105.7765822	100.9738543	96.41454075	92.08502669	87.97253509	84.06507011
200306A00030	3/6/2020	0.88	3/6/2023	3/6/2020	108.22594	106.3155535	104.4486431	102.623834	100.8398092	99.09530652	97.38911557	95.72007522	94.08707101
200309A00003	3/9/2020	0.72	3/9/2022	3/9/2020	103.59305	102.7575977	101.9355464	101.1265728	100.330367	99.54662865	98.77506684	98.01539964	97.26735378
200309A00005	3/9/2020	0.77	3/7/2025	3/9/2020	116.7354	112.3955954	108.2391358	104.2572304	100.4415626	96.78426454	93.27788959	89.91538686	86.69007754
200309A00021	3/9/2020	1.05	3/9/2026	3/9/2020	120.78633	115.1732377	109.8504173	104.8013223	100.0104418	95.46323019	91.14604124	87.04606742	83.15128333
200310A00037	3/10/2020	0.84	3/7/2022	3/10/2020	103.66334	102.8336573	102.0171849	101.2136058	100.4226166	99.6439234	98.87724134	98.12229433	97.37881468
200313A00032	3/18/2020	1.46	3/18/2025	3/18/2020	119.07338	114.6661944	110.4454004	106.4021069	102.5279021	98.81482052	95.25531659	91.84224006	88.56881289
200319A00024	3/19/2020	1.12	3/15/2022	3/19/2020	103.99011	103.1347206	102.2933325	101.4656067	100.6512124	99.84982964	99.06114862	98.28486923	97.52070077
200326A00028	3/26/2020	1.54	3/26/2025	3/26/2020	119.50624	115.0624652	110.807379	106.7319987	102.8278203	99.08678676	95.50126205	92.0640066	88.76815488
200413A00023	4/13/2020	0.74	2/7/2022	4/13/2020	103.22133	102.4781746	101.745671	101.0235906	100.3117119	99.60982005	98.917706	98.23516652	97.56200398
200428A00011	4/30/2020	1.95	4/29/2025	4/30/2020	121.65239	117.0536539	112.6541342	108.4441616	104.4145867	100.55675	96.86245348	93.32393301	89.93383338
200429A00009	4/29/2020	0.78	4/29/2025	4/29/2020	117.317	112.7887509	108.4581539	104.3155739	100.3518935	96.55848555	92.92718403	89.45025674	86.12038007
200429A00035	5/1/2020	1.41	4/30/2024	5/1/2020	114.93304	111.634703	108.4480891	105.3688031	102.3926485	99.51561709	96.73387918	94.04377476	91.44180493
200430A00007	4/30/2020	0.72	4/28/2023	4/30/2020	108.59685	106.5187394	104.4907852	102.5114622	100.5793066	98.69290844	96.85090973	95.05200164	93.29492262
200501A00003	5/1/2020	0.66	4/14/2023	5/1/2020	108.30762	106.2745046	104.2895673	102.3513708	100.4585345	98.60972732	96.80366631	95.03911398	93.3148767
200506A00002	5/8/2020	0.97	5/5/2025	5/8/2020	117.53307	112.9987559	108.662684	104.5151658	100.5470383	96.74963255	93.11474386	89.63460461	86.30185853
200506A00010	5/6/2020	0.94	5/6/2026	5/6/2020	121.64831	115.7868577	110.238343	104.9845004	100.0082222	95.29348007	90.82525109	86.58944977	82.57286473
200511A00014	5/11/2020	0.52	2/1/2022	5/11/2020	102.98927	102.2651083	101.5510719	100.8469497	100.1525365	99.46763253	98.79204381	98.12558142	97.46806155
200511A00019	5/11/2020	1.18	2/1/2027	5/11/2020	124.40219	117.5914322	111.1906515	105.1730523	99.51373412	94.18954708	89.17895868	84.46193207	80.01981397
200529A00008	5/29/2020	0.33	5/31/2022	5/29/2020	104.36486	103.2684384	102.1948401	101.1433632	100.1133306	99.10409236	98.11502483	97.1455289	96.19502902
200604A00001	6/4/2020	0.65	6/5/2023	6/4/2020	108.89305	106.6947625	104.5522145	102.4636214	100.4272703	98.44151524	96.50477453	94.6155273	92.77231088
200604A00004	6/4/2020	0.76	6/4/2024	6/4/2020	113.28632	109.9009649	106.6341363	103.4810128	100.4369983	97.49771037	94.65896903	91.91678616	89.26735544
200604A00009	6/4/2020	0.7	6/4/2025	6/4/2020	117.32182	112.673672	108.2334046	103.9906202	99.93550318	96.05877978	92.35168505	88.80593205	85.41368306
200615A00005	6/15/2020	0.61	6/15/2023	6/15/2020	108.92186	106.6936995	104.5225486	102.4065592	100.3439587	98.33304493	96.37218304	94.45980212	92.59439225
200626A00014	6/26/2020	0.62	6/26/2025	6/26/2020	117.16509	112.4503456	107.94905	103.6503928	99.54417647	95.62077459	91.87109634	88.28655354	84.85902983
200709A00002	7/10/2020	1.66	7/10/2025	7/10/2020	121.27628	116.4471091	111.8367155	107.4339784	103.2284084	99.21010742	95.36973125	91.69845521	88.18794217
200709A00014	7/13/2020	0.57	1/20/2023	7/13/2020	107.11502	105.3493524	103.621791	101.9311743	100.2763865	98.65635684	97.07005718	95.51649998	93.9947362
200720A00037	7/22/2020	2.1	7/21/2025	7/22/2020	123.39991	118.4880033	113.7994805	109.3229278	105.0475818	100.9632895	97.06046994	93.33007844	89.76357298
200720A00041	7/22/2020	2.34	7/21/2027	7/22/2020	133.68377	125.9992193	118.8065105	112.0715487	105.7627807	99.85099377	94.30912922	89.11211212	84.23669549
200722A00012	7/22/2020	0.41	7/21/2023	7/22/2020	109.22314	106.8755458	104.5902508	102.3651413	100.1981935	98.08746911	96.03111095	94.02733857	92.0744445
200731A00004	7/31/2020	0.38	7/31/2023	7/31/2020	109.26777	106.8889194	104.5738342	102.3203267	100.1263015	97.9897531	95.90876099	93.8814853	91.90616257

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200803A00011	8/3/2020	0.72	8/4/2025	8/3/2020	117.27472	112.4502123	107.8485531	103.4582161	99.26833955	95.26868507	91.44959799	87.80197024	84.31720592
200812A00004	8/12/2020	0.59	8/12/2025	8/12/2020	117.45048	112.5757241	107.927697	103.4945919	99.26528578	95.22929913	91.3767543	87.698337	84.18526055
200814A00009	8/18/2020	1.36	8/16/2028	8/18/2020	130.11879	121.2000403	112.9453421	105.3019122	98.22142832	91.6596307	85.57595937	79.93322605	74.69731684
200818A00006	8/18/2020	1.18	8/18/2028	8/18/2020	128.66415	119.7930321	111.5840425	103.9844618	96.94603666	90.42457585	84.37958691	78.77394784	73.57360956
200818A00010	8/18/2020	1.88	8/20/2035	8/18/2020	159.7486	139.8468124	122.6317247	107.7256172	94.80563612	83.59558298	73.85896841	65.39312979	58.02424517
200825A00007	8/27/2020	4.79	8/27/2026	8/27/2020	144.08112	137.2619323	130.8166714	124.722617	118.9585637	113.5047113	108.3425632	103.4548327	98.82535641
200928A00002	9/28/2020	0.35	9/28/2023	9/28/2020	109.83099	107.2684219	104.7780013	102.3573036	100.0039988	97.71584811	95.49070035	93.32648745	91.22122105
201030A00002	11/2/2020	2.8	10/29/2040	11/2/2020	195.81354	165.2634312	140.020202	119.1219718	101.7862556	87.37571068	75.37056074	65.34637336	56.95612889
210106A00007	1/8/2021	0.49	7/25/2023	1/8/2021	109.11083	106.7589593	104.4696316	102.2407163	100.0701762	97.95606065	95.89650049	93.88970433	91.93395436
210312A00005	3/12/2021	0.53	3/12/2024	3/12/2021	112.1168	109.0059943	105.9969636	103.0857515	100.2685825	97.5418532	94.9021232	92.34610625	89.87066229
210527A00008	5/27/2021	0.32	5/30/2023	5/27/2021	108.44138	106.2595972	104.1329699	102.0597402	100.0382219	98.06679455	96.1439003	94.26804089	92.43777495
180719A00061	7/19/2018	3.07	7/19/2023	7/19/2018	114.88137	112.4819548	110.1456177	107.8702285	105.6537514	103.4942356	101.3898116	99.33868663	97.33914097
180723A00024	10/23/2018	3.1	10/22/2021	10/23/2018	102.82118	102.3992681	101.9808204	101.5657937	101.1541461	100.7458365	100.3408244	99.93906992	99.5405338
180724A00075	7/24/2018	2.98	7/24/2023	7/24/2018	115.12155	112.6966429	110.3359083	108.0371693	105.7983393	103.6174196	101.4924956	99.421732	97.40336894
180727A00038	7/27/2018	3.36	7/25/2025	7/27/2018	129.17391	124.1230707	119.3009366	114.6958344	110.2967552	106.0933149	102.0757145	98.23470402	94.56154759
180730A00078	7/30/2018	3.14	7/28/2023	7/30/2018	115.21296	112.7812722	110.4140606	108.1091249	105.8643632	103.677763	101.5473963	99.47141537	97.44804861
180731A00009	7/31/2018	2.97	7/31/2023	7/31/2018	115.2319	112.7836807	110.4007112	108.0807534	105.8216685	103.6214096	101.478016	99.38960961	97.35438992
180820A00054	8/20/2018	3	8/18/2023	8/20/2018	115.278	112.7806061	110.3508848	107.98647	105.6851011	103.4446169	101.2629496	99.1381204	97.06823423
180827A00010	8/27/2018	2.99	8/25/2023	8/27/2018	115.38289	112.8625921	110.4110745	108.0259098	105.704783	103.4454812	101.2458886	99.103981	97.01782089
180906A00004	9/6/2018	2.92	9/7/2021	9/6/2018	101.9059	101.6161502	101.3280593	101.0416114	100.7567923	100.4735882	100.1919853	99.91196986	99.63352848
180906A00047	9/6/2018	2.81	9/7/2021	9/6/2018	101.89501	101.6050495	101.3167535	101.0301045	100.7450882	100.4616906	100.1798978	99.89969626	99.6210723
180910A00032	9/10/2018	3.22	9/10/2024	9/10/2018	123.02965	119.1702505	115.4540088	111.8747589	108.4266409	105.1040837	101.9017887	98.81471449	95.83806252
180914A00046	9/14/2018	2.93	9/14/2021	9/14/2018	102.06227	101.7518472	101.443321	101.1366784	100.8319022	100.5289753	100.2278808	99.92860186	99.63112211
180921A00024	9/21/2018	2.99	9/21/2021	9/21/2018	102.21484	101.8839409	101.5551904	101.2285683	100.9040539	100.5816268	100.2612668	99.9429541	99.62666902
181002A00055	10/2/2018	3.14	10/3/2022	10/2/2018	109.47105	108.0127951	106.5812904	105.175861	103.7958535	102.440636	101.1095969	99.80214406	98.51770436
181004A00028	10/4/2018	3.31	10/4/2023	10/4/2018	116.90843	114.2461359	111.658619	109.1433573	106.6979294	104.3200091	102.0073618	99.75783956	97.56937778
181010A00019	10/10/2018	3.21	9/15/2021	10/10/2018	102.1422	101.8290208	101.5177722	101.2084371	100.9009978	100.5954369	100.2917371	99.98988136	99.6898528
181010A00023	10/10/2018	3.41	4/1/2024	10/10/2018	120.64449	117.3518499	114.1672053	111.0864264	108.1055671	105.2208529	102.4286731	99.72557227	97.10824279
181015A00024	10/15/2018	3.29	10/16/2023	10/15/2018	117.09153	114.3879362	111.7612816	109.2089355	106.728374	104.3171742	101.9730095	99.69364547	97.47693515
181023A00021	10/23/2018	3.28	10/23/2023	10/23/2018	117.20198	114.4742252	111.8246834	109.250661	106.7495732	104.3189397	101.9563796	99.65960655	97.42642511
181023A00025	10/23/2018	3.27	10/23/2023	10/23/2018	117.17646	114.4490283	111.7998052	109.2260944	106.7253113	104.2949758	101.9327071	99.63621933	97.40331702
181114A00014	11/14/2018	3.17	11/14/2023	11/14/2018	117.73952	114.9259244	112.1950992	109.5441158	106.9701681	104.4705668	102.0427338	99.68419626	97.39258236
181123A00013	11/23/2018	3.14	11/23/2021	11/23/2018	103.46164	102.94407	102.431675	101.9243787	101.4221054	100.9247806	100.4323314	99.94468634	99.46177538

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181210A00015	12/10/2018	3.12	12/11/2023	12/10/2018	117.70249	114.8118126	112.0081925	109.2884699	106.6496185	104.0887422	101.6030676	99.18993854	96.84681026
181211A00009	12/11/2018	3.14	12/11/2023	12/11/2018	117.75651	114.8651042	112.0607741	109.3403578	106.7008288	104.1392901	101.6529681	99.23920615	96.89545894
181214A00012	12/14/2018	3.07	12/14/2021	12/14/2018	103.82864	103.2477349	102.6733309	102.1053214	101.5435996	100.9880615	100.4386051	99.89513092	99.3575414
181217A00052	12/17/2018	3.04	12/17/2021	12/17/2018	103.86983	103.2798683	102.6966087	102.1199384	101.5497458	100.9859222	100.4283611	99.87695854	99.33161266
181219A00005	12/19/2018	3.06	12/19/2023	12/19/2018	117.68763	114.7715106	111.9437868	109.2012216	106.5407198	103.9593203	101.4541893	99.02261343	96.66199426
181221A00018	12/21/2018	2.98	12/21/2021	12/21/2018	103.90627	103.3043716	102.7094381	102.1213536	101.54	100.9652624	100.3970281	99.8351871	99.27963193
181226A00024	12/26/2018	2.9	12/27/2021	12/26/2018	103.97331	103.3533287	102.7407293	102.1353765	101.5371424	100.9459019	100.3615332	99.78391691	99.21293666
190104A00003	1/4/2019	2.81	1/4/2022	1/4/2019	104.06959	103.4253015	102.7889794	102.1604808	101.539662	100.9263828	100.3205062	99.72189875	99.1304301
190108A00039	1/8/2019	3.04	4/30/2024	1/8/2019	120.03798	116.6609295	113.3976157	110.2435784	107.1945552	104.2464747	101.3954467	98.63775336	95.96984002
190110A00009	1/10/2019	2.97	1/16/2024	1/10/2019	117.94233	114.9344034	112.0197362	109.1948214	106.4563109	103.8010061	101.2258504	98.72792151	96.30442464
190110A00012	1/10/2019	2.97	1/18/2024	1/10/2019	117.9778	114.9631143	112.0420501	109.2110771	106.4668284	103.8060877	101.2257821	98.72297376	96.2948534
190111A00037	1/11/2019	2.68	1/11/2022	1/11/2019	104.18455	103.5179584	102.8598937	102.2101947	101.5687022	100.9352613	100.3097208	99.69193339	99.08175536
190115A00063	1/15/2019	2.96	1/16/2024	1/15/2019	117.91422	114.9066907	111.9924065	109.1678656	106.4297201	103.7747719	101.1999645	98.70237604	96.27921182
190122A00008	1/22/2019	2.98	1/20/2023	1/22/2019	111.27738	109.47442	107.7102711	105.9837476	104.2937142	102.6390812	101.0188027	99.43187356	97.8773282
190122A00043	1/22/2019	2.96	1/22/2025	1/22/2019	124.99092	120.6351837	116.4566584	112.4470844	108.5986417	104.903922	101.3559038	97.94793027	94.67368726
190130A00019	1/30/2019	3.01	1/30/2024	1/30/2019	118.3047	115.2477761	112.286695	109.4178033	106.6376177	103.9428135	101.3302155	98.79679042	96.33963904
190204A00036	2/4/2019	2.86	11/4/2021	2/4/2019	102.96494	102.5046342	102.0484469	101.5963211	101.1482028	100.7040387	100.2637766	99.8273651	99.39475384
190215A00004	2/15/2019	2.84	2/15/2023	2/15/2019	111.51483	109.6317021	107.7904325	105.9896968	104.2282235	102.5047944	100.8182425	99.16744875	97.55133975
190227A00002	2/27/2019	2.61	2/28/2022	2/27/2019	105.03145	104.2160061	103.4131948	102.6227208	101.8443013	101.0776624	100.3225381	99.57867078	98.84581011
190227A00005	2/27/2019	2.87	2/27/2024	2/27/2019	118.39262	115.2459119	112.2002759	109.2517538	106.3965761	103.6311504	100.9520517	98.35601256	95.83991481
190313A00017	3/13/2019	2.73	7/15/2022	3/13/2019	107.58582	106.3298255	105.1031014	103.9046301	102.7334438	101.5886181	100.4692701	99.37455609	98.30366902
190319A00008	3/19/2019	2.72	3/21/2022	3/19/2019	105.41634	104.5360338	103.6704087	102.8190963	101.9817436	101.1580092	100.3475629	99.55008486	98.76526562
190320A00005	3/20/2019	2.75	3/20/2024	3/20/2019	118.42718	115.2071476	112.0920511	109.0778592	106.1607236	103.3369667	100.6030731	97.95568147	95.39157633
190322A00022	3/22/2019	2.56	7/22/2021	3/22/2019	100.96843	100.8139266	100.6599065	100.5063643	100.353298	100.2007052	100.0485837	99.89693145	99.74574618
190329A00016	3/29/2019	2.56	3/29/2022	3/29/2019	105.42662	104.5216993	103.6322713	102.7579407	101.8983255	101.0530567	100.2217777	99.40414317	98.5998195
190329A00018	3/29/2019	2.6	3/29/2024	3/29/2019	118.13022	114.8849072	111.7460349	108.7095414	105.7715437	102.9283271	100.1763375	97.51217352	94.9325788
190424A00023	4/24/2019	2.43	4/24/2023	4/24/2019	112.26072	110.1518043	108.0934522	106.0841395	104.1223956	102.2068041	100.3360007	98.50867012	96.72354477
190426A00011	5/1/2019	2.56	3/15/2022	5/1/2019	105.17375	104.312961	103.4662383	102.6332386	101.8136301	101.0070918	100.2133127	99.43199155	98.66283672
190506A00027	5/6/2019	2.38	5/6/2022	5/6/2019	106.05443	105.0268131	104.0190588	103.0305942	102.0608695	101.1093554	100.1755424	99.25893989	98.35907521
190507A00006	5/7/2019	2.57	5/8/2023	5/7/2019	112.50958	110.3593517	108.2615925	106.2146874	104.2170836	102.2672866	100.3638579	98.5054116	96.69061312
200109A00014	1/14/2020	1.93	8/15/2022	1/14/2020	107.14653	105.7941041	104.4756494	103.1899013	101.9356547	100.7117628	99.5171341	98.3507287	97.21155554
200110A00013	1/10/2020	1.76	1/10/2024	1/10/2020	114.88452	111.9283902	109.063963	106.2877935	103.596596	100.9872315	98.45669937	96.00213068	93.620781
200122A00034	1/22/2020	1.87	1/22/2024	1/22/2020	114.93708	111.9525704	109.0613528	106.2598914	103.5448142	100.9129014	98.36107708	95.8864014	93.48606374

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200123A00048	1/23/2020	1.7	1/23/2025	1/23/2020	119.99968	115.7365377	111.6479456	107.7257428	103.9622008	100.3499986	96.88219905	93.55222572	90.3538417
200129A00017	2/3/2020	1.75	8/15/2022	2/3/2020	106.919	105.5681176	104.2511822	102.9669273	101.7141485	100.4916998	99.2984903	98.13348079	96.99568085
200130A00025	1/30/2020	1.54	1/30/2023	1/30/2020	109.17913	107.3611201	105.5828304	103.843032	102.1405436	100.4742326	98.84301246	97.24584027	95.68171462
200131A00016	1/31/2020	1.73	1/31/2025	1/31/2020	119.60164	115.3369763	111.2474912	107.3249672	103.5616215	99.95008397	96.48337202	93.15486784	89.95829671
200203A00050	2/3/2020	1.54	2/3/2022	2/3/2020	103.80897	103.0745428	102.3504712	101.6365389	100.932534	100.2382505	99.55348799	98.87805172	98.21175206
200207A00016	2/7/2020	1.74	2/7/2024	2/7/2020	114.79274	111.7606239	108.8246029	105.9809815	103.2262346	100.5569991	97.97006503	95.46236705	93.03097701
200210A00005	2/10/2020	1.77	2/10/2027	2/10/2020	129.30615	122.28135	115.6798414	109.4738668	103.6376387	98.14719056	92.9802383	88.11605244	83.5353411
200210A00021	2/10/2020	1.76	2/10/2025	2/10/2020	119.84617	115.5445718	111.420793	107.4664278	103.6735245	100.0345567	96.54239707	93.19029343	89.97184642
200214A00015	2/18/2020	1.76	8/6/2024	2/18/2020	117.39168	113.7399877	110.2214334	106.8303335	103.5612864	100.4091573	97.3690628	94.43635692	91.60661739
200224A00018	2/24/2020	1.58	8/19/2024	2/24/2020	116.94052	113.2552661	109.7057574	106.2861364	102.9908384	99.81457767	96.75233013	93.79931904	90.95100058
200224A00029	2/24/2020	1.56	2/24/2023	2/24/2020	109.33794	107.4482555	105.6011305	103.7951929	102.0291322	100.3016947	98.61167958	96.95793635	95.33936221
200225A00006	2/25/2020	1.57	2/25/2022	2/25/2020	104.09401	103.2928415	102.5039515	101.7270604	100.9618961	100.2081949	99.46570069	98.73416518	98.01334722
200227A00006	2/27/2020	1.47	2/27/2025	2/27/2020	118.87725	114.5399374	110.3841322	106.4011468	102.5827695	98.92123384	95.40919077	92.0396835	88.80612358
200227A00016	2/27/2020	1.47	2/27/2025	2/27/2020	118.87725	114.5399374	110.3841322	106.4011468	102.5827695	98.92123384	95.40919077	92.0396835	88.80612358
200228A00016	2/28/2020	1.35	2/22/2024	2/28/2020	113.86193	110.7966016	107.8297994	104.9576739	102.1765586	99.48295851	96.87354066	94.34512501	91.89467617
200228A00039	2/28/2020	1.33	4/28/2023	2/28/2020	109.82771	107.7369186	105.6965353	103.7050288	101.760928	99.86281623	98.00932876	96.19915041	94.43101351
200304A00052	3/6/2020	2.11	3/8/2027	3/6/2020	130.66408	123.5470922	116.8617965	110.5797162	104.6744053	99.12129324	93.89754144	88.98191181	84.35464594
200310A00065	3/13/2020	1.1	3/13/2025	3/13/2020	117.5285	113.1694373	108.9945472	104.9950332	101.1625698	97.48927605	93.96768922	90.59073968	87.35172785
200312A00017	3/16/2020	1.09	2/15/2023	3/16/2020	108.35787	106.5041434	104.6917219	102.9192897	101.1855907	99.48942225	97.82963164	96.2051139	94.61480908
200317A00026	3/17/2020	1.22	3/15/2024	3/17/2020	113.76316	110.6286488	107.5964771	104.6626886	101.8235067	99.07532517	96.41469883	93.83833555	91.34308819
200325A00030	3/25/2020	1.5	3/25/2025	3/25/2020	119.97356	115.5061311	111.2286289	107.1319959	103.2076564	99.44748681	95.84378911	92.38926638	89.07699972
200330A00041	4/1/2020	1.09	4/1/2025	4/1/2020	117.6985	113.2711238	109.0328656	104.9746963	101.0880647	97.36486914	93.79743179	90.37847408	87.10109398
200331A00030	4/2/2020	1.17	4/1/2022	4/2/2020	104.27068	103.3620323	102.4691329	101.5915756	100.7289679	99.8809305	99.04709688	98.22711274	97.42063545
200417A00009	4/17/2020	1.35	4/16/2027	4/17/2020	126.1059	118.9891852	112.3138031	106.0502282	100.1710545	94.65083142	89.46591458	84.59432916	80.01564401
200427A00010	4/27/2020	0.68	4/27/2022	4/27/2020	104.17528	103.1871558	102.2176384	101.2662023	100.332346	99.41558643	98.51545818	97.63151245	96.76331651
200429A00046	5/1/2020	2.07	4/30/2025	5/1/2020	122.17781	117.5648828	113.1518105	108.9288832	104.8869187	101.0172271	97.31158129	93.76219024	90.36167336
200429A00051	5/1/2020	2.54	4/30/2025	5/1/2020	124.18397	119.5298777	115.0769455	110.8154186	106.7360645	102.8301451	99.08938761	95.50595741	92.07243235
200430A00006	4/30/2020	0.61	4/29/2022	4/30/2020	104.1342	103.1401217	102.1648735	101.207925	100.2687659	99.34690432	98.44186653	97.5531959	96.68045219
200511A00021	5/11/2020	1.53	2/1/2029	5/11/2020	133.03684	123.422705	114.5635614	106.3963281	98.86350283	91.91264434	85.4959017	79.5695899	74.09380676
200511A00023	5/11/2020	1.7	2/3/2031	5/11/2020	141.73061	129.1156122	117.7163227	107.4093851	98.08454944	89.64321533	81.99714652	75.0673334	68.78298555
200513A00003	5/13/2020	0.68	5/13/2025	5/13/2020	117.02507	112.4557959	108.0880312	103.9118463	99.91785538	96.0971827	92.44143185	88.94265738	85.5933381
200604A00005	6/4/2020	0.89	6/4/2025	6/4/2020	117.48165	112.8493901	108.4237566	104.1944435	100.1517143	96.28636858	92.58970999	89.05351519	85.67000574
200604A00013	6/4/2020	2.21	6/4/2035	6/4/2020	164.56627	144.6110931	127.3007049	112.2690778	99.20257922	87.83224301	77.92721282	69.28917516	61.74762915

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200615A00004	6/15/2020	0.56	6/15/2022	6/15/2020	104.66172	103.5186372	102.4003196	101.3059679	100.2348189	99.18614145	98.15923488	97.15342734	96.16807435
200710A00006	7/10/2020	0.4	7/10/2023	7/10/2020	109.0741	106.7622419	104.5110771	102.3185698	100.1827735	98.10182245	96.07392764	94.09737294	92.1705114
200716A00015	7/20/2020	1.54	7/19/2024	7/20/2020	116.40266	112.8251069	109.3763994	106.0511182	102.8441046	99.75045077	96.76548482	93.88475827	91.10403354
200720A00035	7/20/2020	1.81	7/20/2035	7/20/2020	158.29187	138.6126891	121.5795288	106.8220762	94.02354543	82.91271265	73.25716612	64.85758486	57.54288454
200818A00004	8/18/2020	0.92	8/18/2026	8/18/2020	121.51535	115.3417874	109.5140956	104.0110672	98.8129168	93.90117491	89.25859286	84.86905481	80.71749679
200922A00025	9/24/2020	2.61	9/26/2022	9/24/2020	108.61231	107.1778333	105.770121	104.3884676	103.0321965	101.7006545	100.3932104	99.10925414	97.84819609
200922A00038	9/24/2020	2.33	9/25/2023	9/24/2020	114.3161	111.7145879	109.1856941	106.7269735	104.3360779	102.0107522	99.74883025	97.54823053	95.40695245
200925A00003	9/25/2020	0.59	9/25/2024	9/25/2020	113.85475	110.1078725	106.5026329	103.0329402	99.69300084	96.47730013	93.38058745	90.39786204	87.52435976
201006A00003	10/6/2020	0.29	10/6/2022	10/6/2020	105.67194	104.2301325	102.8149776	101.4258019	100.0619515	98.72279402	97.40771741	96.11612947	94.84745688
201030A00001	11/2/2020	2.54	10/29/2040	11/2/2020	189.63472	159.6918703	134.9774792	114.541079	97.60980965	83.55445948	71.86213494	62.11424075	53.96871747
201030A00003	11/2/2020	2.58	10/29/2040	11/2/2020	190.58531	160.5490335	135.7532827	115.2458317	98.2523398	84.14234428	72.40189275	62.61149192	54.42831923
201116A00010	11/16/2020	0.57	11/15/2023	11/16/2020	110.53464	107.8208325	105.1873875	102.6314592	100.1503181	97.7413478	95.40204018	93.12998972	90.92288881
201130A00005	11/30/2020	0.28	11/30/2022	11/30/2020	106.2729	104.6616325	103.0832669	101.5368779	100.0215766	98.53650628	97.08084134	95.65378566	94.25457132
210106A00006	1/8/2021	0.48	7/17/2023	1/8/2021	108.99795	106.6720207	104.4074585	102.2021958	100.0542518	97.96172874	95.9228072	93.93574263	91.99886135
210201A00012	2/3/2021	0.75	11/17/2025	2/3/2021	118.3187	113.1306059	108.1964145	103.5024169	99.03571236	94.78415984	90.73632926	86.88145607	83.20939905
210226A00012	2/26/2021	2.31	2/26/2036	2/26/2021	169.01678	147.6960226	129.3228279	113.4717373	99.78077696	87.94169941	77.69176876	68.80683742	61.09550574
210304A00004	3/4/2021	0.58	3/4/2024	3/4/2021	111.72828	108.6592957	105.6900308	102.8165808	100.0352271	97.34242403	94.73478931	92.20909515	89.7622598
010824A00019	8/24/2001	6.24	8/24/2021	8/24/2001	102.45991	102.209385	101.9600916	101.7120185	101.4651565	101.219497	100.9750311	100.7317501	100.4896455
011107A00022	11/7/2001	5.56	11/5/2021	11/7/2001	104.20337	103.736784	103.274388	102.816128	102.3619486	101.9117951	101.4656141	101.0233531	100.5849604
011107A00031	11/7/2001	5.56	11/5/2021	11/7/2001	104.20337	103.736784	103.274388	102.816128	102.3619486	101.9117951	101.4656141	101.0233531	100.5849604
051107A00075	11/7/2005	5.29	11/17/2025	11/7/2005	141.42116	135.6693399	130.1923893	124.9756224	120.0052201	115.2681726	110.7522275	106.4458418	102.3381368
060808A00022	8/8/2006	5.57	6/15/2026	8/8/2006	146.91626	140.2867538	134.0074193	128.0577382	122.4185082	117.0717509	112.0006279	107.1893616	102.6231629
081217A00076	12/17/2008	3.86	12/22/2023	12/17/2008	120.3595	117.3881358	114.5069991	111.7127728	109.0022867	106.3725088	103.8205377	101.3435964	98.93902574
090226A00006	2/26/2009	4.55	3/1/2024	2/26/2009	123.86756	120.6207402	117.4780476	114.4354166	111.4889705	108.6350138	105.8700225	103.1906343	100.5936399
091112A00011	11/12/2009	4.77	11/15/2024	11/12/2009	130.62612	126.3945425	122.3266057	118.4150529	114.6529943	111.0338833	107.5514972	104.1999195	100.9735227
110802A00008	8/2/2011	3.34	8/16/2021	8/2/2011	101.60322	101.3767293	101.1512604	100.9268082	100.7033658	100.4809263	100.259483	100.039029	99.81955761
110805A00014	8/5/2011	4.06	8/17/2026	8/5/2011	139.65721	132.9940705	126.6962969	120.7417372	115.1097148	109.7809186	104.7373042	99.96200346	95.43924087
111006A00023	10/6/2011	3.81	10/15/2026	10/6/2011	139.22123	132.3614332	125.8879458	119.7769456	114.0062	108.5549524	103.4038171	98.53468179	93.9306175
111024A00010	10/24/2011	3.11	10/30/2023	10/24/2011	117.29805	114.5380799	111.8580133	109.2550706	106.7265862	104.2700036	101.8828698	99.56283053	97.3076257
120312A00009	3/12/2012	2.72	3/15/2024	3/12/2012	118.71449	115.4962324	112.3826998	109.3698481	106.4538141	103.6309089	100.8976086	98.25054598	95.68650238
120718A00011	7/18/2012	2.29	7/30/2021	7/18/2012	101.06216	100.884972	100.7084078	100.5324618	100.3571307	100.1824114	100.0083005	99.8347951	99.66189189
120907A00022	9/7/2012	1.88	9/15/2021	9/7/2012	101.758	101.4452967	101.1345308	100.8256801	100.5187267	100.2136532	99.91044211	99.6090764	99.30953914
130212A00017	2/12/2013	2.29	2/15/2023	2/12/2013	110.52264	108.6487551	106.816552	105.0247117	103.2719675	101.557106	99.87896481	98.23642923	96.62843011

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
130405A00006	4/5/2013	2.41	4/7/2025	4/5/2013	123.96257	119.3710612	114.9754954	110.7664896	106.7351621	102.8731001	99.17233322	95.62530709	92.22485992
130424A00005	4/24/2013	3.07	4/24/2030	4/24/2013	154.79323	142.5207001	131.3310818	121.1227952	111.8042859	103.2929889	95.51440382	88.40127009	81.89282963
130528A00028	5/28/2013	2.63	5/30/2023	5/28/2013	113.00788	110.7831042	108.6142153	106.4994433	104.4370847	102.4255023	100.4631217	98.54842888	96.67996697
130702A00018	7/2/2013	3.17	7/17/2023	7/2/2013	115.41628	113.0102375	110.6674148	108.3856824	106.1630008	103.9974162	101.8870558	99.8301236	97.82489687
130821A00019	8/21/2013	3.81	8/29/2025	8/21/2013	132.62184	127.3544036	122.3300273	117.5360377	112.9605057	108.5921958	104.4205203	100.4354983	96.62771619
140113A00012	1/13/2014	3.48	1/17/2023	1/13/2014	112.08019	110.2790143	108.5164523	106.7913356	105.1025394	103.448984	101.8296328	100.2434894	98.68959631
140307A00011	3/7/2014	3.19	3/15/2023	3/7/2014	112.97458	110.9842998	109.0395487	107.1389384	105.2811326	103.4648472	101.6888478	99.95194759	98.25300476
140702A00034	7/2/2014	2.7	7/1/2022	7/2/2014	107.43217	106.2196655	105.0344605	103.8756419	102.742336	101.633707	100.5489557	99.48731666	98.44805715
140710A00026	7/10/2014	2.36	7/15/2021	7/10/2014	100.82916	100.6944056	100.5600231	100.426014	100.2923768	100.15911	100.0262119	99.893681	99.76151571
140911A00027	9/11/2014	3.18	9/16/2024	9/11/2014	122.99317	119.1152304	115.381623	111.7861483	108.3229107	104.9863025	101.7709875	98.67188642	95.6841626
141202A00012	12/2/2014	2.32	12/2/2021	12/2/2014	103.24849	102.7044394	102.1661109	101.6334172	101.1062703	100.5845837	100.0682729	99.55725504	99.05144908
150220A00022	2/20/2015	2.8	2/20/2025	2/20/2015	124.18461	119.7659529	115.5302241	111.4687416	107.5732914	103.8361014	100.2498145	96.80746296	93.50244563
150317A00013	3/17/2015	2.58	3/17/2025	3/17/2015	124.34114	119.8147714	115.4790002	111.3247436	107.3434063	103.5268495	99.86736432	96.35764622	92.9907714
150601A00147	6/1/2015	3.45	7/30/2021	6/1/2015	101.27233	101.0947127	100.9177222	100.7413529	100.5656015	100.3904649	100.2159397	100.0420228	99.86871102
150601A00615	6/1/2015	2.67	6/30/2022	6/1/2015	107.19373	105.9881356	104.8095829	103.6571727	102.5300425	101.4273674	100.3483581	99.29225885	98.25834571
150601A00636	6/1/2015	2.45	6/30/2021	6/1/2015	100.56654	100.4743221	100.3822784	100.2904054	100.1987025	100.1071694	100.0158055	99.9246103	99.83358346
150601A00646	6/1/2015	2.68	9/30/2022	6/1/2015	108.7186	107.2751606	105.8580565	104.4666227	103.1002198	101.7582295	100.4400532	99.14511117	97.87284221
150601A00666	6/1/2015	3.88	1/16/2035	6/1/2015	189.26854	168.1371526	149.6742423	133.5239221	119.3796849	106.9773134	96.08884316	86.517414	78.09287628
150601A00688	6/1/2015	2.61	2/21/2025	6/1/2015	123.91828	119.4844114	115.2347057	111.1603987	107.2531979	103.5052587	99.90915622	96.45786001	93.14471023
150601A00694	6/1/2015	3.56	3/6/2030	6/1/2015	156.59285	144.5207286	133.4929447	123.4130734	114.1940933	105.7574205	98.03204826	90.95377902	84.46453774
150601A00717	6/1/2015	2.13	4/1/2022	6/1/2015	105.08119	104.1686507	103.2719081	102.3905539	101.5241946	100.67245	99.83495281	99.01134781	98.20129155
150710A00040	7/10/2015	2.63	7/11/2022	7/10/2015	107.38177	106.1400549	104.9269904	103.7415946	102.5829286	101.4500955	100.3422383	99.25853752	98.1982091
161031A00006	10/31/2016	1.76	11/1/2021	10/31/2016	102.42431	101.9742471	101.5281282	101.085905	100.6475267	100.2129432	99.78210536	99.35496502	98.93147466
190521A00068	5/21/2019	2.47	9/15/2021	5/21/2019	101.9144	101.601672	101.2908759	100.9819912	100.6750002	100.3698856	100.0666299	99.76521626	99.46562778
190522A00003	5/22/2019	2.55	5/22/2024	5/22/2019	118.87193	115.4396894	112.125614	108.9249638	105.8332174	102.8460608	99.95937657	97.16923346	94.47187711
190523A00014	5/23/2019	2.5	11/15/2023	5/23/2019	115.59509	112.8150059	110.1168067	107.4975946	104.9545935	102.4851432	100.0866927	97.75679584	95.49310568
190523A00018	5/23/2019	2.51	3/15/2024	5/23/2019	117.62123	114.4296975	111.3419218	108.3538998	105.4618094	102.6620008	99.95098703	97.32543597	94.782162
190524A00026	5/28/2019	2.45	6/15/2023	5/28/2019	112.89807	110.6262795	108.4124014	106.2545575	104.150949	102.0998492	100.0995992	98.14860528	96.24533538
190524A00031	5/24/2019	2.43	5/24/2022	5/24/2019	106.30031	105.2168752	104.1554608	103.1154002	102.0960541	101.0968081	100.1170723	99.15627948	98.21388422
190529A00013	5/29/2019	2.38	5/29/2024	5/29/2019	118.44102	114.9924991	111.6635046	108.4492103	105.3450135	102.3465242	99.4495537	96.65010426	93.94435911
190529A00067	5/29/2019	2.32	6/1/2021	5/29/2019	100.06753	100.0563918	100.0452603	100.0341393	100.0230289	100.011929	100.0008395	99.98976056	99.97869206
190603A00009	6/3/2019	2.17	7/6/2022	6/3/2019	106.7611	105.5392106	104.3451874	103.178082	102.0369919	100.9210548	99.82944576	98.76137594	97.71609012
190603A00019	6/3/2019	2.19	6/3/2021	6/3/2019	100.09897	100.0822528	100.0655571	100.0488781	100.0322158	100.0155701	99.99894108	99.98232867	99.96573285

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190603A00047	6/3/2019	2.22	6/2/2023	6/3/2019	112.19016	109.9651612	107.7962537	105.6816493	103.6196318	101.6085522	99.64682522	97.73292631	95.86538903
190605A00055	6/5/2019	2.11	6/6/2022	6/5/2019	106.19342	105.0696898	103.9696546	102.8925725	101.8377305	100.8044454	99.79206123	98.79994871	97.8275035
190606A00027	6/6/2019	2.51	6/5/2026	6/6/2019	129.71537	123.5714763	117.7567575	112.251828	107.0385452	102.0999245	97.42005887	92.9840454	88.77791604
190607A00003	6/7/2019	1.92	6/7/2022	6/7/2019	106.1431	105.0144483	103.9097026	102.8281062	101.7689375	100.7315042	99.71514262	98.71921572	97.74311192
190613A00011	6/13/2019	2.26	6/13/2024	6/13/2019	118.28263	114.7895362	111.4187898	108.1653913	105.0245772	101.9918068	99.06275096	96.23328055	93.49945581
190620A00044	6/20/2019	2.04	6/20/2022	6/20/2019	106.35458	105.1857316	104.0424706	102.9239647	101.8294163	100.7580623	99.70917124	98.68204238	97.6760038
190620A00056	6/25/2019	2.07	1/17/2023	6/25/2019	109.65744	107.8778637	106.1365029	104.4321935	102.7638222	101.1303202	99.53066096	97.96385849	96.42896483
190621A00061	6/21/2019	2.12	6/21/2021	6/21/2019	100.39209	100.325126	100.258265	100.1915043	100.1248439	100.0582833	99.99182253	99.92546123	99.85919921
190625A00008	6/25/2019	2.04	6/27/2022	6/25/2019	106.47238	105.2807153	104.115603	102.9761634	101.8615555	100.7709749	99.70365137	98.65884741	97.63585634
190625A00016	6/25/2019	2.13	6/25/2024	6/25/2019	118.03568	114.5089325	111.1067596	107.8240255	104.655837	101.597533	98.64467156	95.79301824	93.03853488
190625A00027	6/25/2019	2.04	6/24/2022	6/25/2019	106.42189	105.2400044	104.0842592	102.9537923	101.8477815	100.7654401	99.70601452	98.66878321	97.65305441
190626A00004	6/26/2019	2.15	6/26/2024	6/26/2019	118.11665	114.5854557	111.1790657	107.8923318	104.7203484	101.6584431	98.70216288	95.84726329	93.08969668
190626A00009	6/26/2019	2.08	6/25/2021	6/26/2019	100.45438	100.3762279	100.2982066	100.220311	100.142541	100.0648962	99.98737621	99.9099809	99.83270993
190701A00028	7/1/2019	2.11	7/1/2021	7/1/2019	100.55468	100.4596657	100.3648377	100.2701927	100.1757299	100.0814491	99.98734949	99.8934307	99.79969218
190702A00002	7/2/2019	2.16	7/2/2024	7/2/2019	118.24007	114.6875503	111.261122	107.9555522	104.7658632	101.6873146	98.71539037	95.84578684	93.07440112
190711A00019	7/11/2019	2.19	7/11/2023	7/11/2019	112.75894	110.4088632	108.1201946	105.8908853	103.7189697	101.6025636	99.53986014	97.52912586	95.5686972
190712A00018	7/12/2019	2.25	7/12/2024	7/12/2019	118.69351	115.1009295	111.6367406	108.2955733	105.0723211	101.9621233	98.96035176	96.06259767	93.26465992
190724A00023	7/24/2019	2.13	7/24/2025	7/24/2019	124.29366	119.3315273	114.5957645	110.0747688	105.7575985	101.6339347	97.69404209	93.92873222	90.32932915
190729A00007	7/29/2019	2.17	7/28/2023	7/29/2019	112.99175	110.585752	108.2436823	105.9633594	103.7426974	101.5796991	99.47245111	97.41911992	95.41794751
190802A00015	8/2/2019	2	2/15/2023	8/2/2019	109.99949	108.1304739	106.3030514	104.5159014	102.7677598	101.0574158	99.38370929	97.74552802	96.14180503
190802A00032	8/2/2019	2.01	8/2/2024	8/2/2019	118.19355	114.5411173	111.0213313	107.6285459	104.357399	101.2027919	98.15987472	95.22403223	92.39087063
190805A00021	8/5/2019	1.89	1/16/2024	8/5/2019	114.90699	111.9414343	109.0681243	106.2835868	103.5845052	100.9677114	98.43017767	95.96900986	93.58143989
190805A00037	8/5/2019	2.17	8/6/2029	8/5/2019	142.40187	131.6601243	121.8074373	112.765529	104.4634064	96.83664632	89.82675456	83.38059107	77.44985364
190806A00007	8/6/2019	1.88	8/5/2022	8/6/2019	106.91945	105.6006991	104.3143176	103.0591223	101.8339899	100.6378505	99.46968456	98.32851972	97.21342828
190807A00005	8/7/2019	1.77	8/7/2024	8/7/2019	117.43945	113.7837876	110.2614975	106.8668847	103.594534	100.4392978	97.39628081	94.46082584	91.62850027
190807A00017	8/7/2019	1.76	3/12/2024	8/7/2019	115.33437	112.1864595	109.1409446	106.1938597	103.3414192	100.5800099	97.90618105	95.31663648	92.80822606
190807A00022	8/7/2019	1.76	1/17/2023	8/7/2019	109.12477	107.3499512	105.6132516	103.9135169	102.2496362	100.620543	99.02521326	97.46266305	95.93194656
190807A00027	8/7/2019	1.77	8/7/2024	8/7/2019	117.43945	113.7837876	110.2614975	106.8668847	103.594534	100.4392978	97.39628081	94.46082584	91.62850027
190808A00012	8/8/2019	1.89	8/8/2024	8/8/2019	117.86574	114.1997294	110.6675101	107.263359	103.9818413	100.8177909	97.76629498	94.82268011	91.98249828
190808A00024	8/8/2019	1.69	2/8/2024	8/8/2019	115.10337	112.0538426	109.1012201	106.2417656	103.4719149	100.788268	98.1875803	95.66675388	93.22282985
190808A00045	8/8/2019	1.86	8/8/2023	8/8/2019	112.4461	110.0128285	107.6449928	105.3403306	103.0966783	100.9119658	98.78421169	96.71151825	94.69206738
190809A00010	8/9/2019	1.88	8/8/2024	8/9/2019	117.83133	114.1659038	110.6342473	107.2306439	103.949659	100.7861273	97.73513639	94.79201332	91.95231051
190813A00008	8/13/2019	1.88	8/13/2024	8/13/2019	117.90021	114.2177282	110.6701398	107.2516489	103.9567549	100.7802302	97.71710531	94.76265343	91.9123771

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190814A00006	8/14/2019	1.84	8/14/2023	8/14/2019	112.4889	110.0368005	107.6510546	105.3293496	103.0694766	100.8693228	98.72686656	96.64017276	94.6073879
190815A00008	8/15/2019	1.82	8/15/2022	8/15/2019	107.00749	105.6560012	104.338475	103.0536394	101.8002898	100.5772799	99.38351844	98.21796609	97.07963212
190815A00015	8/15/2019	1.82	8/15/2022	8/15/2019	107.00749	105.6560012	104.338475	103.0536394	101.8002898	100.5772799	99.38351844	98.21796609	97.07963212
190815A00025	8/15/2019	1.97	8/15/2029	8/15/2019	140.61929	129.9210031	120.1123918	111.1148299	102.857031	95.27432855	88.30802797	81.90482571	76.01628757
190816A00015	8/16/2019	2.2	8/16/2029	8/16/2019	141.13357	130.4862779	120.721044	111.7601199	103.5330016	95.97571789	89.03019208	82.64366994	76.76820554
190816A00020	8/16/2019	1.79	8/16/2024	8/16/2019	117.62967	113.9422372	110.3902225	106.9677943	103.6694169	100.4898304	97.42403481	94.46727563	91.61502938
190816A00033	8/16/2019	1.77	8/16/2024	8/16/2019	117.56036	113.8741065	110.3232329	106.9019148	103.6046176	100.4260822	97.36131005	94.40554731	91.55427151
190820A00038	8/20/2019	1.76	8/20/2024	8/20/2019	117.57934	113.880069	110.3170609	106.8844321	103.5765945	100.38824	97.31432393	94.35004991	91.4908556
190827A00002	8/27/2019	1.74	8/27/2024	8/27/2019	117.60323	113.8813366	110.2972497	106.8449852	103.5188617	100.3134844	97.22372781	94.24472043	91.37182995
190829A00021	8/30/2019	2.18	8/30/2021	8/30/2019	101.56129	101.2951424	101.0303895	100.7670182	100.5050179	100.2443777	99.98508723	99.72713595	99.47051355
190904A00001	9/4/2019	1.5	9/4/2024	9/4/2019	117.40561	113.6485034	110.0315019	106.5485228	103.1937902	99.96181667	96.8473869	93.8455419	90.95156457
190905A00002	9/5/2019	1.78	9/6/2022	9/5/2019	107.26742	105.8630013	104.4917158	103.1523932	101.8439157	100.5652174	99.31528167	98.09313805	96.89785969
190910A00004	9/11/2019	1.86	9/11/2024	9/11/2019	118.22496	114.4454607	110.8069964	107.3034824	103.9291333	100.6784488	97.54619754	94.52740222	91.61732525
190917A00029	9/17/2019	2.02	12/6/2022	9/17/2019	108.89798	107.2505551	105.6368852	104.0560132	102.5070185	100.9890148	99.50114769	98.04259402	96.61255998
190923A00081	9/23/2019	1.96	9/20/2024	9/23/2019	118.70332	114.8873263	111.2143689	107.6782991	104.2732701	100.9937189	97.83435052	94.79012345	91.85623618
190924A00035	9/24/2019	1.88	9/13/2024	9/24/2019	118.32288	114.535428	110.8894482	107.3788438	103.997816	100.7408507	97.60270292	94.57838111	91.66313378
190926A00007	9/26/2019	1.88	9/26/2022	9/26/2019	107.60008	106.1730727	104.7726916	103.3982394	102.0490434	100.724454	99.42384333	98.14660478	96.8921519
190926A00034	9/26/2019	1.88	9/26/2022	9/26/2019	107.60008	106.1730727	104.7726916	103.3982394	102.0490434	100.724454	99.42384333	98.14660478	96.8921519
190930A00077	9/30/2019	2.23	9/28/2029	9/30/2019	141.89983	131.0680829	121.1439392	112.046701	103.7032236	96.04717474	89.01836942	82.56217224	76.6289608
191001A00023	10/1/2019	1.85	9/27/2024	10/1/2019	118.40411	114.5714138	110.8829868	107.3326475	103.914512	100.6229783	97.45271142	94.39862941	91.45588969
191003A00013	10/3/2019	1.66	10/3/2022	10/3/2019	107.38859	105.9458917	104.5296666	103.1392457	101.7739836	100.4332557	99.11645751	97.82300405	96.55232875
191007A00024	10/7/2019	1.7	7/14/2022	10/7/2019	106.36074	105.1156935	103.8996444	102.7115869	101.5505633	100.4156593	99.30600114	98.22075387	97.1591189
191015A00001	10/15/2019	1.87	10/15/2021	10/15/2019	102.20359	101.803536	101.4066223	101.0128079	100.6220566	100.2343327	99.84960095	99.46782673	99.08897595
191018A00005	10/18/2019	1.89	5/2/2022	10/18/2019	105.40061	104.390591	103.3998504	102.4278378	101.4740262	100.5379083	99.6189953	98.71681635	97.83091767
191021A00021	10/21/2019	2.22	12/21/2027	10/21/2019	134.48878	126.2441368	118.5593959	111.3936141	104.7090526	98.47090671	92.64706277	87.20787659	82.12597132
191101A00002	11/1/2019	1.85	11/1/2022	11/1/2019	108.08979	106.5537253	105.0473866	103.5699831	102.1207514	100.6989547	99.30388121	97.93484317	96.59117597
191104A00018	11/5/2019	1.96	11/5/2024	11/5/2019	119.34595	115.36769	111.5436575	107.867047	104.3313899	100.930537	97.65864151	94.51014187	91.47974656
191104A00025	11/4/2019	2.33	8/2/2030	11/4/2019	146.50612	134.3362317	123.2765081	113.2196988	104.0694467	95.73912515	88.1508091	81.23435906	74.9266064
191108A00014	11/8/2019	2.25	11/8/2029	11/8/2019	144.29693	133.1291399	122.9103362	113.5549337	104.9854764	97.1318265	89.93043914	83.32371203	77.25940249
191212A00026	12/13/2019	1.92	6/16/2022	12/13/2019	106.15651	105.0014546	103.8714336	102.7656358	101.6832889	100.6236528	99.58601846	98.56970603	97.57406342
191212A00027	12/13/2019	1.93	10/17/2022	12/13/2019	107.98929	106.4993169	105.0374017	103.6028195	102.1948683	100.8128697	99.45616764	98.12412771	96.81613618
191218A00013	12/18/2019	1.94	12/19/2022	12/18/2019	108.97705	107.2896921	105.6374007	104.0191569	102.4339833	100.8809397	99.35912118	97.86765642	96.40570608
191219A00047	12/19/2019	1.76	12/17/2021	12/19/2019	103.19236	102.6039625	102.0222626	101.4471503	100.878514	100.3162446	99.76023561	99.2103827	98.66658395

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191223A00008	12/23/2019	1.93	12/23/2021	12/23/2019	103.32736	102.7214621	102.1226552	101.5308124	100.9458126	100.3675378	99.79587234	99.23070354	98.67192111
191223A00056	12/23/2019	2.46	12/14/2029	12/23/2019	145.04045	133.7892516	123.5003336	114.0862524	105.4679397	97.57385868	90.33925055	83.70546047	77.61933356
170117A00037	1/17/2017	2	1/18/2022	1/17/2017	103.86545	103.179004	102.5016142	101.833104	101.1732995	100.5220314	99.87913466	99.24444849	98.61781623
170119A00006	1/19/2017	2.85	1/21/2025	1/19/2017	123.90934	119.5942407	115.4543966	111.4816561	107.6683009	104.0070177	100.4908747	97.11329882	93.86805462
170130A00010	1/30/2017	2.92	1/30/2025	1/30/2017	124.33214	119.9795655	115.8046903	111.7992026	107.9552338	104.2653312	100.7224334	97.31984678	94.0512238
170203A00013	2/3/2017	3.67	2/1/2036	2/3/2017	192.6448	169.6489677	149.7526957	132.5156664	117.5624938	104.5728428	93.27309262	83.42930017	74.84125501
170215A00036	2/15/2017	2.61	7/30/2021	2/15/2017	101.11843	100.9411746	100.7645367	100.5885172	100.4131128	100.2383203	100.0641366	99.89055846	99.71758278
170215A00043	2/15/2017	2.7	8/28/2024	2/15/2017	120.97887	117.196093	113.5529375	110.0433486	106.6615766	103.4021615	100.2599159	97.22990923	94.30745302
170216A00044	2/16/2017	3.52	2/17/2032	2/16/2017	167.87767	152.4572211	138.6258402	126.2099246	115.0557406	105.0270501	96.00303372	87.87647147	80.55214619
170228A00015	2/28/2017	2.87	5/28/2025	2/28/2017	126.04358	121.2543602	116.6757911	112.2974601	108.1095252	104.1026824	100.2681334	96.59755519	93.08307159
170322A00011	3/22/2017	2.48	3/22/2024	3/22/2017	118.11653	114.8838141	111.7568451	108.7315626	105.8040866	102.9707087	100.2278833	97.57221983	95.00047479
170404A00007	4/4/2017	2.22	4/4/2022	4/4/2017	105.23643	104.3138837	103.4074633	102.5167522	101.6413446	100.7808486	99.93488545	99.10308938	98.28510662
170412A00045	4/12/2017	2.01	4/12/2022	4/12/2017	105.28864	104.339617	103.4076516	102.4922866	101.5930813	100.7096103	99.84146323	98.98824389	98.14956957
170417A00014	4/17/2017	1.95	4/18/2022	4/17/2017	105.33485	104.3670118	103.4169012	102.4840325	101.5679395	100.6681728	99.78429869	98.91589889	98.06256964
170417A00094	4/17/2017	1.95	4/19/2022	4/17/2017	105.35158	104.3805637	103.4273832	102.4915528	101.5726018	100.6700768	99.78354027	98.9125701	98.05675898
170419A00025	4/19/2017	2.72	4/19/2027	4/19/2017	136.29473	128.8143522	121.7943742	115.204064	109.0148971	103.2003838	97.7359142	92.59861562	87.76722145
170502A00028	5/2/2017	2.84	5/3/2027	5/2/2017	137.27726	129.7163774	122.6232776	115.9665576	109.7170834	103.847812	98.33363077	93.15121016	88.27886837
170515A00010	5/15/2017	2.58	5/15/2024	5/15/2017	118.84996	115.4413418	112.1493157	108.9692358	105.896669	102.9273844	100.0573424	97.28268473	94.59972572
170518A00034	5/18/2017	2.15	5/18/2023	5/18/2017	112.1094	109.9260388	107.7968238	105.7200666	103.6941392	101.717476	99.78857071	97.90597369	96.06828945
170601A00018	6/1/2017	1.96	6/1/2022	6/1/2017	106.08401	104.9746574	103.8884073	102.8245426	101.7823768	100.7612514	99.76053448	98.77961894	97.81792167
170608A00021	6/8/2017	1.8	6/8/2021	6/8/2017	100.1726	100.141922	100.1112816	100.0806764	100.0501065	100.0195716	99.98907184	99.95860706	99.92817721
170609A00026	6/9/2017	2.3	6/9/2023	6/9/2017	112.47513	110.2260215	108.0339527	105.897094	103.8136858	101.7820379	99.80052625	97.86758977	95.98172742
170612A00039	6/12/2017	2.29	6/12/2024	6/12/2017	118.87294	115.3614031	111.9729621	108.7025845	105.5454732	102.4970558	99.55297307	96.70906735	93.96137198
170615A00015	6/15/2017	2.25	6/14/2024	6/15/2017	118.77344	115.2571691	111.8643496	108.5899198	105.4290617	102.3771835	99.42990785	96.58306034	93.83265848
170615A00033	6/15/2017	2.01	6/15/2021	6/15/2017	100.28849	100.2382998	100.1881776	100.1381223	100.0881338	100.0382119	99.98835657	99.93856759	99.88884485
170616A00018	6/16/2017	2.4	6/16/2025	6/16/2017	124.96257	120.1140337	115.4817813	111.0549728	106.8233742	102.7773197	98.90767616	95.20581112	91.66356218
170619A00067	6/19/2017	1.84	9/20/2021	6/19/2017	101.8254	101.4981822	101.1730761	100.8500594	100.5291118	100.2102134	99.89334455	99.57848592	99.26561831
170619A00084	6/19/2017	1.95	6/20/2022	6/19/2017	106.3951	105.2238517	104.0782792	102.9575448	101.8608476	100.7874207	99.73652955	98.70747024	97.69956791
170621A00014	6/21/2017	1.82	6/21/2021	6/21/2017	100.37809	100.3110818	100.2441724	100.177364	100.1106566	100.0440499	99.97754356	99.91113746	99.84483135
170622A00039	6/22/2017	3.36	6/22/2035	6/22/2017	184.02453	162.6011528	143.9750659	127.7618452	113.6319082	101.3024333	90.53050677	81.10730492	72.85314964
170622A00040	6/22/2017	3.41	6/23/2036	6/22/2017	190.11328	166.7011484	146.5294694	129.1265457	114.0918513	101.0849604	89.81624759	80.03906781	71.54317444
170629A00067	6/29/2017	2.19	6/29/2022	6/29/2017	106.67519	105.4759454	104.3035549	103.1571223	102.0357932	100.9387502	99.86521127	98.81442738	97.78568116
170721A00017	7/21/2017	1.8	7/21/2021	7/21/2017	100.84862	100.6969502	100.5457469	100.3950075	100.2447298	100.0949117	99.94555103	99.79664577	99.64819378

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170728A00040	7/28/2017	2.44	1/27/2025	7/28/2017	123.00189	118.6680257	114.5114373	110.5238238	106.6973297	103.0245151	99.49833036	96.11209324	92.85946718
170803A00019	8/3/2017	2.14	8/3/2022	8/3/2017	107.20626	105.8920375	104.6099035	103.3586901	102.1372891	100.9446449	99.77975115	98.64164795	97.52941924
170803A00021	8/3/2017	2.5	8/5/2024	8/3/2017	119.91732	116.2264249	112.6696093	109.2411607	105.935651	102.7479197	99.67305866	96.70639754	93.84349081
170808A00037	8/8/2017	2.19	12/15/2022	8/8/2017	109.3187	107.6405417	105.9970933	104.3873604	102.8103819	101.2652327	99.75102206	98.26689219	96.81201654
170818A00025	8/18/2017	1.77	8/18/2021	8/18/2017	101.28366	101.0519796	100.821375	100.5918346	100.3633511	100.135917	99.90952505	99.68416812	99.45983902
170831A00053	8/31/2017	1.81	3/1/2022	8/31/2017	104.42422	103.6083575	102.8051911	102.0144267	101.2357791	100.4689715	99.71373563	98.96981124	98.2369458
170831A00054	8/31/2017	1.85	6/30/2022	8/31/2017	106.45144	105.2481477	104.0719127	102.9218353	101.7970508	100.6967325	99.62008917	98.5663635	97.53483008
170913A00003	9/13/2017	2.08	9/13/2022	9/13/2017	107.72561	106.3110702	104.9274176	103.5736487	102.2487992	100.9519464	99.68220745	98.43873664	97.22072371
170918A00007	9/18/2017	2.8	9/20/2027	9/18/2017	137.60514	129.5826395	122.083415	115.0705876	108.5100596	102.3702941	96.62210993	91.23849393	86.19442928
170919A00076	9/19/2017	1.97	9/19/2022	9/19/2017	107.82699	106.4025959	105.0072546	103.6400929	102.3002755	100.9870006	99.69949781	98.43702695	97.19887633
170920A00028	9/21/2017	2.16	9/21/2022	9/21/2017	107.93428	106.5098796	105.1137856	103.7451806	102.4032781	101.0873215	99.79658305	98.53036245	97.28798532
170929A00057	9/29/2017	2.16	9/29/2023	9/29/2017	114.33826	111.7163501	109.1680078	106.6907603	104.282232	101.9401407	99.66229333	97.44658186	95.29097956
171002A00013	10/2/2017	2.23	11/30/2022	10/2/2017	109.1324	107.5011602	105.9031165	104.3373431	102.8029441	101.2990563	99.82484754	98.37951525	96.96228538
171006A00034	10/6/2017	2.27	10/6/2022	10/6/2017	108.28214	106.8238314	105.3924229	103.9872355	102.6076092	101.2529057	99.92250712	98.61581573	97.3322528
171016A00045	10/16/2017	2.2	10/17/2022	10/16/2017	108.38026	106.8872864	105.422429	103.984957	102.5741669	101.1893788	99.82993526	98.4952006	97.18455978
171018A00003	10/18/2017	2.23	10/18/2023	10/18/2017	114.82953	112.1400465	109.5276046	106.9895557	104.5233603	102.1265813	99.79687881	97.53200605	95.32980473
171122A00009	11/22/2017	2.2	11/22/2022	11/22/2017	109.16936	107.5582466	105.9795704	104.4324302	102.9159607	101.429328	99.97172778	98.54238414	97.1405483
171206A00010	12/6/2017	2.45	12/6/2022	12/6/2017	109.58363	107.930489	106.3112038	104.7248186	103.17041	101.6470885	100.1539975	98.69031098	97.25523271
171208A00007	12/8/2017	2.47	12/9/2024	12/8/2017	122.36137	118.2008463	114.2054641	110.367743	106.6805833	103.137247	99.73133665	96.45677646	93.30779377
180116A00045	1/16/2018	2.49	1/11/2022	1/16/2018	103.99577	103.3307353	102.6742035	102.0260083	101.3859916	100.7539991	100.1298804	99.51348879	98.90468133
180117A00017	1/17/2018	2.45	6/17/2021	1/17/2018	100.34509	100.2892917	100.2335723	100.1779304	100.1223658	100.0668784	100.0114679	99.95613433	99.9008774
180118A00039	1/18/2018	3.09	1/19/2027	1/18/2018	136.30146	129.1844942	122.4876748	116.1838858	110.2479121	104.6562927	99.387189	94.42026338	89.73656819
180125A00023	1/25/2018	2.57	1/25/2022	1/25/2018	104.3009	103.5926879	102.8940724	102.2048597	101.5248608	100.8538921	100.1917746	99.53833388	98.89340039
180206A00013	2/6/2018	2.72	2/6/2024	2/6/2018	118.04168	114.9564549	111.9687884	109.0749294	106.2713015	103.5544927	100.9212464	98.36845298	95.89314157
180207A00012	2/7/2018	2.53	2/7/2022	2/7/2018	104.58316	103.8334889	103.0945545	102.3661263	101.6479811	100.9399022	100.2416787	99.55310572	98.87398407
180222A00026	2/22/2018	2.98	2/21/2025	2/22/2018	125.5761	121.1096125	116.8282972	112.7233461	108.7864294	105.0096665	101.3855983	97.90716185	94.56766611
180223A00026	2/23/2018	2.92	12/15/2022	2/23/2018	110.50205	108.8138668	107.160584	105.5411963	103.9547374	102.4002773	100.8769205	99.38380467	97.92009895
180308A00014	3/8/2018	2.79	9/15/2021	3/8/2018	102.01291	101.699985	101.3889932	101.0799137	100.7727289	100.4674213	100.1639736	99.86236873	99.56258995
180328A00008	3/28/2018	2.85	3/25/2022	3/28/2018	105.60099	104.7075473	103.8291953	102.9655541	102.1162564	101.2809471	100.4592827	99.65093089	98.85557004
180329A00003	3/29/2018	3.08	3/29/2028	3/29/2018	143.58141	134.6125175	126.2706936	118.5087823	111.283407	104.5546463	98.28574316	92.44283863	86.99473002
180403A00009	4/3/2018	2.91	4/3/2025	4/3/2018	126.00092	121.3815751	116.9583711	112.7219559	108.6634702	104.7745213	101.047156	97.47383515	94.0474099
180412A00036	4/12/2018	3.54	4/15/2038	4/12/2018	205.78482	177.9347036	154.3325179	134.297683	117.2623773	102.7523292	90.37096593	79.7863153	70.72017235
180514A00034	5/14/2018	3.07	5/14/2024	5/14/2018	120.8873	117.4385118	114.1075697	110.8897795	107.7806603	104.7759351	101.8715208	99.06351796	96.34820121

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180518A00012	5/18/2018	3.1	5/18/2022	5/18/2018	106.87821	105.8102246	104.7635654	103.7375999	102.7317186	101.7453355	100.7778874	99.82883257	98.89764969
180522A00038	5/22/2018	3.23	5/22/2025	5/22/2018	128.20729	123.3742805	118.7529535	114.3328773	110.1041928	106.0575786	102.1842181	98.47576973	94.9243385
180530A00007	5/30/2018	2.66	11/30/2021	5/30/2018	103.39107	102.8525232	102.3195727	101.7921358	101.2701274	100.7534639	100.2420635	99.73584617	99.23473339
180530A00025	5/30/2018	3.49	5/30/2030	5/30/2018	157.76066	145.3017998	133.9467834	123.5914107	114.1418395	105.5135092	97.63017828	90.42306683	83.83009052
180530A00044	5/30/2018	2.87	5/31/2022	5/30/2018	106.8845	105.7757707	104.6899986	103.6264788	102.5845324	101.5635079	100.5627797	99.58174692	98.61983233
180530A00069	5/30/2018	2.87	5/31/2022	5/30/2018	106.8845	105.7757707	104.6899986	103.6264788	102.5845324	101.5635079	100.5627797	99.58174692	98.61983233
180531A00014	5/31/2018	2.8	5/31/2023	5/31/2018	113.70834	111.4668175	109.2817294	107.1512843	105.0737569	103.0474893	101.0708876	99.14241919	97.26060965
180531A00032	5/31/2018	2.8	6/1/2021	5/31/2018	100.07288	100.0617377	100.0506016	100.0394761	100.0283611	100.0172566	100.0061626	99.99507903	99.98400597
180604A00045	6/4/2018	2.87	6/4/2021	6/4/2018	100.12873	100.1092171	100.0897261	100.0702552	100.0508044	100.0313735	100.0119626	99.99257159	99.97320049
180614A00038	6/14/2018	3.08	6/14/2023	6/14/2018	114.24068	111.9571964	109.7317916	107.5625925	105.4477979	103.3856783	101.3745722	99.41288314	97.49907653
180615A00061	6/15/2018	3.28	6/15/2028	6/15/2018	146.32707	136.9704639	128.2854888	120.2202367	112.727081	105.7622979	99.28572677	93.26046249	87.65257498
180615A00063	6/15/2018	3.2	6/15/2026	6/15/2018	134.68031	128.3405912	122.341118	116.6617683	111.2837217	106.1893653	101.36221	96.78681261	92.44870354
180620A00014	6/20/2018	3.4	6/20/2028	6/20/2018	145.91232	136.6116019	127.9777197	119.959178	112.5087207	105.5829623	99.14205105	93.14936402	87.57122899
180620A00015	6/20/2018	3.04	6/20/2023	6/20/2018	114.26646	111.9645117	109.7214276	107.5352952	105.4042763	103.3266069	101.3005927	99.3246065	97.39708454
180627A00027	6/27/2018	2.87	6/27/2023	6/27/2018	114.36015	112.029396	109.7587351	107.5461938	105.3898776	103.2879691	101.2387241	99.24046776	97.29159169
180628A00027	6/28/2018	2.72	6/28/2021	6/28/2018	100.56625	100.4795714	100.3930405	100.3066571	100.220421	100.1343318	100.048389	99.96259233	99.87694146
180629A00008	6/29/2018	3.02	6/29/2023	6/29/2018	114.39084	112.0601069	109.7894618	107.5769263	105.4206054	103.3186811	101.2694088	99.27111338	97.32218606
180719A00065	7/19/2018	3.36	7/20/2026	7/19/2018	135.16348	128.720146	122.6271582	116.8635128	111.4095822	106.2470181	101.3586603	96.72845318	92.3413683
180730A00002	7/30/2018	3.03	7/30/2021	7/30/2018	101.1923	101.0149405	100.8382058	100.6620898	100.4865892	100.3117008	100.1374214	99.96374786	99.79067706
180730A00033	7/30/2018	3.11	7/29/2022	7/30/2018	108.2987	106.993433	105.7195831	104.4760302	103.2617026	102.075579	100.9166849	99.78409044	98.67690764
180731A00022	7/31/2018	3.47	7/31/2028	7/31/2018	147.10674	137.6110065	128.8050026	120.6347546	113.0507942	106.0077614	99.46404181	93.38143814	87.72487187
180810A00028	8/10/2018	2.91	8/10/2023	8/10/2018	115.27944	112.7996047	110.3865473	108.0379532	105.751608	103.5253932	101.3572817	99.24533228	97.18768563
180813A00037	8/13/2018	2.95	2/14/2022	8/13/2018	104.94512	104.1737278	103.4136666	102.6646926	101.9265641	101.1990466	100.4819122	99.7749395	99.0779135
180814A00010	8/14/2018	3.1	8/14/2025	8/14/2018	129.05948	123.922127	119.0207429	114.3431002	109.8776867	105.613654	101.5407752	97.64940468	93.9304415
180820A00002	8/20/2018	2.91	8/20/2021	8/20/2018	101.56589	101.3282494	101.0917276	100.8563186	100.6220146	100.3888079	100.1566905	99.92565497	99.69569365
180821A00016	8/21/2018	2.76	8/20/2021	8/21/2018	101.54754	101.3097479	101.0730748	100.8375175	100.603068	100.3697184	100.137461	99.90628814	99.67619211
180827A00031	8/27/2018	2.9	8/27/2021	8/27/2018	101.69442	101.4366336	101.1801502	100.92496	100.6710534	100.4184206	100.1670521	99.91693858	99.66807063
180828A00032	8/28/2018	3.49	8/29/2033	8/28/2018	179.04353	160.5299562	144.1629716	129.679704	116.8508469	105.476214	95.38090059	86.41196929	78.43558572
180830A00039	8/30/2018	3.03	8/30/2023	8/30/2018	115.56968	113.0317742	110.5634184	108.1621603	105.825659	103.5516766	101.338073	99.18280063	97.08389909
180831A00019	8/31/2018	3.21	9/2/2025	8/31/2018	129.13469	123.9534713	119.0121268	114.2981571	109.7997909	105.5059382	101.4061469	97.49056145	93.74988536
180910A00007	9/10/2018	2.96	9/8/2023	9/10/2018	115.93667	113.3593237	110.8531522	108.4156791	106.0445392	103.7374682	101.4922974	99.30694904	97.17943147
180910A00013	9/10/2018	3.08	9/11/2023	9/10/2018	115.90954	113.3309657	110.8235896	108.3849595	106.0127245	103.7046327	101.4585259	99.27233528	97.14407652
180910A00028	9/10/2018	3.56	9/9/2033	9/10/2018	180.24232	161.6077248	145.1360499	130.562118	117.6546443	106.2117412	96.05704171	87.03635288	79.01476229

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180911A00042	9/11/2018	2.99	9/11/2023	9/11/2018	116.06503	113.4769334	110.9604365	108.5130664	106.1324549	103.8163334	101.5625283	99.36895603	97.2336183
180917A00032	9/17/2018	3.17	9/15/2023	9/17/2018	116.20241	113.6080509	111.0855003	108.6322975	106.2460867	103.9246094	101.6656998	99.46728017	97.32735678
180918A00023	9/18/2018	3.17	9/18/2023	9/18/2018	116.25835	113.6541503	111.1221684	108.6599452	106.2651221	103.935437	101.6687193	99.46288598	97.31593685
180918A00037	9/18/2018	3.06	9/17/2021	9/18/2018	102.13431	101.8153935	101.4984759	101.1835405	100.8705689	100.5595425	100.2504433	99.94325329	99.63795471
180919A00018	9/19/2018	3.12	6/20/2022	9/19/2018	107.54417	106.3682164	105.2179617	104.0925675	102.9912336	101.9131943	100.8577157	99.82409459	98.81165683
180924A00052	9/24/2018	3.22	9/22/2023	9/24/2018	116.45588	113.8370333	111.2909885	108.8152849	106.4075595	104.0655439	101.7870603	99.57001703	97.41240478
180928A00011	9/28/2018	3.12	7/15/2022	9/28/2018	108.04367	106.7847761	105.5551968	104.3539162	103.179965	102.0324178	100.9103905	99.8130383	98.7395531
181005A00005	10/5/2018	3.31	10/5/2023	10/5/2018	116.9279	114.2621154	111.6712864	109.1528838	106.7044777	104.323734	102.0084104	99.75635185	97.56548685
181005A00016	10/5/2018	3.26	1/10/2023	10/5/2018	111.56502	109.7893174	108.0513922	106.3501083	104.6843768	103.0531514	101.4554271	99.89023783	98.35665435
181016A00087	10/16/2018	3.31	10/16/2023	10/16/2018	117.14215	114.4379168	111.8106348	109.2576752	106.7765137	104.364727	102.0199882	99.74006235	97.52280215
181018A00014	10/18/2018	3.21	10/18/2021	10/18/2018	102.78816	102.3779702	101.971061	101.5673925	101.166926	100.7696234	100.3754473	99.98436068	99.59632732
181023A00020	10/23/2018	3.15	10/22/2021	10/23/2018	102.84179	102.4198244	102.0013254	101.5862478	101.1745496	100.7661897	100.3611276	99.95932333	99.56073776
181106A00003	11/6/2018	3.31	11/5/2021	11/6/2018	103.18695	102.7231061	102.2634396	101.8078911	101.3564055	100.9089283	100.4654064	100.0257873	99.59001951
181108A00025	11/8/2018	3.44	7/31/2023	11/8/2018	115.95897	113.5093434	111.1248281	108.8031939	106.5423114	104.3401418	102.1947327	100.1042131	98.06678942
181114A00012	11/14/2018	3.13	11/14/2022	11/14/2018	110.46002	108.862571	107.2968104	105.7618707	104.2569178	102.781147	101.333782	99.91407324	98.52129744
181114A00024	11/14/2018	3.27	12/14/2021	11/14/2018	103.9411	103.3598285	102.7850611	102.2166909	101.6546114	101.0987184	100.54891	100.0050865	99.46715039
181115A00055	11/15/2018	3.01	11/15/2021	11/15/2018	103.28272	102.7887206	102.2994564	101.8148581	101.334859	100.8593936	100.3883979	99.92180867	99.45956428
181120A00024	11/20/2018	3.25	11/20/2023	11/20/2018	117.65597	114.8330057	112.0934592	109.4343658	106.852885	104.3462947	101.9119859	99.54745694	97.25030844
181123A00016	11/23/2018	3.19	11/23/2022	11/23/2018	110.51108	108.8896108	107.3007672	105.7436422	104.2173659	102.721099	101.2540326	99.81538603	98.40440597
181127A00027	11/27/2018	3.25	11/28/2022	11/27/2018	110.70137	109.063258	107.4583885	105.8858329	104.3446972	102.8341198	101.3532701	99.90134697	98.47757754
181130A00025	11/30/2018	3	6/1/2022	11/30/2018	107.17309	106.0575358	104.9651718	103.895281	102.8471749	101.820193	100.8137013	99.82709076	98.85977653
181204A00023	12/4/2018	3.16	12/3/2021	12/4/2018	103.66821	103.1204415	102.5784547	102.0421622	101.5114746	100.9863042	100.4665653	99.95217378	99.4430475
181212A00027	12/12/2018	2.99	12/12/2023	12/12/2018	117.78898	114.8848933	112.0685151	109.3366523	106.6862478	104.1143757	101.6182352	99.19514414	96.84253292
181212A00033	12/12/2018	2.99	12/12/2023	12/12/2018	117.78898	114.8848933	112.0685151	109.3366523	106.6862478	104.1143757	101.6182352	99.19514414	96.84253292
181219A00006	12/19/2018	3.06	12/19/2023	12/19/2018	117.68763	114.7715106	111.9437868	109.2012216	106.5407198	103.9593203	101.4541893	99.02261343	96.66199426
181231A00007	12/31/2018	2.86	12/31/2021	12/31/2018	104.02495	103.3928224	102.7683604	102.1514295	101.5418942	100.9396221	100.3444838	99.75635328	99.17510718
190107A00035	1/7/2019	2.82	10/15/2021	1/7/2019	102.57637	102.1754177	101.7776102	101.3829072	100.9912725	100.6026701	100.2170649	99.83442222	99.45470789
190109A00010	1/9/2019	2.98	1/9/2023	1/9/2019	111.07092	109.3025574	107.5717796	105.877462	104.2185223	102.5939211	101.0026597	99.44377786	97.91635202
190110A00003	1/10/2019	2.97	1/10/2024	1/10/2019	117.83595	114.8482786	111.9527963	109.1460544	106.4247606	103.7857689	101.2260716	98.74279276	96.33318071
190110A00015	1/10/2019	2.88	1/18/2022	1/10/2019	104.37917	103.6916933	103.0132721	102.3437243	101.6828765	101.0305598	100.3866096	99.75086553	99.12317127
190110A00016	1/10/2019	2.88	1/25/2022	1/10/2019	104.51227	103.8032415	103.1038202	102.4138093	101.73302	101.0612682	100.398375	99.74416582	99.09847099
190111A00010	1/11/2019	2.87	1/7/2022	1/11/2019	104.16382	103.5101807	102.8647454	102.2273567	101.5978646	100.9761227	100.3619884	99.75532256	99.15598939
190114A00042	1/14/2019	2.92	1/13/2023	1/14/2019	111.0436	109.2635656	107.5215479	105.8163952	104.1470067	102.5123253	100.9113355	99.34306127	97.8065644

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190114A00061	1/14/2019	2.98	1/31/2024	1/14/2019	118.23684	115.1777154	112.2145925	109.3438093	106.5618733	103.8654511	101.2513595	98.71655764	96.25813929
190131A00018	1/31/2019	2.83	3/25/2022	1/31/2019	105.58398	104.6906144	103.8123414	102.9487782	102.0995576	101.2643246	100.4427355	99.6344582	98.839171
190131A00036	1/31/2019	2.69	7/31/2023	1/31/2019	114.58713	112.1464092	109.7707786	107.4580046	105.2059532	103.0125819	100.8759344	98.79413671	96.76539237
190215A00005	2/15/2019	2.89	2/15/2024	2/15/2019	118.24172	115.1351204	112.1272952	109.2144198	106.3928499	103.6591106	101.0098862	98.44201173	95.95246503
190222A00028	2/22/2019	2.62	2/22/2022	2/22/2019	104.92737	104.1306494	103.346008	102.5731738	101.8118816	101.0618741	100.3229018	99.59472233	98.87710038
190226A00006	2/26/2019	2.64	2/26/2024	2/26/2019	118.15525	115.0049059	111.9559109	109.0042878	106.1462529	103.3782004	100.6966925	98.09845	95.58034351
190301A00012	3/1/2019	3.41	3/1/2029	3/1/2019	149.87106	139.48493	129.9066424	121.068759	112.9098266	105.3738155	98.40961318	91.97056656	86.01407042
190305A00010	3/5/2019	2.84	3/7/2022	3/5/2019	105.26148	104.4246982	103.6012047	102.7906825	101.9928266	101.2073419	100.4339421	99.67234972	98.9222958
190315A00014	3/15/2019	2.74	3/15/2024	3/15/2019	118.3091	115.1074039	112.0097143	109.0120227	106.110499	103.3014856	100.581488	97.94716705	95.39533021
190318A00008	3/18/2019	2.76	3/18/2024	3/18/2019	118.42191	115.20859	112.0998511	109.0916685	106.1802009	103.361778	100.6328926	97.9901916	95.43046851
190321A00003	3/21/2019	2.67	3/21/2024	3/21/2019	118.20408	114.9840522	111.8690483	108.8550424	105.9381856	103.114799	100.3813656	97.73452222	95.17105126
190326A00024	3/26/2019	2.59	3/26/2024	3/26/2019	118.04909	114.8148087	111.6863765	108.6597555	105.7310814	102.8966583	100.1529506	97.49657541	94.92429457
190328A00027	3/28/2019	2.51	9/21/2021	3/28/2019	102.0323	101.7020858	101.3740105	101.0480561	100.7242021	100.4024282	100.0827143	99.7650408	99.44938804
190328A00031	4/25/2019	2.56	4/25/2024	4/25/2019	118.45188	115.1155081	111.8911885	108.7745445	105.7613922	102.8477345	100.0297513	97.3037908	94.66636121
190328A00083	3/28/2019	2.37	3/28/2024	3/28/2019	117.8865	114.6372462	111.4947265	108.4548613	105.513752	102.6676699	99.91304736	97.24647032	94.66467052
190403A00006	4/3/2019	2.48	4/3/2024	4/3/2019	118.32048	115.0454697	111.8785679	108.8156259	105.8526748	102.9859193	100.2117292	97.52663127	94.9273017
190409A00033	4/9/2019	2.62	6/9/2023	4/9/2019	113.1609	110.9043231	108.7049406	106.5609168	104.470488	102.4319595	100.4437034	98.50415454	96.61180824
190424A00021	4/24/2019	2.6	4/22/2022	4/24/2019	105.89931	104.9177663	103.9543784	103.0086467	102.0800891	101.1682407	100.2726535	99.39289536	98.5285492
190430A00001	4/30/2019	2.47	5/2/2024	4/30/2019	118.7738	115.3981924	112.1369033	108.9854226	105.9394474	102.9948687	100.147761	97.39437378	94.73112177
190501A00017	5/1/2019	2.61	5/1/2024	5/1/2019	118.70821	115.3483368	112.1018987	108.9644364	105.9316924	102.9996004	100.1642752	97.42200365	94.76923629
190510A00018	5/10/2019	2.54	5/10/2023	5/10/2019	112.48394	110.3276213	108.2240683	106.1716546	104.1688142	102.2140402	100.3058818	98.44294224	96.62387589
190515A00057	5/15/2019	2.25	5/16/2022	5/15/2019	106.10459	105.0453678	104.0072354	102.9895638	101.9917524	101.013224	100.0534236	99.11181721	98.18789106
200108A00021	1/13/2020	1.97	1/13/2025	1/13/2020	120.32085	116.1000634	112.0505536	108.1643791	104.4340195	100.8523473	97.4126047	94.10838215	90.93359791
200109A00012	1/14/2020	1.94	12/15/2022	1/14/2020	108.91345	107.238718	105.5986375	103.9922111	102.4184794	100.8765188	99.36544041	97.88438791	96.43253626
200116A00005	1/16/2020	1.92	7/16/2021	1/16/2020	100.77513	100.6377363	100.5007316	100.3641133	100.2278798	100.0920293	99.95656031	99.82147113	99.68676014
200121A00008	1/24/2020	1.84	1/20/2022	1/24/2020	103.7229	103.0319026	102.3500853	101.6772696	101.0132779	100.3579376	99.71108033	99.07254211	98.44216318
200127A00030	1/27/2020	1.8	1/27/2025	1/27/2020	119.83032	115.5741009	111.4922192	107.5765124	103.819257	100.2131371	96.75122086	93.42693697	90.2340539
200130A00016	1/30/2020	1.58	1/30/2025	1/30/2020	119.61019	115.3319836	111.2298033	107.2953812	103.520887	99.8989057	96.42241318	93.08475247	89.87961219
200131A00007	1/31/2020	1.68	1/31/2023	1/31/2020	109.19673	107.3798677	105.6026808	103.8639416	102.1624703	100.4971357	98.86685229	97.2705785	95.70731397
200203A00051	2/3/2020	1.58	11/3/2021	2/3/2020	102.41202	101.9556849	101.5034156	101.0551553	100.6108509	100.1704501	99.7339016	99.30115489	98.87216042
200207A00004	2/7/2020	1.53	2/7/2023	2/7/2020	109.28158	107.4387171	105.6365416	103.8737731	102.1491869	100.4616098	98.80991691	97.19302932	95.6099115
190919A00017	9/19/2019	1.8	9/19/2022	9/19/2019	107.59448	106.1717885	104.7781133	103.4125882	102.0743788	100.762684	99.47673422	98.2157901	96.97914066
190920A00021	9/20/2019	1.96	9/18/2026	9/20/2019	128.88075	122.3693962	116.2254558	110.426302	104.9508158	99.77928034	94.89328074	90.27561112	85.91018898

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190923A00017	9/23/2019	1.74	9/23/2024	9/23/2019	118.49147	114.6558661	110.9646279	107.4115507	103.990727	100.6965351	97.52362367	94.46689712	91.52150173
190923A00032	9/23/2019	1.72	9/22/2023	9/23/2019	113.14177	110.5561151	108.0427213	105.5991414	103.2230226	100.912107	98.664227	96.47730105	94.34932957
190923A00078	9/23/2019	1.96	6/28/2024	9/23/2019	117.51021	113.9826057	110.579937	107.2970387	104.1289918	101.0711111	98.11893252	95.26820085	92.51485886
190924A00026	9/24/2019	1.9	7/22/2022	9/24/2019	106.71402	105.4414407	104.1990647	102.9858249	101.800706	100.6427392	99.51099994	98.4046051	97.32271085
190924A00033	9/24/2019	1.84	9/30/2022	9/24/2019	107.59529	106.1602023	104.7512942	103.3679109	102.0094174	100.6751995	99.36466217	98.07722971	96.81234435
190925A00018	9/25/2019	1.7	9/25/2024	9/25/2019	118.37445	114.5345937	110.8394466	107.2827909	103.858709	100.5615686	97.38600712	94.32691778	91.37943548
190925A00019	9/27/2019	1.93	9/27/2023	9/27/2019	113.35941	110.7637054	108.2406191	105.7877171	103.4026575	101.0831904	98.82715373	96.63246942	94.49713947
190925A00024	9/25/2019	1.88	4/14/2022	9/25/2019	105.09932	104.1465661	103.2110253	102.2922364	101.3897524	100.5031421	99.63198927	98.77589233	97.9344634
190926A00004	9/26/2019	1.93	9/21/2021	9/26/2019	101.84389	101.5140681	101.1863814	100.8608138	100.5373446	100.2159537	99.89662099	99.57932674	99.26405145
190926A00006	9/26/2019	1.7	9/26/2022	9/26/2019	107.52653	106.0972508	104.694682	103.3181239	101.9669006	100.6403594	99.33786967	98.05882211	96.80262772
190926A00015	9/26/2019	2.32	11/26/2030	9/26/2019	147.75487	135.0992429	123.6334254	113.2391898	103.8106232	95.25278725	87.48053055	80.41743497	73.99488009
190926A00016	9/26/2019	2.28	5/24/2030	9/26/2019	145.18326	133.3310571	122.5410467	112.7124189	103.7544165	95.58528425	88.13133388	81.32611124	75.10965282
190926A00017	9/26/2019	2.23	9/26/2029	9/26/2019	141.88518	131.0612859	121.1438395	112.0522759	103.713569	96.06149332	89.03595954	82.58241826	76.65132404
190927A00019	9/30/2019	1.91	9/30/2022	9/30/2019	107.69317	106.2573558	104.8477335	103.4636488	102.1044662	100.769571	99.45836815	98.17028138	96.9047527
190927A00036	9/27/2019	1.94	9/6/2024	9/27/2019	118.42252	114.6553213	111.0282783	107.5353285	104.1707126	100.9289572	97.80485888	94.79346855	91.89007729
190930A00011	9/30/2019	1.89	10/24/2022	9/30/2019	108.02532	106.5139182	105.0313409	103.5768306	102.1496577	100.749117	99.37452746	98.02523032	96.7005888
190930A00012	9/30/2019	1.93	9/30/2024	9/30/2019	118.71307	114.8652541	111.1625413	107.5987044	104.1678191	100.8642454	97.68261195	94.61780212	91.66494044
190930A00014	9/30/2019	1.89	9/30/2022	9/30/2019	107.66521	106.2295977	104.8201794	103.4362951	102.0773094	100.7426077	99.43159501	98.14369519	96.87835032
190930A00040	9/30/2019	1.92	2/25/2022	9/30/2019	104.36366	103.5613304	102.7712944	101.9932696	101.2269837	100.4721727	99.72858049	98.99595837	98.27406506
190930A00071	9/30/2019	2.05	9/29/2025	9/30/2019	124.05135	118.8959132	113.983646	109.301852	104.8385581	100.5824734	96.52294644	92.64992655	88.95392626
191001A00005	10/1/2019	1.8	4/18/2023	10/1/2019	110.62461	108.5559236	106.5364186	104.5646286	102.6391366	100.7585772	98.9216343	97.1270389	95.37356727
191002A00006	10/2/2019	1.84	10/2/2024	10/2/2019	118.41593	114.5667021	110.8629067	107.2982969	103.866925	100.5631288	97.38151659	94.31695262	91.36454367
191002A00013	10/2/2019	1.78	10/3/2022	10/2/2019	107.55736	106.113402	104.6959393	103.3043028	101.9378463	100.5959448	99.27799314	97.98340576	96.71161558
191002A00017	10/2/2019	1.84	10/2/2024	10/2/2019	118.41593	114.5667021	110.8629067	107.2982969	103.866925	100.5631288	97.38151659	94.31695262	91.36454367
191003A00014	10/3/2019	1.71	9/20/2024	10/3/2019	117.79058	113.9905585	110.3331212	106.8121392	103.4217816	100.1565001	97.01101401	93.98029564	91.05955653
191003A00020	10/3/2019	1.72	10/3/2022	10/3/2019	107.47293	106.0296086	104.6127654	103.2217373	101.8558786	100.5145645	99.1971902	97.90317037	96.6319382
191003A00022	10/3/2019	1.72	2/3/2023	10/3/2019	109.31451	107.4876179	105.700779	103.9527426	102.2423123	100.5683413	98.92972981	97.32542222	95.75440525
191003A00033	10/3/2019	1.54	10/3/2022	10/3/2019	107.39823	105.952602	104.5335398	103.1403748	101.7724579	100.4291614	99.10987774	97.81401903	96.54101596
191004A00001	10/4/2019	2.47	10/4/2034	10/4/2019	166.10995	147.0040965	130.3140354	115.7199776	102.945995	91.75381318	81.9375075	73.31896931	65.744026
191004A00002	10/4/2019	2.08	10/4/2029	10/4/2019	140.54644	129.7510764	119.8633775	110.8024188	102.4948728	94.8742581	87.88026867	81.45817275	75.55827236
191004A00003	10/4/2019	1.89	10/5/2026	10/4/2019	127.6456	121.1450154	115.0134859	109.2282185	103.7679368	98.61277526	93.744179	89.14481098	84.79846616
191004A00005	10/4/2019	1.54	10/4/2024	10/4/2019	117.91659	114.0553466	110.3406447	106.7661588	103.3258734	100.0140635	96.82527812	93.75432651	90.79626384
191004A00009	10/4/2019	1.71	10/4/2021	10/4/2019	101.97194	101.6043261	101.2393655	100.8770264	100.5172804	100.1600999	99.80545744	99.45332597	99.10367886

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191004A00012	10/4/2019	1.78	10/4/2024	10/4/2019	118.2262	114.3736765	110.6669769	107.0998242	103.6662451	100.3605536	97.1773357	94.11143493	91.15793871
191004A00013	10/4/2019	1.53	10/22/2021	10/4/2019	102.20798	101.7872021	101.3698856	100.9559891	100.5454708	100.1382894	99.73440415	99.33377525	98.93636334
191007A00018	10/8/2019	1.77	7/16/2021	10/8/2019	100.75463	100.6172657	100.4802849	100.3436905	100.2074807	100.0716539	99.93620855	99.80114295	99.6664555
191007A00020	10/7/2019	1.69	10/7/2022	10/7/2019	107.47596	106.0206594	104.5922578	103.1900746	101.8134491	100.461742	99.1343349	97.83062942	96.55004617
191007A00029	10/7/2019	1.88	10/9/2029	10/7/2019	140.37352	129.4883907	119.5234124	110.3961933	102.0321033	94.36350782	87.32907973	80.87318299	74.94531886
191008A00018	10/8/2019	1.74	10/11/2022	10/8/2019	107.60761	106.1391189	104.6979723	103.2834745	101.894949	100.5317412	99.19321833	97.87876791	96.58779731
191008A00033	10/8/2019	1.71	10/8/2024	10/8/2019	118.02599	114.1637442	110.4481912	106.8729947	103.4321269	100.119851	96.9307054	93.85948935	90.90124883
191009A00017	10/9/2019	1.76	10/4/2024	10/9/2019	118.15385	114.3026052	110.5971438	107.0311946	103.5987856	100.294232	97.11212078	94.04729674	91.09484831
191009A00021	10/9/2019	1.71	10/7/2022	10/9/2019	107.50434	106.048819	104.6202078	103.2178186	101.8409907	100.4890847	99.16148222	97.85758461	96.57681246
191009A00026	10/9/2019	1.74	10/7/2022	10/9/2019	107.5469	106.0910586	104.6621327	103.2594346	101.8823031	100.5300989	99.20220319	97.89801738	96.61696189
191009A00027	10/9/2019	1.74	10/6/2023	10/9/2019	113.02229	110.4022098	107.8561671	105.3816607	102.9762849	100.6377292	98.36377379	96.15228554	94.00121407
191015A00013	10/15/2019	1.72	10/15/2024	10/15/2019	118.72113	114.8089264	111.0463599	107.426918	103.944409	100.5929431	97.36691489	94.26098902	91.27008507
191015A00026	10/15/2019	1.69	10/15/2021	10/15/2019	102.16517	101.7648329	101.36764	100.9735535	100.582537	100.1945545	99.80957089	99.42755122	99.04846129
191015A00029	10/15/2019	1.91	10/15/2024	10/15/2019	118.84906	114.9490065	111.1977612	107.588865	104.116173	100.7738389	97.55629838	94.45825428	91.47466221
191017A00003	10/17/2019	1.9	12/10/2021	10/17/2019	103.10631	102.539604	101.9791243	101.4247649	100.8764257	100.3340091	99.79741927	99.26656261	98.7413475
191017A00022	10/17/2019	2.25	7/17/2028	10/17/2019	137.04448	127.9727802	119.5640723	111.7664206	104.5322213	97.81781888	91.58315897	85.79147282	80.40899161
191017A00026	10/17/2019	2.3	7/17/2029	10/17/2019	141.72752	131.1629575	121.4649562	112.5578539	104.3729698	96.84792638	89.92604015	83.55577432	77.69024654
191018A00006	10/18/2019	1.89	6/1/2022	10/18/2019	105.87816	104.7719859	103.6888233	102.627958	101.5887071	100.5704155	99.57245416	98.5942191	97.63513002
191018A00007	10/18/2019	1.89	7/1/2022	10/18/2019	106.36975	105.1660106	103.9893786	102.8389489	101.7138544	100.6132655	99.53638875	98.48246434	97.45076481
191021A00033	10/22/2019	1.9	7/18/2022	10/22/2019	106.66079	105.4011065	104.1710318	102.9695358	101.7956316	100.6483771	99.52687305	98.43025991	97.35771619
191021A00034	10/22/2019	1.9	10/17/2022	10/22/2019	107.94574	106.4561033	104.9945167	103.5602572	102.1526231	100.7709361	99.41454014	98.08280114	96.77510548
191023A00006	10/23/2019	1.95	10/23/2024	10/23/2019	119.10716	115.1758974	111.3955402	107.7594925	104.2614862	100.89556	97.65604211	94.53753471	91.5348992
191024A00017	10/25/2019	1.9	7/15/2021	10/25/2019	100.75662	100.6220607	100.4878737	100.3540585	100.2206134	100.0875369	99.95482744	99.82248348	99.69050348
191025A00005	10/28/2019	1.98	10/28/2024	10/28/2019	119.28796	115.3368163	111.537903	107.8845407	104.3703836	100.9893973	97.73584202	94.60425607	91.58944121
191025A00009	10/25/2019	2.26	5/25/2029	10/25/2019	140.74406	130.4099539	120.9108563	112.1749467	104.1369292	96.73740941	89.92233308	83.64248093	77.85301362
191025A00013	10/25/2019	1.98	10/25/2024	10/25/2019	119.24565	115.305256	111.5163277	107.8722374	104.366685	100.9936788	97.7475188	94.62278061	91.61430084
191031A00019	10/31/2019	1.88	10/31/2022	10/31/2019	108.11909	106.585775	105.0820807	103.6072168	102.1604242	100.74097	99.34814607	97.98126839	96.63967576
191031A00041	10/31/2019	1.72	10/31/2023	10/31/2019	113.7325	111.0153378	108.3772171	105.8153804	103.3271849	100.9100958	98.56168124	96.27960731	94.06163365
191104A00009	11/4/2019	1.91	11/6/2023	11/4/2019	113.91885	111.188822	108.5385586	105.965262	103.4662528	101.038962	98.68092512	96.38977757	94.16324998
191104A00022	11/4/2019	2.17	8/4/2027	11/4/2019	132.66209	124.9617925	117.7577194	111.0152584	104.702392	98.78949244	93.24913023	88.05589949	83.18625766
191104A00024	11/4/2019	2.26	8/3/2029	11/4/2019	141.55448	130.935727	121.1927426	112.2486544	104.0337253	96.48465256	89.54394211	83.15934723	77.2833639
191105A00007	11/5/2019	1.98	11/5/2026	11/5/2019	129.56393	122.8657742	116.5540595	110.604518	104.9945258	99.70298529	94.71021508	89.9978473	85.54873364
191105A00008	11/5/2019	1.83	11/5/2024	11/5/2019	119.41705	115.4227496	111.5836428	107.8928643	104.3438924	100.9305285	97.6468792	94.48733944	91.44657674

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191105A00014	11/5/2019	1.96	11/6/2023	11/5/2019	114.04858	111.3168749	108.664967	106.0900631	103.5894826	101.1606552	98.80111551	96.5084979	94.280532
191105A00018	11/5/2019	1.78	11/6/2023	11/5/2019	113.97723	111.2380517	108.5790685	105.9974612	103.4905308	101.0556896	98.69045587	96.39244838	94.15938214
191106A00012	11/6/2019	2.02	10/11/2024	11/6/2019	119.19385	115.3009852	111.5561252	107.9528688	104.4851238	101.1470928	97.93325717	94.83836236	91.85740368
191107A00011	11/8/2019	2.02	2/24/2023	11/8/2019	110.18265	108.2849821	106.4300213	104.6163967	102.842794	101.1079549	99.41067468	97.74979911	96.12422162
191108A00013	11/8/2019	2.25	11/8/2029	11/8/2019	144.30626	133.1382318	122.9191856	113.5635405	104.9938417	97.13995246	89.93832858	83.33136847	77.26682997
191113A00017	11/15/2019	1.93	12/6/2021	11/15/2019	103.05807	102.5033696	101.9546315	101.4117597	100.8746604	100.3432419	99.81741425	99.29708957	98.7821817
191114A00008	11/18/2019	1.93	4/17/2023	11/18/2019	110.8673	108.7991732	106.7801471	104.8087521	102.8835756	101.0032564	99.16648239	97.37198829	95.61855396
191114A00009	11/18/2019	1.94	8/16/2023	11/18/2019	112.75141	110.2900962	107.8955075	105.5653115	103.297282	101.0892903	98.93929945	96.84536012	94.80560536
191114A00020	11/18/2019	1.91	2/15/2022	11/18/2019	104.19288	103.4215775	102.6616628	101.9128887	101.1750113	100.4477941	99.73100703	99.02442687	98.32783661
191114A00021	11/18/2019	1.91	6/15/2022	11/18/2019	106.12916	104.9774254	103.8505823	102.747832	101.6684082	100.6115767	99.57663382	98.56290488	97.56974268
191115A00014	11/18/2019	2.45	11/18/2024	11/18/2019	121.34015	117.2834247	113.3851994	109.638417	106.0363709	102.5726893	99.24131648	96.03649574	92.95275244
191115A00015	11/18/2019	2.61	11/18/2024	11/18/2019	121.94134	117.8736393	113.9647647	110.20764	106.595547	103.122103	99.78124201	96.56719735	93.47448485
191115A00016	11/18/2019	2.48	11/18/2024	11/18/2019	121.45288	117.39409	113.4938679	109.7451463	106.1412164	102.6757043	99.34255252	96.13600229	93.05057727
191115A00028	11/15/2019	2.34	9/28/2029	11/15/2019	142.95562	132.078573	122.1118537	112.9745673	104.5933928	96.90183513	89.83955914	83.35179083	77.38877976
191115A00030	11/15/2019	2.35	11/9/2029	11/15/2019	143.55726	132.4991809	122.3784186	113.1106075	104.6193796	96.83556951	89.6965017	83.14535173	77.13057301
191120A00006	11/20/2019	2.67	11/20/2035	11/20/2019	174.23218	152.9088467	134.4702623	118.5078213	104.6728183	92.66739894	82.23691655	73.16347088	65.26043983
191120A00011	11/20/2019	1.88	1/20/2023	11/20/2019	109.37903	107.5930637	105.8455917	104.1354349	102.4614669	100.8226068	99.2178165	97.64609911	96.10649648
191120A00031	11/20/2019	1.69	11/21/2022	11/20/2019	108.36102	106.7595108	105.1901938	103.6521828	102.1446206	100.6666808	99.21756614	97.79650776	96.40276344
191121A00009	11/21/2019	2.55	11/21/2036	11/21/2019	179.84947	156.3516401	136.2359158	118.9938268	104.1958556	91.47882876	80.53537455	71.10510088	62.96720447
191121A00010	11/21/2019	2.59	11/20/2037	11/21/2019	184.55596	159.1533495	137.6077172	119.3078858	103.7425725	90.48361941	79.17211121	69.50686795	61.23489853
191121A00034	11/21/2019	2.28	11/2/2029	11/21/2019	142.79961	131.7999176	121.7313247	112.5101704	104.0607107	96.31433167	89.20884546	82.6878587	76.7002062
191122A00007	11/22/2019	1.87	11/21/2025	11/22/2019	124.62799	119.2559063	114.1460044	109.2841173	104.6569142	100.2518517	96.05712268	92.06160892	88.2548375
191122A00018	11/26/2019	3.11	11/22/2039	11/26/2019	199.17572	169.7300002	145.1618767	124.6257702	107.4272532	92.99534209	80.85998326	70.6337404	61.99688148
191122A00020	11/26/2019	3.2	11/23/2037	11/26/2019	192.76523	166.95883	145.0234233	126.3500433	110.4287517	96.83208358	85.20132802	75.23514906	66.68013894
191122A00021	11/26/2019	3.4	11/22/2038	11/26/2019	201.2405	173.1566231	149.4873665	129.5044513	112.6037314	98.28346149	86.12645921	75.78545164	66.97102372
191126A00015	11/27/2019	1.88	10/14/2022	11/27/2019	107.8699	106.3900052	104.9378291	103.5126565	102.1137977	100.7405859	99.39237632	98.06854519	96.76848904
191126A00022	11/26/2019	1.72	5/26/2023	11/26/2019	111.34225	109.1415983	106.9961691	104.9042196	102.8640713	100.8741104	98.93278546	97.03860368	95.19012885
191126A00023	11/26/2019	1.81	5/27/2025	11/26/2019	122.07266	117.350847	112.8380447	108.5238788	104.3985501	100.4527964	96.67786039	93.06545897	89.60775511
191129A00010	11/29/2019	1.94	8/27/2021	11/29/2019	101.4502	101.1928286	100.9367593	100.6819816	100.4284858	100.1762622	99.92530138	99.6755939	99.42713043
191129A00012	11/29/2019	1.99	11/29/2024	11/29/2019	119.76219	115.6984507	111.7951172	108.0449709	104.441164	100.9771942	97.64688475	94.44436654	91.3640609
191202A00005	12/2/2019	2.03	12/2/2024	12/2/2019	119.95544	115.8783088	111.9623716	108.2003693	104.5854074	101.1109401	97.77075023	94.55893097	91.46986839
191203A00004	12/4/2019	1.87	12/4/2024	12/4/2019	119.37401	115.3010442	111.3894292	107.6318783	104.0214799	100.5516723	97.21622384	94.00921452	90.92501841
191204A00013	12/4/2019	1.72	12/4/2024	12/4/2019	119.39407	115.3052982	111.3788715	107.6074443	103.9840488	100.5020706	97.15522893	93.93755772	90.84338782

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191206A00008	12/6/2019	2.44	12/6/2030	12/6/2019	149.19029	136.4270542	124.8650644	114.3847545	104.8790339	96.25193057	88.41738541	81.29818275	74.82500081
191206A00009	12/6/2019	2.87	12/4/2037	12/6/2019	186.30789	160.9982336	139.5124136	121.2460234	105.6932984	92.43057725	81.10260121	71.41115861	63.10566166
191206A00013	12/6/2019	3.05	12/6/2044	12/6/2019	220.70492	181.0990608	149.5130033	124.2489692	103.978592	87.66081105	74.4783529	63.7885215	55.08501827
191206A00019	12/6/2019	1.96	11/15/2023	12/6/2019	114.18403	111.4223901	108.7422105	106.1406092	103.6148233	101.1622047	98.78021426	96.46641712	94.21847729
191206A00021	12/6/2019	2.02	12/6/2024	12/6/2019	119.97277	115.8821872	111.9537392	108.1801009	104.5543199	101.0697969	97.72026461	94.49976982	91.40265529
191206A00044	12/10/2019	2.01	10/31/2024	12/10/2019	119.43987	115.4762599	111.6656922	108.0014391	104.4771065	101.0866151	97.82418279	94.68430861	91.66175749
191209A00009	12/9/2019	1.91	12/9/2021	12/9/2019	103.09568	102.5319739	101.9744254	101.4229335	100.8773998	100.3377279	99.80382363	99.27559483	98.75295123
191210A00011	12/10/2019	1.92	12/12/2022	12/10/2019	108.83382	107.1688219	105.5381583	103.9408508	102.3759532	100.8425549	99.33977872	97.8667798	96.42274382
191212A00019	12/13/2019	1.93	12/19/2022	12/13/2019	108.96118	107.2739559	105.6217942	104.0036777	102.4186292	100.8657085	99.34401069	97.85266454	96.39083079
191212A00028	12/13/2019	1.93	1/17/2023	12/13/2019	109.41825	107.6408008	105.901524	104.19926	102.5328966	100.901366	99.3036429	97.73874206	96.20571654
191212A00029	12/13/2019	1.94	5/16/2023	12/13/2019	111.32704	109.1642687	107.0549172	104.9973241	102.9898906	101.0310787	99.11940852	97.25345529	95.43184727
191216A00042	12/16/2019	1.95	12/16/2022	12/16/2019	108.94598	107.2679504	105.6246767	104.0151577	102.4384296	100.8935646	99.37966968	97.89588472	96.44138105
191217A00012	12/20/2019	2.03	12/20/2024	12/20/2019	120.20509	116.0642217	112.0888836	108.2715293	104.6049986	101.0824988	97.69758315	94.44413083	91.31632884
191219A00036	12/20/2019	2.1	12/20/2024	12/20/2019	120.4751	116.3291839	112.3489485	108.5268407	104.8556949	101.3287132	97.93944391	94.68176151	91.54984848
191220A00002	12/20/2019	3.02	12/20/2038	12/20/2019	193.47893	165.9674741	142.8255382	123.3268807	106.8698074	92.95524637	81.16877462	71.16586834	62.65978575
191223A00007	12/23/2019	1.95	6/23/2021	12/23/2019	100.41247	100.3399281	100.2674969	100.1951784	100.1229725	100.0508788	99.97889704	99.90702707	99.83526859
191223A00009	12/23/2019	1.95	12/23/2022	12/23/2019	109.05765	107.3575178	105.6928636	104.0626559	102.4658993	100.9016366	99.36894667	97.86694303	96.39477191
191223A00022	12/23/2019	1.93	12/30/2021	12/23/2019	103.44081	102.8137124	102.1941891	101.5821073	100.9773337	100.379738	99.78919308	99.20557482	98.62876195
191223A00055	12/23/2019	2.46	12/7/2029	12/23/2019	144.96365	133.7417918	123.477823	114.0848709	105.4843612	97.60518985	90.38297673	83.75939883	77.68159178
191226A00019	12/26/2019	2.4	12/22/2028	12/26/2019	140.14351	130.3920712	121.3902427	113.0764504	105.3944844	98.2930043	91.72509398	85.64785852	80.02206031
191230A00013	12/30/2019	1.84	12/2/2024	12/30/2019	119.82458	115.7344459	111.8064188	108.033181	104.4077849	100.9236353	97.57446858	94.35433452	91.25757862
191230A00031	12/30/2019	1.85	12/30/2024	12/30/2019	120.24894	116.0585613	112.0371253	108.1768639	104.4704095	100.9107758	97.49133621	94.20580223	91.04820461
191231A00006	12/31/2019	1.88	12/31/2021	12/31/2019	103.42657	102.7965239	102.1741325	101.5592544	100.9517542	100.3514998	99.75836219	99.17221538	98.59293639
200106A00015	1/6/2020	1.87	2/15/2024	1/6/2020	115.29194	112.2276808	109.2611585	106.3885884	103.6063592	100.9110271	98.29930636	95.76806093	93.31429618
200106A00019	1/6/2020	1.89	7/16/2024	1/6/2020	117.53234	113.9458761	110.4881332	107.153707	103.9374591	100.8344996	97.84017351	94.95004733	92.15989726
200108A00017	1/8/2020	2.55	1/8/2035	1/8/2020	171.63914	151.5658727	134.0764534	118.8225657	105.5045564	93.86441778	83.67981198	74.75897828	66.93638997
200108A00018	1/8/2020	1.68	1/18/2022	1/8/2020	103.65356	102.9679089	102.2913085	101.6235804	100.9645508	100.3140504	99.67191431	99.03798189	98.41209655
200110A00014	1/10/2020	1.73	1/10/2023	1/10/2020	109.20416	107.4451955	105.7237728	104.038761	102.3890756	100.7736752	99.19155902	97.64176546	96.12336969
200110A00022	1/13/2020	2	1/6/2025	1/13/2020	120.31949	116.1213462	112.0928093	108.2260526	104.5136616	100.9486073	97.52422326	94.23418456	91.07248834
200113A00003	1/13/2020	1.72	1/13/2022	1/13/2020	103.60005	102.9295964	102.2678075	101.6145138	100.9695524	100.3327644	99.70399511	99.08309353	98.46991253
200114A00006	1/15/2020	1.99	1/15/2025	1/15/2020	120.39999	116.1714785	112.1147524	108.2218395	104.4851878	100.8976405	97.45241263	94.1430693	90.96350526
200115A00015	1/17/2020	1.88	1/17/2023	1/17/2020	109.33234	107.5556536	105.8171286	104.1156025	102.4499633	100.8191439	99.22211902	97.65790403	96.12555225
200115A00018	1/15/2020	1.9	1/16/2024	1/15/2020	114.94449	111.9783512	109.1044734	106.3193825	103.6197614	101.0024414	98.46439453	96.0027261	93.61466764

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200117A00026	1/17/2020	1.69	1/18/2022	1/17/2020	103.66018	102.9745053	102.2978803	101.6301278	100.9710739	100.3205495	99.67838968	99.0444337	98.41852502
200121A00009	1/24/2020	1.94	1/24/2025	1/24/2020	120.3213	116.0654548	111.9834986	108.0673131	104.3092107	100.7019089	97.23850609	93.91245912	90.71756224
200122A00010	1/22/2020	1.84	1/24/2022	1/22/2020	103.7871	103.0838636	102.3901267	101.7056974	101.0303894	100.3640215	99.70641685	99.05740367	98.41681442
200123A00005	1/23/2020	1.81	1/24/2022	1/23/2020	103.76673	103.0635723	102.3699128	101.6855602	101.0103282	100.3440354	99.68650531	99.03756596	98.39704985
200123A00013	1/27/2020	1.89	1/27/2025	1/27/2020	120.16192	115.8995232	111.8116466	107.8901212	104.1272169	100.5156115	97.04836702	93.71890641	90.52099259
200123A00049	1/23/2020	1.63	1/23/2023	1/23/2020	109.23235	107.4346256	105.6758568	103.9548432	102.2704383	100.6215419	99.00709825	97.42609336	95.87755312
200127A00016	1/27/2020	1.81	1/27/2025	1/27/2020	119.84382	115.5875463	111.5055986	107.5898242	103.8324997	100.2263096	96.76432183	93.43996553	90.2470092
200127A00019	1/27/2020	1.8	1/27/2025	1/27/2020	119.80406	115.5485492	111.4673426	107.5522871	103.7956601	100.1901468	96.72881619	93.40509792	90.21276127
200127A00023	1/27/2020	1.8	1/27/2025	1/27/2020	119.80406	115.5485492	111.4673426	107.5522871	103.7956601	100.1901468	96.72881619	93.40509792	90.21276127
200128A00028	1/28/2020	1.81	1/28/2025	1/28/2020	119.85656	115.5968393	111.511697	107.5929583	103.8328841	100.2241444	96.7597939	93.43324894	90.23826651
200129A00008	1/29/2020	1.76	1/31/2022	1/29/2020	103.84365	103.1191374	102.4046947	101.700116	101.0051983	100.319744	99.64356075	98.97646161	98.31826449
200129A00018	2/3/2020	1.74	12/15/2022	2/3/2020	108.58962	106.9176252	105.2802336	103.676447	102.1053073	100.5658925	99.05731489	97.57871937	96.12928211
200130A00005	1/30/2020	1.73	1/30/2024	1/30/2020	114.66271	111.6572625	108.7464136	105.9265534	103.1942377	100.546179	97.97923815	95.49041616	93.07684691
200130A00006	1/30/2020	1.77	1/30/2025	1/30/2020	119.72243	115.4588521	111.3702687	107.4484744	103.6857006	100.0745901	96.60817215	93.27984012	90.08332945
200130A00010	1/30/2020	1.56	1/31/2022	1/30/2020	103.77637	103.0511469	102.3360239	101.630789	100.9352382	100.2491732	99.57240093	98.90473374	98.24598882
200130A00011	1/30/2020	1.54	1/30/2023	1/30/2020	109.18097	107.3629251	105.5846068	103.8447803	102.1422646	100.4759269	98.84468062	97.24748295	95.68333241
200130A00012	1/30/2020	1.72	1/30/2023	1/30/2020	109.2538	107.4393817	105.6645349	103.9280344	102.2287056	100.5654216	98.93710175	97.34270838	95.78124509
200130A00015	1/30/2020	1.63	7/30/2021	1/30/2020	100.96055	100.7833466	100.6067649	100.4308032	100.2554583	100.0807269	99.90660577	99.73309181	99.56018179
200130A00028	1/30/2020	1.54	2/7/2023	1/30/2020	109.3015	107.4584361	105.6560664	103.8931075	102.1683347	100.4805746	98.82870226	97.21163857	95.62834797
200130A00048	1/30/2020	1.74	1/31/2022	1/30/2020	103.82967	103.1052133	102.3908251	101.6863004	100.9914361	100.3060346	99.62990382	98.96285657	98.30471085
200131A00006	1/31/2020	1.52	1/31/2022	1/31/2020	103.7484	103.0232879	102.308274	101.6031471	100.9077033	100.2217442	99.54507694	98.87751368	98.21887171
200131A00010	2/3/2020	1.68	2/3/2023	2/3/2020	109.24377	107.417526	105.6313221	103.8839087	102.1740899	100.5007192	98.86269706	97.25896821	95.68851964
200131A00014	2/5/2020	1.7	2/22/2022	2/5/2020	104.14703	103.3547213	102.5744223	101.8058639	101.0487829	100.3029235	99.56803781	98.84388493	98.13023109
200131A00017	1/31/2020	1.51	1/31/2024	1/31/2020	114.48413	111.4683759	108.5478531	105.7189131	102.9780789	100.3220319	97.74760377	95.25176824	92.83163356
200131A00032	1/31/2020	2.1	1/31/2030	1/31/2020	142.05393	130.7631146	120.4545192	111.0375443	102.4303904	94.559163	87.35706993	80.76370472	74.7244055
200131A00038	1/31/2020	1.73	1/30/2025	1/31/2020	119.56301	115.3025017	111.2168961	107.2979901	103.5380185	99.92962728	96.46584905	93.14008001	89.94605848
200131A00048	1/31/2020	1.69	1/31/2024	1/31/2020	114.56239	111.5552533	108.6428613	105.8215955	103.0880031	100.4387882	97.87080406	95.38104448	92.96663669
200203A00001	2/3/2020	1.7	2/3/2023	2/3/2020	109.27914	107.452572	105.6660506	103.9183257	102.2082011	100.5345303	98.89621344	97.29219522	95.72146245
200203A00004	2/3/2020	1.7	2/3/2023	2/3/2020	109.27914	107.452572	105.6660506	103.9183257	102.2082011	100.5345303	98.89621344	97.29219522	95.72146245
200203A00005	2/3/2020	1.7	5/3/2023	2/3/2020	110.65317	108.5380928	106.4743409	104.460346	102.4945997	100.5756494	98.70209641	96.87259332	95.08584167
200203A00006	2/3/2020	1.76	2/3/2025	2/3/2020	119.73255	115.4558955	111.3552368	107.4222961	103.6492395	100.0286493	96.55349898	93.21712998	90.01322965
200203A00009	2/3/2020	1.52	2/3/2023	2/3/2020	109.20581	107.3755893	105.5855661	103.834487	102.1211493	100.4444001	98.80313398	97.19629014	95.62285029
200203A00012	2/3/2020	1.57	2/3/2025	2/3/2020	119.59342	115.3027749	111.1891456	107.2441856	103.4599998	99.82911349	96.34444688	92.99929167	89.78728886

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200203A00022	2/3/2020	1.75	2/3/2025	2/3/2020	119.69257	115.4166872	111.3167774	107.3845631	103.6122112	99.99230474	96.51781818	93.18209357	89.97881903
200204A00001	2/4/2020	1.79	2/4/2025	2/4/2020	119.86508	115.5826437	111.4765297	107.5384398	103.7605209	100.1353374	96.65584623	93.31537336	90.10759175
200204A00012	2/4/2020	1.98	2/4/2027	2/4/2020	129.49194	122.5210404	115.9677507	109.8048232	104.0069384	98.55055566	93.41377833	88.57622962	84.01893887
200204A00015	2/4/2020	1.72	2/6/2023	2/4/2020	109.36005	107.5237991	105.7279632	103.9712736	102.2525176	100.5705333	98.92420631	97.31246765	95.73429123
200204A00020	2/4/2020	1.6	2/4/2025	2/4/2020	119.72619	115.4297356	111.3106246	107.3604911	103.5714207	99.93592058	96.44689433	93.09761801	89.88171813
200205A00011	2/7/2020	2.31	2/7/2024	2/7/2020	116.44319	113.3874616	110.4284013	107.562296	104.7856023	102.0949397	99.48708148	96.95894644	94.50759101
200205A00013	2/5/2020	1.77	2/6/2023	2/5/2020	109.44891	107.6118499	105.8152128	104.0577368	102.3382092	100.6554674	99.00839675	97.39592785	95.81703422
200207A00015	2/7/2020	1.73	2/7/2022	2/7/2020	103.9331	103.187065	102.4517125	101.7268118	101.0121411	100.3074849	99.61263385	98.92738416	98.25153781
200207A00017	2/7/2020	1.96	2/8/2027	2/7/2020	129.40583	122.423946	115.8611011	109.6899096	103.8849222	98.42248098	93.28058323	88.43875655	83.87794381
200207A00018	2/7/2020	2.14	2/7/2030	2/7/2020	142.52861	131.1915381	120.8421978	111.3893183	102.7505161	94.8513841	87.62467979	81.00960115	74.95113866
200210A00009	2/10/2020	1.57	2/10/2025	2/10/2020	119.68022	115.3652271	111.2290528	107.2632308	103.4597484	99.81102205	96.30987138	92.94949463	89.72344624
200211A00022	2/11/2020	1.73	2/10/2023	2/11/2020	109.43867	107.589774	105.7817755	104.0133868	102.2833736	100.5905534	98.93379246	97.31200352	95.72414331
200212A00003	2/12/2020	1.63	2/12/2025	2/12/2020	119.94729	115.6206077	111.4734132	107.4971923	103.6838933	100.0258961	96.51598651	93.14733136	89.91345574
200214A00002	2/14/2020	1.58	11/15/2024	2/14/2020	118.61423	114.6019088	110.7468525	107.0420435	103.4808202	100.0568536	96.76412938	93.59692966	90.54981719
200214A00005	2/14/2020	1.59	2/14/2025	2/14/2020	119.81072	115.480218	111.329627	107.3504002	103.5344556	99.8741454	96.36222958	92.9918512	89.75651338
200214A00007	2/14/2020	1.59	2/14/2025	2/14/2020	119.81072	115.480218	111.329627	107.3504002	103.5344556	99.8741454	96.36222958	92.9918512	89.75651338
200214A00014	2/18/2020	1.8	2/18/2025	2/18/2020	120.08181	115.7500448	111.5982325	107.6178225	103.8007265	100.1392912	96.6262719	93.25480744	90.01839744
200214A00016	2/14/2020	1.57	2/14/2024	2/14/2020	114.85082	111.7860555	108.8192243	105.9465214	103.1643243	100.4691786	97.85778884	95.32700975	92.87383806
200214A00017	2/14/2020	1.59	2/14/2025	2/14/2020	119.81072	115.480218	111.329627	107.3504002	103.5344556	99.8741454	96.36222958	92.9918512	89.75651338
200214A00020	2/18/2020	1.78	1/15/2025	2/18/2020	119.57289	115.3601367	111.3186974	107.4406155	103.7183565	100.1447802	96.71311747	93.41694851	90.25018251
200218A00023	2/18/2020	1.55	2/21/2023	2/18/2020	109.53082	107.6437301	105.7990508	103.9954187	102.2315318	100.5061436	98.81806042	97.16613857	95.54928143
200218A00024	2/20/2020	1.73	7/17/2023	2/20/2020	111.81656	109.4584678	107.1624186	104.9263262	102.7481902	100.6260936	98.55819902	96.54274441	94.57803927
200219A00006	2/19/2020	1.76	2/18/2022	2/19/2020	104.12923	103.3491068	102.5806374	101.823563	101.0776313	100.3425977	99.61822455	98.9042812	98.2005435
200219A00007	2/19/2020	1.81	8/19/2021	2/19/2020	101.29202	101.0576683	100.8244086	100.5922351	100.3611403	100.1311165	99.9021563	99.6742523	99.44739716
200219A00015	2/19/2020	1.77	2/19/2027	2/19/2020	129.39662	122.3386555	115.7076116	109.4753777	103.6158513	98.10478132	92.91962623	88.03942346	83.44467012
200219A00016	2/19/2020	1.57	10/19/2022	2/19/2020	107.68218	106.1854531	104.71706	103.276267	101.8623617	100.4746557	99.11248328	97.77520122	96.46218718
200220A00001	2/20/2020	1.74	2/22/2022	2/20/2020	104.17751	103.3850655	102.6046381	101.8359528	101.0787462	100.3327625	99.59775378	98.87347916	98.15970482
200220A00007	2/20/2020	1.72	2/21/2023	2/20/2020	109.58788	107.7047715	105.8639078	104.0639313	102.3035469	100.5815151	98.8966485	97.24780935	95.63390665
200220A00008	2/20/2020	1.74	2/20/2024	2/20/2020	114.98453	111.909113	108.9322489	106.0501012	103.2590111	100.5554905	97.9362124	95.39800224	92.93782941
200220A00015	2/20/2020	1.57	2/20/2025	2/20/2020	119.80428	115.4544604	111.286065	107.2904407	103.4594054	99.78521856	96.2605544	92.87847658	89.63241468
200220A00025	2/20/2020	1.72	2/21/2023	2/20/2020	109.58788	107.7047715	105.8639078	104.0639313	102.3035469	100.5815151	98.8966485	97.24780935	95.63390665
200221A00003	2/25/2020	1.69	2/25/2025	2/25/2020	119.72283	115.3755421	111.2097556	107.2168022	103.3884849	99.7170503	96.1951612	92.81587108	89.57260059
200221A00009	2/21/2020	1.69	2/22/2022	2/21/2020	104.13941	103.3471353	102.5668683	101.7983417	101.041292	100.2954638	99.56060881	98.83648637	98.12286265

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200221A00013	2/21/2020	1.69	2/21/2025	2/21/2020	119.6737	115.3402448	111.187258	107.2061393	103.3887598	99.72742864	96.21486678	92.84418151	89.60884338
200224A00001	2/24/2020	1.59	2/24/2025	2/24/2020	119.30415	114.9682964	110.8134354	106.8309304	103.0126107	99.35074716	95.83802549	92.46752062	89.23267328
200224A00007	2/24/2020	1.59	2/24/2025	2/24/2020	119.30415	114.9682964	110.8134354	106.8309304	103.0126107	99.35074716	95.83802549	92.46752062	89.23267328
200224A00015	2/24/2020	1.57	1/10/2024	2/24/2020	113.9359	111.0022936	108.1595839	105.4043701	102.7334	100.1435659	97.63189693	95.19555247	92.83181487
200224A00016	2/24/2020	1.56	2/24/2023	2/24/2020	109.34057	107.4508444	105.6036775	103.7976988	102.0315982	100.3041217	98.61406844	96.96028804	95.34167759
200224A00017	2/24/2020	1.59	2/24/2025	2/24/2020	119.30415	114.9682964	110.8134354	106.8309304	103.0126107	99.35074716	95.83802549	92.46752062	89.23267328
200224A00019	2/24/2020	1.59	2/18/2025	2/24/2020	119.23234	114.9171631	110.7814325	106.8166155	103.0146427	99.36787878	95.86909631	92.51145062	89.28845702
200224A00021	2/24/2020	1.58	9/24/2024	2/24/2020	117.37583	113.570571	109.9084761	106.383404	102.9895066	99.72121772	96.57323793	93.54052007	90.6182559
200224A00024	2/24/2020	1.59	2/24/2025	2/24/2020	119.30415	114.9682964	110.8134354	106.8309304	103.0126107	99.35074716	95.83802549	92.46752062	89.23267328
200224A00025	2/24/2020	1.59	1/23/2025	2/24/2020	118.92089	114.6950925	110.6421299	106.7539356	103.0228672	99.44168475	96.00352707	92.70188918	89.53060147
200224A00035	2/24/2020	1.59	2/24/2025	2/24/2020	119.30415	114.9682964	110.8134354	106.8309304	103.0126107	99.35074716	95.83802549	92.46752062	89.23267328
200225A00003	2/25/2020	1.54	2/27/2023	2/25/2020	109.34796	107.44922	105.5934024	103.7791201	102.0050462	100.2699112	98.57249938	96.91164653	95.28623664
200225A00004	2/25/2020	1.54	2/26/2024	2/25/2020	114.48125	111.3944498	108.4071379	105.5154159	102.7155691	100.0040574	97.3775054	94.83269333	92.36654844
200225A00012	2/25/2020	1.57	2/25/2025	2/25/2020	119.23478	114.8970745	110.740572	106.7566193	102.9370304	99.27406245	95.76038824	92.3890708	89.15353993
200225A00014	2/25/2020	1.57	2/25/2022	2/25/2020	104.09401	103.2928403	102.5039503	101.7270592	100.961895	100.2081937	99.46569956	98.73416406	98.01334612
200225A00018	2/25/2020	1.94	2/25/2030	2/25/2020	140.72026	129.4006398	119.0743796	109.649119	101.0415429	93.17645046	85.98592497	79.40859259	73.3889604
200225A00042	2/25/2020	1.39	2/25/2022	2/25/2020	104.03527	103.2332496	102.4435419	101.6658625	100.8999382	100.1455042	99.40230364	98.67008716	97.94861275
200225A00044	2/25/2020	1.57	2/25/2022	2/25/2020	104.09401	103.2928403	102.5039503	101.7270592	100.961895	100.2081937	99.46569956	98.73416406	98.01334612
200225A00045	2/25/2020	1.54	2/24/2023	2/25/2020	109.30396	107.4145776	105.5677495	103.7621032	101.9963288	100.2691724	98.57943339	96.92596147	95.30765394
200225A00050	2/25/2020	1.57	2/25/2025	2/25/2020	119.23478	114.8970745	110.740572	106.7566193	102.9370304	99.27406245	95.76038824	92.3890708	89.15353993
200226A00005	2/26/2020	1.53	2/27/2023	2/26/2020	109.32957	107.4309994	105.5753527	103.7612381	101.9873288	100.2523552	98.55510195	96.8944047	95.2691476
200226A00006	2/26/2020	1.57	2/26/2025	2/26/2020	119.24669	114.905537	110.7458478	106.7589493	102.9366388	99.27115768	95.75516408	92.38170764	89.14420566
200226A00009	2/26/2020	1.75	2/26/2030	2/26/2020	140.58846	129.18572	118.7877567	109.3008636	100.6405326	92.73050821	85.50194101	78.89263247	72.8463601
200226A00013	2/26/2020	1.35	2/26/2024	2/26/2020	114.37085	111.2755231	108.2801869	105.3809144	102.5739651	99.8557744	97.22294422	94.67223333	92.20054883
200226A00014	2/26/2020	1.53	2/27/2023	2/26/2020	109.32957	107.4309994	105.5753527	103.7612381	101.9873288	100.2523552	98.55510195	96.8944047	95.2691476
200226A00015	2/26/2020	1.53	2/26/2024	2/26/2020	114.45189	111.3655194	108.3786235	105.4873074	102.6878566	99.97673152	97.35055694	94.8061134	92.34032845
200226A00016	2/26/2020	1.57	2/26/2025	2/26/2020	119.24669	114.905537	110.7458478	106.7589493	102.9366388	99.27115768	95.75516408	92.38170764	89.14420566
200226A00019	2/26/2020	1.38	2/26/2025	2/26/2020	119.10321	114.7477423	110.574802	106.5756399	102.7419886	99.06602951	95.54036487	92.15799215	88.91228001
200226A00025	2/26/2020	1.38	2/26/2025	2/26/2020	119.10321	114.7477423	110.574802	106.5756399	102.7419886	99.06602951	95.54036487	92.15799215	88.91228001
200227A00004	2/27/2020	1.65	2/27/2030	2/27/2020	139.58801	128.2270461	117.8686012	108.4190944	99.79413953	91.91759701	84.72072701	78.14143445	72.12359458
200227A00005	2/27/2020	1.43	2/27/2024	2/27/2020	114.17136	111.0859529	108.1001135	105.2099316	102.4116859	99.70182978	97.07698233	94.53391843	92.06956045
200227A00011	2/27/2020	1.42	2/28/2022	2/27/2020	104.02319	103.2132395	102.4158395	101.6306969	100.8575312	100.0960702	99.34605	98.60721451	97.87931527
200227A00013	2/27/2020	1.43	2/27/2024	2/27/2020	114.17136	111.0859529	108.1001135	105.2099316	102.4116859	99.70182978	97.07698233	94.53391843	92.06956045

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200227A00023	2/27/2020	1.47	2/27/2025	2/27/2020	118.85127	114.5146731	110.3595561	106.3772341	102.5594964	98.89857766	95.38712977	92.0181969	88.7851915
200227A00026	2/27/2020	1.41	2/27/2023	2/27/2020	109.10883	107.2123517	105.3587565	103.5466544	101.7747197	100.041684	98.34633272	96.68750274	95.06407914
200227A00027	2/27/2020	1.47	2/27/2025	2/27/2020	118.85127	114.5146731	110.3595561	106.3772341	102.5594964	98.89857766	95.38712977	92.0181969	88.7851915
200227A00031	2/27/2020	1.43	2/27/2024	2/27/2020	114.17136	111.0859529	108.1001135	105.2099316	102.4116859	99.70182978	97.07698233	94.53391843	92.06956045
200227A00052	2/27/2020	1.41	2/27/2023	2/27/2020	109.10883	107.2123517	105.3587565	103.5466544	101.7747197	100.041684	98.34633272	96.68750274	95.06407914
200228A00005	2/28/2020	1.35	2/28/2024	2/28/2020	113.94905	110.8637722	107.8781701	104.9883233	102.1905026	99.48115439	96.85689101	94.31448119	91.85084158
200228A00013	3/3/2020	1.33	1/14/2022	3/3/2020	103.29487	102.6234359	101.9607037	101.3065079	100.6606843	100.0230729	99.39351771	98.77186663	98.15797143
180911A00012	9/11/2018	3.06	9/9/2022	9/11/2018	109.00788	107.5879924	106.2004782	104.8442308	103.5181921	102.221352	100.9527456	99.71145065	98.49658511
180911A00080	9/11/2018	2.94	9/9/2022	9/11/2018	109.01883	107.5960795	106.205812	104.8469179	103.5183342	102.2190461	100.9480844	99.70452256	98.48747484
180912A00011	9/12/2018	3.41	9/11/2026	9/12/2018	136.29369	129.6358579	123.3484383	117.4087854	111.7957599	106.489622	101.4719314	96.72545409	92.23407736
180913A00029	9/13/2018	3.11	9/13/2023	9/13/2018	116.01881	113.4327869	110.9182605	108.4727714	106.0939665	103.7795909	101.5274829	99.33556956	97.20186201
180914A00008	9/14/2018	3.15	9/14/2023	9/14/2018	116.13472	113.5442299	111.0253981	108.5757653	106.1929767	103.8747756	101.618998	99.4235684	97.28649531
180914A00013	9/14/2018	3.48	9/14/2028	9/14/2018	147.87501	138.1878399	129.2143585	120.8980226	113.1870613	106.0340458	99.39550346	93.23156853	87.50566463
180914A00028	9/14/2018	3.37	9/12/2025	9/14/2018	130.03328	124.7990411	119.8080181	115.047554	110.5057197	106.171272	102.0336095	98.08273242	94.30920476
180917A00078	9/17/2018	3.05	9/15/2023	9/17/2018	116.28559	113.6825195	111.1516374	108.6904695	106.2966428	103.9678829	101.7020087	99.49692817	97.35063398
180918A00011	9/18/2018	3.17	9/18/2023	9/18/2018	116.25827	113.6540588	111.1220645	108.6598295	106.2649951	103.9352992	101.6685713	99.4627281	97.31576958
180918A00012	9/18/2018	3.06	9/17/2021	9/18/2018	102.13426	101.8153372	101.4984199	101.183485	100.8705137	100.5594877	100.2503888	99.94319915	99.63790092
180918A00013	9/18/2018	3.11	9/16/2022	9/18/2018	109.15527	107.7273321	106.3294887	104.9607979	103.6203567	102.3073	101.0207984	99.76005608	98.52430935
180918A00038	9/18/2018	3.11	9/16/2022	9/18/2018	109.15527	107.7273321	106.3294887	104.9607979	103.6203567	102.3073	101.0207984	99.76005608	98.52430935
180918A00041	9/18/2018	3.18	9/18/2024	9/18/2018	123.57443	119.6659759	115.9033888	112.280396	108.7910337	105.4296287	102.1907823	99.06935526	96.06045386
180920A00014	9/20/2018	3.59	9/20/2028	9/20/2018	148.87797	139.131219	130.1031184	121.7367045	113.9798181	106.7846735	100.1074702	93.90804141	88.14953499
180920A00027	9/20/2018	3.04	9/20/2022	9/20/2018	109.30379	107.8675877	106.4603034	105.0810822	103.7291059	102.4035883	101.1037739	99.82893605	98.57837566
180920A00028	9/20/2018	3.12	9/20/2023	9/20/2018	116.55178	113.9300843	111.3813195	108.9030047	106.4927608	104.1483057	101.8674489	99.64808795	97.4882035
180920A00035	9/20/2018	3.16	9/20/2022	9/20/2018	109.29253	107.8592332	106.4547478	105.0782274	103.7288577	102.4058566	101.1084719	99.83598038	98.5876863
180920A00062	9/20/2018	3.12	9/20/2023	9/20/2018	116.55178	113.9300843	111.3813195	108.9030047	106.4927608	104.1483057	101.8674489	99.64808795	97.4882035
180920A00063	9/20/2018	3	9/20/2021	9/20/2018	102.19881	101.8708265	101.5449549	101.2211763	100.8994706	100.5798177	100.262198	99.94659214	99.63298085
180921A00021	9/21/2018	2.99	9/21/2021	9/21/2018	102.21477	101.8838733	101.5551232	101.2285015	100.9039876	100.5815609	100.2612014	99.94288909	99.62660443
180921A00039	9/21/2018	3.15	9/21/2022	9/21/2018	109.29253	107.8582045	106.4523596	105.0741765	103.7228633	102.397659	101.097831	99.8226745	98.571511
180924A00044	9/24/2018	3.1	9/24/2021	9/24/2018	102.2816	101.9422336	101.6051147	101.2702257	100.9375446	100.6070494	100.2787188	99.95253157	99.62846674
180924A00047	9/24/2018	3.14	9/23/2022	9/24/2018	109.30615	107.8696523	106.4609912	105.0793873	103.7240937	102.3943913	101.0895871	99.80901305	98.55202523
180925A00060	9/25/2018	3.23	8/25/2023	9/25/2018	115.95105	113.4239614	110.9657967	108.5741277	106.2466348	103.9811012	101.775407	99.62752396	97.53551106
180926A00004	9/26/2018	3.04	9/26/2022	9/26/2018	109.38624	107.9432229	106.5271652	105.1373575	103.7731172	102.4337846	101.118723	99.82731676	98.55897106
180926A00031	9/26/2018	3.24	9/26/2023	9/26/2018	116.58099	113.9483499	111.3890858	108.9007302	106.4809158	104.1273684	101.8379031	99.61042032	97.4429015

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180927A00008	9/27/2018	3.14	9/27/2022	9/27/2018	109.36081	107.9197896	106.505298	105.1166583	103.7532139	102.41433	101.0993927	99.80780817	98.53900189
180927A00015	9/27/2018	3.02	9/27/2022	9/27/2018	109.37217	107.9282199	106.5109017	105.1195279	103.7534386	102.4119956	101.0945819	99.80060088	98.52947519
180927A00042	9/27/2018	3.02	9/27/2022	9/27/2018	109.37217	107.9282199	106.5109017	105.1195279	103.7534386	102.4119956	101.0945819	99.80060088	98.52947519
181001A00074	10/1/2018	3.03	10/3/2022	10/1/2018	109.49665	108.0353206	106.6008391	105.1925287	103.8097324	102.451815	101.1181616	99.80817728	98.52128601
181002A00019	10/2/2018	2.98	10/4/2021	10/2/2018	102.46059	102.0915343	101.7251416	101.3613829	101.0002297	100.6416541	100.2856285	99.9321256	99.58111869
181004A00029	10/4/2018	3.7	10/4/2028	10/4/2018	150.01661	140.1748604	131.0612866	122.6179988	114.7919987	107.53474	100.8017334	94.55218819	88.74868742
181005A00011	10/5/2018	3.2	10/5/2023	10/5/2018	117.04083	114.3656233	111.7657822	109.2387616	106.7821134	104.3934865	102.0706223	99.81135041	97.61358486
181005A00012	10/5/2018	3.33	10/4/2024	10/5/2018	124.408	120.4321689	116.6061217	112.9234193	109.3779322	105.9638262	102.6755462	99.50780175	96.45555272
181005A00017	10/5/2018	3.27	4/11/2023	10/5/2018	113.38736	111.3124629	109.2863223	107.3074984	105.3745998	103.486285	101.6412606	99.83827902	98.07613688
181009A00008	10/9/2018	3.24	10/7/2022	10/9/2018	109.67489	108.2030354	106.7583812	105.3402339	103.9479245	102.5808057	101.2382516	99.91965632	98.62443342
181009A00035	10/9/2018	3.12	10/11/2022	10/9/2018	109.78055	108.2923802	106.8319594	105.3985789	103.9915498	102.6102061	101.2539037	99.92201965	98.61395118
181009A00036	10/9/2018	3.07	10/8/2021	10/9/2018	102.5708	102.1898549	101.8117483	101.4364481	101.0639231	100.6941424	100.3270757	99.96269299	99.6009649
181010A00018	10/10/2018	3.17	6/1/2021	10/10/2018	100.07701	100.0658586	100.0547189	100.0435899	100.0324713	100.0213633	100.0102657	99.99917869	99.98810211
181010A00020	10/10/2018	3.27	12/1/2022	10/10/2018	110.79224	109.1442373	107.5297894	105.9479497	104.3978111	102.8784995	101.3891727	99.92901828	98.49725283
181010A00021	10/10/2018	3.29	3/15/2023	10/10/2018	112.8792	110.8950174	108.9561464	107.0612003	105.2088517	103.397825	101.626894	99.89487946	98.20064674
181015A00008	10/15/2018	3.15	9/15/2021	10/15/2018	102.12368	101.8105365	101.4993249	101.1900266	100.882624	100.5770996	100.2734361	99.97161654	99.67162397
181016A00084	10/16/2018	3.21	10/17/2022	10/16/2018	109.84265	108.3384735	106.8626118	105.4143314	103.9929233	102.597702	101.228005	99.88319156	98.56264195
181018A00011	10/18/2018	3.35	10/18/2023	10/18/2018	117.28495	114.5723718	111.9371412	109.3766099	106.8882354	104.469577	102.1182914	99.83212804	97.60892505
181022A00026	10/22/2018	3.18	10/15/2021	10/22/2018	102.71757	102.316278	101.9181323	101.5230931	101.131124	100.7421892	100.3562535	99.97328217	99.59324105
181022A00029	10/22/2018	3.22	10/24/2022	10/22/2018	109.97827	108.4517229	106.9542741	105.4851577	104.0436364	102.628998	101.240554	99.8776393	98.53961046
181023A00052	10/23/2018	3.15	10/23/2023	10/23/2018	117.26832	114.5314137	111.8731472	109.2908011	106.7817717	104.3435608	101.9737705	99.67009866	97.4303346
181025A00010	10/25/2018	3.07	10/25/2022	10/25/2018	109.9821	108.4490993	106.9454226	105.470296	104.0229739	102.6027361	101.2088868	99.84075358	98.49768642
181026A00002	10/26/2018	3.28	10/26/2023	10/26/2018	117.26322	114.5248929	111.8653342	109.2818217	106.7717443	104.3325964	101.9619734	99.65756681	97.41715969
181029A00081	10/29/2018	3.27	4/28/2023	10/29/2018	113.74463	111.6134657	109.5335147	107.5032222	105.5210946	103.5856931	101.695632	99.84957573	98.04623715
181030A00012	10/30/2018	3.32	10/30/2023	10/30/2018	117.44322	114.6897178	112.0157588	109.4185772	106.8955251	104.4440622	102.0617511	99.74625217	97.49531916
181101A00020	11/1/2018	3.26	11/1/2021	11/1/2018	103.0849	102.633092	102.1852408	101.7412963	101.3012077	100.8649247	100.4323982	100.0035798	99.5784218
181102A00006	11/2/2018	3.07	11/2/2021	11/2/2018	103.05723	102.6021173	102.1510221	101.7038948	101.260683	100.8213355	100.3858016	99.954032	99.52597781
181109A00023	11/9/2018	3.39	11/9/2022	11/9/2018	110.54529	108.9657788	107.4172613	105.8989001	104.4098875	102.9494439	101.5168172	100.1112807	98.73213274
181109A00027	11/13/2018	3.48	4/15/2024	11/13/2018	121.13418	117.7888688	114.5545974	111.4270734	108.4021904	105.4760236	102.6448203	99.90499165	97.25310421
181109A00028	11/9/2018	3.72	11/9/2026	11/9/2018	139.1002	132.1538169	125.6035292	119.4246083	113.593995	108.0901805	102.8930943	97.98400085	93.34540358
181109A00029	11/9/2018	3.72	11/9/2026	11/9/2018	139.1002	132.1538169	125.6035292	119.4246083	113.593995	108.0901805	102.8930943	97.98400085	93.34540358
181114A00010	11/14/2018	3.08	11/15/2021	11/14/2018	103.31631	102.8222177	102.3328585	101.8481659	101.3680731	100.8925147	100.4214265	99.9547455	99.49240994
181114A00021	11/14/2018	3.17	11/14/2023	11/14/2018	117.74428	114.9305879	112.199665	109.5485866	106.9745466	104.4748557	102.0469355	99.68831323	97.39661692

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181114A00026	11/14/2018	3.32	12/14/2022	11/14/2018	111.13085	109.4403922	107.7848308	106.1631637	104.5744263	103.0176901	101.492061	99.99667809	98.53071152
181115A00036	11/15/2018	3.2	11/15/2021	11/15/2018	103.33416	102.8405031	102.3515678	101.8672885	101.387599	100.912434	100.4417296	99.97542299	99.51345266
181115A00076	11/15/2018	3.22	12/31/2021	11/15/2018	104.24476	103.6118625	102.98664	102.3689552	101.7586724	101.1556592	100.5597861	99.9709269	99.38895827
181123A00015	11/23/2018	3.14	11/23/2021	11/23/2018	103.46163	102.9440625	102.4316675	101.9243713	101.4220981	100.9247733	100.4323242	99.94467925	99.46176835
181127A00026	11/27/2018	3.2	11/26/2021	11/27/2018	103.55093	103.0242583	102.5029384	101.986887	101.4760244	100.9702727	100.4695557	99.97379832	99.48292727
181128A00031	11/28/2018	3.29	11/28/2023	11/28/2018	117.91949	115.0675611	112.3006076	109.6155834	107.0095706	104.4797747	102.0235179	99.63823378	97.32146181
181129A00023	11/29/2018	3.16	11/29/2021	11/29/2018	103.58938	103.0537377	102.5236204	101.9989469	101.4796335	100.9655986	100.4567621	99.95304537	99.45437156
181129A00027	11/29/2018	3.16	11/29/2021	11/29/2018	103.58938	103.0537377	102.5236204	101.9989469	101.4796335	100.9655986	100.4567621	99.95304537	99.45437156
181130A00037	11/30/2018	3.05	11/30/2023	11/30/2018	117.73129	114.8665933	112.0875883	109.3911896	106.7744436	104.2345216	101.768714	99.37442442	97.04916402
181203A00053	12/4/2018	3.23	12/1/2023	12/4/2018	117.81675	114.9565611	112.1818106	109.489426	106.8764651	104.3401104	101.8776628	99.48653578	97.16424981
181211A00018	12/11/2018	3.14	12/11/2023	12/11/2018	117.76354	114.8719924	112.0675262	109.3469778	106.7073202	104.1456565	101.6592128	99.24533254	96.90147018
181211A00043	12/11/2018	3.14	12/11/2023	12/11/2018	117.76354	114.8719924	112.0675262	109.3469778	106.7073202	104.1456565	101.6592128	99.24533254	96.90147018
181212A00019	12/12/2018	3.19	12/12/2023	12/12/2018	117.91746	115.0206301	112.2110993	109.4856908	106.8413676	104.2752232	101.7844749	99.3664575	97.01861767
181213A00031	12/13/2018	2.97	12/13/2023	12/13/2018	117.76065	114.8536762	112.0345735	109.3001381	106.6473044	104.0731386	101.5748325	99.1496968	96.79515541
181217A00010	12/17/2018	3.11	12/15/2023	12/17/2018	117.75703	114.8527415	112.0362049	109.3042156	106.6537126	104.0817664	101.5855731	99.16244731	96.80981698
181218A00072	12/18/2018	3.04	12/19/2022	12/18/2018	110.77357	109.0709063	107.4035871	105.7705903	104.1709309	102.6036611	101.0678686	99.56267533	98.0872351
181218A00077	12/18/2018	3.09	12/18/2023	12/18/2018	117.75848	114.8445541	112.0188837	109.2782365	106.6195255	104.0397968	101.5362237	99.10609921	96.74683107
181224A00038	12/24/2018	3.04	12/22/2023	12/24/2018	117.69605	114.7701562	111.9331656	109.1818152	106.5129836	103.9236851	101.4110626	98.97238109	96.60502161
181227A00019	12/28/2020	3.1	12/29/2025	12/28/2020	130.45669	124.8424524	119.5051358	114.4295541	109.6014362	105.0073687	100.6347394	96.47168516	92.50704274
181227A00022	12/27/2019	2.91	12/27/2022	12/27/2019	110.71156	108.9850625	107.2947215	105.6394733	104.0182974	102.4302128	100.8742756	99.34957786	97.85524523
181227A00026	12/27/2018	3.03	12/27/2023	12/27/2018	117.76068	114.81788	111.9648481	109.1982753	106.5149959	103.9119824	101.3863385	98.93529245	96.55619068
181227A00027	12/27/2018	3.24	12/26/2025	12/27/2018	131.11257	125.4929421	120.1498794	115.0682371	110.2337882	105.6331596	101.253775	97.08380396	93.11211248
181227A00028	12/27/2018	3.46	12/27/2028	12/27/2018	149.32849	139.1986199	129.8409777	121.1923682	113.19509	105.7964321	98.94821702	92.60638844	86.73063859
181228A00008	12/28/2018	2.9	12/28/2021	12/28/2018	103.99224	103.369221	102.7536502	102.1453932	101.5443202	100.9503046	100.3632228	99.78295405	99.20938035
190102A00037	1/2/2019	2.8	7/2/2021	1/2/2019	100.63833	100.540433	100.4427305	100.3452234	100.2479112	100.1507932	100.053869	99.95713788	99.86059929
190102A00041	1/2/2019	2.91	1/2/2024	1/2/2019	117.53673	114.5781553	111.7103036	108.929805	106.2334425	103.6181405	101.0809578	98.61908035	96.22981506
190102A00050	1/2/2019	3.38	1/3/2034	1/2/2019	179.41954	160.3512014	143.551058	128.7345809	115.6543973	104.0952668	93.86975685	84.8145189	76.78708082
190102A00058	1/2/2019	2.91	1/2/2024	1/2/2019	117.53673	114.5781553	111.7103036	108.929805	106.2334425	103.6181405	101.0809578	98.61908035	96.22981506
190103A00010	1/3/2019	2.7	1/3/2024	1/3/2019	117.40142	114.4322147	111.5543367	108.7643867	106.0591167	103.4354223	100.8903349	98.42101483	96.02474498
190104A00033	1/4/2019	3.37	1/31/2029	1/4/2019	149.08084	138.8330423	129.3754824	120.6427676	112.5752586	105.1185325	98.2228992	91.84296611	85.93724467
190107A00010	1/7/2019	2.66	1/9/2023	1/7/2019	110.7665	108.9967081	107.2646121	105.5690756	103.9090116	102.2833762	100.6911663	99.13141777	97.60320342
190107A00019	1/7/2019	2.92	1/5/2024	1/7/2019	117.61728	114.6482221	111.770421	108.9804826	106.275162	103.6513576	101.1061036	98.63656306	96.24002132
190107A00022	1/7/2019	2.83	1/7/2022	1/7/2019	104.13859	103.4850426	102.8396974	102.202398	101.5729942	100.95134	100.3372927	99.73071297	99.13146521

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190107A00023	1/7/2019	2.87	1/6/2023	1/7/2019	110.83018	109.0728458	107.3527431	105.668757	104.0198207	102.4049089	100.8230363	99.27325548	97.7546551
190107A00024	1/7/2019	2.91	1/5/2024	1/7/2019	117.58951	114.6208354	111.7434086	108.9538357	106.248872	103.6254163	101.0805031	98.61129552	96.21507926
190107A00028	1/7/2019	2.62	1/7/2022	1/7/2019	104.07178	103.4176253	102.7716888	102.1338179	101.5038619	100.881674	100.267111	99.66003317	99.06030416
190107A00036	1/7/2019	2.84	4/15/2022	1/7/2019	105.99009	105.0297803	104.086857	103.160847	102.2512979	101.3577733	100.4798523	99.61712832	98.7692091
190110A00001	1/10/2019	2.88	1/10/2022	1/10/2019	104.22711	103.5642383	102.909795	102.2636219	101.6255626	100.9954649	100.37318	99.75856334	99.15147346
190110A00002	1/10/2019	2.93	1/10/2023	1/10/2019	111.00593	109.2351511	107.5020589	105.8055188	104.1444442	102.5177914	100.9245578	99.36377944	97.83452941
190110A00004	1/10/2019	3.09	1/10/2025	1/10/2019	124.64877	120.3556165	116.2354817	112.2803793	108.4827444	104.8354059	101.3315635	97.96476569	94.72888981
190110A00005	1/10/2019	3.2	1/9/2026	1/10/2019	131.13753	125.4697918	120.0829738	114.9615829	110.0910703	105.4577673	101.0488265	96.85216778	92.85642797
190110A00010	1/10/2019	2.97	1/16/2024	1/10/2019	117.95175	114.9436324	112.0287798	109.203685	106.4649995	103.8095247	101.2342037	98.73611414	96.312461
190110A00013	1/10/2019	2.97	1/17/2024	1/10/2019	117.96954	114.9580414	112.0399891	109.2118639	106.470308	103.8121139	101.2342166	98.73368593	96.30771964
190110A00014	1/10/2019	2.97	1/17/2024	1/10/2019	117.96954	114.9580414	112.0399891	109.2118639	106.470308	103.8121139	101.2342166	98.73368593	96.30771964
190110A00028	1/10/2019	2.78	1/10/2024	1/10/2019	117.74739	114.7514052	111.8480684	109.03391	106.3056148	103.660015	101.094083	98.60492341	96.18976668
190111A00013	1/11/2019	2.87	1/7/2022	1/11/2019	104.16381	103.5101734	102.8647383	102.2273496	101.5978575	100.9761157	100.3619816	99.7553158	99.15598272
190111A00026	1/11/2019	3.48	1/11/2034	1/11/2019	181.04919	161.8419907	144.9197779	129.995711	116.8204491	105.1770697	94.87670069	85.75476033	77.66771838
190114A00040	1/14/2019	2.89	1/14/2025	1/14/2019	124.5534	120.2325215	116.0866398	112.1076413	108.2878398	104.6199517	101.0970715	97.71265004	94.46047356
190114A00043	1/14/2019	2.88	1/14/2022	1/14/2019	104.30312	103.6279563	102.9615271	102.3036683	101.6542151	101.0130069	100.3798873	99.75470371	99.1373074
190115A00028	1/15/2019	2.86	11/8/2021	1/15/2019	103.03981	102.5675542	102.0996316	101.6359833	101.1765508	100.7212766	100.2701042	99.8229784	99.37984471
190115A00029	1/15/2019	2.86	11/8/2021	1/15/2019	103.03981	102.5675542	102.0996316	101.6359833	101.1765508	100.7212766	100.2701042	99.8229784	99.37984471
190115A00034	1/15/2019	2.91	1/17/2023	1/15/2019	111.10215	109.3096869	107.5556745	105.8389486	104.1583891	102.5129208	100.901511	99.32316746	97.77693667
190122A00007	1/22/2019	3.03	1/22/2024	1/22/2019	118.22822	115.1974366	112.261056	109.415507	106.657383	103.9834307	101.3905421	98.87574663	96.43620413
190122A00042	1/22/2019	2.79	1/23/2023	1/22/2019	111.24846	109.432568	107.6559695	105.9174591	104.2158806	102.5501247	100.9191268	99.32186438	97.75735516
190122A00045	1/22/2019	3.17	1/22/2027	1/22/2019	137.96206	130.7472378	123.9593378	117.5707396	111.5557576	105.8904986	100.5527261	95.52173672	90.77824599
190122A00046	1/22/2019	3.29	1/22/2029	1/22/2019	149.84325	139.5297378	130.0113124	121.2222281	113.1025133	105.5974366	98.65702297	92.23561562	86.29148174
190123A00005	1/23/2019	2.94	1/24/2022	1/23/2019	104.53398	103.8278763	103.1313015	102.4440614	101.7659692	101.0968432	100.4365064	99.78478637	99.14151528
190123A00035	1/23/2019	3.18	1/22/2027	1/23/2019	138.02527	130.8085812	124.0188993	117.6285953	111.6119798	105.9451557	100.6058831	95.57345548	90.82858509
190123A00036	1/23/2019	3.32	1/23/2029	1/23/2019	150.12124	139.7929834	130.2609742	121.4593594	113.3280718	105.8122941	98.86197349	92.43138342	86.47872787
190128A00035	1/28/2019	3.04	1/26/2024	1/28/2019	118.32853	115.2838041	112.3342073	109.4761346	106.706141	104.0209376	101.4173825	98.89247391	96.44334192
190129A00028	1/30/2019	2.92	2/1/2022	1/30/2019	104.67361	103.9427947	103.2221685	102.5115212	101.8106466	101.1193441	100.4374185	99.76467994	99.10094364
190130A00012	1/30/2019	2.92	1/31/2022	1/30/2019	104.65444	103.9267335	103.2091311	102.5014238	101.8034078	101.1148851	100.4356631	99.7655541	99.1043757
190130A00018	1/30/2019	2.95	10/17/2022	1/30/2019	109.46617	107.9648734	106.4918448	105.0463472	103.6276728	102.2351377	100.8680807	99.52586217	98.20786372
190130A00020	1/30/2019	2.97	4/17/2023	1/30/2019	112.93177	110.8426835	108.8031071	106.8115648	104.8666323	102.966937	101.1111558	99.29801328	97.52627909
190131A00011	1/31/2019	3.13	1/30/2026	1/31/2019	131.11575	125.3775253	119.92677	114.7474621	109.8245621	105.1439514	100.6923696	96.45735768	92.4272044
190131A00017	1/31/2019	2.83	3/25/2022	1/31/2019	105.58399	104.690625	103.8123518	102.9487884	102.0995677	101.2643345	100.4427453	99.63446778	98.83918042

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190131A00019	1/31/2019	3.44	1/30/2034	1/31/2019	180.74608	161.4801211	144.5153031	129.5616836	116.3673579	104.7132919	94.40887664	85.28810484	77.20627856
190131A00027	1/31/2019	2.86	1/31/2023	1/31/2019	111.27492	109.4391178	107.6433503	105.8863785	104.1670127	102.4841119	100.8365815	99.22337096	97.64347138
190131A00053	1/31/2019	2.67	1/31/2023	1/31/2019	111.18677	109.3474392	107.5482989	105.7880989	104.065643	102.3797843	100.7294225	99.1135016	97.53100781
190201A00009	2/1/2019	2.8	2/4/2022	2/1/2019	104.64589	103.906076	103.1767134	102.4575792	101.7484594	101.0491456	100.3594353	99.67913162	99.00804291
190201A00011	2/1/2019	2.8	2/4/2022	2/1/2019	104.64589	103.906076	103.1767134	102.4575792	101.7484594	101.0491456	100.3594353	99.67913162	99.00804291
190206A00013	2/6/2019	2.68	2/6/2023	2/6/2019	111.31507	109.4564572	107.6387721	105.8607271	104.121093	102.418692	100.7523948	99.12111804	97.52382185
190208A00008	2/8/2019	2.86	2/8/2024	2/8/2019	118.04328	114.9615676	111.9772625	109.0866217	106.2860745	103.5722141	100.9417889	98.39169386	95.91896306
190211A00002	2/11/2019	2.88	2/12/2024	2/11/2019	118.17069	115.0745196	112.0765414	109.1729672	106.3601845	103.6347471	100.9933667	98.43290413	95.950361
190211A00011	2/11/2019	2.8	2/11/2022	2/11/2019	104.77775	104.0161513	103.265622	102.5259171	101.7968034	101.0780544	100.36945	99.67077629	98.98182536
190211A00016	2/11/2019	3.01	2/11/2025	2/11/2019	124.86146	120.4593818	116.2383371	112.1897892	108.3056599	104.5783027	101.000476	97.56531899	94.26632901
190211A00017	2/11/2019	3.12	2/11/2026	2/11/2019	131.25429	125.4718148	119.9808252	114.7649609	109.8088809	105.0981901	100.6193752	96.35974488	92.30737496
190212A00017	2/12/2019	2.86	6/30/2023	2/12/2019	114.05446	111.7243452	109.4543809	107.2425845	105.0870563	102.9859743	100.93759	98.94022454	96.99226588
190213A00023	2/13/2019	2.93	2/13/2024	2/13/2019	118.33294	115.2312815	112.2280579	109.319468	106.5018869	103.7718575	101.126081	98.56140803	96.0748311
190214A00004	2/14/2019	2.6	2/14/2022	2/14/2019	104.76349	103.9918007	103.2314697	102.4822479	101.7438927	101.0161688	100.2988475	99.59170666	98.89453053
190214A00006	2/14/2019	2.67	2/14/2024	2/14/2019	118.04634	114.9355855	111.923887	109.0074029	106.1824752	103.4456152	100.7934947	98.22293719	95.73090914
190214A00008	2/14/2019	2.64	2/14/2023	2/14/2019	111.39057	109.5071131	107.6655517	105.8645564	104.102854	102.3792256	100.6925028	99.04156569	97.42533993
190214A00012	2/14/2019	2.6	2/14/2022	2/14/2019	104.76349	103.9918007	103.2314697	102.4822479	101.7438927	101.0161688	100.2988475	99.59170666	98.89453053
190214A00013	2/14/2019	2.64	2/14/2023	2/14/2019	111.39057	109.5071131	107.6655517	105.8645564	104.102854	102.3792256	100.6925028	99.04156569	97.42533993
190215A00003	2/15/2019	2.82	2/15/2022	2/15/2019	104.86795	104.0938399	103.3311461	102.5796217	101.8390224	101.1091111	100.3896573	99.68043735	98.98123372
190215A00017	2/15/2019	2.89	2/15/2024	2/15/2019	118.25207	115.1452472	112.1372064	109.2241218	106.4023491	103.668413	101.0189974	98.45093741	95.96121052
190215A00046	2/15/2019	2.7	2/15/2024	2/15/2019	118.15089	115.0354543	112.0192998	109.0985715	106.2695997	103.528885	100.8730894	98.29902664	95.80365448
190219A00026	2/19/2019	2.8	2/22/2022	2/19/2019	104.98507	104.1891869	103.4053589	102.6333091	101.8727734	101.1234956	100.385227	99.65772625	98.94075883
190219A00045	2/19/2019	2.8	2/28/2022	2/19/2019	105.09821	104.2836005	103.4815907	102.6918884	101.9142119	101.1482883	100.3938528	99.65064847	98.91842602
190220A00007	2/20/2019	2.87	2/20/2024	2/20/2019	118.28115	115.1581045	112.1347845	109.2073081	106.3719793	103.6252745	100.9638329	98.38444712	95.88405528
190221A00002	2/21/2019	2.81	2/22/2022	2/21/2019	104.99268	104.196773	103.4129128	102.6408313	101.8802642	101.1309554	100.392656	99.66512481	98.94812727
190225A00026	2/25/2019	3.43	2/27/2034	2/25/2019	181.03366	161.632975	144.5618244	129.5251329	116.266749	104.5641228	94.22373684	85.0771797	76.97776888
190301A00009	3/1/2019	2.83	3/1/2022	3/1/2019	105.14042	104.3225641	103.5174054	102.7246494	101.9440111	101.1752143	100.4179913	99.6720822	98.93723492
190308A00007	3/8/2019	2.8	3/8/2024	3/8/2019	118.37427	115.194741	112.1180261	109.1401328	106.257253	103.4657533	100.7621657	98.14317872	95.60562894
190311A00003	3/11/2019	2.68	9/10/2021	3/11/2019	101.89167	101.593322	101.2967361	101.0018927	100.7087765	100.4173721	100.1276646	99.8396391	99.55328082
190311A00009	3/11/2019	2.54	3/11/2022	3/11/2019	105.17872	104.3288698	103.492727	102.6699655	101.8602658	101.0633184	100.2788238	99.50649151	98.74604021
190313A00019	3/13/2019	2.73	7/15/2022	3/13/2019	107.58581	106.3298224	105.1030983	103.9046272	102.7334409	101.5886152	100.4692673	99.37455335	98.30366634
190314A00027	3/22/2019	2.92	3/21/2025	3/22/2019	125.13346	120.5950375	116.2475259	112.0818574	108.0894478	104.2621658	100.5923065	97.07256656	93.6960211
190318A00021	3/18/2019	2.76	3/18/2024	3/18/2019	118.43171	115.2181612	112.1092025	109.100807	106.189133	103.3705101	100.6414308	97.99854172	95.43863622

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190318A00024	3/18/2019	2.57	3/18/2024	3/18/2019	118.3276	115.1049874	111.9874945	108.9710696	106.0518438	103.2261211	100.4903698	97.84121397	95.27542555
190319A00013	3/19/2019	2.72	3/18/2022	3/19/2019	105.3608	104.4899601	103.6334914	102.791043	101.9622728	101.1468493	100.3444519	99.55477031	98.77750372
190321A00018	3/21/2019	2.45	3/21/2022	3/21/2019	105.28677	104.4057065	103.539356	102.6873532	101.8493436	101.0249845	100.2139445	99.41590243	98.63054774
190321A00021	3/21/2019	2.67	3/21/2024	3/21/2019	118.21376	114.9935034	111.8782808	108.8640631	105.947001	103.1234153	100.3897891	97.74275864	95.17910624
190321A00044	3/21/2019	2.45	3/21/2022	3/21/2019	105.28677	104.4057065	103.539356	102.6873532	101.8493436	101.0249845	100.2139445	99.41590243	98.63054774
190326A00001	3/26/2019	2.55	3/28/2022	3/26/2019	105.39991	104.4982098	103.6118904	102.7405636	101.8838516	101.0413892	100.2128232	99.39781207	98.59602544
190326A00004	3/26/2019	2.58	9/26/2023	3/26/2019	114.95036	112.3379352	109.7984411	107.3294221	104.9285239	102.5934854	100.3221341	98.11238186	95.96222182
190327A00006	3/27/2019	2.53	3/27/2024	3/27/2019	117.89403	114.6586688	111.5292826	108.5018292	105.5724423	102.737424	99.99323632	97.33649336	94.76395406
190327A00013	3/27/2019	2.53	3/27/2024	3/27/2019	117.89403	114.6586688	111.5292826	108.5018292	105.5724423	102.737424	99.99323632	97.33649336	94.76395406
190327A00024	3/27/2019	2.48	3/25/2022	3/27/2019	105.28626	104.3942995	103.5174082	102.6552104	101.8073393	100.9734401	100.1531696	99.34619571	98.55219723
190327A00031	3/27/2019	2.53	3/27/2024	3/27/2019	117.89403	114.6586688	111.5292826	108.5018292	105.5724423	102.737424	99.99323632	97.33649336	94.76395406
190327A00032	3/27/2019	2.53	1/26/2024	3/27/2019	116.87962	113.855318	110.9256535	108.0870375	105.3360405	102.6693883	100.0839533	97.57674718	95.14491322
190328A00003	3/28/2019	2.64	9/30/2024	3/28/2019	121.27251	117.3797558	113.6333735	110.0270889	106.5549335	103.2112247	99.99055056	96.88775576	93.89792765
190328A00019	3/28/2019	2.56	3/28/2024	3/28/2019	118.00188	114.7615928	111.6275015	108.5955566	105.6618869	102.8227894	100.0747207	97.4142896	94.83824941
190328A00025	3/28/2019	2.51	7/23/2021	3/28/2019	100.97827	100.8209407	100.66411	100.5077731	100.3519275	100.1965711	100.0417015	99.88731646	99.73341365
190328A00033	4/25/2019	2.56	4/25/2024	4/25/2019	118.45825	115.1217095	111.8972275	108.7804264	105.7671224	102.8533178	100.0351926	97.30909477	94.67153225
190328A00046	3/28/2019	2.7	3/4/2025	3/28/2019	123.94264	119.4884714	115.2201304	111.1287565	107.2059669	103.4438305	99.8348403	96.37188759	93.04823823
190328A00053	3/28/2019	2.33	3/28/2022	3/28/2019	105.3104	104.407713	103.5204502	102.6482187	101.7906393	100.9473454	100.1179824	99.30220747	98.49968888
190328A00065	3/28/2019	2.56	3/28/2024	3/28/2019	118.00188	114.7615928	111.6275015	108.5955566	105.6618869	102.8227894	100.0747207	97.4142896	94.83824941
190328A00079	3/28/2019	2.37	3/28/2024	3/28/2019	117.89594	114.6464637	111.5037263	108.4636502	105.5223367	102.6760566	99.92124227	97.25447926	94.67249913
190329A00017	3/29/2019	2.59	3/29/2023	3/29/2019	111.81992	109.8004195	107.8276067	105.9001232	104.0166597	102.1759529	100.3767839	98.61797636	96.8983944
190329A00034	3/29/2019	2.56	3/29/2022	3/29/2019	105.42663	104.5217112	103.632283	102.7579521	101.8983367	101.0530678	100.2217885	99.40415387	98.59983003
190401A00035	4/1/2019	2.53	10/1/2021	4/1/2019	102.21529	101.8558377	101.4989094	101.1444792	100.792521	100.4430089	100.0959175	99.75122187	99.40889714
190402A00004	4/2/2019	2.9	4/2/2029	4/2/2019	147.45913	136.9739216	127.3177143	118.420537	110.2186672	102.6540392	95.67371635	89.22941358	83.27706753
190402A00010	4/2/2019	2.4	4/6/2022	4/2/2019	105.53266	104.6010248	103.6858006	102.7865587	101.9028828	101.0343713	100.1806361	99.34130236	98.51600776
190402A00014	4/2/2019	2.64	4/2/2024	4/2/2019	118.32701	115.0658966	111.912107	108.861531	105.9102398	103.0544757	100.2906442	97.61530557	95.02516752
190403A00024	4/3/2019	2.61	7/29/2022	4/3/2019	107.69142	106.3901209	105.1201746	103.8804607	102.6699093	101.4875008	100.3322624	99.20326586	98.0996246
190404A00003	4/4/2019	2.47	4/4/2024	4/4/2019	118.31524	115.0370127	111.8671052	108.8013507	105.8357693	102.9665552	100.1900685	97.50282694	94.90149796
190404A00023	4/5/2019	2.62	5/16/2022	4/5/2019	106.35853	105.2996549	104.2618235	103.2444119	102.2468218	101.2684777	100.3088265	99.36733593	98.44349394
190404A00024	4/5/2019	2.61	2/15/2022	4/5/2019	104.71217	103.9387024	103.1766499	102.4257602	101.6857891	100.9564995	100.2376611	99.52905032	98.83044977
190408A00004	4/8/2019	2.6	10/8/2021	4/8/2019	102.36496	101.9848458	101.6075632	101.2330775	100.8613575	100.4923725	100.1260924	99.7624874	99.4015282
190409A00019	4/9/2019	2.91	4/9/2029	4/9/2019	147.649	137.1300948	127.444609	118.5220531	110.2982389	102.7146895	95.71810409	89.25987593	83.29565713
190411A00017	4/15/2019	2.65	4/15/2024	4/15/2019	118.57292	115.2665724	112.0702758	108.9797712	105.9909846	103.1000217	100.3031595	97.59683717	94.97764852

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190411A00019	5/1/2019	2.63	5/2/2022	5/1/2019	106.11097	105.0972267	104.1028055	103.127161	102.1697651	101.2301093	100.3077039	99.40207718	98.51277428
190411A00020	5/1/2019	2.63	5/2/2022	5/1/2019	106.11097	105.0972267	104.1028055	103.127161	102.1697651	101.2301093	100.3077039	99.40207718	98.51277428
190411A00029	4/11/2019	2.46	4/11/2024	4/11/2019	118.40006	115.0980818	111.905886	108.8192216	105.8340305	102.9464336	100.1527218	97.44934774	94.83291768
190423A00002	4/23/2019	2.52	4/23/2024	4/23/2019	118.78502	115.4386187	112.2046154	109.078617	106.0564263	103.1340336	100.3076068	97.57348268	94.92815857
190424A00007	4/24/2019	2.66	4/24/2024	4/24/2019	118.75329	115.4154175	112.1895137	109.0712085	106.0563255	103.1408741	100.3210405	97.59317883	94.95380258
190424A00019	4/24/2019	2.67	4/24/2024	4/24/2019	118.78443	115.4460748	112.2197057	109.100947	106.0856218	103.1697392	100.3494851	97.62121317	94.98143662
190426A00008	4/26/2019	2.57	4/26/2022	4/26/2019	105.94414	104.9499656	103.9744014	103.0169278	102.0770452	101.1542722	100.248145	99.35821618	98.48405437
190426A00009	4/26/2019	2.63	4/26/2024	4/26/2019	118.69294	115.3495935	112.1186106	108.9955917	105.9763385	103.0568403	100.2332642	97.50194621	94.85938298
190426A00012	5/1/2019	2.57	7/15/2022	5/1/2019	107.39798	106.143176	104.9176233	103.7203047	102.5502527	101.4065436	100.2882949	99.19466322	98.12484211
190426A00016	5/1/2019	2.58	4/14/2023	5/1/2019	112.1045	110.0329721	108.010374	106.035254	104.1062098	102.2218898	100.3809912	98.58225735	96.82447635
190426A00032	6/27/2019	2.55	6/27/2022	6/27/2019	107.04446	105.8493226	104.6807932	103.5379888	102.4200673	101.3262227	100.2556838	99.20771168	98.18159864
190426A00033	6/27/2019	2.55	6/27/2022	6/27/2019	107.04446	105.8493226	104.6807932	103.5379888	102.4200673	101.3262227	100.2556838	99.20771168	98.18159864
190429A00003	4/29/2019	2.62	10/13/2023	4/29/2019	115.3454	112.6736031	110.0777167	107.555158	105.1034432	102.7201878	100.4031015	98.14998454	95.9587229
190429A00004	4/29/2019	2.65	4/15/2024	4/29/2019	118.57292	115.2665724	112.0702758	108.9797712	105.9909846	103.1000217	100.3031595	97.59683717	94.97764852
190430A00003	4/30/2019	2.43	8/2/2023	4/30/2019	114.02018	111.5798868	109.2048404	106.8927997	104.6416199	102.4492484	100.3137196	98.23315068	96.20573711
190430A00021	4/30/2019	2.52	10/29/2021	4/30/2019	102.70572	102.2637108	101.8254944	101.3910232	100.9602494	100.5331261	100.1096069	99.68964663	99.27320048
190501A00003	5/1/2019	2.61	5/1/2024	5/1/2019	118.71368	115.3536541	112.1070713	108.9694693	105.9365905	103.004368	100.1689167	97.42652327	94.77363803
190501A00028	5/1/2019	2.42	5/1/2024	5/1/2019	118.60517	115.2354546	111.9797644	108.8336122	105.7927095	102.8529608	100.0104536	97.26144934	94.60237408
190502A00027	5/2/2019	2.42	5/2/2022	5/2/2019	106.02078	105.0058705	104.0103376	103.0336301	102.0752177	101.1345902	100.2112559	99.30474117	98.4145896
190507A00027	5/7/2019	2.59	5/7/2024	5/7/2019	118.75104	115.3705016	112.1047426	108.9492238	105.8996131	102.9517739	100.1017554	97.34578301	94.68024906
190509A00019	5/9/2019	2.5	10/12/2021	5/9/2019	102.398	102.0061906	101.6173907	101.2315612	100.8486682	100.468678	100.0915576	99.71727457	99.34579682
190509A00029	5/9/2019	2.34	6/9/2022	5/9/2019	106.62632	105.488542	104.3749726	103.2848477	102.2174325	101.1720229	100.1479434	99.14454601	98.16120876
190509A00030	5/9/2019	2.48	11/9/2021	5/9/2019	102.88257	102.4078138	101.9374394	101.4713897	101.009605	100.5520269	100.0985979	99.64926158	99.20396269
190510A00009	5/10/2019	2.47	11/10/2021	5/10/2019	102.89557	102.417838	101.9445469	101.475634	101.0110387	100.5507013	100.0945634	99.64256761	99.19465751
190513A00013	5/13/2019	2.52	5/13/2024	5/13/2019	118.62909	115.2305228	111.948011	108.7769429	105.7129136	102.751718	99.88934131	97.12194844	94.44587541
190513A00076	5/13/2019	2.42	11/12/2021	5/13/2019	102.90725	102.423612	101.9445266	101.4699268	100.9997499	100.5339339	100.0724183	99.61514359	99.1620514
190514A00020	5/14/2019	2.66	5/14/2025	5/14/2019	124.88893	120.1723442	115.6614729	111.3462414	107.2171216	103.2651014	99.4816532	95.858706	92.38861781
190514A00021	5/14/2019	2.72	11/14/2025	5/14/2019	127.92782	122.5258647	117.384784	112.4905934	107.8301323	103.3910116	99.16156359	95.13079647	91.28835151
190514A00024	5/14/2019	2.34	5/14/2024	5/14/2019	118.56733	115.1548014	111.8591792	108.6758026	105.6002216	102.628189	99.75564969	96.97873151	94.29373514
190514A00073	5/14/2019	2.53	5/14/2024	5/14/2019	118.67731	115.2746674	111.9883233	108.8136508	105.7462317	102.7818489	99.91647556	97.14626605	94.46754605
190515A00002	5/15/2019	2.44	5/16/2022	5/15/2019	106.17847	105.1205775	104.0837155	103.06726	102.0706129	101.0931992	100.1344659	99.19388108	98.27093293
190515A00008	5/15/2019	2.41	11/15/2021	5/15/2019	102.95491	102.4623361	101.9744737	101.4912599	101.0126285	100.5385143	100.0688536	99.60358352	99.14264273
190515A00023	5/15/2019	2.25	5/16/2022	5/15/2019	106.10459	105.0453712	104.0072388	102.9895671	101.9917557	101.0132272	100.0534267	99.11182029	98.18789408

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190516A00012	5/16/2019	2.43	11/16/2021	5/16/2019	102.98204	102.486443	101.9956223	101.5095052	101.0280242	100.551113	100.0787068	99.61074172	99.14715527
190517A00005	5/17/2019	2.31	5/17/2024	5/17/2019	118.52088	115.0990661	111.7948116	108.6034169	105.5203944	102.5414621	99.66253225	96.87970174	94.18924247
190520A00007	5/20/2019	2.52	5/20/2024	5/20/2019	118.74439	115.3207632	112.0148015	108.8217958	105.7372515	102.7568799	99.87658725	97.09246471	94.40077884
190521A00005	5/21/2019	2.56	5/21/2024	5/21/2019	118.88873	115.4595078	112.148238	108.9501914	105.8608589	102.875938	99.99132205	97.20309009	94.50749726
190521A00028	5/21/2019	2.47	11/22/2021	5/21/2019	103.10717	102.59359	102.085117	101.5816797	101.0832036	100.5896155	100.1008439	99.6168183	99.13746992
190521A00043	5/21/2019	2.54	5/22/2023	5/21/2019	112.67659	110.4804827	108.3390069	106.2504502	104.2131646	102.2255654	100.286128	98.3933855	96.54592586
190522A00017	5/23/2019	2.53	3/1/2023	5/23/2019	111.20525	109.2826356	107.4035156	105.5664843	103.7702013	102.0133837	100.2948029	98.61328206	96.96769272
190522A00019	5/23/2019	2.55	5/15/2024	5/23/2019	118.75738	115.3501559	112.0594936	108.8807434	105.8094735	102.841454	99.97264627	97.19919323	94.51741001
190523A00007	5/23/2019	2.28	5/23/2022	5/23/2019	106.25886	105.1768459	104.1167934	103.078041	102.0599515	101.0619131	100.0833379	99.1236607	98.1823382
190523A00008	5/23/2019	2.29	5/23/2023	5/23/2019	112.48913	110.2857715	108.1374188	106.0423429	103.9988788	102.0054261	100.060445	98.16245459	96.31002928
190523A00017	5/23/2019	2.51	3/15/2024	5/23/2019	117.63114	114.4393751	111.3513788	108.3631431	105.4708457	102.6708363	99.95962787	97.33388802	94.79043091
190523A00020	5/23/2019	2.5	2/9/2024	5/23/2019	117.02252	113.9522355	110.9791927	108.0996453	105.3100236	102.6069223	99.98709103	97.44742665	94.98496476
190523A00023	5/23/2019	2.48	3/22/2023	5/23/2019	111.47987	109.4863849	107.5387177	105.6355062	103.7754405	101.9572589	100.1797463	98.44173164	96.7420861
190524A00014	5/24/2019	2.24	5/24/2022	5/24/2019	106.23565	105.1506309	104.0876938	103.0461739	102.0254289	101.0248421	100.0438207	99.08179538	98.13821839
190524A00032	5/24/2019	2.45	5/24/2023	5/24/2019	112.52362	110.3227781	108.1768461	106.0840964	104.042868	102.051564	100.1086483	98.21264306	96.36212591
190528A00003	5/28/2019	2.42	5/31/2022	5/28/2019	106.41489	105.3088215	104.2256748	103.164743	102.1253479	101.1068388	100.1085911	99.13000471	98.17050309
171003A00007	10/3/2017	2.22	10/3/2022	10/3/2017	108.17647	106.7278867	105.3058814	103.9097829	102.5389427	101.1927335	99.87054802	98.57179867	97.29591636
171003A00008	10/3/2017	2.88	10/4/2027	10/3/2017	138.35081	130.2545929	122.6888367	115.6160281	109.00149	102.8131536	97.02134965	91.59861742	86.51953006
171005A00003	10/5/2017	2.02	10/5/2022	10/5/2017	108.10707	106.6500015	105.2198124	103.8158191	102.4373623	101.0838044	99.75452827	98.44893703	97.1664527
171010A00004	10/10/2017	1.92	10/12/2021	10/10/2017	102.20689	101.8151703	101.4264583	101.0407215	100.6579259	100.2780376	99.90102356	99.52685112	99.15548812
171010A00005	10/10/2017	2.06	10/11/2022	10/10/2017	108.26287	106.7862207	105.3371173	103.9148528	102.518744	101.1481306	99.80237378	98.48085571	97.18297855
171010A00024	10/10/2017	2.38	10/10/2023	10/10/2017	114.68986	112.0359907	109.4573311	106.9513212	104.515508	102.1475361	99.8451429	97.6061548	95.42848276
171010A00037	10/10/2017	2.09	10/12/2021	10/10/2017	102.24058	101.849151	101.460722	101.0752614	100.6927351	100.3131096	99.93635194	99.56242955	99.19131044
171010A00038	10/10/2017	2.23	10/11/2022	10/10/2017	108.30849	106.834682	105.3883172	103.9686941	102.5751332	101.2069776	99.86359196	98.54436144	97.24869116
171012A00026	10/12/2017	2.09	10/12/2021	10/12/2017	102.24058	101.849151	101.460722	101.0752614	100.6927351	100.3131096	99.93635194	99.56242955	99.19131044
171013A00021	10/13/2017	2	10/17/2022	10/13/2017	108.27518	106.7800224	105.3130647	103.8735763	102.4608503	101.0742037	99.71297611	98.37652908	97.06424498
171016A00005	10/16/2017	2.2	10/17/2022	10/16/2017	108.38015	106.8871805	105.4223247	103.9848544	102.5740659	101.1892794	99.82983743	98.49510429	97.18446497
171016A00021	10/16/2017	2.2	10/17/2022	10/16/2017	108.38015	106.8871805	105.4223247	103.9848544	102.5740659	101.1892794	99.82983743	98.49510429	97.18446497
171018A00011	10/18/2017	2.68	10/18/2027	10/18/2017	138.36649	130.1703666	122.5161055	115.3650714	108.6815707	102.4326168	96.58771102	91.11864337	85.99930975
171025A00026	10/25/2017	2.64	10/25/2024	10/25/2017	121.67617	117.6922524	113.8610472	110.1758808	106.6304091	103.2185982	99.93470775	96.77327489	93.72909939
171025A00027	10/25/2017	2.36	10/25/2022	10/25/2017	108.73247	107.2125165	105.7215982	104.2589492	102.8238331	101.4155383	100.0333773	98.67668566	97.34482076
171026A00005	10/26/2017	2.16	10/26/2021	10/26/2017	102.50022	102.0674894	101.638399	101.2129071	100.7909686	100.3725391	99.95757512	99.5460337	99.13787271
171026A00007	10/26/2017	2.47	10/26/2023	10/26/2017	115.18851	112.4767687	109.8431974	107.2850906	104.799855	102.3850026	100.0381455	97.75699111	95.53933804

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
171026A00008	10/26/2017	2.6	10/25/2024	10/26/2017	121.52886	117.547586	113.718943	110.0362661	106.4932137	103.0837546	99.80215085	96.64294191	93.60092979
171030A00021	10/30/2017	2.29	11/30/2022	10/30/2017	109.22706	107.5950351	105.9962237	104.4296966	102.8945575	101.3899426	99.91501956	98.46898543	97.05106579
171030A00022	10/30/2017	2.28	10/31/2022	10/30/2017	108.71464	107.1766529	105.6683684	104.1889963	102.7377754	101.3139703	99.91687096	98.5457911	97.20006757
171030A00094	10/30/2017	2.13	11/1/2021	10/30/2017	102.58723	102.1367329	101.6901869	101.2475394	100.8087394	100.3737369	99.94248282	99.51492878	99.09102732
171031A00007	10/31/2017	2.15	12/27/2021	10/31/2017	103.5239	102.9054613	102.2943901	101.6905525	101.0938208	100.5040703	99.921179	99.34502798	98.7755009
171031A00012	10/31/2017	2.28	10/31/2022	10/31/2017	108.71464	107.1766529	105.6683684	104.1889963	102.7377754	101.3139703	99.91687096	98.5457911	97.20006757
171031A00061	10/31/2017	2.28	10/31/2022	10/31/2017	108.71464	107.1766529	105.6683684	104.1889963	102.7377754	101.3139703	99.91687096	98.5457911	97.20006757
171101A00021	11/1/2017	2.51	11/1/2023	11/1/2017	115.39211	112.6587195	110.0046229	107.4270636	104.9233941	102.4910746	100.1276684	97.83083707	95.59833545
171101A00022	11/1/2017	2.65	11/1/2024	11/1/2017	121.82441	117.8146166	113.9593481	110.2518134	106.6855593	103.2544504	99.95265141	96.77461073	93.7150452
171115A00028	11/15/2017	2.25	8/18/2021	11/15/2017	101.37722	101.1455692	100.9149907	100.6854741	100.4570121	100.2295972	100.0032224	99.77788034	99.5535564
171116A00021	11/16/2017	2.16	11/16/2022	11/16/2017	109.00753	107.4157808	105.8557329	104.3265225	102.8273125	101.3572952	99.9156917	98.50175009	97.11474458
171120A00017	11/20/2017	2.41	11/21/2022	11/20/2017	109.26327	107.657988	106.0849106	104.5431462	103.0318387	101.5501629	100.0973225	98.67254933	97.27510197
171127A00016	11/27/2017	2.28	11/27/2023	11/27/2017	115.62368	112.7966271	110.0540983	107.393059	104.8106016	102.3039413	99.87041034	97.50745176	95.2126143
171129A00010	11/29/2017	2.32	11/29/2021	11/29/2017	103.15283	102.6185036	102.0896999	101.5663302	101.048311	100.5355608	100.0279995	99.52554872	99.02813169
171129A00020	11/29/2017	2.89	11/30/2026	11/29/2017	134.36596	127.4803227	120.9934199	114.8800328	109.116668	103.6814312	98.55390994	93.7150657	89.14713435
171204A00020	12/4/2017	2.48	12/5/2022	12/4/2017	109.61415	107.9637756	106.3471702	104.763375	103.2114708	101.6905722	100.199826	98.73840999	97.30553114
171205A00013	12/5/2017	2.4	12/6/2021	12/5/2017	103.31167	102.7561743	102.2066456	101.6629894	101.1251117	100.5929207	100.0663264	99.54524091	99.02957791
171205A00014	12/5/2017	2.49	12/5/2022	12/5/2017	109.63006	107.9795591	106.3628235	104.7789006	103.2268709	101.705849	100.2149818	98.75344684	97.32045109
171206A00008	12/6/2017	2.36	12/6/2021	12/6/2017	103.29009	102.734659	102.1851976	101.6416082	101.1037967	100.5716714	100.0451424	99.52412165	99.00852291
171206A00038	12/6/2017	2.69	12/6/2027	12/6/2017	139.06838	130.671616	122.8407609	115.5346649	108.7153818	102.3479004	96.39990356	90.84154675	85.64525704
171206A00040	12/6/2017	2.23	12/6/2022	12/6/2017	109.45437	107.7985646	106.1767358	104.5879185	103.0311848	101.5056407	100.0104252	98.54470843	97.10769045
171206A00041	12/6/2017	2.44	12/6/2024	12/6/2017	122.17399	118.0271037	114.0445419	110.2188749	106.5430508	103.0103763	99.61449568	96.34937174	93.20926811
171206A00048	12/6/2017	3.04	12/6/2032	12/6/2017	168.55318	151.7795194	136.8609643	123.5811386	111.7499828	101.200432	91.78552775	83.37590494	75.85760463
171207A00019	12/7/2017	2.41	6/16/2022	12/7/2017	106.69055	105.5323411	104.3992099	103.2903485	102.2049831	101.1423727	100.1018071	99.0826055	98.08411468
171207A00036	12/7/2017	2.23	12/7/2022	12/7/2017	109.47156	107.8125788	106.1876709	104.595872	103.0362497	101.5079059	100.0099756	98.54162537	97.1020516
171208A00006	12/8/2017	2.67	12/8/2026	12/8/2017	134.19907	127.2528216	120.7114654	114.549243	108.742168	103.2678959	98.10560373	93.23587804	88.64061235
171212A00024	12/12/2017	2.29	12/12/2022	12/12/2017	109.6544	107.9786796	106.3375687	104.7300714	103.1552325	101.6121328	100.0998871	98.61764281	97.16457825
171213A00032	12/13/2017	2.17	12/13/2021	12/13/2017	103.35785	102.7807814	102.2101578	101.645868	101.0878069	100.5358715	99.98996132	99.44997783	98.91582476
171220A00004	12/20/2017	2.52	12/20/2021	12/20/2017	103.62664	103.0285653	102.4373903	101.852993	101.2752574	100.7040699	100.1393195	99.58089787	99.02869888
180102A00021	1/2/2018	2.82	1/2/2026	1/2/2018	129.10556	123.5102314	118.1918823	113.1352801	108.3261121	103.7509285	99.39708502	95.25269019	91.30655617
180103A00007	1/3/2018	2.44	1/7/2022	1/3/2018	103.89268	103.2400175	102.5955494	101.9591192	101.330577	100.7097768	100.0965759	99.49083537	98.89241951
180103A00011	1/3/2018	2.35	1/3/2023	1/3/2018	110.13638	108.389997	106.6805602	105.0069714	103.3681746	101.763155	100.1909374	98.65058377	97.14119177
180103A00019	1/3/2018	2.51	1/3/2023	1/3/2018	110.17106	108.4284009	106.7225447	105.0523974	103.4169089	101.81507	100.2459106	98.70849774	97.20193358

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180103A00027	1/3/2018	2.51	1/3/2023	1/3/2018	110.17106	108.4284009	106.7225447	105.0523974	103.4169089	101.81507	100.2459106	98.70849774	97.20193358
180104A00013	1/4/2018	2.39	1/4/2023	1/4/2018	110.22101	108.4709133	106.7578819	105.0808133	103.4386464	101.8303618	100.2549796	98.71155764	97.19918946
180104A00017	1/4/2018	2.77	1/3/2025	1/4/2018	123.28333	119.0388238	114.9648855	111.053675	107.297762	103.6901006	100.2240077	96.89314138	93.69148139
180109A00028	1/9/2018	2.6	1/9/2025	1/9/2018	123.33039	119.0491877	114.941067	110.9980287	107.2124897	103.5772619	100.0855296	96.73082753	93.50702045
180110A00027	1/10/2018	2.6	1/10/2023	1/10/2018	110.44571	108.6798803	106.9516383	105.2598586	103.6034573	101.9813931	100.3926657	98.83631355	97.31141186
180110A00028	1/10/2018	2.85	1/10/2025	1/10/2018	123.70726	119.4319865	115.3291906	111.3909116	107.6096044	103.9781166	100.4896657	97.13781727	93.91646497
180110A00029	1/10/2018	3.13	1/10/2028	1/10/2018	141.47763	132.9240417	124.9510254	117.5159995	110.5797276	104.1060388	98.06157176	92.41554248	87.13953161
180111A00007	1/11/2018	2.66	1/14/2025	1/11/2018	123.64575	119.3421962	115.2131148	111.2504149	107.4464299	103.7938941	100.2859196	96.91597394	93.67785923
180111A00016	1/11/2018	2.57	1/11/2023	1/11/2018	110.41238	108.6438688	106.9130546	105.2187994	103.5600146	101.9356549	100.3447158	98.78623189	97.25927488
180116A00009	1/16/2018	2.49	1/14/2022	1/16/2018	104.04944	103.375206	102.709707	102.0527699	101.4042299	100.7639268	100.131704	99.50740922	98.89089383
180116A00014	1/16/2018	3.01	1/19/2027	1/16/2018	135.79802	128.6960969	122.0136622	115.7236341	109.8008303	104.2218205	98.96479493	94.00944339	89.3368438
180116A00015	1/16/2018	3.06	1/18/2028	1/16/2018	141.06326	132.4956798	124.5115916	117.0680621	110.1255462	103.6475975	97.60061004	91.95358134	86.67789783
180116A00031	1/16/2018	2.58	1/17/2023	1/16/2018	110.53512	108.7477151	106.9986646	105.2868086	103.6110294	101.9702544	100.3634533	98.78963646	97.24785234
180116A00046	1/16/2018	2.58	1/11/2023	1/16/2018	110.42938	108.6607242	106.9297625	105.2353626	103.5764357	101.9519365	100.3608604	98.80224196	97.27515276
180118A00004	1/18/2018	2.88	1/17/2025	1/18/2018	123.93748	119.6350565	115.5069229	111.5450002	107.7416314	104.0895603	100.5819079	97.21215007	93.974097
180118A00010	1/18/2018	2.51	8/18/2021	1/18/2018	101.4368	101.2050538	100.97438	100.7447684	100.5162117	100.2887026	100.0622337	99.83679802	99.61238838
180123A00026	1/23/2018	2.57	1/14/2022	1/23/2018	104.10147	103.4270522	102.7613624	102.1042362	101.4555089	100.8150201	100.1826134	99.5581363	98.94144021
180124A00019	1/24/2018	2.41	1/24/2022	1/24/2018	104.24476	103.5388311	102.8424444	102.1554072	101.4775321	100.8086366	100.1485433	99.49707912	98.85407573
180124A00020	1/24/2018	2.53	1/24/2023	1/24/2018	110.81448	108.999519	107.2238845	105.4863711	103.7858199	102.121119	100.4912013	98.89504202	97.33165688
180124A00038	1/24/2018	2.51	9/1/2021	1/24/2018	101.68323	101.4111246	101.1404807	100.871283	100.6035199	100.33718	100.072252	99.80872458	99.54658671
180125A00022	1/25/2018	2.69	1/25/2023	1/25/2018	110.86778	109.0536073	107.278724	105.5419195	103.8420364	102.1779642	100.5486372	98.95303202	97.39016538
180126A00029	1/26/2018	2.88	1/27/2025	1/26/2018	124.09829	119.7602376	115.5989902	111.6062965	107.7743417	104.0957233	100.5634261	97.17079981	93.91153711
180130A00070	1/30/2018	3.14	1/29/2027	1/30/2018	136.75554	129.5908482	122.8506985	116.5075839	110.5359331	104.9119608	99.61353404	94.62004719	89.91230876
180130A00084	1/30/2018	2.59	1/30/2023	1/30/2018	111.02765	109.1927894	107.3979699	105.6419517	103.9235446	102.2416074	100.5950451	98.98280717	97.40388439
180201A00033	2/1/2018	2.53	2/1/2022	2/1/2018	104.47298	103.7419774	103.0211858	102.3103923	101.6093899	100.9179773	100.2359586	99.56314332	98.89934602
180202A00012	2/2/2018	2.57	2/2/2022	2/2/2018	104.51954	103.7853126	103.0613873	102.3475454	101.6435773	100.9492791	100.2644524	99.58890427	98.92244707
180205A00018	2/5/2018	2.66	2/3/2023	2/5/2018	111.22431	109.3755863	107.5674147	105.798528	104.0677138	102.3738098	100.7157014	99.0923191	97.50263616
180205A00019	2/5/2018	2.88	2/5/2025	2/5/2018	124.87859	120.4789834	116.2600134	112.2131826	108.3304467	104.6041899	101.0271989	97.59263846	94.29402922
180205A00050	2/5/2018	2.81	2/6/2023	2/5/2018	111.29736	109.4433078	107.6300028	105.8561722	104.1205939	102.4220969	100.7595581	99.13190002	97.53808858
180207A00003	2/7/2018	3.28	2/7/2028	2/7/2018	142.98938	134.2842452	126.1751043	118.617837	111.5718226	104.9996463	98.86682845	93.1415789	87.79457302
180214A00004	2/14/2018	2.71	2/14/2023	2/14/2018	111.5168	109.6321635	107.7894484	105.9873212	104.2245081	102.4997895	100.8119966	99.16000877	97.54275117
180216A00004	2/16/2018	2.75	2/16/2023	2/16/2018	111.62626	109.7345628	107.8850439	106.0763617	104.3072312	102.5764217	100.8827541	99.22509825	97.60237017
180222A00023	2/22/2018	2.84	2/22/2022	2/22/2018	105.01554	104.2195311	103.4355747	102.663398	101.9027367	101.1533346	100.414943	99.68732048	98.97023257

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180222A00025	2/22/2018	3.48	2/22/2033	2/22/2018	175.80556	158.2811173	142.7142978	128.8739111	116.5572768	105.5865685	95.80564649	87.077308	79.28089987
180222A00027	2/22/2018	3.24	2/22/2028	2/22/2018	144.26654	135.4094444	127.1632713	119.4824545	112.3250758	105.6525504	99.42934391	93.6227142	88.20247738
180226A00040	2/26/2018	2.79	2/28/2022	2/26/2018	105.09042	104.2758443	103.4738679	102.6841986	101.9065548	101.1406636	100.38626	99.64308735	98.91089623
180306A00005	3/6/2018	2.65	3/4/2022	3/6/2018	105.13726	104.3090801	103.4939239	102.6914847	101.9014665	101.1235825	100.3575547	99.60311354	98.85999755
180306A00010	3/6/2018	2.8	2/15/2022	3/6/2018	104.85312	104.0790649	103.3164321	102.5649682	101.8244288	101.0945767	100.3751815	99.66601954	98.96687335
180308A00011	3/8/2018	2.9	9/15/2022	3/8/2018	108.85729	107.4325421	106.0381734	104.673223	103.3367671	102.0279205	100.7458355	99.4896989	98.25873102
180308A00015	3/8/2018	2.82	12/15/2021	3/8/2018	103.70679	103.1233088	102.5463933	101.9759334	101.4118209	100.8539503	100.3022182	99.75652354	99.21676744
180313A00026	3/13/2018	3.34	3/13/2028	3/13/2018	143.9561	135.089445	126.8369847	119.152802	111.9946504	105.3236416	99.10396134	93.30261067	87.88917038
180320A00007	3/20/2018	2.92	3/21/2022	3/20/2018	105.58418	104.7030977	103.8367024	102.9846286	102.1465234	101.3220451	100.5108632	99.71265801	98.92711197
180327A00024	3/27/2018	2.79	5/26/2023	3/27/2018	113.59393	111.3691531	109.2000961	107.0849957	105.0221592	103.0099594	101.0468318	99.13127123	97.2618294
180328A00010	3/28/2018	3.1	3/28/2025	3/28/2018	126.00303	121.4221493	117.0345361	112.8310272	108.8029439	104.9420617	101.240584	97.69111747	94.2866494
180402A00005	4/2/2018	2.94	4/3/2023	4/2/2018	112.58844	110.546048	108.5511687	106.6024096	104.6984291	102.8379333	101.0196742	99.24244725	97.50509021
180403A00005	4/3/2018	2.72	4/3/2023	4/3/2018	112.45622	110.4097103	108.4109079	106.4584121	104.5508731	102.6869893	100.8655054	99.0852101	97.34493446
180403A00006	4/3/2018	3.07	4/3/2028	4/3/2018	143.57519	134.5885353	126.2313796	118.4562983	111.2196719	104.4813626	98.20441953	92.35481089	86.90117944
180403A00041	4/3/2018	2.91	4/3/2025	4/3/2018	125.97553	121.3569153	116.9344122	112.6986721	108.6408369	104.7525151	101.0257544	97.45301662	94.02715384
180410A00016	4/10/2018	2.89	4/11/2022	4/10/2018	105.95925	105.0115007	104.0806873	103.1663611	102.2680867	101.3854435	100.5180261	99.66544242	98.82731419
180411A00014	4/11/2018	2.88	6/27/2022	4/11/2018	107.41463	106.2172476	105.046507	103.9015254	102.7814597	101.6855031	100.6128835	99.56286144	98.53472825
180412A00034	4/12/2018	3.23	4/15/2030	4/12/2018	156.3155	144.0073683	132.7807495	122.5345378	113.1775779	104.6276372	96.81049056	89.65910338	83.11290196
180425A00008	4/25/2018	2.89	4/25/2022	4/25/2018	106.33591	105.3412316	104.3651266	103.4070825	102.4666014	101.5432036	100.6364267	99.74582479	98.87096796
180425A00019	4/25/2018	3.02	10/25/2021	4/25/2018	102.84533	102.4146245	101.9875238	101.5639811	101.1439521	100.7273931	100.3142614	99.90451486	99.49811192
180425A00020	4/25/2018	3.11	10/25/2022	4/25/2018	109.83595	108.3074259	106.8080906	105.337175	103.8939382	102.4776645	101.0876625	99.72326387	98.38382239
180426A00011	4/26/2018	2.94	4/26/2023	4/26/2018	113.32603	111.1999982	109.1250303	107.099582	105.1221648	103.1913452	101.305742	99.46402439	97.66490975
180426A00053	4/26/2018	2.94	4/26/2023	4/26/2018	113.32603	111.1999982	109.1250303	107.099582	105.1221648	103.1913452	101.305742	99.46402439	97.66490975
180427A00010	4/27/2018	2.95	4/27/2023	4/27/2018	113.36543	111.2359051	109.1575997	107.1289562	105.14848	103.2147313	101.3263237	99.481921	97.68023533
180507A00005	5/7/2018	3.06	5/5/2023	5/7/2018	113.45642	111.305873	109.2075357	107.1598098	105.1611572	103.2100968	101.3052029	99.44510175	97.62847017
180511A00035	5/11/2018	2.93	5/11/2023	5/11/2018	113.59685	111.4201637	109.2968634	107.2252995	105.2038828	103.2310842	101.3054322	99.42550994	97.58995281
180516A00019	5/16/2018	3.19	5/16/2023	5/16/2018	113.91619	111.7260836	109.589954	107.5061184	105.4729621	103.4889322	101.5525342	99.66232936	97.81693258
180518A00014	5/18/2018	3.17	5/18/2023	5/18/2018	113.9141	111.7176248	109.5754277	107.4858183	105.4471685	103.4579122	101.5165426	99.62160958	97.77171679
180521A00005	5/21/2018	3.02	5/22/2023	5/21/2018	113.99905	111.7827864	109.6217059	107.5140711	105.4582147	103.4525338	101.4954863	99.58558883	97.72141353
180522A00018	5/22/2018	3.1	5/23/2022	5/22/2018	106.96622	105.8822189	104.8201617	103.7793908	102.7592709	101.7591916	100.7785663	99.81683134	98.87344439
180522A00019	5/22/2018	3.16	5/22/2023	5/22/2018	113.97191	111.7620213	109.6070459	107.5052608	105.45501	103.454701	101.5028021	99.59783909	97.73839325
180522A00039	5/22/2018	3.43	5/22/2028	5/22/2018	147.14704	137.8490951	129.2123794	121.1862357	113.724143	106.7833597	100.3245981	94.31172794	88.7115075
180524A00024	5/24/2018	3	3/21/2022	5/24/2018	105.65131	104.7699198	103.9032164	103.0508381	102.2124319	101.3876561	100.5761801	99.77768406	98.99185818

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180525A00001	5/25/2018	3.04	5/25/2023	5/25/2018	113.77907	111.5616461	109.3995559	107.29106	105.2344829	103.2282136	101.2707028	99.36045955	97.49604941
180525A00005	5/25/2018	3.32	5/25/2028	5/25/2018	146.32239	137.0429424	128.4247732	120.417133	112.9734277	106.0508539	99.61007206	93.61490932	88.0320888
180529A00007	5/29/2018	2.83	6/1/2021	5/29/2018	100.07322	100.0620718	100.0509355	100.0398096	100.0286943	100.0175896	100.0064953	99.99541144	99.98433809
180529A00026	5/29/2018	2.67	6/1/2021	5/29/2018	100.07245	100.0612896	100.0501443	100.0390098	100.0278858	100.0167725	100.0056698	99.99457772	99.98349619
180529A00042	5/29/2018	3.42	5/30/2028	5/29/2018	145.75492	136.5353972	127.9723438	120.0154034	112.6183378	105.7386697	99.33735846	93.37850515	87.82908427
180529A00044	5/29/2018	3.11	5/29/2024	5/29/2018	120.79247	117.306705	113.9414426	110.6918203	107.5532032	104.5211702	101.5915033	98.76017626	96.02334523
180529A00056	5/29/2018	3	5/26/2023	5/29/2018	113.71432	111.4943875	109.3299343	107.2192103	105.1605334	103.1522864	101.192914	99.28091983	97.41486411
180529A00060	5/29/2018	2.83	6/1/2021	5/29/2018	100.07322	100.0620718	100.0509355	100.0398096	100.0286943	100.0175896	100.0064953	99.99541144	99.98433809
180529A00063	5/29/2018	2.95	5/31/2022	5/29/2018	106.96799	105.8587831	104.7725443	103.7085644	102.6661645	101.6446928	100.6435236	99.66205595	98.6997124
180530A00006	5/30/2018	2.87	5/31/2022	5/30/2018	106.8845	105.7757701	104.6899979	103.6264782	102.5845318	101.5635073	100.5627791	99.58174633	98.61983175
180530A00024	5/30/2018	3.44	5/30/2029	5/30/2018	151.56487	140.7648492	130.8287447	121.6825894	113.2591212	105.4971432	98.34094734	91.73979541	85.64745223
180530A00027	5/30/2018	3.61	6/1/2032	5/30/2018	170.66696	154.6669105	140.3528125	127.5364583	116.0516105	105.7513356	96.50567209	88.1995895	80.7312032
180530A00028	5/30/2018	3.67	5/31/2033	5/30/2018	177.30175	159.4331988	143.5923871	129.5359491	117.0509868	105.9511137	96.07302871	87.27354842	79.42703352
180530A00030	5/30/2018	3.68	5/30/2034	5/30/2018	183.27551	163.5191994	146.1637956	130.9011834	117.4644089	105.6219855	95.17301438	85.94299902	77.78025004
180530A00039	5/30/2018	2.93	5/30/2023	5/30/2018	113.64169	111.4101014	109.2345406	107.1132315	105.0444666	103.0266049	101.0580683	99.13733924	97.26295753
180530A00072	5/30/2018	3.06	5/30/2024	5/30/2018	120.64886	117.1621991	113.7961718	110.5459082	107.4067646	104.3743118	101.444324	98.61276781	95.8757928
180531A00065	5/31/2018	2.65	6/1/2021	5/31/2018	100.07222	100.0610668	100.0499218	100.0387874	100.0276636	100.0165505	100.005448	99.9943561	99.98327476
180601A00018	6/1/2018	2.87	6/1/2023	6/1/2018	113.87506	111.6286985	109.4389407	107.3039829	105.2220928	103.1916059	101.2109219	99.27850232	97.39286707
180601A00023	6/1/2018	3.3	6/1/2028	6/1/2018	146.27181	136.9682722	128.3294364	120.3041704	112.8455312	105.9104048	99.45917495	93.45542217	87.86564998
180604A00047	6/4/2018	2.97	6/3/2022	6/4/2018	107.04734	105.9281876	104.8324025	103.759261	102.7080665	101.6781505	100.6688714	99.67961328	98.70978449
180604A00048	6/4/2018	3.01	6/5/2023	6/4/2018	113.92178	111.6690219	109.4731191	107.3322533	105.2446795	103.2087213	101.2227674	99.28526862	97.39473499
180604A00050	6/4/2018	3.15	6/4/2024	6/4/2018	121.0277	117.519156	114.1323685	110.8624051	107.7045621	104.6543545	101.7075041	98.85992851	96.10773115
180607A00026	6/7/2018	2.92	6/7/2021	6/7/2018	100.18531	100.1574253	100.1295747	100.101755	100.0739663	100.0462085	100.0184815	99.9907852	99.96311964
180614A00008	6/14/2018	2.94	6/14/2021	6/14/2018	100.31603	100.2686042	100.2212367	100.1739311	100.1266873	100.0795051	100.0323844	99.98532508	99.93832703
180615A00066	6/15/2018	3	6/14/2024	6/15/2018	121.22844	117.6726756	114.2414042	110.9295307	107.732202	104.6447932	101.6628948	98.7823017	95.99900215
180618A00025	6/18/2018	3.01	4/13/2022	6/18/2018	106.10607	105.1513905	104.2138761	103.2930696	102.3885271	101.4998199	100.6265346	99.76827202	98.92464653
180618A00032	6/18/2018	2.93	6/18/2021	6/18/2018	100.39045	100.3318287	100.2732956	100.2148455	100.1564782	100.0981936	100.0399914	99.98187159	99.92383391
180619A00020	6/19/2018	3.1	6/19/2025	6/19/2018	128.09231	123.167594	118.4621304	113.9649295	109.6656186	105.5544009	101.6220203	97.85972827	94.25925318
180619A00021	6/19/2018	3.24	6/19/2028	6/19/2018	146.06526	136.7040445	128.0158665	119.9486396	112.4545748	105.4898047	99.01404189	92.99026914	87.38445739
180619A00023	6/19/2018	3.04	6/19/2023	6/19/2018	114.24617	111.9474828	109.7075262	107.5243927	105.3962507	103.3213416	101.2979771	99.32453504	97.3994567
180619A00031	6/19/2018	2.74	6/21/2021	6/19/2018	100.43963	100.3725652	100.3056029	100.2387417	100.1719815	100.1053221	100.0387632	99.97230453	99.90594597
180620A00017	6/20/2018	3.24	6/20/2028	6/20/2018	146.08032	136.7149343	128.0230984	119.9526725	112.4558175	105.4886212	99.01075603	92.98516906	87.37779931
180620A00038	6/20/2018	3.4	6/20/2028	6/20/2018	145.91048	136.6101028	127.9765315	119.9582692	112.5080628	105.5825292	99.14181919	93.14931194	87.57133722

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180621A00017	6/21/2018	3.42	6/21/2028	6/21/2018	146.08505	136.7747122	128.1319864	120.1053089	112.6473593	105.7146941	99.26740942	93.26883482	87.68525538
180622A00003	6/22/2018	2.87	6/22/2022	6/22/2018	107.44838	106.2644778	105.1066169	103.9739478	102.8656548	101.780957	100.7191067	99.67938748	98.66111247
180622A00004	6/22/2018	3.47	12/22/2028	6/22/2018	149.33596	139.2244718	129.8825588	121.2473379	113.2613874	105.8722435	99.03194794	92.69663851	86.82617933
180622A00005	6/22/2018	3.5	7/2/2029	6/22/2018	152.62591	141.660101	131.5791765	122.3067006	113.7732293	105.915638	98.67651478	92.00361546	85.84937331
180622A00018	6/22/2018	2.92	6/22/2023	6/22/2018	114.3743	112.0586143	109.8023711	107.6036239	105.4605092	103.371239	101.3340963	99.34743268	97.40966401
180625A00041	6/25/2018	3.06	6/20/2023	6/25/2018	114.3083	112.0058975	109.76237	107.575803	105.4443584	103.3662716	101.3398484	99.36346107	97.43554575
180626A00045	6/26/2018	2.91	6/25/2021	6/26/2018	100.51914	100.4409364	100.3628595	100.2849084	100.2070828	100.1293826	100.0518073	99.97435681	99.89703071
180627A00017	6/27/2018	2.9	6/25/2021	6/27/2018	100.51836	100.4401568	100.3620805	100.2841301	100.2063052	100.1286056	100.0510311	99.9735812	99.89625576
180627A00026	6/27/2018	2.87	6/27/2023	6/27/2018	114.35794	112.0272208	109.756596	107.5440899	105.3878081	103.2859331	101.2367208	99.2384964	97.28965154
180627A00030	6/27/2018	3.02	6/27/2023	6/27/2018	114.35115	112.0270555	109.7627661	107.5563175	105.405828	103.3094921	101.2655768	99.27241827	97.32841807
180627A00057	6/27/2018	2.98	6/27/2022	6/27/2018	107.5268	106.32874	105.1573294	104.011688	102.8909725	101.794376	100.7211259	99.67048258	98.64173722
180628A00034	6/28/2018	2.72	6/28/2021	6/28/2018	100.56625	100.4795714	100.3930405	100.3066571	100.220421	100.1343318	100.048389	99.96259233	99.87694146
180628A00081	6/28/2018	2.72	6/21/2021	6/28/2018	100.43829	100.3712286	100.3042674	100.2374074	100.1706484	100.1039901	100.0374323	99.97097481	99.90461739
180629A00071	6/29/2018	3.02	6/29/2023	6/29/2018	114.38855	112.0578573	109.7872494	107.5747502	105.4184646	103.3165749	101.2673362	99.26907372	97.32017852
180702A00012	7/2/2018	3.01	7/3/2023	7/2/2018	114.4418	112.0978967	109.8146567	107.590077	105.4222349	103.3092868	101.2494637	99.24106753	97.28246791
180702A00034	7/2/2018	2.86	7/3/2023	7/2/2018	114.4488	112.0981785	109.8085236	107.5778116	105.4041071	103.2855541	101.220372	99.20685189	97.24335307
180705A00003	7/5/2018	3.04	7/5/2023	7/5/2018	114.54607	112.1946869	109.9042753	107.6728184	105.4983795	103.3791012	101.3132018	99.29897137	97.33476809
180705A00060	7/5/2018	3	7/6/2022	7/5/2018	107.71375	106.4859536	105.2861139	104.1132832	102.9665566	101.8450693	100.7479946	99.6745411	98.62395171
180705A00061	7/5/2018	3	7/6/2022	7/5/2018	107.71375	106.4859536	105.2861139	104.1132832	102.9665566	101.8450693	100.7479946	99.6745411	98.62395171
180705A00062	7/5/2018	3.04	7/6/2023	7/5/2018	114.56499	112.210232	109.9165991	107.6820609	105.5046737	103.3825736	101.3139727	99.29715524	97.33047394
180706A00010	7/6/2018	2.92	7/6/2021	7/6/2018	100.72442	100.6152	100.5062263	100.3974995	100.2890188	100.1807832	100.0727921	99.96504442	99.85753943
180706A00013	7/6/2018	3.01	7/6/2023	7/6/2018	114.49827	112.1442665	109.8513693	107.6175515	105.4408699	103.3194611	101.2515376	99.23538392	97.26935331
180713A00011	7/13/2018	2.95	7/13/2021	7/13/2018	100.85979	100.7307357	100.6020243	100.4736562	100.3456298	100.2179439	100.0905971	99.96358787	99.83691496
180713A00013	7/13/2018	2.88	7/13/2023	7/13/2018	114.68245	112.2974987	109.9750042	107.7128753	105.5091058	103.3617733	101.2690343	99.22912088	97.2403367
180713A00030	7/13/2018	2.8	7/13/2021	7/13/2018	100.85103	100.7218788	100.5930704	100.4646068	100.3364864	100.2087079	100.0812699	99.95417086	99.82740951
180713A00035	7/13/2018	3.02	7/13/2022	7/13/2018	107.88685	106.6353563	105.4128694	104.2183866	103.050953	101.909657	100.7936276	99.70203198	98.63407367
180716A00016	7/16/2018	3.03	7/14/2023	7/16/2018	114.69385	112.3123858	109.9932215	107.7342732	105.5335411	103.3891087	101.2991383	99.2618676	97.27560517
180716A00054	7/16/2018	3.59	7/16/2040	7/16/2018	218.24797	185.5476233	158.3892861	135.7871489	116.9364071	101.1791656	87.97691254	76.88827145	67.55099531
180716A00056	7/16/2018	3.1	7/16/2025	7/16/2018	128.5519	123.5250475	118.7253425	114.1412229	109.761784	105.576738	101.5763746	97.75152561	94.0935306
180717A00047	7/17/2018	3.3	9/17/2025	7/17/2018	129.78782	124.5424701	119.5414933	114.7721722	110.2225195	105.8812343	101.7376592	97.78173983	94.00398704
180717A00076	7/17/2018	3.03	7/17/2023	7/17/2018	114.75053	112.3589466	110.0301109	107.7619166	105.5523426	103.3994523	101.3013894	99.25637361	97.2626969
180718A00026	7/18/2018	3.03	7/18/2023	7/18/2018	114.76943	112.3744678	110.0424077	107.7711311	105.5586098	103.4029007	101.3021409	99.25454439	97.25839747
180719A00059	7/19/2018	2.98	7/19/2021	7/19/2018	100.97647	100.8304057	100.6847709	100.5395679	100.3947948	100.2504496	100.1065304	99.96303531	99.81996247

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180719A00060	7/19/2018	3.05	7/19/2022	7/19/2018	108.04069	106.7689918	105.5271958	104.3142586	103.1291823	101.9710147	100.8388463	99.73180863	98.64907113
180719A00063	7/19/2018	3.21	7/19/2024	7/19/2018	122.03441	118.3637414	114.8244313	111.4109706	108.1181158	104.9408774	101.8745056	98.91447742	96.0564837
180719A00064	7/19/2018	3.3	7/21/2025	7/19/2018	128.81346	123.7844894	118.9828027	114.3968194	110.0156213	105.8289085	101.8269601	98.00059803	94.34115361
180720A00006	7/20/2018	3.03	7/17/2023	7/20/2018	114.75053	112.3589466	110.0301109	107.7619166	105.5523426	103.3994523	101.3013894	99.25637361	97.2626969
180720A00008	7/20/2018	3	7/20/2022	7/20/2018	108.00107	106.7264185	105.481814	104.2662047	103.0785857	101.9179981	100.7835263	99.67429579	98.58947053
180720A00011	7/20/2018	2.93	7/20/2021	7/20/2018	100.98789	100.8389929	100.690546	100.5425461	100.3949913	100.2478795	100.1012088	99.95497703	99.80918236
180720A00030	7/20/2018	2.79	7/20/2021	7/20/2018	100.97932	100.8303035	100.6817422	100.5336298	100.3859642	100.2387433	100.0919651	99.9456276	99.79972882
180720A00049	7/20/2018	2.93	7/20/2021	7/20/2018	100.98789	100.8389929	100.690546	100.5425461	100.3949913	100.2478795	100.1012088	99.95497703	99.80918236
180720A00068	7/20/2018	2.89	7/20/2023	7/20/2018	114.83771	112.4287795	110.083364	107.7993191	105.5745885	103.4072023	101.2952728	99.23699004	97.23061818
180724A00025	7/24/2018	2.93	7/25/2022	7/24/2018	108.16914	106.8749133	105.6115952	104.3780915	103.1733557	101.9963902	100.8462428	99.72200458	98.62280714
180727A00028	7/27/2018	3.25	7/27/2026	7/27/2018	135.65705	129.1427298	122.9846041	117.1612055	111.6524788	106.439683	101.5052979	96.83293676	92.40726722
180727A00037	7/27/2018	3.13	7/27/2023	7/27/2018	115.16822	112.7402276	110.3765481	108.074994	105.8334709	103.6499732	101.5225796	99.44944838	97.42881401
180727A00039	7/27/2018	3.48	7/27/2028	7/27/2018	147.12416	137.6426736	128.8488977	120.6890893	113.1139881	106.0784189	99.54093141	93.46347414	87.8110982
180730A00004	7/30/2018	3.14	7/28/2023	7/30/2018	115.21032	112.7786811	110.4115085	108.1066109	105.8618865	103.6753227	101.5449915	99.46904534	97.44571257
180730A00023	7/30/2018	3.13	7/30/2024	7/30/2018	122.49973	118.7718849	115.1787632	111.7146493	108.3741116	105.151985	102.0433559	99.04354767	96.14810775
180730A00041	7/30/2018	3.14	7/31/2023	7/30/2018	115.26676	112.8251834	110.44854	108.1346117	105.881274	103.6864931	101.548321	99.46489119	97.4344145
180730A00081	7/30/2018	3.5	7/28/2028	7/30/2018	147.30189	137.8100881	129.0068559	120.8383706	113.2552997	106.2124029	99.66817144	93.5845009	87.92639465
180731A00004	7/31/2018	2.97	7/31/2023	7/31/2018	115.22936	112.781182	110.3982496	108.0783279	105.8192785	103.6190541	101.4756944	99.38732099	97.35213363
180801A00012	8/1/2018	3.03	8/16/2021	8/1/2018	101.51785	101.2916682	101.0665053	100.8423559	100.6192131	100.39707	100.1759199	99.95575602	99.73657182
180801A00014	8/1/2018	3.03	8/2/2021	8/1/2018	101.24934	101.0633788	100.8781099	100.6935259	100.5096229	100.3263973	100.1438452	99.96196293	99.78074674
180801A00015	8/1/2018	3.16	8/1/2023	8/1/2018	115.33161	112.8861886	110.5058642	108.1884128	105.9317023	103.7336911	101.5924245	99.5060294	97.47271032
180802A00006	8/2/2018	2.99	8/2/2023	8/2/2018	115.3131	112.8577363	110.4679379	108.1414573	105.8761403	103.669925	101.5208373	99.42698596	97.3865584
180808A00009	8/8/2018	3.12	8/7/2023	8/8/2018	115.35208	112.8878455	110.4896257	108.1551424	105.882218	103.6687691	101.512801	99.41240331	97.36574558
180809A00029	8/9/2018	2.99	9/9/2021	8/9/2018	101.96377	101.6681644	101.3742817	101.0821087	100.7916305	100.5028323	100.2156994	99.93021748	99.64637213
180813A00013	8/13/2018	2.99	12/5/2022	8/13/2018	110.42586	108.7687324	107.1454904	105.5551792	103.9968762	102.4696926	100.9727722	99.50528948	98.06644866
180813A00016	8/13/2018	2.92	8/13/2021	8/13/2018	101.43704	101.2195123	101.0029356	100.7872993	100.5725971	100.3588229	100.1459708	99.93403453	99.72300829
180813A00026	8/13/2018	2.87	8/11/2023	8/13/2018	115.20244	112.7204047	110.3052857	107.954756	105.6665939	103.4386745	101.2689645	99.15551694	97.09646698
180813A00059	8/13/2018	3.01	8/11/2023	8/13/2018	115.1706	112.6961244	110.2882231	107.9445893	105.6630167	103.4413946	101.2777031	99.17000806	97.1164566
180814A00032	8/14/2018	3.1	8/14/2025	8/14/2018	129.04172	123.9050342	119.0042858	114.3272511	109.8624193	105.5989433	101.5265974	97.63573717	93.9172628
180814A00033	8/14/2018	3.25	8/13/2027	8/14/2018	141.51121	133.4485308	125.9037563	118.8407207	112.2259852	106.0286138	100.2199724	94.77354446	89.66476323
180815A00009	8/15/2018	2.93	8/16/2021	8/15/2018	101.4955	101.269349	101.0442214	100.820107	100.5969992	100.374891	100.1537756	99.93364636	99.71449667
180815A00011	8/15/2018	2.97	8/15/2022	8/15/2018	108.46117	107.099803	105.7725699	104.4781944	103.215467	101.9832369	100.7804084	99.60593784	98.45883051
180815A00021	8/15/2018	3.01	8/15/2023	8/15/2018	115.24434	112.7566215	110.3361104	107.9804626	105.6874406	103.454905	101.2808085	99.1631913	97.10017647

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180816A00024	8/16/2018	3.01	8/16/2023	8/16/2018	115.26277	112.7717468	110.3480826	107.9894309	105.6935467	103.4582832	101.2815863	99.16148966	97.09611041
180816A00038	8/16/2018	3.38	8/16/2028	8/16/2018	146.61419	137.0790605	128.2407491	120.0444096	112.4398004	105.3808776	98.82542169	92.73470001	87.0731606
180816A00043	8/16/2018	2.83	8/16/2022	8/16/2018	108.47916	107.1115692	105.7783964	104.4783512	103.2102098	101.9728081	100.7650381	99.5858444	98.43422125
180817A00013	8/17/2018	2.94	2/15/2022	8/17/2018	104.95698	104.1824898	103.4194296	102.6675425	101.9265843	101.1963177	100.4765123	99.76694423	99.06739598
180817A00022	8/17/2018	2.87	8/17/2023	8/17/2018	115.3134	112.8114209	110.3773001	108.0086685	105.7032578	103.4588992	101.2735178	99.14512822	97.07182904
180820A00055	8/20/2018	3.37	8/21/2028	8/20/2018	146.60732	137.0543359	128.2006996	119.9912647	112.3755288	105.3072161	98.74390156	92.64667009	86.97980772
180821A00002	8/22/2018	2.89	8/23/2021	8/22/2018	101.6172	101.3709324	101.1258639	100.8819846	100.6392859	100.3977591	100.1573958	99.91818752	99.68012604
180821A00011	8/21/2018	2.98	8/21/2023	8/21/2018	115.2841	112.7773592	110.3387499	107.965885	105.6564808	103.4083544	101.2194178	99.08767298	97.01120702
180823A00033	8/23/2018	2.85	8/23/2023	8/23/2018	115.37696	112.8555771	110.4029979	108.0168024	105.6946752	103.4344034	101.2338711	99.09105383	97.00401378
180823A00035	8/23/2018	3.05	8/22/2025	8/23/2018	128.94328	123.7816854	118.8583048	114.160735	109.6773006	105.3970033	101.3094781	97.40495258	93.6742088
180823A00053	8/23/2018	3.2	8/23/2028	8/23/2018	146.73182	137.1054346	128.186515	119.9190991	112.2519488	105.1381271	98.53461442	92.40196054	86.70397
180823A00055	8/23/2018	3.44	8/23/2033	8/23/2018	178.19401	159.7592926	143.4610067	129.0377197	116.261352	104.9327638	94.87794432	85.9447199	77.99990934
180824A00023	8/24/2018	2.79	8/24/2021	8/24/2018	101.62894	101.379613	101.131513	100.8846311	100.6389584	100.3944859	100.1512048	99.90910649	99.66818233
180827A00020	8/27/2018	3.21	8/27/2025	8/27/2018	129.02022	123.8617447	118.9414242	114.2468474	109.7663327	105.4888766	101.4041101	97.50225784	93.77409968
180827A00032	8/27/2018	2.96	8/29/2022	8/27/2018	108.71574	107.3094916	105.9391694	104.6034105	103.3009171	102.0304559	100.7908538	99.58099459	98.39981519
180827A00034	8/27/2018	2.99	8/28/2023	8/27/2018	115.43641	112.9061902	110.4452248	108.0510659	105.7213744	103.4539153	101.246552	99.09724048	97.00402494
180827A00060	8/27/2018	2.9	8/27/2021	8/27/2018	101.69442	101.4366342	101.1801509	100.9249607	100.671054	100.4184212	100.1670528	99.91693925	99.6680713
180831A00018	8/31/2018	2.95	8/31/2022	8/31/2018	108.72885	107.3204446	105.9473165	104.6081455	103.3016774	102.0267193	100.7821359	99.56684605	98.37981942
180904A00004	9/4/2018	2.89	9/5/2023	9/4/2018	115.71141	113.1459858	110.6512741	108.2248097	105.8642309	103.5672782	101.3317885	99.15569046	97.03699951
180904A00012	9/4/2018	3.35	9/4/2030	9/4/2018	159.80453	146.7810136	134.9441677	124.178937	114.3820143	105.4605807	97.33118879	89.91877123	83.15575776
180904A00014	9/4/2018	3.37	9/1/2028	9/4/2018	146.77181	137.1729593	128.27927	120.0349727	112.389002	105.2945772	98.70881969	92.59240763	86.90926216
180905A00015	9/5/2018	2.85	9/1/2022	9/5/2018	108.79294	107.3800642	106.0022694	104.6582561	103.3467857	102.06668	100.8168169	99.59612791	98.40359424
180906A00013	9/6/2018	2.81	9/7/2021	9/6/2018	101.89498	101.6050214	101.3167256	101.0300767	100.7450606	100.4616631	100.1798706	99.89966917	99.62104537
180906A00020	9/6/2018	2.81	9/7/2021	9/6/2018	101.89498	101.6050214	101.3167256	101.0300767	100.7450606	100.4616631	100.1798706	99.89966917	99.62104537
180910A00033	9/10/2018	3.43	9/8/2028	9/10/2018	147.371	137.7244428	128.7876406	120.5044077	112.8232991	105.6971855	99.0828689	92.94073477	87.23443656
020619A00062	6/19/2002	5.86	6/20/2022	6/19/2002	110.70493	109.5079189	108.3369727	107.1912476	106.0699331	104.9722529	103.8974636	102.8448525	101.8137365
020627A00001	6/27/2002	6.07	6/27/2022	6/27/2002	110.99295	109.7738557	108.5817408	107.4157126	106.2749195	105.1585469	104.0658146	102.9959758	101.9483145
020916A00006	9/16/2002	5.38	9/16/2022	9/16/2002	112.23644	110.786183	109.3664207	107.9761985	106.6146025	105.2807565	103.9738208	102.6929896	101.4374896
020920A00012	9/20/2002	5.4	9/20/2022	9/20/2002	112.35934	110.9036583	109.4771948	108.0790851	106.7085039	105.3646581	104.0467853	102.7541521	101.4860532
050902A00032	9/2/2005	4.69	8/22/2025	9/2/2005	136.55867	131.2281989	126.1416798	121.2864645	116.6506458	112.2230054	107.992969	103.9505651	100.0863866
050923A00096	9/23/2005	4.86	9/22/2025	9/23/2005	138.03635	132.5654808	127.3484333	122.3720244	117.6238315	113.0921409	108.7659028	104.6346908	100.6886628
060308A00014	3/8/2006	5.44	3/16/2026	3/8/2006	144.05363	137.8341676	131.9290523	126.3205971	120.9922084	115.9283128	111.1142893	106.5364052	102.1817572
060908A00017	9/8/2006	5.27	9/15/2021	9/8/2006	102.8017	102.4869159	102.1740753	101.8631595	101.5541508	101.2470313	100.9417839	100.6383912	100.3368362

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
061220A00034	12/20/2006	5.07	12/30/2021	12/20/2006	105.41287	104.7780951	104.1509813	103.5313879	102.9191802	102.3142266	101.7163986	101.1255706	100.5416201
061221A00005	12/21/2006	5.28	12/30/2021	12/21/2006	105.47675	104.842578	104.2160426	103.5970089	102.9853427	102.380913	101.7835918	101.1932541	100.6097778
071231A00068	12/31/2007	4.93	12/30/2022	12/31/2007	114.36798	112.5967505	110.8627296	109.1648172	107.5019569	105.8731333	104.27737	102.7137279	101.181303
080910A00065	9/10/2008	5.03	9/15/2023	9/10/2008	120.73582	118.0859218	115.509051	113.0027106	110.5645082	108.1921506	105.8834384	103.6362618	101.4485961
081205A00033	12/5/2008	4.77	12/7/2023	12/5/2008	122.07139	119.1349347	116.2862393	113.5221325	110.8395807	108.2356795	105.7076473	103.2528193	100.8686418
081209A00008	12/9/2008	4.87	12/15/2023	12/9/2008	122.53208	119.563272	116.6837172	113.8901705	111.1795245	108.5488053	105.9951661	103.5158805	101.108337
081211A00029	12/11/2008	4.57	12/15/2023	12/11/2008	121.71815	118.7603407	115.8915276	113.1084736	110.4080793	107.7873782	105.2435309	102.773818	100.3756347
081219A00069	12/19/2008	4.26	12/22/2023	12/19/2008	121.032	118.0607004	115.1793752	112.3847229	109.6735893	107.0429571	104.4899388	102.0117704	99.60580482
091210A00005	12/10/2009	5.08	12/16/2024	12/10/2009	131.87617	127.5309427	123.3567351	119.3458192	115.4908608	111.7848993	108.2213261	104.793865	101.4965529
100824A00009	8/24/2010	3.91	9/2/2025	8/24/2010	132.38301	127.1296922	122.1187031	117.3374364	112.7740214	108.4172742	104.2566531	100.2822176	96.48459007
100923A00051	9/23/2010	3.4	9/30/2021	9/23/2010	102.5022	102.1450193	101.790327	101.4380942	101.0882955	100.7409057	100.3959001	100.0532542	99.71294386
100930A00008	9/30/2010	3.82	9/30/2025	9/30/2010	132.4764	127.1265523	122.0267921	117.1641136	112.5262509	108.1016356	103.8793534	99.84910405	96.00116332
110103A00009	1/3/2011	3.99	1/3/2022	1/3/2011	104.8461	104.2012206	103.5642874	102.9351499	102.3136653	101.6996945	101.0931015	100.4937538	99.901522
110302A00007	3/2/2011	4.86	3/16/2026	3/2/2011	140.98871	134.8458835	129.0145304	123.4770947	118.2171081	113.2191167	108.468612	103.9519682	99.65638331
110505A00022	5/5/2011	4.59	5/15/2026	5/5/2011	140.81298	134.4553018	128.4304361	122.7191137	117.3032858	112.1660381	107.2915136	102.6648407	98.27206731
110601A00013	6/1/2011	3.49	6/15/2021	6/1/2011	100.36728	100.3169819	100.2667474	100.2165804	100.1664809	100.1164486	100.0664834	100.0165853	99.96675401
110805A00013	8/5/2011	3.43	8/16/2021	8/5/2011	101.60727	101.3809451	101.1556413	100.9313514	100.7080686	100.485786	100.2644969	100.0441946	99.82487243
110810A00020	8/10/2011	2.86	8/16/2021	8/10/2011	101.49592	101.2695928	101.0442932	100.8200097	100.5967353	100.3744633	100.1531868	99.93289909	99.71359344
110824A00004	8/24/2011	3.11	8/30/2023	8/24/2011	116.12789	113.5758024	111.0937614	108.6792908	106.3300293	104.0437198	101.8182042	99.65141762	97.54138342
111006A00022	10/6/2011	3.08	10/15/2021	10/6/2011	102.67833	102.2771326	101.879081	101.4841353	101.0922592	100.7034169	100.3175731	99.93469318	99.55474296
111031A00013	10/31/2011	2.82	11/1/2021	10/31/2011	102.92755	102.475722	102.0278557	101.5839028	101.1438121	100.7075333	100.275017	99.84621469	99.42107858
111201A00005	12/1/2011	3.16	12/15/2021	12/1/2011	103.89894	103.3148277	102.7372886	102.16621	101.6014839	101.0430044	100.4906683	99.94437435	99.40402368
120112A00013	1/12/2012	2.76	1/16/2024	1/12/2012	117.79727	114.7817231	111.8598884	109.0282322	106.2833833	103.6221221	101.0413716	98.53819079	96.10976688
120112A00014	1/12/2012	3.43	1/15/2032	1/12/2012	168.63759	153.1759537	139.3008063	126.8396796	115.6397402	105.5654563	96.49655662	88.32623879	80.95959714
120113A00013	1/13/2012	3.87	1/15/2032	1/13/2012	171.68492	156.1852859	142.2649116	129.752904	118.4977489	108.3650241	99.23538768	91.00281426	83.57304443
120119A00010	1/18/2012	2.43	1/31/2022	1/18/2012	104.3847	103.6570814	102.939585	102.232	101.534122	100.8457524	100.1666978	99.49676994	98.83578588
120126A00006	1/26/2012	2.93	1/31/2022	1/26/2012	104.66143	103.9336956	103.2160659	102.5083316	101.8102889	101.1217398	100.4424915	99.77235662	99.11115252
120127A00019	1/27/2012	3.87	1/30/2032	1/27/2012	171.93301	156.3604785	142.3798021	129.8181637	118.5224113	108.3567255	99.20057344	90.94691392	83.50062212
120130A00009	1/30/2012	2.79	1/31/2022	1/30/2012	104.56358	103.8362271	103.1189788	102.411622	101.7139533	101.0257745	100.346893	99.67712132	99.01627703
120306A00004	3/6/2012	2.95	3/15/2023	3/6/2012	112.23769	110.2597331	108.3269627	106.4380002	104.5915214	102.7862541	101.0209752	99.29450849	97.60572221
120315A00021	3/15/2012	3.12	3/15/2022	3/15/2012	105.63406	104.7711719	103.9223744	103.0873236	102.2656874	101.457144	100.6613822	99.87810029	99.10700622
120330A00009	3/30/2012	2.98	3/30/2022	3/30/2012	105.80806	104.8982269	104.0040179	103.1250311	102.2608804	101.4111923	100.5756061	99.75377282	98.94535496
120411A00013	4/11/2012	3.59	4/15/2027	4/11/2012	140.79658	133.2347727	126.1338508	119.4632589	113.1946218	107.3015768	101.7596219	96.54597471	91.63944386

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
120503A00014	5/3/2012	2.4	5/16/2022	5/3/2012	106.25473	105.1946913	104.1557494	103.1372795	102.1386808	101.1593757	100.1988089	99.25644629	98.33177389
120515A00020	5/15/2012	2.28	5/16/2022	5/15/2012	106.13462	105.0752353	104.0369409	103.0191096	102.0211407	101.0424569	100.0825032	99.14074549	98.21667004
120601A00012	6/1/2012	1.93	6/15/2021	6/1/2012	100.28903	100.2387911	100.1886239	100.1385241	100.0884916	100.0385263	99.9886281	99.93879679	99.88903224
120709A00015	7/9/2012	2.5	7/15/2022	7/9/2012	107.3158	106.0615182	104.8364779	103.6396636	102.4701079	101.3268872	100.2091194	99.11596129	98.04660651
120709A00016	7/9/2012	3.2	7/15/2027	7/9/2012	139.51477	131.6661406	124.3153408	117.4280623	110.9725415	104.9193596	99.24125699	93.91296319	88.91104136
120726A00001	7/26/2012	2.36	8/1/2022	7/26/2012	107.44111	106.1317775	104.854245	103.607362	102.3900357	101.2012245	100.0399357	98.90522177	97.79617848
120824A00023	8/24/2012	2.4	8/30/2022	8/24/2012	107.9965	106.5942582	105.22753	103.8949735	102.5953154	101.3273452	100.0899109	98.88191609	97.70231637
120907A00023	9/7/2012	2.05	9/15/2022	9/7/2012	107.89294	106.4721366	105.0817063	103.7206818	102.3881378	101.0831882	99.80498419	98.55271187	97.3255907
120907A00024	9/7/2012	2.31	9/16/2024	9/7/2012	120.43238	116.5850432	112.8816395	109.3159621	105.8821131	102.5744831	99.3877352	96.31679004	93.3568117
121116A00006	11/16/2012	2.64	11/13/2025	11/16/2012	127.52158	122.1324757	117.0035937	112.1209868	107.4715323	103.042876	98.8233829	94.80209158	90.96867172
121116A00021	11/16/2012	2.35	11/17/2025	11/16/2012	126.93988	121.5271781	116.3773021	111.4760941	106.810239	102.367205	98.1351936	94.10309264	90.26043259
121116A00022	11/16/2012	2.78	11/16/2029	11/16/2012	149.5741	138.1453119	127.6846065	118.1047213	109.3266874	101.2790017	93.8968855	87.12162102	80.89995569
121121A00003	11/21/2012	2.3	11/30/2022	11/21/2012	109.24283	107.6106738	106.0117346	104.445082	102.9098196	101.4050837	99.93004164	98.48389063	97.06585612
130107A00002	1/7/2013	3.22	1/18/2028	1/7/2013	142.25867	133.6499327	125.6267165	118.1459748	111.1680503	104.656392	98.57729582	92.89966813	87.59480977
130117A00010	1/17/2013	1.98	1/31/2022	1/17/2013	104.07005	103.343667	102.6273982	101.9210288	101.2243545	100.5371769	99.85930285	99.19054432	98.53071843
130117A00011	1/17/2013	2.18	1/30/2023	1/17/2013	110.30657	108.4782709	106.6898948	104.9401991	103.2279972	101.5521512	99.91156947	98.30520438	96.73204981
130211A00017	2/11/2013	3.27	2/15/2028	2/11/2013	143.02713	134.2921148	126.1569076	118.5769711	111.5113142	104.9221911	98.77482643	93.03716539	87.6796468
130212A00016	2/12/2013	2.13	2/15/2022	2/12/2013	104.35609	103.5841025	102.8235159	102.0740769	101.3355415	100.6076729	99.89024117	99.18302281	98.48580075
130314A00027	3/14/2013	2.38	3/15/2023	3/14/2013	111.44715	109.4716822	107.5414637	105.6551067	103.811283	102.0087164	100.24618	98.52249418	96.83652409
130405A00007	4/5/2013	2.91	4/17/2028	4/5/2013	142.52674	133.5266153	125.1610056	117.3818336	110.1448976	103.4095435	97.13836343	91.29692082	85.85350052
130424A00004	4/24/2013	2.46	4/24/2025	4/24/2013	124.40396	119.7470482	115.2910302	111.0261816	106.9433006	103.033677	99.28906375	95.70164936	92.26403279
130508A00013	5/8/2013	2.23	5/15/2023	5/8/2013	112.2246	110.0495734	107.9282598	105.8589868	103.8401462	101.8701911	99.94763324	98.07103974	96.23903117
130513A00007	5/13/2013	2.54	5/15/2023	5/13/2013	112.55204	110.3795177	108.2605234	106.1933946	104.1765318	102.2083963	100.2875075	98.4124398	96.58182066
130517A00013	5/17/2013	2.07	5/17/2022	5/17/2013	105.94156	104.8801008	103.8398387	102.8201428	101.8204079	100.840052	99.87851577	98.93526117	98.00977048
130530A00008	5/30/2013	2.29	6/1/2021	5/30/2013	100.0672	100.0560576	100.0449264	100.0338058	100.0226956	100.011596	100.0005068	99.98942815	99.97835994
130531A00021	5/31/2013	3.22	5/30/2028	5/31/2013	145.60498	136.3329727	127.7234464	119.7254477	112.292202	105.3807483	98.95160948	92.96849275	87.39801698
130606A00013	6/6/2013	2.94	6/15/2023	6/6/2013	113.95564	111.6722544	109.4470189	107.2780493	105.1635401	103.101758	101.0910378	99.12977956	97.21644546
130712A00004	7/12/2013	2.82	7/15/2021	7/12/2013	100.89078	100.7559517	100.6214978	100.4874177	100.3537096	100.220372	100.0874034	99.95480206	99.82256654
130821A00018	8/21/2013	3.37	8/30/2022	8/21/2013	109.44724	108.0318321	106.6522507	105.3071401	103.9952155	102.7152554	101.466098	100.246637	99.05581882
130904A00036	9/4/2013	3.57	9/15/2023	9/4/2013	117.5553	114.9366481	112.3905262	109.9144509	107.5060388	105.1630056	102.883161	100.6644039	98.50471816
130904A00039	9/4/2013	4.19	9/15/2028	9/4/2013	155.30943	145.2741421	135.9752301	127.3544298	119.3583939	111.9382481	105.0491939	98.65014797	92.7034154
130926A00008	9/26/2013	2.91	9/30/2021	9/26/2013	102.35943	102.0022349	101.6475263	101.2952821	100.9454765	100.5980843	100.2530807	99.91044105	99.5701411
130926A00009	9/26/2013	4	10/2/2028	9/26/2013	154.03294	143.9819971	134.6735927	126.0487134	118.0533342	110.6379694	103.7572691	97.36965449	91.43698594

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
131106A00003	11/6/2013	3.57	11/15/2023	11/6/2013	118.40545	115.5885286	112.8543309	110.1999381	107.6225486	105.1194774	102.6881499	100.3260972	98.03095049
131113A00036	11/13/2013	3.14	11/15/2021	11/13/2013	103.30536	102.8117816	102.3229277	101.8387294	101.3591202	100.8840351	100.4134099	99.94718202	99.48528988
131217A00024	12/17/2013	4.34	1/2/2029	12/17/2013	157.0132	146.5591719	136.8973588	127.9630771	119.6972672	112.0459729	104.9598747	98.39386778	92.30668089
140313A00030	3/13/2014	3.27	3/15/2024	3/13/2014	120.3729	117.1299937	113.9924326	110.9561472	108.0172544	105.1720464	102.4169811	99.74867397	97.16388942
140521A00019	5/21/2014	3.43	5/22/2028	5/21/2014	147.14704	137.8490951	129.2123794	121.1862357	113.724143	106.7833597	100.3245981	94.31172794	88.7115075
140626A00036	6/26/2014	3.55	6/26/2029	6/26/2014	154.70843	143.6021099	133.3916203	123.999597	115.3557538	107.3961992	100.062823	93.30274455	87.06781681
140710A00027	7/10/2014	2.8	7/17/2023	7/10/2014	114.57735	112.1809143	109.8474945	107.5749681	105.3613018	103.2045473	101.1028371	99.05438074	97.05746037
140815A00029	8/15/2014	2.56	10/15/2021	8/15/2014	102.47428	102.0735763	101.6760139	101.2815546	100.8901621	100.5018007	100.116435	99.73403042	99.35455288
140815A00032	8/15/2014	3.59	10/15/2029	8/15/2014	155.14009	143.67227	133.1570828	123.51	114.6544161	106.5208648	99.04631988	92.17356823	85.85064634
140820A00026	8/20/2014	2.94	8/19/2024	8/20/2014	122.19822	118.4102975	114.7613816	111.2454764	107.8568895	104.5902131	101.4403079	98.40228707	95.47150247
140827A00037	8/27/2014	2.55	8/30/2021	8/27/2014	101.65853	101.3922134	101.1272913	100.8637514	100.6015832	100.3407758	100.0813187	99.82320157	99.56641394
140827A00038	8/27/2014	3.07	8/30/2024	8/27/2014	122.29227	118.4807216	114.8098078	111.2734376	107.8658285	104.5814881	101.4151971	98.36199408	95.41716023
140908A00064	9/8/2014	2.57	11/30/2021	9/8/2014	103.30078	102.7630465	102.2308951	101.7042427	101.1830046	100.6670976	100.1564403	99.65095288	99.15055716
140908A00065	9/8/2014	2.63	2/28/2022	9/8/2014	104.96578	104.1517444	103.3503025	102.5611619	101.7840411	101.0186673	100.2647757	99.5221095	98.79041962
140929A00098	9/29/2014	2.62	9/29/2021	9/29/2014	102.21124	101.8576033	101.5064027	101.1576169	100.8112209	100.4671905	100.1255014	99.78612983	99.4490524
141015A00020	10/15/2014	2.13	10/15/2021	10/15/2014	102.33786	101.9371061	101.5394987	101.1450002	100.7535741	100.3651844	99.97979583	99.59737353	99.21788324
141015A00025	10/15/2014	2.48	10/17/2022	10/15/2014	108.7856	107.2895192	105.8216122	104.381145	102.9674125	101.5797332	100.2174482	98.87992057	97.56653384
141017A00020	10/17/2014	2.28	10/18/2021	10/17/2014	102.44834	102.0385918	101.6321293	101.2289106	100.8288967	100.4320495	100.0383313	99.64770526	99.26013486
141208A00008	12/8/2014	3.02	12/16/2024	12/8/2014	123.95593	119.758299	115.7273287	111.8554538	108.1354981	104.5606517	101.12445	97.82075425	94.64373275
150105A00026	1/5/2015	2.54	1/5/2024	1/5/2015	116.99111	114.0213057	111.1430352	108.352887	105.6475991	103.0240539	100.479271	98.0103995	95.61471165
150116A00040	1/16/2015	2.07	1/18/2022	1/16/2015	103.84303	103.1575727	102.4811467	101.8135755	101.154686	100.5043095	99.86228182	99.22844276	98.60263634
150121A00004	1/21/2015	1.97	1/24/2022	1/21/2015	103.94589	103.2411123	102.5458625	101.8599513	101.1831915	100.5154008	99.85640194	99.20602206	98.56409292
150123A00010	1/23/2015	2.02	1/31/2022	1/23/2015	104.09801	103.3715261	102.6551482	101.9486707	101.2518894	100.5646059	99.88662684	99.21776437	98.55783554
150130A00050	1/30/2015	1.87	1/31/2022	1/30/2015	103.99313	103.2670546	102.5510859	101.8450136	101.1486336	100.4617474	99.78416187	99.11568916	98.45614639
150203A00005	2/3/2015	2.11	2/3/2022	2/3/2015	104.13886	103.4041016	102.6796863	101.9653959	101.2610193	100.5663511	99.8811916	99.20534645	98.53862667
150206A00017	2/6/2015	2.05	2/7/2022	2/6/2015	104.23791	103.489635	102.7520842	102.0250256	101.3082363	100.6014998	99.90460537	99.2173485	98.5395301
150220A00020	2/20/2015	2.42	2/18/2022	2/20/2015	104.6245	103.8422979	103.0717693	102.3126572	101.5647091	100.8276799	100.1013317	99.38543341	98.67976055
150220A00021	2/20/2015	2.72	2/20/2024	2/20/2015	117.84354	114.7268224	111.7096691	108.7882098	105.9587534	103.2177811	100.5619364	97.98801638	95.49296335
150317A00012	3/17/2015	2.46	3/18/2024	3/17/2015	117.9969	114.7791969	111.6664931	108.6547388	105.740069	102.9187915	100.1873783	97.54245696	94.98080261
150319A00012	3/19/2015	3.13	3/19/2029	3/19/2015	147.68078	137.3116895	127.7556735	118.9445329	110.8161276	103.3138095	96.38591147	89.98528468	84.06888228
150401A00008	4/1/2015	2.62	4/1/2025	4/1/2015	124.06427	119.5090474	115.1469493	110.9687898	106.9658657	103.1299306	99.45316872	95.92816981	92.54790634
150407A00009	4/7/2015	2.03	4/7/2022	4/7/2015	105.22194	104.288724	103.3720128	102.4713703	101.5863768	100.7166269	99.86172928	99.02130577	98.194991
150407A00010	4/7/2015	2.21	4/10/2023	4/7/2015	111.5829	109.5237126	107.5130174	105.5493763	103.6314046	101.7577673	99.92717737	98.13839351	96.3902182

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150422A00017	4/22/2015	2.16	4/22/2022	4/22/2015	105.48962	104.5101645	103.5488418	102.6051489	101.678604	100.768743	99.87511842	98.99729846	98.13486667
150422A00019	4/22/2015	2.62	4/22/2025	4/22/2015	124.38028	119.7491304	115.3170286	111.0743733	107.0120764	103.1215338	99.394597	95.82354673	92.40106779
150512A00029	5/12/2015	3.03	5/12/2025	5/12/2015	126.45121	121.709189	117.1733309	112.8335631	108.6803578	104.7047015	100.8980649	97.25237417	93.75998391
150519A00012	5/19/2015	2.44	5/19/2022	5/19/2015	106.23204	105.1644744	104.118306	103.0929008	102.087645	101.1019491	100.1352461	99.18699099	98.25665922
150519A00013	5/19/2015	2.98	5/19/2025	5/19/2015	126.35144	121.5872145	117.031163	112.6730575	108.5032314	104.5125432	100.6923449	97.03445257	93.53111889
150601A00148	6/1/2015	3.45	7/30/2021	6/1/2015	101.27235	101.0947313	100.9177407	100.7413714	100.5656199	100.3904832	100.215958	100.042041	99.86872915
150601A00149	6/1/2015	3.45	7/30/2021	6/1/2015	101.27235	101.0947313	100.9177407	100.7413714	100.5656199	100.3904832	100.215958	100.042041	99.86872915
150601A00182	6/1/2015	3.85	7/18/2022	6/1/2015	108.90467	107.63066	106.3864987	105.1711432	103.9836007	102.8229233	101.6882058	100.5785833	99.49322919
150601A00222	6/1/2015	2.2	9/27/2022	6/1/2015	108.01278	106.5817167	105.1770052	103.7979723	102.4439663	101.1143574	99.80853606	98.5259131	97.26591819
150601A00404	6/1/2015	4.29	1/17/2029	6/1/2015	156.31638	145.8339172	136.1501929	127.1996656	118.9225165	111.2641223	104.1745765	97.60825858	91.52344398
150601A00405	6/1/2015	4.63	1/17/2034	6/1/2015	194.32043	174.4093927	156.8323147	141.2986901	127.5557764	115.3834994	104.5900707	95.00821229	86.49190323
150601A00484	6/1/2015	2.45	6/23/2021	6/1/2015	100.45285	100.380203	100.3076712	100.235253	100.1629482	100.0907566	100.0186777	99.94671151	99.87485763
150601A00494	6/1/2015	2.37	6/25/2021	6/1/2015	100.48156	100.4033149	100.3251988	100.2472095	100.1693466	100.0916099	100.0139989	99.93651351	99.85915333
150601A00512	6/1/2015	3.79	7/16/2029	6/1/2015	155.03397	143.9139002	133.6928473	124.2929315	115.6434195	107.6800366	100.3443447	93.58318287	87.34816505
150601A00514	6/1/2015	3.07	11/15/2024	6/1/2015	124.04729	119.9359608	115.9847691	112.1865936	108.5346697	105.0225703	101.6441872	98.39371276	95.26562409
150601A00515	6/1/2015	2.95	1/16/2024	6/1/2015	118.21817	115.1967434	112.2691667	109.4319047	106.681582	104.0149745	101.4290013	98.92071741	96.48730639
150601A00522	6/1/2015	4.52	7/25/2030	6/1/2015	168.82078	155.6262318	143.6059062	132.6479818	122.6518807	113.52708	105.1920566	97.57334705	90.60471109
150601A00530	6/1/2015	3.08	7/24/2024	6/1/2015	122.07086	118.3700921	114.802537	111.3625729	108.0448522	104.8442883	101.7560405	98.77550072	95.89828027
150601A00531	6/1/2015	3.28	7/24/2024	6/1/2015	122.20496	118.5149676	114.9574841	111.5269296	108.2179954	105.025631	101.94503	98.97161605	96.1010306
150601A00608	6/1/2015	2.45	6/30/2021	6/1/2015	100.56654	100.4743234	100.3822797	100.2904067	100.1987038	100.1071707	100.0158068	99.9246116	99.83358475
150601A00616	6/1/2015	2.72	9/30/2022	6/1/2015	108.77369	107.329846	105.9123407	104.5205127	103.1537226	101.8113518	100.4928014	99.19749175	97.9248613
150601A00644	6/1/2015	2.64	6/30/2022	6/1/2015	107.16028	105.9548876	104.7765362	103.6243243	102.4973893	101.3949065	100.3160865	99.2601738	98.22644449
150601A00648	6/1/2015	2.71	12/30/2022	6/1/2015	110.37265	108.640108	106.9439745	105.2831793	103.65669	102.0635138	100.5026963	98.97331926	97.47449875
150601A00665	6/1/2015	3.82	1/14/2033	6/1/2015	176.37602	159.1303719	143.7857868	130.1203259	117.9391223	107.0709472	97.36522964	88.689465	80.92696103
150601A00667	6/1/2015	3.88	1/16/2036	6/1/2015	195.10616	171.9940838	151.9824975	134.6326074	119.570112	106.4754184	95.07538346	85.13633889	76.45819456
150601A00696	6/1/2015	2.83	3/13/2025	6/1/2015	124.4576	119.9612818	115.6534002	111.524984	107.5675476	103.7730575	100.1339054	96.642883	93.29315838
150601A00731	6/1/2015	2.4	4/29/2022	6/1/2015	105.80574	104.8029613	103.819129	102.853709	101.9061882	100.9760725	100.062886	99.16616961	98.28548105
150601A00733	6/1/2015	2.72	5/1/2025	6/1/2015	125.45637	120.7541622	116.2555258	111.9505661	107.8299212	103.8847321	100.1066128	96.48762223	93.0202387
150601A00734	6/1/2015	2.92	5/1/2025	6/1/2015	125.61838	120.9317059	116.4474148	112.1556861	108.0472322	104.113263	100.3454567	96.73593261	93.27722468
150601A00737	6/1/2015	2.68	12/31/2024	6/1/2015	123.34973	119.097662	115.0165225	111.0984566	107.3360178	103.7221453	100.2501413	96.91365014	93.70663831
150601A00768	6/1/2015	2.34	5/13/2022	6/1/2015	105.99395	104.9464391	103.9195797	102.9127623	101.9254043	100.9569456	100.006847	99.07459016	98.15967577
150601A00916	6/1/2015	7.27	4/5/2030	6/1/2015	194.25855	180.3453198	167.6056365	155.9324474	145.2290555	135.4080643	126.3904371	118.1046558	110.4859678
150601A00930	6/1/2015	7.1	8/30/2030	6/1/2015	196.60242	181.9398351	168.5636811	156.3519356	145.1948588	134.993687	125.6594768	117.1120765	109.2792102

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150610A00017	6/10/2015	2.9	6/15/2023	6/10/2015	113.8692	111.5867633	109.3624566	107.1943969	105.0807792	103.0198707	101.0100067	99.04958792	97.13707687
150623A00025	6/23/2015	2.65	6/30/2022	6/23/2015	107.21247	106.0067543	104.8280889	103.6755678	102.5483284	101.4455458	100.3664305	99.31022682	98.27621082
150630A00008	6/30/2015	2.41	6/30/2022	6/30/2015	107.08495	105.8777726	104.6977206	103.5438851	102.4154001	101.3114373	100.2312042	99.17394193	98.13892388
150715A00009	7/15/2015	2.67	7/15/2022	7/15/2015	107.51537	106.25983	105.0335452	103.8355062	102.6647453	101.5203384	100.4014027	99.30709455	98.23660725
150720A00011	7/20/2015	2.69	7/20/2023	7/20/2015	114.38379	111.9800662	109.6397508	107.3606991	105.140858	102.9782608	100.8710226	98.81733632	96.81546893
150720A00012	7/20/2015	2.99	7/21/2025	7/20/2015	128.13805	123.1028747	118.295992	113.7057417	109.3211315	105.1317926	101.1279407	97.3003392	93.64026498
150721A00027	7/21/2015	3.74	7/22/2030	7/21/2015	161.23294	148.4084838	136.7327167	126.0959006	116.3993493	107.5542608	99.48067784	92.10656424	85.36698104
150727A00013	7/27/2015	3.04	7/28/2025	7/27/2015	127.75116	122.7212299	117.9198194	113.3352326	108.9564426	104.7730503	100.7752438	96.95376218	93.29986069
150803A00053	8/3/2015	2.49	8/3/2022	8/3/2015	107.63645	106.3193825	105.0344508	103.7804865	102.5563802	101.3610749	100.1935632	99.05288384	97.9381198
150814A00004	8/14/2015	2.32	8/15/2022	8/14/2015	107.81434	106.4545196	105.1288789	103.8361375	102.575082	101.3445583	100.1434677	98.97076345	97.82544818
150817A00073	8/17/2015	2.06	8/17/2021	8/17/2015	101.33359	101.1046802	100.8768161	100.6499918	100.4242001	100.1994339	99.97568615	99.75294993	99.53121829
150817A00097	8/17/2015	3.1	8/17/2026	8/17/2015	134.10671	127.5946263	121.4418122	115.6264206	110.1280578	104.9276795	100.007493	95.35086831	90.94225445
150817A00099	8/17/2015	3.19	8/17/2027	8/17/2015	139.90246	131.9238878	124.4579606	117.4688822	110.9235498	104.7913389	99.04390364	93.65499464	88.60029254
150824A00072	8/24/2015	2.14	8/24/2022	8/24/2015	107.74471	106.3562406	105.0033901	103.6847996	102.3991807	101.1453091	99.92202018	98.72820586	97.56281092
150824A00097	8/24/2015	2.67	8/25/2025	8/24/2015	127.22478	122.0912159	117.1954474	112.5250613	108.0683716	103.8143717	99.75269069	95.87355186	92.1677349
150825A00007	8/25/2015	2.46	8/25/2022	8/25/2015	107.99738	106.6068682	105.2520349	103.9315231	102.6440414	101.3883624	100.1633189	98.96780007	97.80074828
150826A00038	8/26/2015	2.94	8/26/2026	8/26/2015	134.33137	127.7481709	121.5306716	115.6564877	110.1047334	104.8559143	99.89182657	95.19546302	90.75092783
150902A00002	9/2/2015	2.25	9/2/2021	9/2/2015	101.6303	101.3554247	101.0820368	100.810127	100.539683	100.2706931	100.0031456	99.73702885	99.47233134
150923A00041	9/23/2015	2.23	9/23/2022	9/23/2015	108.22796	106.79656	105.3929493	104.0163521	102.6660219	101.3412398	100.0413131	98.76557425	97.51337966
150930A00011	9/30/2015	2.06	9/30/2021	9/30/2015	102.03311	101.6769571	101.323284	100.9720653	100.6232754	100.2768892	99.93288207	99.59122948	99.25190739
151002A00041	10/2/2015	1.76	10/4/2021	10/2/2015	102.01966	101.6515948	101.2861897	100.9234133	100.5632372	100.2056334	99.85057452	99.49803327	99.14798291
151002A00075	10/2/2015	2.04	10/3/2022	10/2/2015	108.1024	106.6515009	105.2272644	103.829017	102.456107	101.1079042	99.7837985	98.48319965	97.20553611
151106A00011	11/6/2015	3.1	1/15/2026	11/6/2015	130.72488	125.0468261	119.6511974	114.5223629	109.6456508	105.0072795	100.5942987	96.39453412	92.39653645
151109A00020	11/9/2015	2.79	11/9/2023	11/9/2015	116.25489	113.4850818	110.7962716	108.1856099	105.6503694	103.1879354	100.7957999	98.47155728	96.21289881
151116A00025	11/16/2015	3.04	11/14/2025	11/16/2015	129.49445	124.0559943	118.879702	113.9515343	109.2582771	104.7874899	100.5274567	96.46713952	92.596136
151211A00004	12/11/2015	2.48	12/15/2023	12/11/2015	116.46607	113.5701849	110.7620941	108.0385912	105.3966059	102.8332002	100.3455623	97.93099965	95.58693344
151211A00055	12/11/2015	2.62	12/11/2024	12/11/2015	122.94348	118.7656041	114.7536613	110.9001218	107.1978453	103.6400557	100.2203201	96.93252924	93.77087911
151223A00065	12/23/2015	2.15	12/23/2021	12/23/2015	103.51767	102.9103574	102.3101538	101.7169387	101.1305907	100.5509909	99.97802333	99.41157457	98.85153381
151223A00066	12/23/2015	2.34	12/23/2022	12/23/2015	109.92795	108.2164321	106.5406841	104.8996559	103.2923426	101.7177779	100.1750321	98.66321034	97.18145118
151223A00070	12/23/2015	2.57	12/26/2023	12/23/2015	116.9032	113.9660858	111.1187662	108.3579259	105.6803937	103.0831373	100.5632558	98.11797347	95.74463282
151223A00072	12/23/2015	2.81	12/23/2025	12/23/2015	129.77234	124.1686078	118.8414018	113.7755576	108.9568294	104.3718272	100.0079597	95.85338284	91.89695096
151223A00077	12/23/2015	3.57	12/24/2035	12/23/2015	193.92739	170.7605702	150.7084181	133.329985	118.2491034	105.1445643	93.7418277	83.80602132	75.13601929
151229A00079	12/29/2015	3	12/30/2025	12/29/2015	129.96834	124.3624193	119.0333054	113.9658055	109.1456435	104.5594022	100.1944663	96.0389703	92.08174926

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
151229A00080	12/29/2015	3.49	12/30/2030	12/29/2015	161.24674	147.7909823	135.5942208	124.531198	114.4897586	105.3694128	97.08006627	89.5408953	82.67934849
151229A00081	12/29/2015	3.76	12/31/2035	12/29/2015	193.72883	170.7871084	150.9182189	133.6881211	118.7264392	105.7168188	94.3887899	84.51089221	75.88486045
160104A00014	1/4/2016	2.49	1/4/2023	1/4/2016	110.15487	108.4093864	106.7008103	105.0280415	103.3900251	101.7857479	100.2142356	98.67455135	97.16579375
160113A00030	1/13/2016	2.52	1/13/2025	1/13/2016	123.07781	118.7883512	114.6728031	110.7230977	106.9315956	103.2910569	99.7946179	96.43576879	93.20833311
160119A00019	1/19/2016	2.95	1/19/2027	1/19/2016	135.42109	128.3302323	121.6583802	115.3784839	109.4653843	103.8956731	98.64756126	93.70075779	89.03635899
160119A00027	1/19/2016	3.25	1/18/2030	1/19/2016	153.30018	141.5536232	130.8129448	120.9862874	111.9906488	103.7509855	96.19941077	89.27447706	82.92053368
160119A00028	1/19/2016	3.34	1/21/2031	1/19/2016	159.91111	146.4378297	134.2339686	123.1724577	113.1395941	104.0335712	95.76317573	88.2466347	81.41059299
160119A00029	1/19/2016	3.39	1/20/2032	1/19/2016	165.81842	150.6203894	136.9813241	124.7318203	113.7217448	103.8179528	94.90228463	86.86980756	79.62727226
160119A00030	1/19/2016	3.44	1/18/2033	1/19/2016	172.0043	155.0036018	139.8861196	126.4313284	114.4456616	103.7590865	94.22213175	85.70330347	78.08683768
160120A00010	1/20/2016	1.99	10/20/2021	1/20/2016	102.33133	101.9164566	101.5049441	101.0967551	100.6918495	100.2901878	99.89173098	99.49644079	99.10427954
160129A00066	1/29/2016	3.04	1/29/2031	1/29/2016	158.63406	145.094853	132.8402094	121.7408548	111.6811792	102.5577251	94.27785084	86.75854831	79.92539467
160129A00067	1/29/2016	2.53	1/29/2026	1/29/2016	128.90165	123.1933653	117.7724112	112.6227174	107.7292087	103.0777351	98.65500907	94.4485477	90.44661928
160129A00068	1/29/2016	1.97	1/30/2023	1/29/2016	109.93723	108.1122981	106.3272222	104.5807648	102.8717412	101.1990151	99.56149657	97.95813954	96.38793941
160211A00033	2/11/2016	1.67	2/11/2022	2/11/2016	103.95239	103.1941847	102.4470069	101.7106191	100.9847889	100.2692903	99.56390365	98.86841575	98.18261917
160211A00035	2/11/2016	2.25	2/11/2025	2/11/2016	121.80386	117.4611993	113.2977576	109.3050687	105.4751221	101.8003354	98.2735283	94.88789855	91.63699935
160212A00029	2/12/2016	1.8	2/11/2022	2/12/2016	104.04734	103.2887473	102.5411838	101.8044145	101.0782065	100.3623339	99.65657713	98.96072272	98.27456325
160212A00043	2/12/2016	1.8	2/14/2022	2/12/2016	104.0953	103.3274222	102.5708478	101.8253245	101.0906113	100.3664743	99.65268616	98.94902616	98.25527973
160212A00044	2/12/2016	1.93	2/13/2023	2/12/2016	109.84393	107.9823258	106.1620455	104.3817842	102.6402891	100.9363606	99.26884884	97.63665123	96.03871003
160216A00002	2/16/2016	1.88	2/16/2022	2/16/2016	104.18684	103.4125354	102.6497058	101.898102	101.1574775	100.427593	99.70821587	98.99912044	98.30008733
160216A00028	2/16/2016	1.69	2/16/2022	2/16/2016	104.12268	103.3475901	102.5840034	101.8316698	101.0903419	100.3597793	99.63974861	98.93002331	98.23038317
160307A00027	3/7/2016	2.71	3/6/2026	3/7/2016	129.47142	123.6532695	118.1324705	112.8921661	107.9165496	103.1907965	98.70099732	94.43409558	90.37783036
160307A00028	3/7/2016	2.91	3/7/2028	3/7/2016	140.58299	131.8573934	123.737174	116.1770384	109.1353161	102.5736541	96.45673488	90.75202071	85.42952026
160328A00013	3/28/2016	2.17	3/28/2024	3/28/2016	117.28851	114.0481418	110.9142807	107.8828598	104.9499878	102.1119427	99.36516339	96.70624209	94.13191656
160328A00014	3/28/2016	2.49	3/27/2026	3/28/2016	129.54653	123.6203659	118.0009481	112.6708293	107.6136402	102.8140196	98.25754767	93.93068311	89.82070562
160328A00045	3/28/2016	2.49	3/27/2026	3/28/2016	129.54653	123.6203659	118.0009481	112.6708293	107.6136402	102.8140196	98.25754767	93.93068311	89.82070562
160329A00045	3/29/2016	2.12	3/29/2024	3/29/2016	117.15208	113.9105663	110.7757089	107.7434321	104.8098356	101.9711886	99.22392221	96.56462095	93.99001556
160330A00054	3/30/2016	2.9	3/31/2031	3/30/2016	157.94349	144.195651	131.7740701	120.5433661	110.3826344	101.1838295	92.85033903	85.29572192	78.44259139
160420A00002	4/20/2016	1.96	11/16/2022	4/20/2016	108.48757	106.9035511	105.3510344	103.8291602	102.3370981	100.8740471	99.43923432	98.03191391	96.65136561
160422A00026	4/22/2016	2.62	4/22/2026	4/22/2016	129.69037	123.7007669	118.0245947	112.6438297	107.5415742	102.7019828	98.11019114	93.75225052	89.6150668
160504A00004	5/4/2016	2.3	5/4/2026	5/4/2016	129.05782	123.012631	117.2869896	111.8623433	106.7213151	101.8476203	97.22599185	92.84211161	88.68254655
160510A00012	5/10/2016	1.49	10/12/2021	5/10/2016	102.04177	101.6504389	101.2621164	100.8767669	100.4943563	100.1148509	99.7382176	99.36442378	98.99343729
160524A00027	5/24/2016	3.06	5/27/2031	5/24/2016	158.575	144.6761361	132.1328132	120.8049954	110.5678028	101.3098043	92.93150626	85.34401831	78.46787402
160601A00016	6/1/2016	1.74	6/1/2021	6/1/2016	100.06107	100.0499321	100.0388061	100.0276907	100.0165858	100.0054914	99.9944075	99.98333407	99.97227108

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160603A00004	6/3/2016	1.65	6/3/2021	6/3/2016	100.08994	100.0732316	100.0565436	100.0398723	100.0232178	100.0065798	99.98995851	99.97335382	99.95676569
160603A00021	6/3/2016	1.66	6/3/2021	6/3/2016	100.0901	100.0733986	100.0567105	100.0400391	100.0233844	100.0067463	99.99012486	99.97352002	99.95693175
160606A00004	6/6/2016	2.43	6/8/2026	6/6/2016	129.31014	123.1670629	117.3537133	111.8506441	106.6396553	101.7037104	97.02685558	92.59414552	88.39157397
160606A00005	6/6/2016	2.92	6/6/2031	6/6/2016	157.08569	143.2259086	130.7232055	119.4369412	109.2417429	100.0257781	91.68922867	84.14294448	77.30725386
160606A00043	6/8/2016	2.23	12/15/2021	6/8/2016	103.37336	102.790967	102.2151338	101.6457474	101.0827	100.5258859	99.97520193	99.43054714	98.89182279
160610A00009	6/10/2016	1.89	6/12/2023	6/10/2016	111.6411	109.3920985	107.2003311	105.0639566	102.9812026	100.9503673	98.96981543	97.03797562	95.15333714
160610A00036	6/10/2016	1.42	6/10/2021	6/10/2016	100.19023	100.1539783	100.117774	100.0816134	100.0454964	100.0094229	99.9733928	99.93740604	99.90146253
160613A00047	6/15/2016	2.18	6/16/2025	6/15/2016	123.26826	118.4757611	113.8969485	109.5211272	105.3381966	101.3386159	97.51336949	93.85393522	90.35225425
160614A00066	6/14/2016	1.35	6/14/2021	6/14/2016	100.24548	100.1980638	100.1507103	100.1034191	100.0561903	100.0090235	99.96191874	99.91487583	99.86789465
160615A00023	6/15/2016	1.38	6/15/2021	6/15/2016	100.26143	100.2112238	100.1610803	100.1110042	100.0609954	100.0110537	99.96117911	99.91137135	99.86163034
160615A00045	6/15/2016	1.59	6/15/2021	6/15/2016	100.26742	100.2172501	100.167146	100.1171088	100.0671383	100.0172344	99.96739706	99.91762605	99.86792126
160616A00027	6/16/2016	2.27	6/16/2026	6/16/2016	128.52348	122.3743115	116.556708	111.0510263	105.838896	100.9031261	96.22762262	91.79731297	87.59807555
160616A00034	6/16/2016	1.97	6/17/2024	6/16/2016	117.38819	113.8969288	110.5284156	107.2776121	104.1397231	101.1101793	98.18462445	95.35890467	92.62905726
160617A00045	6/17/2016	1.55	6/17/2021	6/17/2016	100.29493	100.2391732	100.1834969	100.1278981	100.0723764	100.0169319	99.96156432	99.90627351	99.85105933
160620A00015	6/20/2016	1.71	6/20/2023	6/20/2016	111.69978	109.4197703	107.1983232	105.0335279	102.923551	100.8666329	98.86108423	96.90528229	94.997668
160620A00026	6/20/2016	1.39	6/21/2021	6/20/2016	100.34933	100.282345	100.2154603	100.1486767	100.0819939	100.0154118	99.94893005	99.8825485	99.8162669
160624A00005	6/24/2016	1.52	6/24/2021	6/24/2016	100.396	100.3206837	100.2454898	100.170415	100.0954591	100.0206218	99.94590278	99.87130184	99.79681869
160624A00011	6/24/2016	1.83	6/26/2023	6/24/2016	111.72184	109.4300207	107.1972648	105.0216355	102.9012749	100.8344001	98.81929981	96.8543309	94.93791483
160624A00026	6/24/2016	1.52	6/24/2021	6/24/2016	100.396	100.3206837	100.2454898	100.170415	100.0954591	100.0206218	99.94590278	99.87130184	99.79681869
160627A00025	6/27/2016	1.65	6/27/2022	6/27/2016	106.0349	104.8458908	103.6833918	102.5465254	101.4344517	100.3463671	99.28150258	98.23912143	97.21851788
160627A00040	6/27/2016	1.28	6/28/2021	6/27/2016	100.44184	100.3552678	100.268844	100.1825675	100.0964381	100.0104553	99.92461887	99.83892837	99.75338345
160627A00070	6/27/2016	1.52	9/27/2021	6/27/2016	101.79966	101.45268	101.1080576	100.7657677	100.4257868	100.0880916	99.75265929	99.41946715	99.08849287
160628A00030	6/28/2016	1.48	6/28/2021	6/28/2016	100.45128	100.3647761	100.2784237	100.1922177	100.1061578	100.0202435	99.93447459	99.84885065	99.76337136
160628A00038	6/28/2016	1.88	6/27/2025	6/28/2016	122.77922	117.9415073	113.3214428	108.9080389	104.6909252	100.660311	96.80694965	93.1221052	89.59752077
160628A00040	6/28/2016	1.56	6/28/2023	6/28/2016	111.49007	109.1883415	106.9461705	104.7615963	102.6327376	100.5577895	98.53502008	96.56276654	94.63943199
160628A00049	6/28/2016	1.88	6/27/2025	6/28/2016	122.77922	117.9415073	113.3214428	108.9080389	104.6909252	100.660311	96.80694965	93.1221052	89.59752077
160628A00050	6/28/2016	1.56	6/28/2023	6/28/2016	111.49007	109.1883415	106.9461705	104.7615963	102.6327376	100.5577895	98.53502008	96.56276654	94.63943199
160628A00068	6/28/2016	1.28	6/28/2021	6/28/2016	100.44184	100.3552678	100.268844	100.1825675	100.0964381	100.0104553	99.92461887	99.83892837	99.75338345
160629A00052	6/29/2016	1.29	6/29/2021	6/29/2016	100.457	100.3676055	100.2783725	100.1892989	100.1003843	100.0116283	99.9230304	99.83459025	99.74630742
160630A00011	6/30/2016	1.8	6/30/2023	6/30/2016	111.71621	109.412233	107.1678587	104.9811241	102.8501454	100.7731157	98.74830073	96.77403592	94.84872248
160630A00012	6/30/2016	2.11	6/30/2025	6/30/2016	123.14353	118.3080897	113.6899484	109.2781426	105.0623237	101.0327218	97.18010968	93.49576948	89.97146147
160630A00019	6/30/2016	1.52	7/1/2021	6/30/2016	100.49876	100.4038022	100.3090264	100.2144334	100.1200226	100.0257936	99.93174586	99.83787877	99.74419184
160630A00021	6/30/2016	1.59	6/30/2023	6/30/2016	111.58625	109.2771896	107.0279958	104.8366888	102.7013729	100.62023	98.59151565	96.6135551	94.68474031

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160630A00049	6/30/2016	1.51	6/30/2021	6/30/2016	100.48316	100.3910248	100.299057	100.2072597	100.1156325	100.0241748	99.93288618	99.84176623	99.75081446
180620A00015	6/20/2018	3.04	6/20/2023	6/20/2018	114.26478	111.9628589	109.7198019	107.5336959	105.4027028	103.3250585	101.2990688	99.32310659	97.39560802
180627A00027	6/27/2018	2.87	6/27/2023	6/27/2018	114.35794	112.0272208	109.756596	107.5440899	105.3878081	103.2859331	101.2367208	99.2384964	97.28965154
180628A00027	6/28/2018	2.72	6/28/2021	6/28/2018	100.56625	100.4795714	100.3930405	100.3066571	100.220421	100.1343318	100.048389	99.96259233	99.87694146
180629A00008	6/29/2018	3.02	6/29/2023	6/29/2018	114.38855	112.0578573	109.7872494	107.5747502	105.4184646	103.3165749	101.2673362	99.26907372	97.32017852
180719A00065	7/19/2018	3.36	7/20/2026	7/19/2018	135.16181	128.7187895	122.6260973	116.8627262	111.4090503	106.2467225	101.3585839	96.72857992	92.34168329
180730A00002	7/30/2018	3.03	7/30/2021	7/30/2018	101.19232	101.0149591	100.8382243	100.6621082	100.4866075	100.3117191	100.1374396	99.96376604	99.79069518
180730A00033	7/30/2018	3.11	7/29/2022	7/30/2018	108.2987	106.9934307	105.7195809	104.476028	103.2617005	102.0755769	100.9166829	99.78408846	98.6769057
180731A00022	7/31/2018	3.47	7/31/2028	7/31/2018	147.10462	137.6092447	128.8035625	120.6336037	113.049903	106.0071031	99.46359206	93.38117492	87.72477514
180810A00028	8/10/2018	2.91	8/10/2023	8/10/2018	115.27726	112.797456	110.384428	108.0358626	105.7495455	103.5233582	101.3552736	99.24335065	97.18572986
180813A00037	8/13/2018	2.95	2/14/2022	8/13/2018	104.94512	104.1737226	103.4136615	102.6646875	101.9265591	101.1990416	100.4819073	99.77493472	99.07790878
180814A00010	8/14/2018	3.1	8/14/2025	8/14/2018	129.04172	123.9050342	119.0042858	114.3272511	109.8624193	105.5989433	101.5265974	97.63573717	93.9172628
180820A00002	8/20/2018	2.91	8/20/2021	8/20/2018	101.5659	101.3282546	101.0917327	100.8563237	100.6220197	100.3888129	100.1566956	99.92566001	99.69569867
180821A00016	8/21/2018	2.76	8/20/2021	8/21/2018	101.54755	101.3097531	101.07308	100.8375226	100.6030731	100.3697235	100.1374661	99.90629318	99.67619713
180827A00031	8/27/2018	2.9	8/27/2021	8/27/2018	101.69442	101.4366342	101.1801509	100.9249607	100.671054	100.4184212	100.1670528	99.91693925	99.6680713
180828A00032	8/28/2018	3.49	8/29/2033	8/28/2018	179.01744	160.5061244	144.1411597	129.6596999	116.8324638	105.4592868	95.36528306	86.39753213	78.4222142
180830A00039	8/30/2018	3.03	8/30/2023	8/30/2018	115.56829	113.0303993	110.5620558	108.16081	105.8243207	103.5503503	101.3367586	99.18149783	97.08260784
180831A00019	8/31/2018	3.21	9/2/2025	8/31/2018	129.1185	123.9379032	118.9971572	114.2837595	109.7859402	105.4926105	101.3933195	97.47821289	93.73799514
180910A00007	9/10/2018	2.96	9/8/2023	9/10/2018	115.93589	113.3585522	110.8523816	108.4149096	106.0437709	103.7367013	101.491532	99.30618535	97.17866959
180910A00013	9/10/2018	3.08	9/11/2023	9/10/2018	115.90898	113.3304008	110.8230217	108.3843888	106.0121513	103.7040572	101.4579484	99.27175599	97.14349568
180910A00028	9/10/2018	3.56	9/9/2033	9/10/2018	180.21638	161.5840429	145.1143831	130.5422547	117.6363978	106.1949463	96.04155272	87.02204052	79.00151198
180911A00042	9/11/2018	2.99	9/11/2023	9/11/2018	116.06447	113.4763656	110.9598656	108.5124927	106.1318787	103.815755	101.5619479	99.36837389	97.23303463
180917A00032	9/17/2018	3.17	9/15/2023	9/17/2018	116.20212	113.6077566	111.0851976	108.6319869	106.2457686	103.9242842	101.6653678	99.46694187	97.32701246
180918A00023	9/18/2018	3.17	9/18/2023	9/18/2018	116.25827	113.6540588	111.1220645	108.6598295	106.2649951	103.9352992	101.6685713	99.4627281	97.31576958
180918A00037	9/18/2018	3.06	9/17/2021	9/18/2018	102.13426	101.8153372	101.4984199	101.183485	100.8705137	100.5594877	100.2503888	99.94319915	99.63790092
180919A00018	9/19/2018	3.12	6/20/2022	9/19/2018	107.54416	106.3682132	105.2179586	104.0925644	102.9912306	101.9131913	100.8577128	99.82409174	98.81165403
180924A00052	9/24/2018	3.22	9/22/2023	9/24/2018	116.45608	113.8372124	111.2911498	108.8154292	106.4076875	104.0656561	101.7871574	99.57009969	97.4124735
180928A00011	9/28/2018	3.12	7/15/2022	9/28/2018	108.04367	106.7847729	105.5551937	104.3539132	103.1799621	102.0324149	100.9103877	99.81303553	98.73955038
181005A00005	10/5/2018	3.31	10/5/2023	10/5/2018	116.92912	114.2632963	111.6724309	109.1539932	106.7055531	104.3247765	102.009421	99.75733164	97.56643681
181005A00016	10/5/2018	3.26	1/10/2023	10/5/2018	111.56614	109.7904219	108.0524795	106.351179	104.6854311	103.0541897	101.4564499	99.89124534	98.35764696
181016A00087	10/16/2018	3.31	10/16/2023	10/16/2018	117.14432	114.4400347	111.8126994	109.2596881	106.7784766	104.3666413	102.0218554	99.74188384	97.52457931
181018A00014	10/18/2018	3.21	10/18/2021	10/18/2018	102.7881	102.3779112	101.9710025	101.5673344	101.1668684	100.7695662	100.3753905	99.98430435	99.59627142
181023A00020	10/23/2018	3.15	10/22/2021	10/23/2018	102.84173	102.4197711	102.0012725	101.5861953	101.1744976	100.7661381	100.3610763	99.9592725	99.56068733

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181106A00003	11/6/2018	3.31	11/5/2021	11/6/2018	103.18691	102.7230728	102.2634065	101.8078583	101.356373	100.9088961	100.4653744	100.0257556	99.58998811
181108A00025	11/8/2018	3.44	7/31/2023	11/8/2018	115.95644	113.5068581	111.1223795	108.8007812	106.5399337	104.3377985	102.1924229	100.101936	98.06454448
181114A00012	11/14/2018	3.13	11/14/2022	11/14/2018	110.45996	108.8625119	107.2967522	105.7618135	104.2568615	102.7810916	101.3337274	99.91401956	98.5212446
181114A00024	11/14/2018	3.27	12/14/2021	11/14/2018	103.9411	103.3598254	102.785058	102.2166879	101.6546084	101.0987155	100.5489071	100.0050836	99.46714754
181115A00055	11/15/2018	3.01	11/15/2021	11/15/2018	103.2827	102.7887016	102.2994376	101.8148394	101.3348405	100.8593753	100.3883797	99.92179066	99.45954643
181120A00024	11/20/2018	3.25	11/20/2023	11/20/2018	117.66125	114.8381769	112.0985243	109.4393279	106.8577469	104.3510592	101.9166557	99.55203459	97.25479647
181123A00016	11/23/2018	3.19	11/23/2022	11/23/2018	110.51105	108.8895893	107.3007459	105.7436213	104.2173453	102.7210788	101.2540127	99.81536644	98.40438668
181127A00027	11/27/2018	3.25	11/28/2022	11/27/2018	110.70137	109.0632572	107.4583877	105.8858321	104.3446964	102.834119	101.3532693	99.90134619	98.47757677
181130A00025	11/30/2018	3	6/1/2022	11/30/2018	107.17309	106.057535	104.9651711	103.8952802	102.8471742	101.8201923	100.8137005	99.82709005	98.85977583
181204A00023	12/4/2018	3.16	12/3/2021	12/4/2018	103.66821	103.1204403	102.5784536	102.0421611	101.5114735	100.9863031	100.4665642	99.95217269	99.44304642
181212A00027	12/12/2018	2.99	12/12/2023	12/12/2018	117.79612	114.8918926	112.0753759	109.3433787	106.6928433	104.120844	101.6245799	99.20136837	96.84864001
181212A00033	12/12/2018	2.99	12/12/2023	12/12/2018	117.79612	114.8918926	112.0753759	109.3433787	106.6928433	104.120844	101.6245799	99.20136837	96.84864001
181219A00006	12/19/2018	3.06	12/19/2023	12/19/2018	117.69529	114.7790202	111.9511492	109.2084409	106.5477999	103.9662651	101.4610024	99.02929845	96.66855461
181231A00007	12/31/2018	2.86	12/31/2021	12/31/2018	104.02495	103.3928163	102.7683544	102.1514237	101.5418884	100.9396164	100.3444782	99.75634768	99.17510165
190107A00035	1/7/2019	2.82	10/15/2021	1/7/2019	102.5763	102.1753544	101.7775474	101.382845	100.9912107	100.6026088	100.217004	99.8343618	99.45464792
190109A00010	1/9/2019	2.98	1/9/2023	1/9/2019	111.07201	109.3036264	107.5728321	105.8784983	104.2195428	102.5949262	101.0036498	99.44475313	97.91731289
190110A00003	1/10/2019	2.97	1/10/2024	1/10/2019	117.84504	114.8571853	111.9615257	109.1546115	106.4331503	103.7939959	101.2341404	98.75070769	96.34094596
190110A00015	1/10/2019	2.88	1/18/2022	1/10/2019	104.37916	103.691684	103.0132629	102.3437153	101.6828676	101.0305511	100.3866009	99.75085696	99.12316281
190110A00016	1/10/2019	2.88	1/25/2022	1/10/2019	104.51226	103.8032309	103.1038098	102.4137991	101.7330099	101.0612583	100.3983651	99.7441561	99.09846139
190111A00010	1/11/2019	2.87	1/7/2022	1/11/2019	104.16381	103.5101734	102.8647383	102.2273496	101.5978575	100.9761157	100.3619816	99.7553158	99.15598272
190114A00042	1/14/2019	2.92	1/13/2023	1/14/2019	111.04482	109.2647753	107.5227388	105.8175677	104.1481613	102.5134623	100.9124554	99.34416444	97.80765121
190114A00061	1/14/2019	2.98	1/31/2024	1/14/2019	118.24697	115.1876323	112.2243052	109.3533239	106.5711955	103.8745864	101.2603133	98.72533502	96.26674523
190131A00018	1/31/2019	2.83	3/25/2022	1/31/2019	105.58399	104.690625	103.8123518	102.9487884	102.0995677	101.2643345	100.4427453	99.63446778	98.83918042
190131A00036	1/31/2019	2.69	7/31/2023	1/31/2019	114.58459	112.1439093	109.7683158	107.455578	105.203562	103.0102253	100.8736116	98.79184702	96.76313502
190215A00005	2/15/2019	2.89	2/15/2024	2/15/2019	118.25207	115.1452472	112.1372064	109.2241218	106.4023491	103.668413	101.0189974	98.45093741	95.96121052
190222A00028	2/22/2019	2.62	2/22/2022	2/22/2019	104.92737	104.130647	103.3460056	102.5731714	101.8118793	101.0618719	100.3228996	99.59472014	98.87709822
190226A00006	2/26/2019	2.64	2/26/2024	2/26/2019	118.16581	115.0152352	111.9660145	109.0141726	106.1559256	103.3876674	100.70596	98.10752386	95.58922943
190301A00012	3/1/2019	3.41	3/1/2029	3/1/2019	149.87208	139.4861609	129.9080553	121.0703277	112.9115278	105.3756284	98.41151923	91.97254924	86.01611504
190305A00010	3/5/2019	2.84	3/7/2022	3/5/2019	105.26148	104.4247009	103.6012074	102.7906851	101.9928292	101.2073445	100.4339446	99.6723522	98.92229824
190315A00014	3/15/2019	2.74	3/15/2024	3/15/2019	118.31902	115.1170905	112.0191801	109.0212747	106.1195437	103.3103294	100.590137	97.95562705	95.4036069
190318A00008	3/18/2019	2.76	3/18/2024	3/18/2019	118.43171	115.2181612	112.1092025	109.100807	106.189133	103.3705101	100.6414308	97.99854172	95.43863622
190321A00003	3/21/2019	2.67	3/21/2024	3/21/2019	118.21376	114.9935034	111.8782808	108.8640631	105.947001	103.1234153	100.3897891	97.74275864	95.17910624
190326A00024	3/26/2019	2.59	3/26/2024	3/26/2019	118.05857	114.8240626	111.6954135	108.6685825	105.7397048	102.9050843	100.1611854	97.5046248	94.93216416

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190328A00027	3/28/2019	2.51	9/21/2021	3/28/2019	102.03223	101.7020182	101.3739434	101.0479894	100.7241359	100.4023624	100.082649	99.76497587	99.44932353
190328A00031	4/25/2019	2.56	4/25/2024	4/25/2019	118.45825	115.1217095	111.8972275	108.7804264	105.7671224	102.8533178	100.0351926	97.30909477	94.67153225
190328A00083	3/28/2019	2.37	3/28/2024	3/28/2019	117.89594	114.6464637	111.5037263	108.4636502	105.5223367	102.6760566	99.92124227	97.25447926	94.67249913
190403A00006	4/3/2019	2.48	4/3/2024	4/3/2019	118.32928	115.054052	111.8869436	108.8238016	105.8606568	102.9937137	100.2193418	97.53406775	94.93456746
190409A00033	4/9/2019	2.62	6/9/2023	4/9/2019	113.16003	110.9034705	108.7041016	106.5600913	104.4696754	102.4311597	100.442916	98.50337933	96.61104488
190424A00021	4/24/2019	2.6	4/22/2022	4/24/2019	105.89932	104.9177758	103.9543878	103.0086559	102.080098	101.1682495	100.2726622	99.39290386	98.52855755
190430A00001	4/30/2019	2.47	5/2/2024	4/30/2019	118.77909	115.4033427	112.1419121	108.9902947	105.9441874	102.9994811	100.1522501	97.39874367	94.73537641
190501A00017	5/1/2019	2.61	5/1/2024	5/1/2019	118.71368	115.3536541	112.1070713	108.9694693	105.9365905	103.004368	100.1689167	97.42652327	94.77363803
190510A00018	5/10/2019	2.54	5/10/2023	5/10/2019	112.48537	110.3290301	108.2254529	106.1730157	104.1701524	102.215356	100.3071758	98.44421486	96.62512768
190515A00057	5/15/2019	2.25	5/16/2022	5/15/2019	106.10459	105.0453712	104.0072388	102.9895671	101.9917557	101.0132272	100.0534267	99.11182029	98.18789408
190521A00068	5/21/2019	2.47	9/15/2021	5/21/2019	101.91435	101.6016214	101.2908256	100.9819412	100.6749506	100.3698362	100.0665809	99.76516755	99.46557938
190528A00005	5/28/2019	2.42	6/15/2023	5/28/2019	112.83192	110.5608693	108.3477089	106.1905678	104.0876479	102.0372228	100.0376341	98.08728826	96.18465379
190528A00006	5/28/2019	2.43	9/15/2023	5/28/2019	114.39839	111.8261209	109.3251699	106.8930969	104.5275604	102.2263158	99.9872107	97.80818018	95.68724265
190528A00009	5/28/2019	2.45	5/15/2024	5/28/2019	118.43957	115.0373171	111.7514939	108.5774588	105.510784	102.5472438	99.68280332	96.91360926	94.23598031
190528A00015	5/28/2019	2.42	5/27/2022	5/28/2019	106.34341	105.2503467	104.1796778	103.1307228	102.1028264	101.0953595	100.1077178	99.13932064	98.18960976
190528A00039	5/28/2019	2.38	11/29/2021	5/28/2019	103.18401	102.6495918	102.1206942	101.5972314	101.0791198	100.5662778	100.0586254	99.5560842	99.0585774
190528A00042	5/28/2019	2.38	11/29/2021	5/28/2019	103.18401	102.6495918	102.1206942	101.5972314	101.0791198	100.5662778	100.0586254	99.5560842	99.0585774
190529A00005	5/29/2019	2.31	11/29/2021	5/29/2019	103.14763	102.6133222	102.0845342	101.56118	101.0431762	100.5304413	100.0228952	99.52045948	99.02305741
190529A00009	5/29/2019	2.35	5/31/2022	5/29/2019	106.34184	105.236185	104.1534468	103.0929175	102.0539193	101.0358015	100.0379397	99.05973379	98.10060752
190529A00011	5/29/2019	2.36	5/30/2023	5/29/2019	112.43722	110.2185722	108.0556917	105.9468066	103.8902172	101.8842896	99.92745278	98.01819579	96.15506489
190529A00023	5/29/2019	2.38	5/29/2024	5/29/2019	118.44103	114.9924762	111.663453	108.4491314	105.3449087	102.3463948	99.44940094	96.64992932	93.94416311
190529A00028	5/29/2019	2.38	5/29/2024	5/29/2019	118.44103	114.9924762	111.663453	108.4491314	105.3449087	102.3463948	99.44940094	96.64992932	93.94416311
190529A00032	5/29/2019	2.38	5/29/2024	5/29/2019	118.44103	114.9924762	111.663453	108.4491314	105.3449087	102.3463948	99.44940094	96.64992932	93.94416311
190529A00050	5/29/2019	2.31	11/29/2021	5/29/2019	103.14763	102.6133222	102.0845342	101.56118	101.0431762	100.5304413	100.0228952	99.52045948	99.02305741
190529A00069	5/29/2019	2.34	11/29/2021	5/29/2019	103.16322	102.6288663	102.1000314	101.5766306	101.0585806	100.5457998	100.0382081	99.53572722	99.03828026
190530A00003	5/30/2019	2.21	5/27/2022	5/30/2019	106.2576	105.1630394	104.0909457	103.0406285	102.01143	101.0027182	100.0138864	99.04435156	98.09355313
190530A00004	5/30/2019	2.24	5/30/2023	5/30/2019	112.50463	110.2791048	108.1096226	105.9944052	103.9317408	101.9199845	99.95755471	98.04293047	96.17464859
190530A00006	5/30/2019	2.25	5/30/2024	5/30/2019	118.53804	115.0729213	111.7282379	108.4991143	105.3809006	102.3691623	99.45966907	96.64838394	93.93145326
190530A00007	5/30/2019	2.35	11/30/2021	5/30/2019	103.18582	102.6484355	102.1166318	101.5903246	101.0694291	100.5538622	100.0435424	99.53839006	99.03832698
190530A00009	5/30/2019	2.25	5/30/2024	5/30/2019	118.53804	115.0729213	111.7282379	108.4991143	105.3809006	102.3691623	99.45966907	96.64838394	93.93145326
190530A00021	5/30/2019	2.21	5/27/2022	5/30/2019	106.2576	105.1630394	104.0909457	103.0406285	102.01143	101.0027182	100.0138864	99.04435156	98.09355313
190530A00024	5/30/2019	2.25	5/30/2024	5/30/2019	118.53804	115.0729213	111.7282379	108.4991143	105.3809006	102.3691623	99.45966907	96.64838394	93.93145326
190530A00034	5/30/2019	2.44	5/30/2024	5/30/2019	118.64984	115.194837	111.8596448	108.6394173	105.5295383	102.5256047	99.62341587	96.81896257	94.10841735

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190531A00007	6/5/2019	2.14	6/4/2021	6/5/2019	100.11645	100.0969325	100.0774335	100.0579547	100.0384961	100.0190577	99.99963954	99.98024148	99.96086351
190531A00035	5/31/2019	2.29	5/31/2022	5/31/2019	106.27922	105.1739252	104.0915371	103.0313528	101.9926948	100.9749124	99.97738126	98.99950157	98.04069703
190603A00002	6/3/2019	2.03	6/2/2023	6/3/2019	112.10832	109.878017	107.7040574	105.5846401	103.5180379	101.5025913	99.53670526	97.61884609	95.74753855
190603A00003	6/3/2019	2.05	6/3/2024	6/3/2019	117.95106	114.4826559	111.1352171	107.9038268	104.7837996	101.7706682	98.86017137	96.04824379	93.33100527
190603A00005	6/3/2019	2.25	6/3/2024	6/3/2019	118.09706	114.6382737	111.2998339	108.0768576	104.9646927	101.9589031	99.05525715	96.24971715	93.53842887
190603A00032	6/3/2019	1.98	6/3/2022	6/3/2019	106.13895	105.022969	103.9303555	102.8603841	101.8123567	100.7856037	99.7794822	98.79337536	97.8266905
190603A00033	6/3/2019	2.05	6/3/2024	6/3/2019	117.95106	114.4826559	111.1352171	107.9038268	104.7837996	101.7706682	98.86017137	96.04824379	93.33100527
190603A00046	6/3/2019	2.17	6/3/2022	6/3/2019	106.20553	105.0911893	104.0001486	102.9316832	101.8850978	100.8597258	99.85492699	98.87008701	97.90461561
190603A00050	6/3/2019	2.19	6/3/2021	6/3/2019	100.09897	100.0822528	100.0655571	100.0488781	100.0322158	100.0155701	99.99894108	99.98232867	99.96573285
190604A00007	6/4/2019	2.23	7/8/2021	6/4/2019	100.68272	100.567925	100.453403	100.3391545	100.2251783	100.1114736	99.99803928	99.8848744	99.77197796
190604A00009	6/4/2019	2.23	6/4/2021	6/4/2019	100.11624	100.0967433	100.077263	100.0578029	100.0383627	100.0189425	99.99954224	99.9801619	99.96080146
190604A00031	6/4/2019	2.25	6/5/2023	6/4/2019	112.30217	110.0669561	107.8882383	105.764209	103.6931334	101.6733451	99.70324222	97.7812847	95.90599138
190604A00033	6/4/2019	2.23	6/4/2021	6/4/2019	100.11624	100.0967433	100.077263	100.0578029	100.0383627	100.0189425	99.99954224	99.9801619	99.96080146
190604A00048	6/4/2019	2.23	6/4/2021	6/4/2019	100.11624	100.0967433	100.077263	100.0578029	100.0383627	100.0189425	99.99954224	99.9801619	99.96080146
190605A00004	6/5/2019	2.11	1/12/2022	6/5/2019	103.76863	103.1014341	102.4428052	101.7925797	101.1505975	100.5167023	99.89074184	99.27256773	98.66203518
190605A00005	6/5/2019	2.01	6/5/2024	6/5/2019	117.85072	114.3776213	111.025829	107.7904077	104.6666514	101.6500737	98.73639555	95.92153499	93.20159628
190605A00017	6/5/2019	2.12	6/4/2021	6/5/2019	100.1141	100.0945993	100.0751209	100.0556626	100.0362243	100.0168059	99.99740749	99.97802899	99.95867037
190605A00034	6/5/2019	2.11	6/6/2022	6/5/2019	106.19342	105.0696884	103.9696533	102.8925712	101.8377293	100.8044441	99.79206001	98.79994752	97.82750233
190605A00035	6/5/2019	2.18	6/5/2023	6/5/2019	112.15299	109.9193974	107.7422625	105.6197838	103.5502279	101.5319289	99.56328596	97.64275987	95.76887026
190605A00058	6/5/2019	2.14	12/5/2022	6/5/2019	109.073	107.4271378	105.8149567	104.2355055	102.6878671	101.1711585	99.68452857	98.22715699	96.7982528
190606A00023	6/6/2019	2.23	6/6/2024	6/6/2019	118.07701	114.6091459	111.2621897	108.0312301	104.9115827	101.8987812	98.98856586	96.17687254	93.45982236
190606A00025	6/6/2019	2.18	6/4/2021	6/6/2019	100.11527	100.0957687	100.0762894	100.05683	100.0373907	100.0179713	99.9985719	99.9791924	99.95983278
190606A00029	6/6/2019	2.96	6/6/2034	6/6/2019	172.28583	153.2342466	136.5241288	121.8529497	108.9587842	97.61467723	87.62381525	78.81538514	71.04102019
190607A00005	6/7/2019	1.92	6/7/2022	6/7/2019	106.14309	105.0144468	103.9097012	102.8281048	101.7689361	100.7315028	99.7151413	98.71921443	97.74311065
190607A00012	6/7/2019	2.13	6/7/2022	6/7/2019	106.23171	105.1046015	104.0013277	102.9211366	101.8633096	100.8271574	99.81201905	98.81725998	97.8422711
190607A00018	6/7/2019	2.19	6/7/2024	6/7/2019	117.96195	114.4927883	111.1446776	107.9126975	104.7921546	101.7785738	98.86768739	96.05542366	93.33789681
190610A00018	6/10/2019	2.52	6/10/2026	6/10/2019	129.83713	123.6735449	117.8408869	112.3196253	107.091484	102.1393563	97.44722342	93.00008001	88.78386422
190611A00015	6/11/2019	2.32	6/11/2024	6/11/2019	118.44502	114.9555879	111.5881885	108.3378404	105.1997995	102.1695437	99.2427607	96.41533733	93.68334865
190611A00047	6/11/2019	2.26	6/11/2021	6/11/2019	100.23371	100.1946844	100.1557059	100.1167752	100.077892	100.0390563	100.000268	99.96152708	99.92283335
190612A00011	6/12/2019	2.2	6/30/2022	6/12/2019	106.70377	105.5011697	104.325565	103.1760574	102.0517854	100.9519253	99.87568886	98.82232132	97.79109987
190614A00018	6/14/2019	2.21	6/14/2021	6/14/2019	100.28145	100.2340506	100.1867128	100.1394369	100.0922227	100.0450701	99.99797891	99.95094911	99.90398053
190618A00002	6/18/2019	2.11	6/18/2025	6/18/2019	123.68337	118.8557303	114.2439922	109.837319	105.6254766	101.5988002	97.74815839	94.06492133	90.54092975
190619A00009	6/19/2019	2.26	6/19/2024	6/19/2019	118.3693	114.8559835	111.4662123	108.1949189	105.0372721	101.9886685	99.04472003	96.20124228	93.454244

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190619A00024	6/19/2019	2.21	7/19/2022	6/19/2019	107.04479	105.779462	104.5439319	103.3371593	102.158149	101.0059513	99.8796596	98.7784075	97.70136698
190620A00010	6/20/2019	2.04	6/20/2022	6/20/2019	106.35458	105.1857285	104.0424676	102.9239617	101.8294134	100.7580594	99.70916843	98.68203963	97.6760011
190620A00024	6/20/2019	2.05	6/21/2021	6/20/2019	100.38741	100.3204482	100.2535913	100.1868347	100.1201782	100.0536217	99.98716486	99.92080755	99.85454952
190620A00026	6/20/2019	2.09	6/20/2023	6/20/2019	112.19763	109.9185271	107.6978201	105.5336061	103.4240606	101.3674326	99.36204035	97.40626877	95.49856568
190620A00045	6/20/2019	2.14	6/20/2024	6/20/2019	117.98962	114.4792905	111.0925397	107.8242929	104.6697134	101.6241925	98.68333734	95.84295942	93.09906352
190620A00057	6/25/2019	2.09	5/15/2023	6/25/2019	111.62129	109.4585803	107.3491997	105.2914925	103.2838649	101.3247836	99.41277301	97.5464127	95.72433487
190621A00021	6/21/2019	2.12	6/21/2022	6/21/2019	106.45975	105.2871161	104.1402141	103.0182054	101.9202865	100.8456878	99.79367251	98.7635343	97.75459619
190621A00040	6/21/2019	2.12	6/21/2021	6/21/2019	100.39209	100.325126	100.258265	100.1915043	100.1248439	100.0582833	99.99182253	99.92546123	99.85919921
190621A00041	6/21/2019	2.12	6/21/2022	6/21/2019	106.45975	105.2871161	104.1402141	103.0182054	101.9202865	100.8456878	99.79367251	98.7635343	97.75459619
190624A00008	6/24/2019	2.08	6/24/2022	6/24/2019	106.46641	105.2842544	104.1282451	102.9975181	101.8912512	100.8086574	99.74898323	98.71150694	97.6955367
190624A00026	6/24/2019	2.08	6/24/2022	6/24/2019	106.46641	105.2842544	104.1282451	102.9975181	101.8912512	100.8086574	99.74898323	98.71150694	97.6955367
190624A00052	6/24/2019	1.89	6/24/2022	6/24/2019	106.39602	105.212104	104.0544092	102.9220716	101.8142655	100.7302007	99.66912048	98.63030017	97.61304513
190625A00003	6/25/2019	2.03	6/27/2022	6/25/2019	106.46116	105.269562	104.1045168	102.9651433	101.8506005	100.7600839	99.69282353	98.64808176	97.62515198
190625A00007	6/25/2019	2.06	6/25/2021	6/25/2019	100.45281	100.3746686	100.2966487	100.2187545	100.1409858	100.0633423	99.98582365	99.90842967	99.83116003
190625A00012	6/25/2019	2.12	6/25/2024	6/25/2019	117.99668	114.470575	111.0690252	107.7868978	104.6193002	101.5615718	98.60927131	95.75816464	93.00421416
190625A00013	6/25/2019	2.01	6/24/2022	6/25/2019	106.38849	105.2068106	104.0512636	102.9209919	101.8151733	100.7330212	99.67378228	98.63673481	97.6211872
190625A00017	6/25/2019	2.02	12/15/2022	6/25/2019	109.0435	107.3676677	105.726504	104.1190142	102.5442382	101.0012521	99.48916635	98.00712417	96.55430003
190625A00023	6/25/2019	2.47	6/25/2027	6/25/2019	134.27483	126.663354	119.5336255	112.8525998	106.589674	100.7164901	95.20675797	90.03609465	85.18187573
190625A00024	6/25/2019	2.26	6/25/2025	6/25/2019	123.74401	118.9122102	114.2967914	109.8868667	105.6721628	101.6429789	97.79015105	94.10501955	90.57939806
190626A00010	6/26/2019	2.1	6/26/2023	6/26/2019	112.3142	110.0157878	107.7765809	105.5946333	103.4680833	101.3951441	99.37410088	97.40330686	95.48118019
190626A00015	6/26/2019	2.15	6/26/2024	6/26/2019	118.11048	114.5793922	111.1731091	107.8864792	104.7145973	101.6527906	98.69660669	95.84180092	93.08432577
190626A00019	6/26/2019	2.1	6/24/2022	6/26/2019	106.48867	105.3063812	104.1502398	103.0193827	101.9129877	100.8302677	99.77046921	98.7328704	97.71677941
190626A00020	6/26/2019	2.08	6/25/2021	6/26/2019	100.45438	100.3762279	100.2982066	100.220311	100.142541	100.0648962	99.98737621	99.9099809	99.83270993
190626A00033	6/26/2019	2.08	6/22/2021	6/26/2019	100.40565	100.3358958	100.266247	100.1967047	100.1272686	100.0579385	99.98871423	99.9195955	99.8505821
190627A00009	6/27/2019	1.93	6/27/2023	6/27/2019	112.28957	109.9819216	107.7338912	105.5435134	103.4089076	101.3282696	99.29986812	97.32204076	95.39319093
190627A00037	6/27/2019	1.93	6/27/2023	6/27/2019	112.28957	109.9819216	107.7338912	105.5435134	103.4089076	101.3282696	99.29986812	97.32204076	95.39319093
190627A00038	6/27/2019	2.12	6/27/2023	6/27/2019	112.37394	110.0718616	107.8291304	105.6437961	103.5139901	101.4379195	99.41386369	97.44017033	95.51525237
190627A00052	6/27/2019	2.1	6/27/2022	6/27/2019	106.53968	105.3476067	104.1820925	103.0422571	101.9272595	100.8362949	99.76859318	98.72341656	97.70005826
190628A00004	6/28/2019	2.12	6/28/2023	6/28/2019	112.3898	110.0845456	107.8387679	105.6505146	103.5179111	101.4391585	99.41253065	97.43636987	95.50908418
190628A00024	6/28/2019	2.09	6/28/2022	6/28/2019	106.54544	105.3501719	104.1816	103.0388377	101.9210378	100.8273896	99.75711735	98.709478	97.6837598
190701A00007	7/2/2019	2.09	7/1/2022	7/2/2019	106.59642	105.3912885	104.2132892	103.0615135	101.9350935	100.8331993	99.75503668	98.6998456	97.66689801
190701A00017	7/1/2019	1.9	7/1/2022	7/1/2019	106.52483	105.317894	104.13817	102.9847473	101.8567544	100.7533579	99.67376037	98.61719852	97.5829414
190701A00023	7/1/2019	1.95	7/1/2024	7/1/2019	118.03442	114.4761015	111.0442907	107.7337362	104.539437	101.4566313	98.48078285	95.60756893	92.83286875

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190703A00004	7/3/2019	2.08	7/5/2022	7/3/2019	106.64085	105.4228983	104.2326493	103.0691691	101.9315625	100.8189739	99.73058492	98.66561266	97.62330762
190703A00017	7/3/2019	2.33	5/4/2026	7/3/2019	128.28493	122.2897533	116.6108843	111.229993	106.1299088	101.294538	96.70879083	92.35851355	88.23042569
190703A00019	7/3/2019	2.08	7/5/2022	7/3/2019	106.64085	105.4228983	104.2326493	103.0691691	101.9315625	100.8189739	99.73058492	98.66561266	97.62330762
190703A00022	7/3/2019	2.08	7/5/2022	7/3/2019	106.64085	105.4228983	104.2326493	103.0691691	101.9315625	100.8189739	99.73058492	98.66561266	97.62330762
190708A00001	7/8/2019	1.99	7/8/2022	7/8/2019	106.74657	105.5159043	104.3134923	103.1383672	101.9896084	100.8663362	99.7677096	98.69292441	97.641211
190708A00011	7/8/2019	2.2	7/8/2024	7/8/2019	118.4562	114.8806002	111.4324396	108.1064085	104.8974528	101.8007609	98.81175068	95.92605619	93.13951652
190708A00021	7/8/2019	1.99	7/8/2022	7/8/2019	106.74657	105.5159043	104.3134923	103.1383672	101.9896084	100.8663362	99.7677096	98.69292441	97.641211
190709A00018	7/9/2019	2.24	7/9/2024	7/9/2019	118.60518	115.0238753	111.5702846	108.2390839	105.0252047	101.923822	98.93034074	96.04038333	93.24977764
190710A00012	7/10/2019	2.18	7/10/2023	7/10/2019	112.71778	110.3713094	108.0860954	105.8600952	103.6913503	101.5779833	99.51819357	97.51025379	95.552506
190710A00022	7/10/2019	2.22	7/10/2024	7/10/2019	118.55337	114.9696451	111.5138279	108.1805762	104.9648102	101.8616941	98.86662291	95.97520975	93.18327387
190711A00016	7/11/2019	2.17	7/11/2022	7/11/2019	106.84711	105.6087532	104.398992	103.2168471	102.061381	100.9316981	99.82694268	98.74629651	97.68897675
190711A00022	7/11/2019	2	7/11/2023	7/11/2019	112.67116	110.3153867	108.0213003	105.7868386	103.6100235	101.4889587	99.42182624	97.40688208	95.44245265
190712A00009	7/12/2019	2.19	7/12/2023	7/12/2019	112.77288	110.4195205	108.1277206	105.8954188	103.7206424	101.6015008	99.53618085	97.52294338	95.56011934
190715A00010	7/15/2019	2.23	7/15/2024	7/15/2019	118.66273	115.0608806	111.588045	108.2388119	105.0080383	101.8908296	98.88252597	95.97868902	93.17509006
190715A00014	7/15/2019	2.16	3/30/2022	7/15/2019	105.09876	104.1923155	103.3014479	102.4257625	101.5648739	100.7184096	99.8860095	99.06732543	98.2620206
190715A00024	7/15/2019	2.17	7/15/2021	7/15/2019	100.79278	100.6581756	100.5239469	100.39009	100.2566033	100.1234853	99.9907345	99.85834927	99.7263281
190715A00027	7/15/2019	1.99	7/15/2021	7/15/2019	100.77962	100.6449215	100.5105962	100.3766442	100.243064	100.109854	99.97701264	99.8445383	99.71242945
190715A00028	7/17/2019	2.17	1/18/2022	7/17/2019	103.90922	103.2235124	102.5468401	101.8790249	101.2198936	100.5692776	99.92701257	99.29293834	98.66689887
190715A00029	7/17/2019	2.16	4/18/2022	7/17/2019	105.4216	104.4548645	103.5058087	102.5739501	101.6588244	100.7599838	99.87699634	99.00944536	98.15692858
190716A00046	7/16/2019	2.19	7/18/2022	7/16/2019	107.00377	105.7418982	104.5096703	103.3060559	102.130067	100.9807608	99.85723705	98.75863541	97.68413359
190717A00008	7/17/2019	2.22	7/17/2024	7/17/2019	118.65935	115.0510267	111.572138	108.2172478	104.9811884	101.8590422	98.84612787	95.93798702	93.13037227
190719A00002	7/19/2019	2.12	4/21/2022	7/19/2019	105.43548	104.459397	103.5013283	102.5607785	101.6372704	100.730344	99.83955569	98.9644776	98.10469686
190719A00006	7/19/2019	2.17	7/19/2024	7/19/2019	118.5207	114.9081466	111.4253826	108.0669556	104.8276749	101.7026021	98.68703596	95.77650005	92.96672988
190724A00005	7/24/2019	2.12	7/26/2021	7/24/2019	100.96655	100.8007947	100.6355828	100.4709128	100.3067819	100.1431876	99.98012718	99.81759813	99.65559785
190724A00021	7/24/2019	2.33	7/23/2027	7/24/2019	134.83929	127.0660662	119.7916186	112.9812864	106.6029968	100.6270622	95.02598969	89.77430733	84.8484047
190724A00022	7/24/2019	1.94	7/23/2021	7/24/2019	100.90201	100.7446446	100.5877755	100.4314018	100.2755212	100.1201314	99.96522992	99.81081456	99.65688301
190724A00024	7/24/2019	2.49	7/24/2029	7/24/2019	145.25075	134.4360694	124.5100993	115.3950328	107.0202644	99.3216893	92.24107245	85.72548245	79.72678257
190726A00005	7/26/2019	1.97	7/26/2022	7/26/2019	107.03041	105.7403705	104.4812688	103.2520036	102.0515247	100.8788306	99.73296561	98.61301769	97.51811556
190729A00008	7/29/2019	2.18	1/29/2024	7/29/2019	115.93135	112.9110774	109.985655	107.1514692	104.4050721	101.7431724	99.16262709	96.66043321	94.23372076
190729A00017	7/29/2019	1.97	7/29/2021	7/29/2019	101.00409	100.8296706	100.6558497	100.4826273	100.3100002	100.1379656	99.96652019	99.79566113	99.62538539
190731A00004	7/31/2019	2.18	7/31/2024	7/31/2019	118.73335	115.0783055	111.5557188	108.1599647	104.8856985	101.7278377	98.68154718	95.74222527	92.90549064
190731A00028	7/31/2019	1.93	7/29/2022	7/31/2019	107.03296	105.7332752	104.464987	103.2269672	102.0181428	100.8374913	99.68403702	98.55684914	97.45503878
190801A00007	8/1/2019	2.17	8/2/2021	8/1/2019	101.09086	100.9051168	100.7200646	100.5356967	100.3520093	100.1689984	99.98666049	99.80499172	99.62398842

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190801A00010	8/1/2019	1.97	8/1/2023	8/1/2019	112.94237	110.5177162	108.1578909	105.8606687	103.6239203	101.4456075	99.32377853	97.25656379	95.24217124
190802A00003	8/2/2019	2.01	8/2/2024	8/2/2019	118.18073	114.5285581	111.0090202	107.6164758	104.3455629	101.1911833	98.14848732	95.21285983	92.37990732
190802A00016	8/2/2019	2.01	7/12/2023	8/2/2019	112.36934	110.0205575	107.7332401	105.5053276	103.33485	101.2199194	99.15872521	97.14953078	95.19066941
190802A00029	8/2/2019	2	8/2/2022	8/2/2019	107.01745	105.7076933	104.4298452	103.182749	101.965305	100.7764656	99.61523208	98.4806516	97.37181477
190805A00004	8/5/2019	1.7	8/5/2022	8/5/2019	106.8672	105.5460542	104.2573828	103.0000016	101.7727823	100.57465	99.40458048	98.26159716	97.14476819
190805A00007	8/5/2019	1.88	8/5/2022	8/5/2019	106.91944	105.6006974	104.314316	103.0591207	101.8339883	100.637849	99.46968305	98.32851825	97.21342684
190805A00008	8/5/2019	1.88	8/4/2023	8/5/2019	112.4302	110.0093373	107.6533029	105.3598698	103.1269043	100.9523646	98.83429546	96.77082405	94.76015557
190805A00011	8/5/2019	1.91	8/5/2024	8/5/2019	117.87969	114.2230255	110.6995036	107.303448	104.0294627	100.8724176	97.8274338	94.88986896	92.05530429
190805A00049	8/5/2019	1.88	8/4/2023	8/5/2019	112.4302	110.0093373	107.6533029	105.3598698	103.1269043	100.9523646	98.83429546	96.77082405	94.76015557
190805A00050	8/5/2019	1.91	8/5/2024	8/5/2019	117.87969	114.2230255	110.6995036	107.303448	104.0294627	100.8724176	97.8274338	94.88986896	92.05530429
190806A00012	8/6/2019	1.93	8/6/2021	8/6/2019	101.11033	100.9132084	100.7168651	100.5212962	100.3264972	100.1324634	99.93919037	99.74667348	99.5549083
190806A00026	8/6/2019	1.71	8/7/2023	8/6/2019	112.43277	109.9956516	107.6241363	105.315957	103.0689428	100.8810172	98.75019232	96.6745645	94.65231001
190807A00012	8/7/2019	1.76	2/7/2023	8/7/2019	109.44644	107.6064174	105.8069389	104.0467335	102.324583	100.63932	98.98982492	97.37502403	95.79388663
190807A00014	8/7/2019	1.75	8/7/2023	8/7/2019	112.17369	109.7466639	107.3848576	105.0860162	102.8479858	100.668705	98.54620096	96.47858385	94.46404312
190807A00020	8/7/2019	1.57	2/7/2024	8/7/2019	114.75331	111.7118508	108.7669908	105.9150108	103.1523602	100.4756522	97.88165434	95.36728025	92.92958194
190807A00021	8/7/2019	2	8/7/2026	8/7/2019	127.6345	121.3318302	115.377821	109.7512867	104.4324527	99.40284914	94.64521674	90.14342068	85.88237074
190807A00023	8/7/2019	1.77	8/7/2024	8/7/2019	117.4259	113.7705027	110.2484765	106.85412	103.5820182	100.4270239	97.38424202	94.44901559	91.61691225
190807A00036	8/7/2019	1.75	8/7/2023	8/7/2019	112.17369	109.7466639	107.3848576	105.0860162	102.8479858	100.668705	98.54620096	96.47858385	94.46404312
190807A00045	8/7/2019	1.77	8/7/2024	8/7/2019	117.4259	113.7705027	110.2484765	106.85412	103.5820182	100.4270239	97.38424202	94.44901559	91.61691225
190807A00054	8/7/2019	1.66	8/6/2021	8/7/2019	101.07359	100.8763486	100.6798893	100.484207	100.289297	100.0951546	99.90177522	99.70915431	99.51728736
190808A00009	8/8/2019	1.89	8/8/2024	8/8/2019	117.85204	114.1863039	110.6543516	107.2504598	103.969194	100.8053882	97.75413009	94.8107464	91.97078934
190808A00015	8/8/2019	1.92	8/9/2021	8/8/2019	101.15608	100.9503719	100.7455141	100.5415003	100.3383251	100.1359834	99.93446995	99.73377964	99.53390736
190808A00025	8/8/2019	1.7	8/8/2024	8/8/2019	117.73002	114.0532285	110.5109359	107.0973838	103.8070976	100.6348737	97.57576446	94.62506366	91.77829256
190808A00041	8/8/2019	1.74	8/6/2021	8/8/2019	101.08923	100.8919676	100.6954859	100.4997812	100.3048488	100.1106841	99.91728256	99.72463953	99.53275053
190808A00047	8/8/2019	1.89	8/8/2024	8/8/2019	117.85204	114.1863039	110.6543516	107.2504598	103.969194	100.8053882	97.75413009	94.8107464	91.97078934
190808A00052	8/8/2019	1.7	8/8/2024	8/8/2019	117.73002	114.0532285	110.5109359	107.0973838	103.8070976	100.6348737	97.57576446	94.62506366	91.77829256
190809A00001	8/9/2019	1.88	8/9/2022	8/9/2019	106.98498	105.6529431	104.3539056	103.0866573	101.8500425	100.6429608	99.46436417	98.31325345	97.18867584
190809A00005	8/9/2019	1.88	7/11/2022	8/9/2019	106.51005	105.2738042	104.0661256	102.8860301	101.7325812	100.6048843	99.50208429	98.42336382	97.36794079
190809A00008	8/9/2019	1.87	8/3/2023	8/9/2019	112.3921	109.9747291	107.622033	105.3317873	103.1018662	100.9302349	98.81494511	96.75413031	94.74600174
190809A00011	8/9/2019	1.69	8/9/2024	8/9/2019	117.70907	114.0294326	110.4845087	107.06852	103.7759787	100.6016695	97.54063379	94.58815487	91.73974449
190809A00012	8/9/2019	1.69	8/9/2024	8/9/2019	117.70907	114.0294326	110.4845087	107.06852	103.7759787	100.6016695	97.54063379	94.58815487	91.73974449
190809A00015	8/9/2019	1.88	8/9/2022	8/9/2019	106.98498	105.6529431	104.3539056	103.0866573	101.8500425	100.6429608	99.46436417	98.31325345	97.18867584
190809A00022	8/9/2019	1.88	8/9/2024	8/9/2019	117.83126	114.1626987	110.6281263	107.2218078	103.9382957	100.7724124	97.71923449	94.77407853	91.93248723

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190812A00003	8/12/2019	1.67	8/12/2024	8/12/2019	117.68044	113.9917123	110.4383359	107.0144942	103.7146605	100.5335831	97.46626952	94.50797176	91.65417225
190812A00006	8/12/2019	1.86	8/12/2024	8/12/2019	117.80308	114.1254703	110.5824818	107.1683427	103.8775669	100.7049409	97.64550767	94.69455261	91.84758936
190813A00007	8/13/2019	1.89	8/15/2022	8/13/2019	107.09597	105.7438839	104.4257667	103.1403505	101.8864301	100.662859	99.46854566	98.30245048	97.1635825
190813A00016	8/13/2019	1.88	8/13/2024	8/13/2019	117.88577	114.2035833	110.6562777	107.2380615	103.9434342	100.7671687	97.70429558	94.75008847	91.9000501
190814A00005	8/14/2019	1.65	8/14/2024	8/14/2019	117.63804	113.9436411	110.385016	106.9563155	103.6519872	100.4667555	97.39560568	94.43376903	91.57670872
190814A00008	8/14/2019	1.84	8/14/2024	8/14/2019	117.76104	114.0777823	110.5295675	107.1105896	103.815337	100.6385722	97.57531634	94.62083417	91.77062027
190814A00010	8/14/2019	1.84	4/5/2023	8/14/2019	110.48181	108.4543425	106.4742448	104.5401257	102.650644	100.8045064	99.00046527	97.23731688	95.51389956
190814A00015	8/14/2019	1.84	8/14/2024	8/14/2019	117.76104	114.0777823	110.5295675	107.1105896	103.815337	100.6385722	97.57531634	94.62083417	91.77062027
190815A00012	8/15/2019	1.81	8/15/2024	8/15/2019	117.67068	113.9857774	110.4360914	107.0158051	103.7193953	100.5416137	97.47747127	94.52222356	91.67135647
190815A00032	8/15/2019	1.83	8/13/2021	8/15/2019	101.20254	100.9853804	100.7691644	100.5538875	100.3395434	100.1261262	99.9136298	99.70204809	99.49137516
190816A00006	8/16/2019	1.77	8/16/2024	8/16/2019	117.54548	113.8595273	110.3089462	106.8879123	103.5908908	100.4126234	97.3481116	94.3926019	91.5415721
190816A00007	8/16/2019	1.77	8/16/2023	8/16/2019	112.3524	109.8958152	107.505846	105.1801711	102.9165671	100.7129082	98.56716043	96.47737692	94.44169334
190816A00011	8/16/2019	1.77	8/16/2024	8/16/2019	117.54548	113.8595273	110.3089462	106.8879123	103.5908908	100.4126234	97.3481116	94.3926019	91.5415721
190816A00013	8/16/2019	2.2	8/16/2029	8/16/2019	141.14009	130.4927257	120.7274107	111.7663942	103.5391744	95.98178155	89.0361406	82.64949857	76.77391068
190816A00014	8/16/2019	1.77	8/16/2024	8/16/2019	117.54548	113.8595273	110.3089462	106.8879123	103.5908908	100.4126234	97.3481116	94.3926019	91.5415721
190816A00016	8/16/2019	2.2	8/16/2029	8/16/2019	141.14009	130.4927257	120.7274107	111.7663942	103.5391744	95.98178155	89.0361406	82.64949857	76.77391068
190816A00021	8/16/2019	1.77	8/16/2023	8/16/2019	112.3524	109.8958152	107.505846	105.1801711	102.9165671	100.7129082	98.56716043	96.47737692	94.44169334
190816A00031	8/16/2019	1.77	8/16/2024	8/16/2019	117.54548	113.8595273	110.3089462	106.8879123	103.5908908	100.4126234	97.3481116	94.3926019	91.5415721
190816A00035	8/16/2019	1.77	8/16/2023	8/16/2019	112.3524	109.8958152	107.505846	105.1801711	102.9165671	100.7129082	98.56716043	96.47737692	94.44169334
190819A00005	8/19/2019	1.62	8/21/2023	8/19/2019	112.42972	109.9496968	107.5374058	105.1904679	102.9066059	100.6836431	98.51949793	96.41217865	94.35977874
190819A00020	8/19/2019	1.79	8/19/2022	8/19/2019	107.0341	105.66957	104.3396395	103.0430056	101.7784304	100.5447368	99.34080434	98.16556651	97.01800706
190819A00026	8/19/2019	1.62	8/19/2024	8/19/2019	117.60061	113.8908897	110.3180208	106.8760848	103.5594633	100.3628197	97.28108244	94.30942984	91.44327584
190819A00030	8/19/2019	2.01	8/20/2029	8/19/2019	141.05965	130.3248499	120.4836843	111.457074	103.1733365	95.56745526	88.58042621	82.15867192	76.25351576
190820A00005	8/21/2019	1.76	2/27/2023	8/21/2019	109.75265	107.8500741	105.9904953	104.1725234	102.3948294	100.6561418	98.95524296	97.29096678	95.66219549
190820A00008	8/20/2019	1.76	8/20/2024	8/20/2019	117.56387	113.8649141	110.3022115	106.8698792	103.5623296	100.3742548	97.30061051	94.33660059	91.477663
190820A00012	8/20/2019	1.76	8/19/2022	8/20/2019	106.99583	105.6315607	104.3018878	103.0055072	101.7411809	100.5077319	99.30404008	98.12903883	96.98171209
190820A00013	8/20/2019	1.76	8/21/2023	8/20/2019	112.40232	109.9298748	107.5248202	105.184792	102.9075286	100.6908679	98.53274206	96.43117253	94.38426504
190820A00020	8/20/2019	1.76	8/20/2024	8/20/2019	117.56387	113.8649141	110.3022115	106.8698792	103.5623296	100.3742548	97.30061051	94.33660059	91.477663
190820A00021	8/20/2019	2.13	8/20/2029	8/20/2019	140.52733	129.8918426	120.1390984	111.1911711	102.977402	95.43368924	88.50184601	82.12902579	76.2672057
190820A00054	8/20/2019	1.76	8/18/2022	8/20/2019	106.97978	105.6188375	104.2923285	102.9989588	101.737499	100.5067799	99.30568848	98.13316519	96.98820032
190821A00009	8/21/2019	1.79	8/22/2022	8/21/2019	107.08252	105.7080018	104.3685742	103.062903	101.7897251	100.5478397	99.33610445	98.15343219	96.99878726
190821A00016	8/21/2019	1.79	8/22/2022	8/21/2019	107.08252	105.7080018	104.3685742	103.062903	101.7897251	100.5478397	99.33610445	98.15343219	96.99878726
190821A00017	8/21/2019	1.8	8/21/2024	8/21/2019	117.71636	114.0116396	110.4434618	107.0059272	103.6934326	100.5006554	97.42253772	94.45427049	91.59127977

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190821A00021	8/21/2019	1.79	8/18/2022	8/21/2019	107.01796	105.6567606	104.329995	103.0363732	101.7746656	100.5437028	99.34237184	98.16961294	97.02441632
190821A00028	8/21/2019	1.8	8/21/2023	8/21/2019	112.49681	110.023235	107.6170802	105.2759754	102.9976582	100.7799658	98.62082979	96.51827091	94.47039429
190821A00030	8/21/2019	1.8	8/21/2024	8/21/2019	117.71636	114.0116396	110.4434618	107.0059272	103.6934326	100.5006554	97.42253772	94.45427049	91.59127977
190822A00016	8/22/2019	1.84	8/22/2022	8/22/2019	107.14674	105.7717818	104.4319191	103.1258204	101.8522224	100.609924	99.39778278	98.21471127	97.05967369
190823A00005	8/23/2019	1.62	8/23/2024	8/23/2019	117.6539	113.930503	110.3448644	106.8910056	103.563254	100.3562226	97.26479276	94.28409919	91.40951504
190826A00004	8/26/2019	1.74	8/26/2022	8/26/2019	107.08228	105.6948974	104.3432445	103.0259557	101.7417345	100.4893485	99.26762623	98.07545275	96.91176669
190826A00006	8/26/2019	1.72	8/26/2024	8/26/2019	117.5036	113.786638	110.2072128	106.7593575	103.4374057	100.2359767	97.14995814	94.17449066	91.30495343
190826A00018	8/26/2019	1.9	8/27/2029	8/26/2019	140.09529	129.3766045	119.5530925	110.5453286	102.2813323	94.69583347	87.7296134	81.32891319	75.44490358
190826A00025	8/26/2019	1.76	11/26/2024	8/26/2019	118.85117	114.8139389	110.935887	107.2098688	103.6290999	100.1871371	96.87785936	93.69544985	90.63437895
190826A00034	8/26/2019	1.9	8/24/2029	8/26/2019	140.06274	129.3561751	119.5429849	110.5439721	102.2873578	94.70804889	87.74698139	81.35053234	75.46999151
190826A00038	8/26/2019	1.74	8/26/2022	8/26/2019	107.08228	105.6948974	104.3432445	103.0259557	101.7417345	100.4893485	99.26762623	98.07545275	96.91176669
190826A00056	8/26/2019	1.72	8/26/2024	8/26/2019	117.5036	113.786638	110.2072128	106.7593575	103.4374057	100.2359767	97.14995814	94.17449066	91.30495343
190826A00057	8/26/2019	1.87	8/26/2025	8/26/2019	122.78425	117.76744	112.9837913	108.4211172	104.0679467	99.91347606	95.94752531	92.16049823	88.54334486
190826A00058	8/26/2019	1.91	8/26/2026	8/26/2019	127.32886	120.9707092	114.9676138	109.2977975	103.9409464	98.87810019	94.09155441	89.56476926	85.2822863
190826A00060	8/26/2019	2.02	8/26/2027	8/26/2019	131.84017	124.0911244	116.8463776	110.0704159	103.7304189	97.79604053	92.23920793	87.03393906	82.15617544
190827A00001	8/27/2019	1.74	8/27/2024	8/27/2019	117.58673	113.8651736	110.2814152	106.8294695	103.5036555	100.2985788	97.20911415	94.23039046	91.3577757
190827A00022	8/27/2019	1.83	8/27/2021	8/27/2019	101.42222	101.1648925	100.9088707	100.6541402	100.4006915	100.1485148	99.8976007	99.64793975	99.39952262
190827A00039	8/27/2019	1.78	8/26/2022	8/27/2019	107.13412	105.7463813	104.3943743	103.0767377	101.7921747	100.5394529	99.31740041	98.12490229	96.96089698
190828A00008	8/28/2019	1.75	8/29/2022	8/28/2019	107.13687	105.7416675	104.3821921	103.057088	101.7650634	100.5048902	99.27540068	98.07548341	96.90408024
190828A00009	8/28/2019	1.71	8/28/2024	8/28/2019	117.49486	113.7717031	110.1865185	106.7333099	103.4063845	100.2003368	97.11003161	94.13058825	91.257366
190828A00015	8/28/2019	2.04	8/28/2029	8/28/2019	139.7673	129.1359124	119.3898465	110.4507237	102.2474955	94.71572452	87.79693621	81.43803697	75.59079255
190828A00020	8/28/2019	1.95	5/28/2027	8/28/2019	130.47198	123.0745923	116.1424154	109.6438069	103.5494354	97.83210021	92.46656572	87.42940999	82.69888518
190829A00005	8/30/2019	2.06	8/30/2023	8/30/2019	113.25076	110.7407336	108.2996502	105.9250775	103.6146923	101.3662741	99.17769948	97.04693652	94.97204027
190829A00031	8/29/2019	1.54	8/29/2024	8/29/2019	117.45245	113.7134132	110.1133324	106.6461596	103.3061529	100.0878598	96.98610102	93.9959538	91.11273771
190829A00045	8/29/2019	1.9	8/28/2026	8/29/2019	127.29299	120.9291116	114.9209604	109.246698	103.885953	98.81971367	94.03022824	89.5009142	85.21627421
190830A00002	8/30/2019	1.93	8/28/2026	8/30/2019	127.46745	121.0988092	115.0860847	109.4074322	104.0424715	98.97218235	94.17880495	89.64574927	85.35751084
190830A00010	9/3/2019	1.75	9/1/2023	9/3/2019	112.53895	110.0314762	107.5930173	105.2211445	102.9135393	100.6679848	98.48236006	96.35463527	94.28286673
190830A00012	8/30/2019	1.76	8/30/2024	8/30/2019	117.69599	113.963154	110.3687701	106.9068284	103.5716215	100.3577291	97.26000102	94.27354161	91.39369518
190830A00021	8/30/2019	1.76	8/30/2024	8/30/2019	117.69599	113.963154	110.3687701	106.9068284	103.5716215	100.3577291	97.26000102	94.27354161	91.39369518
190903A00004	9/3/2019	1.77	9/6/2022	9/3/2019	107.25412	105.8497937	104.4786013	103.1393701	101.8309824	100.5523724	99.3025234	98.08046508	96.88527058
190904A00007	9/4/2019	1.69	9/1/2023	9/4/2019	112.39523	109.8894938	107.4527293	105.0825144	102.7765317	100.5325654	98.34849548	96.22229321	94.1520158
190904A00008	9/4/2019	1.69	9/3/2024	9/4/2019	117.50156	113.7595751	110.1567271	106.6869828	103.3446153	100.1241837	97.02051667	94.02869701	91.14404714
190904A00019	9/4/2019	1.69	9/4/2024	9/4/2019	117.51435	113.7690295	110.163043	106.690354	103.3452296	100.122223	97.01615653	94.02210661	91.13538936

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190905A00003	9/5/2019	1.76	9/5/2024	9/5/2019	117.77405	114.0211411	110.4078848	106.9282338	103.5764452	100.3470622	97.23489709	94.23501639	91.34272641
190905A00015	9/5/2019	1.78	9/6/2022	9/5/2019	107.2674	105.862982	104.4916969	103.1523746	101.8438974	100.5651994	99.31526398	98.09312065	96.89784258
190905A00035	9/5/2019	1.82	9/7/2021	9/5/2019	101.592	101.30284	101.0153373	100.7294751	100.4452392	100.1626157	99.88159081	99.60215096	99.32428267
190906A00004	9/6/2019	1.78	9/6/2022	9/6/2019	107.2674	105.862982	104.4916969	103.1523746	101.8438974	100.5651994	99.31526398	98.09312065	96.89784258
190906A00005	9/6/2019	1.77	9/6/2023	9/6/2019	112.65927	110.1353278	107.681076	105.2940832	102.9720272	100.7126858	98.51393094	96.37372448	94.29011314
190906A00012	9/6/2019	1.76	9/6/2024	9/6/2019	117.78706	114.030806	110.4144038	106.9318013	103.5772499	100.3452862	97.2307164	94.22860071	91.33423901
190906A00014	9/6/2019	1.57	9/6/2024	9/6/2019	117.66118	113.8934498	110.2663397	106.7737471	103.4098805	100.1692364	97.04658344	94.03694648	91.13559246
190906A00018	9/6/2019	1.76	9/6/2024	9/6/2019	117.78706	114.030806	110.4144038	106.9318013	103.5772499	100.3452862	97.2307164	94.22860071	91.33423901
190909A00025	9/9/2019	1.88	9/9/2024	9/9/2019	118.25085	114.4772255	110.844255	107.3458657	103.9762834	100.7300197	97.60185531	94.586825	91.68020351
190910A00013	9/10/2019	1.9	9/9/2022	9/10/2019	107.45693	106.048133	104.6715097	103.3259606	102.0104333	100.7239231	99.46547024	98.23415747	97.02910753
190910A00030	9/10/2019	1.86	9/10/2024	9/10/2019	118.19338	114.4176206	110.7826819	107.282487	103.9112569	100.6634981	97.53398599	94.51774996	91.61005926
190912A00031	9/12/2019	1.75	9/12/2024	9/12/2019	118.37908	114.5800739	110.9232044	107.4023299	104.0116112	100.745497	97.59870752	94.56621941	91.64325156
190912A00033	9/12/2019	1.77	9/12/2023	9/12/2019	113.11526	110.5601666	108.0760138	105.6603526	103.3108375	101.0252216	98.8013517	96.63716331	94.53067639
190912A00034	9/12/2019	1.76	9/12/2022	9/12/2019	107.46979	106.0550851	104.6716869	103.318555	101.9946988	100.6991712	99.43106629	98.18951688	96.97369267
190913A00014	9/13/2019	2.08	9/13/2024	9/13/2019	119.01481	115.2154362	111.5578687	108.0359966	104.6440099	101.3763835	98.22786171	95.19344296	92.26836611
190913A00025	9/13/2019	2.04	3/15/2022	9/13/2019	104.74633	103.8874917	103.0426952	102.2115998	101.3938742	100.5891975	99.79725925	99.01775865	98.25040436
190916A00008	9/16/2019	2.05	9/16/2021	9/16/2019	101.80135	101.4859789	101.1725695	100.8611047	100.5515666	100.243937	99.93819837	99.63433322	99.33232429
190916A00009	9/16/2019	2.04	9/16/2022	9/16/2019	107.70291	106.2854949	104.8979834	103.5394416	102.2089721	100.9057148	99.62884513	98.37757202	97.1511363
190917A00035	9/19/2019	2.02	10/16/2023	9/19/2019	113.87917	111.2162792	108.629413	106.1159712	103.6734572	101.2994745	98.99172192	96.74798911	94.56615254
190919A00007	9/19/2019	2.04	9/19/2024	9/19/2019	118.95604	115.138858	111.4646296	107.927214	104.5207663	101.2397256	98.07879936	95.03294884	92.09737543
160630A00091	6/30/2016	1.51	6/30/2021	6/30/2016	100.48316	100.3910248	100.299057	100.2072597	100.1156325	100.0241748	99.93288618	99.84176623	99.75081446
160701A00007	7/1/2016	1.42	7/1/2021	7/1/2016	100.48928	100.3943334	100.2995665	100.2049823	100.1105804	100.0163602	99.92232118	99.82846285	99.73478468
160701A00020	7/1/2016	2.13	7/1/2026	7/1/2016	127.92724	121.7434837	115.8956879	110.3638053	105.1290973	100.1740376	95.48222708	91.03831479	86.82792543
160701A00027	7/1/2016	1.93	7/1/2024	7/1/2016	117.4535	113.9170735	110.50618	107.2156188	104.0404356	100.9759124	98.01755429	95.16107747	92.40239792
160701A00028	7/1/2016	2.16	7/1/2026	7/1/2016	128.09608	121.9078569	116.0557622	110.5197484	105.2810693	100.3221907	95.62670649	91.17925883	86.96546603
160705A00005	7/5/2016	1.49	7/5/2023	7/5/2016	111.439	109.1159696	106.8534747	104.6495063	102.5021357	100.4095138	98.36986684	96.38149274	94.44275755
160705A00009	7/5/2016	1.21	7/6/2021	7/5/2016	100.54839	100.4392522	100.3303591	100.221714	100.1133159	100.0051639	99.89725727	99.78959506	99.68217642
160705A00104	7/5/2016	2.1	7/6/2026	7/5/2016	127.82011	121.6219412	115.7613684	110.2181963	104.9735519	100.0097863	95.31038861	90.85990606	86.64387047
160706A00014	7/6/2016	1.41	7/6/2021	7/6/2016	100.5602	100.4511524	100.3423479	100.2337899	100.1254777	100.0174104	99.90958708	99.80200694	99.69466912
160706A00019	7/6/2016	1.41	7/6/2021	7/6/2016	100.5602	100.4511524	100.3423479	100.2337899	100.1254777	100.0174104	99.90958708	99.80200694	99.69466912
160706A00026	7/6/2016	2.19	7/6/2027	7/6/2016	132.4903	124.8968135	117.7870479	111.1276504	104.8877386	99.03870698	93.55404745	88.4091842	83.5813231
160706A00027	7/6/2016	2.29	7/6/2028	7/6/2016	137.23832	128.1988878	119.8173866	112.0424812	104.8270978	98.1280518	91.90570661	86.12366465	80.7484866
160706A00028	7/6/2016	2.39	7/6/2029	7/6/2016	142.4284	131.8746374	122.1829287	113.2782827	105.0926052	97.56402905	90.63631428	84.25830916	78.38346537

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160706A00029	7/6/2016	2.49	7/8/2030	7/6/2016	147.90045	135.7576186	124.7131741	114.6618037	105.5088093	97.16898678	89.56562886	82.62963773	76.29873427
160706A00030	7/6/2016	2.59	7/7/2031	7/6/2016	153.62947	139.8325419	127.4016212	116.1938404	106.0819749	96.95265554	88.7047953	81.24820101	74.50234899
160707A00034	7/7/2016	1.25	7/7/2021	7/7/2016	100.56694	100.454966	100.3432573	100.2318099	100.1206226	100.0096947	99.89902518	99.78861307	99.67845746
160708A00002	7/8/2016	1.46	7/8/2021	7/8/2016	100.59468	100.4799739	100.3655455	100.2513903	100.1375073	100.0238956	99.91055404	99.79748176	99.68467771
160712A00016	7/12/2016	1.32	7/12/2021	7/12/2016	100.6467	100.5205922	100.3948126	100.269363	100.144242	100.0194483	99.89498057	99.77083754	99.64701786
160712A00023	7/12/2016	1.79	7/12/2023	7/12/2016	111.87612	109.5329361	107.2510974	105.0285494	102.863326	100.7535421	98.69739053	96.69313759	94.7391195
160714A00020	9/6/2016	2.28	9/4/2026	9/6/2016	129.58697	123.1370465	117.0477039	111.2968214	105.8637609	100.7292571	95.87531822	91.28513459	86.94299404
160714A00053	7/14/2016	1.58	7/15/2021	7/14/2016	100.71377	100.5792579	100.4451204	100.3113545	100.1779587	100.0449314	99.91227092	99.77997587	99.64804466
160718A00010	7/18/2016	1.65	7/18/2023	7/18/2016	111.99291	109.6228995	107.3154253	105.0683766	102.8797314	100.7475521	98.66998196	96.64524073	94.67162063
160726A00005	7/26/2016	2.28	7/27/2026	7/26/2016	129.1076	122.8024075	116.8435741	111.2101928	105.8827334	100.842946	96.07376942	91.55924689	87.28444841
160801A00001	8/1/2016	1.97	8/1/2024	8/1/2016	118.02996	114.383485	110.8693655	107.4819717	104.2159571	101.0662375	98.02797663	95.09657187	92.26764135
160802A00003	8/2/2016	2.53	8/1/2031	8/2/2016	155.27104	141.1846133	128.5045116	117.0824903	106.7866649	97.49962531	89.11677904	81.54489146	74.7007991
160808A00011	8/8/2016	1.6	8/9/2021	8/8/2016	101.09083	100.8852176	100.6804565	100.4765391	100.27346	100.071214	99.86979599	99.6692008	99.46942332
160810A00032	8/10/2016	1.32	8/10/2021	8/10/2016	101.0649	100.8563086	100.6485922	100.4417455	100.235763	100.0306392	99.82636863	99.62294598	99.42036584
160811A00011	8/11/2016	2.25	8/11/2026	8/11/2016	129.12035	122.7640028	116.7593425	111.0849786	105.7209457	100.6485977	95.85051269	91.31040532	87.01304625
160812A00005	8/12/2016	1.69	8/12/2022	8/12/2016	106.79564	105.4552304	104.1482795	102.873545	101.6298474	100.4160641	99.23112613	98.07401488	96.94375918
160815A00006	8/15/2016	2.23	8/17/2026	8/15/2016	129.07817	122.7026884	116.6809797	110.9914641	105.6140029	100.5297923	95.72126687	91.17201097	86.86667644
160815A00007	8/15/2016	2.23	8/17/2026	8/15/2016	129.07817	122.7026884	116.6809797	110.9914641	105.6140029	100.5297923	95.72126687	91.17201097	86.86667644
160816A00003	8/16/2016	1.63	8/16/2023	8/16/2016	112.37961	109.9155109	107.5183741	105.1858539	102.9157116	100.705807	98.55409247	96.45860843	94.41747841
160825A00054	8/29/2016	2.49	8/30/2021	8/29/2016	101.64276	101.3764713	101.1115766	100.8480641	100.585923	100.3251428	100.0657128	99.80762249	99.55086166
160830A00007	8/30/2016	1.65	8/30/2021	8/30/2016	101.42198	101.1560811	100.8915707	100.6284411	100.3666813	100.1062807	99.8472289	99.58951533	99.33312968
160830A00032	8/30/2016	1.82	8/30/2022	8/30/2016	107.23799	105.8410707	104.4795639	103.1521365	101.857518	100.5945003	99.36193404	98.15872521	96.98383166
160830A00034	8/30/2016	1.9	8/30/2023	8/30/2016	112.86849	110.3630568	107.9264699	105.5562969	103.2502175	101.0060141	98.82156602	96.69484393	94.62390542
160906A00017	9/6/2016	1.65	9/7/2021	9/6/2016	101.54349	101.2544237	100.9670119	100.6812401	100.3970943	100.1145605	99.83362496	99.55427404	99.2764943
160916A00016	9/16/2016	1.66	9/16/2021	9/16/2016	101.6802	101.3650664	101.0518992	100.7406756	100.4313774	100.1239866	99.81848576	99.51485725	99.21308385
160920A00004	9/20/2016	1.68	9/20/2021	9/20/2016	101.74745	101.4206964	101.0960456	100.7734779	100.4529731	100.1345114	99.81807339	99.50363967	99.19119124
160922A00014	9/22/2016	2.06	9/22/2026	9/22/2016	129.51915	122.9766524	116.8036459	110.9773725	105.4765911	100.2814689	95.37348114	90.73531795	86.35079855
160922A00050	9/22/2016	2.24	9/22/2025	9/22/2016	124.86033	119.7095168	114.8006011	110.1209582	105.6586905	101.4025805	97.34204818	93.46711147	89.76834913
160923A00030	9/23/2016	1.41	9/23/2021	9/23/2016	101.73109	101.3954448	101.0620124	100.7307744	100.401709	100.074795	99.7500113	99.42733703	99.10675171
160923A00032	9/23/2016	1.67	9/25/2023	9/23/2016	113.06264	110.4688843	107.9477759	105.4968579	103.1137757	100.7962688	98.54216567	96.34937994	94.21590661
160926A00004	9/26/2016	1.66	9/26/2023	9/26/2016	113.05256	110.4559066	107.9320302	105.4784742	103.0928837	100.7729966	98.51664011	96.32172624	94.18624795
160926A00023	9/26/2016	1.74	9/26/2022	9/26/2016	107.40589	105.9803172	104.5813431	103.208273	101.860435	100.5371799	99.23788076	97.96193152	96.70874634
160929A00004	9/29/2016	1.74	9/29/2022	9/29/2016	107.44026	106.0093694	104.6045348	103.2251034	101.8704444	100.5399476	99.23302214	97.94909603	96.68761516

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160930A00005	9/30/2016	2.03	9/30/2024	9/30/2016	119.07355	115.2194093	111.5105459	107.9407304	104.5040324	101.1948059	98.00767373	94.9375139	91.97944568
160930A00010	9/30/2016	1.47	9/30/2022	9/30/2016	107.25524	105.8198411	104.4106725	103.0270751	101.6684118	100.3340664	99.02344213	97.73596155	96.47106534
161003A00004	10/3/2016	1.91	10/3/2023	10/3/2016	113.40147	110.7862295	108.2446171	105.7741507	103.3724463	101.0372136	98.76625229	96.55744727	94.40876536
161004A00040	10/4/2016	1.45	10/4/2021	10/4/2016	101.90762	101.5398068	101.1746527	100.8121259	100.4521981	100.0948413	99.74002803	99.38773112	99.03792382
161006A00013	10/6/2016	2.07	10/6/2025	10/6/2016	124.99396	119.770598	114.7950226	110.0542125	105.5358996	101.2285197	97.12116741	93.20355617	89.46597943
161014A00006	10/14/2016	1.74	10/14/2021	10/14/2016	102.13707	101.7400862	101.3461885	100.9553452	100.5675209	100.1826806	99.80078977	99.42181456	99.04572158
161020A00002	10/20/2016	1.96	8/15/2023	10/20/2016	112.78307	110.3244446	107.9323963	105.6046048	103.3388513	101.1330138	98.98506215	96.89305283	94.85512465
161031A00007	10/31/2016	1.91	10/31/2022	10/31/2016	108.16375	106.6300908	105.1260523	103.6508503	102.2037256	100.783945	99.39080044	98.02360759	96.68170514
161109A00018	11/9/2016	2.63	11/9/2026	11/9/2016	132.50387	125.7444483	119.3733174	113.3661442	107.7002423	102.3544541	97.30904021	92.54557706	88.04686269
161115A00011	11/15/2016	2.46	11/15/2023	11/15/2016	115.49503	112.7162219	110.0192665	107.4012703	104.8594585	102.3911713	99.99385886	97.66507552	95.40247518
161117A00015	11/17/2016	2.08	11/17/2021	11/17/2016	102.82955	102.3314625	101.8381958	101.3496843	100.8658591	100.3866531	99.9120002	99.44183562	98.97609581
161213A00014	12/13/2016	2.07	12/13/2021	12/13/2016	103.30188	102.7250007	102.1545573	101.5904464	101.0325627	100.4808034	99.9350678	99.39525758	98.86127643
161214A00023	12/14/2016	3.3	12/15/2031	12/14/2016	166.53519	151.3124294	137.6434508	125.3603287	114.314137	104.3727059	95.41865701	87.34767908	80.0670116
161215A00001	12/15/2016	2.5	12/15/2021	12/15/2016	103.52595	102.9430556	102.3667271	101.7968495	101.2333147	100.6760171	100.1248535	99.57972278	99.04052628
161215A00014	12/15/2016	2.66	12/15/2022	12/15/2016	110.08096	108.3963364	106.7465507	105.1305964	103.5475088	101.9963597	100.4762554	98.98633514	97.52576956
161222A00030	12/22/2016	3.09	12/22/2026	12/22/2016	137.00263	129.9252319	123.2615598	116.9851805	111.0714879	105.4975697	100.2420815	95.2851312	90.60817233
161223A00028	12/23/2016	2.23	12/23/2021	12/23/2016	103.56472	102.9572418	102.3568803	101.7635088	101.1770056	100.5972519	100.0241317	99.45753153	98.89734061
170109A00031	1/9/2017	2.29	1/10/2022	1/9/2017	103.85005	103.1885506	102.5354687	101.8906446	101.2539222	100.6251494	100.0041779	99.39086285	98.78506328
170110A00020	1/10/2017	2.4	1/10/2024	1/10/2017	116.68422	113.7030194	110.814112	108.0140419	105.2995047	102.6673435	100.1145404	97.63821008	95.23559214
170110A00022	1/10/2017	2.27	1/10/2023	1/10/2017	110.12194	108.3548624	106.6254807	104.9326575	103.2753039	101.6523744	100.0628646	98.50580894	96.98027897
170110A00023	1/10/2017	2.08	1/10/2022	1/10/2017	103.78222	103.1201016	102.4664223	101.821021	101.1837412	100.5544299	99.93293828	99.31912105	98.71283651
170111A00009	1/11/2017	3.16	1/11/2028	1/11/2017	141.71466	133.1493977	125.1655634	117.7205008	110.7749083	104.2925554	98.24002679	92.58648924	87.30347865
170111A00011	1/11/2017	3.24	1/11/2029	1/11/2017	147.65433	137.5356843	128.1935083	119.5638953	111.5885307	104.2141701	97.39217304	91.07808201	85.23124185
170111A00012	1/11/2017	3.31	1/11/2030	1/11/2017	153.78985	142.0474109	131.3079969	121.4802097	112.4814455	104.2370044	96.6792958	89.74712651	83.38506459
170111A00014	1/11/2017	3.47	1/12/2032	1/11/2017	166.84748	151.6156498	137.9422549	125.6583025	114.6139926	104.6764429	95.72769761	87.6629792	80.38915376
170111A00016	1/11/2017	3.51	1/11/2033	1/11/2017	172.85284	155.8291309	140.6869009	127.2062436	115.1940849	104.4807852	94.91718366	86.37202929	78.72974538
170117A00045	1/17/2017	2.21	1/18/2022	1/17/2017	103.9357	103.2498883	102.5731174	101.9052046	101.2459766	100.5952649	99.95290488	99.31873657	98.69260388
170120A00009	1/20/2017	3.67	1/22/2035	1/20/2017	186.84349	165.8573147	147.5295895	131.5049862	117.4775652	105.1836745	94.39590324	84.91792707	76.58010955
170120A00010	1/20/2017	3.71	1/22/2036	1/20/2017	193.19043	170.1964858	150.295172	133.0479818	118.0809654	105.074915	93.75709011	83.89423	75.28664831
170120A00011	1/20/2017	3.75	1/20/2037	1/20/2017	199.37989	174.344049	152.8674871	134.4171107	118.5426103	104.8632127	93.05660947	82.84969778	74.01082821
170123A00039	1/23/2017	2.79	1/23/2026	1/23/2017	130.15011	124.4317132	118.9998634	113.838599	108.9329398	104.268821	99.83303176	95.61315853	91.59753181
170130A00031	1/30/2017	2.96	7/30/2025	1/30/2017	127.41865	122.389269	117.5887438	113.0053388	108.6279965	104.4462895	100.4503806	96.63098534	92.97933777
170130A00054	3/30/2017	2.33	4/29/2022	3/30/2017	105.77042	104.7678302	103.7841792	102.8189381	101.871594	100.9416528	100.0286384	99.13209198	98.25157127

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170203A00012	2/3/2017	3.63	2/2/2035	2/3/2017	186.36252	165.3645752	147.0329948	131.0106203	116.9900384	104.7064148	93.93139353	84.46789822	76.14569734
170207A00013	2/7/2017	2.05	2/7/2022	2/7/2017	104.23791	103.489635	102.7520842	102.0250256	101.3082363	100.6014998	99.90460537	99.2173485	98.5395301
170207A00023	2/7/2017	2.26	2/7/2022	2/7/2017	104.31415	103.566576	102.8296982	102.1032876	101.3871221	100.680986	99.98466961	99.29796896	98.62068577
170215A00037	2/15/2017	2.71	5/23/2022	2/15/2017	106.56824	105.4864451	104.4265683	103.3879474	102.3699476	101.3719592	100.3933965	99.43369618	98.49231671
170215A00039	2/15/2017	2.72	11/7/2022	2/15/2017	109.49442	107.9292977	106.3947846	104.8900592	103.4143269	101.9668206	100.5467997	99.15354903	97.78637783
170215A00040	2/15/2017	2.59	5/15/2023	2/15/2017	112.65546	110.4818441	108.3617816	106.2936059	104.275717	102.3065755	100.3847002	98.50866504	96.67709686
170216A00043	2/16/2017	3.17	2/16/2027	2/16/2017	137.19839	129.9577574	123.1493504	116.7449433	110.7183164	105.0450973	99.70262015	94.66979667	89.92699715
170217A00014	2/17/2017	2.27	2/14/2022	2/17/2017	104.44262	103.6733015	102.9153021	102.1683685	101.4322595	100.7067409	99.99158524	99.2865714	98.59148465
170223A00003	2/23/2017	2.05	2/23/2022	2/23/2017	104.50994	103.7119592	102.926129	102.1521742	101.3898272	100.6388283	99.89892542	99.16987412	98.45143694
170224A00019	2/24/2017	2.21	2/24/2022	2/24/2017	104.56991	103.7697318	102.9817634	102.2057284	101.4413574	100.6883889	99.94656917	99.21565209	98.49539862
170224A00020	2/24/2017	3.08	2/24/2027	2/24/2017	136.73512	129.4803909	122.6604613	116.2468334	110.2130384	104.5344802	99.18829162	94.15320299	89.40942144
170224A00021	2/24/2017	3.4	2/24/2032	2/24/2017	166.46473	151.0952477	137.3143137	124.9479763	113.8422335	103.8606456	94.8822471	86.79971694	79.51777326
170224A00039	5/24/2017	3.17	5/24/2027	5/24/2017	138.59151	130.9558848	123.7951355	117.0771779	110.7722573	104.8527703	99.29309804	94.06945367	89.15974212
170224A00044	5/24/2017	3.29	5/24/2029	5/24/2017	150.10585	139.3887964	129.5286462	120.4521156	112.0925539	104.3893114	97.28717066	90.73583378	84.68946074
170228A00014	2/28/2017	2.89	3/1/2027	2/28/2017	136.7173	129.4052893	122.5337707	116.0737492	109.9983018	104.2824173	98.90284983	93.83798368	89.06770982
170228A00018	2/28/2017	2.25	2/28/2022	2/28/2017	104.66976	103.8570074	103.0568348	102.2689498	101.4930711	100.728926	99.97625024	99.23478711	98.50428768
170303A00021	3/3/2017	2.2	3/3/2022	3/3/2017	104.76402	103.9405485	103.1299842	102.332025	101.5463787	100.7727621	100.0109005	99.26052758	98.52138492
170307A00033	3/7/2017	2.2	3/7/2022	3/7/2017	104.83351	103.9974715	103.1747353	102.3649839	101.5679119	100.7832229	100.0106301	99.24985524	98.50062875
170310A00032	3/10/2017	2.27	3/10/2022	3/10/2017	104.9422	104.0964788	103.2643584	102.4455124	101.6396249	100.8463899	100.0655111	99.29670138	98.5396824
170313A00027	3/13/2017	2.27	3/14/2022	3/13/2017	105.01253	104.154216	103.3099062	102.4792556	101.6619345	100.8576239	100.0660148	99.28680801	98.51971355
170313A00032	3/13/2017	3.69	6/14/2032	3/13/2017	171.90215	155.7809778	141.3614058	128.453085	116.8879359	106.5174413	97.21027616	88.85023625	81.33442566
170313A00034	3/13/2017	3.31	3/15/2027	3/13/2017	138.49842	131.1199259	124.1863005	117.6683021	111.5387658	105.7724447	100.3458643	95.23718914	90.42609917
170313A00035	3/13/2017	3.31	3/15/2027	3/13/2017	138.49842	131.1199259	124.1863005	117.6683021	111.5387658	105.7724447	100.3458643	95.23718914	90.42609917
170314A00005	3/14/2017	2.29	3/14/2022	3/14/2017	105.02892	104.1705317	103.3261482	102.4954247	101.6780315	100.8736497	100.0819701	99.30269359	98.5355302
170314A00006	3/14/2017	2.67	3/14/2024	3/14/2017	118.55673	115.3440575	112.2358846	109.2281661	106.3170438	103.4988342	100.7700189	98.12723647	95.5672724
170316A00018	3/16/2017	2.8	3/18/2024	3/16/2017	118.55171	115.3363818	112.2256888	109.2156019	106.3022779	103.482045	100.7513944	98.10697163	95.54556865
170321A00013	3/21/2017	2.18	3/21/2022	3/21/2017	105.06008	104.1800676	103.3147587	102.4637853	101.6267932	100.80344	99.99339434	99.19633548	98.41195296
170322A00010	3/22/2017	2.11	3/22/2022	3/22/2017	105.01844	104.1355538	103.2674679	102.413812	101.5742288	100.7483723	99.93590792	99.13651201	98.3498711
170322A00015	3/22/2017	2.31	3/22/2022	3/22/2017	105.08963	104.2077764	103.3406871	102.4879897	101.649328	100.8243577	100.0127455	99.21416899	98.4283159
170322A00022	3/22/2017	3.89	9/23/2041	3/22/2017	226.67517	191.60384	162.732271	138.9074314	119.1977009	102.8492747	89.25134212	77.90823604	68.41712982
170322A00023	3/22/2017	3.82	9/22/2039	3/22/2017	214.33058	183.7351758	158.1065406	136.596461	118.5064631	103.2606668	90.38367547	79.48254909	70.23209068
170322A00024	3/22/2017	3.72	9/22/2036	3/22/2017	197.06323	172.7284886	151.7924575	133.7551144	118.1927154	104.7457995	93.10913358	83.02327354	74.26747606
170322A00025	3/22/2017	3.58	3/22/2033	3/22/2017	174.92135	157.4870285	142.0051751	128.2446415	116.0028246	105.102009	95.38619334	86.71833685	78.97796596

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170322A00026	3/22/2017	3.22	3/22/2028	3/22/2017	143.17105	134.2982527	126.0425397	118.3576811	111.201143	104.5337721	98.31951059	92.52513652	87.12002687
170323A00009	3/23/2017	2.1	3/23/2022	3/23/2017	105.02712	104.1411257	103.2700313	102.4134646	101.5710645	100.7424817	99.92737848	99.12542787	98.3363135
170323A00013	3/23/2017	2.1	3/23/2022	3/23/2017	105.02712	104.1411257	103.2700313	102.4134646	101.5710645	100.7424817	99.92737848	99.12542787	98.3363135
170327A00070	3/29/2017	3.05	3/29/2027	3/29/2017	138.17798	130.7149172	123.7059596	117.1211093	110.9324981	105.1142262	99.64221358	94.4940633	89.64893595
170327A00075	3/27/2019	2.47	3/28/2022	3/27/2019	105.33117	104.4297961	103.5437984	102.6727895	101.8163917	100.9742397	100.1459805	99.33127278	98.52978601
170328A00015	3/28/2017	2.75	11/29/2024	3/28/2017	122.64387	118.5271199	114.5723256	110.7722113	107.1198734	103.6087564	100.2326326	96.98558446	93.86198685
170417A00043	4/17/2017	2.14	4/18/2022	4/17/2017	105.40321	104.4365646	103.4876006	102.5558325	101.6407962	100.7420439	99.85914369	98.99167886	98.13924718
170417A00057	4/17/2017	2.32	4/17/2023	4/17/2017	111.64148	109.5654896	107.5387571	105.5598069	103.6272219	101.7396366	99.89573493	98.09424766	96.33395089
170417A00068	4/17/2019	2.59	4/17/2024	4/17/2019	118.42056	115.110142	111.9101266	108.8162314	105.8243622	102.9306058	100.1312212	97.42263098	94.80141327
170419A00024	4/19/2017	2.45	4/21/2025	4/19/2017	124.31622	119.6711039	115.2259944	110.9712288	106.8976626	102.9966389	99.25996007	95.67986075	92.2489827
170424A00009	4/24/2017	2.04	4/25/2022	4/24/2017	105.53665	104.5460894	103.5740507	102.6200201	101.6835009	100.7640146	99.86109968	98.97431148	98.10322096
170427A00044	4/27/2017	3.02	4/27/2027	4/27/2017	137.21739	129.722719	122.6890827	116.0856916	109.8839692	104.0573793	98.58127057	93.43273327	88.59046771
170427A00046	4/27/2017	3.1	4/27/2028	4/27/2017	142.75083	133.7626164	125.4082558	117.639671	110.4126652	103.6865936	97.42406127	91.5906473	86.15465444
170428A00030	4/28/2017	2.25	4/28/2022	4/28/2017	105.67703	104.6780455	103.6978745	102.735993	101.7918931	100.8650853	99.95509817	99.0614772	98.18378408
170501A00008	5/1/2017	2.23	5/2/2022	5/1/2017	105.727	104.7152656	103.7228339	102.7491525	101.793694	100.8559505	99.93543281	99.03166967	98.14420681
170504A00038	5/4/2017	2.09	5/4/2022	5/4/2017	105.73817	104.7184965	103.7184153	102.7373706	101.7748228	100.8302524	99.90315954	98.99306241	98.09949692
170508A00010	5/8/2017	2.43	5/8/2024	5/8/2017	118.75349	115.3580935	112.0783377	108.9096397	105.8476224	102.8881066	100.0271016	97.26079503	94.58554394
170509A00006	5/9/2017	2.3	5/9/2022	5/9/2017	105.90595	104.8715624	103.8573294	102.8626615	101.8869967	100.929794	99.99053301	99.0687127	98.16385051
170515A00005	5/15/2017	2.04	5/16/2022	5/15/2017	105.89439	104.8363232	103.7993238	102.7827697	101.7860605	100.8086194	99.84989176	98.90934389	97.98646233
170515A00054	5/15/2017	3.2	5/17/2032	5/15/2017	167.64717	151.7421722	137.5189994	124.789705	113.3882802	103.167995	93.99907077	85.76664257	78.36897681
170515A00056	5/15/2017	3.2	5/17/2032	5/15/2017	167.64717	151.7421722	137.5189994	124.789705	113.3882802	103.167995	93.99907077	85.76664257	78.36897681
170517A00027	5/17/2017	1.99	5/17/2022	5/17/2017	105.86125	104.8002348	103.7604067	102.7411388	101.7418261	100.7618866	99.8007613	98.8579121	97.93282146
170519A00034	5/19/2017	1.97	5/19/2022	5/19/2017	105.87488	104.8075258	103.761609	102.7364893	101.731551	100.7462026	99.77987566	98.83202332	97.90211964
170524A00011	5/24/2017	2.54	5/24/2024	5/24/2017	118.87441	115.4354409	112.11509	108.9085887	105.8113901	102.8191563	99.92774737	97.1332111	94.43177337
170530A00002	5/30/2017	2.15	5/31/2022	5/30/2017	106.13312	105.0286523	103.947081	102.8877019	101.8498376	100.8328378	99.83607834	98.85895974	97.9009059
170530A00026	5/30/2017	1.81	6/1/2021	5/30/2017	100.06286	100.0517106	100.0405737	100.0294473	100.0183316	100.0072265	99.99613201	99.98504809	99.97397474
170530A00027	5/30/2017	1.97	5/31/2022	5/30/2017	106.07751	104.9713548	103.888168	102.82724	101.7878904	100.7694662	99.77134056	98.79291146	97.83360045
170530A00060	5/30/2017	2.12	3/25/2022	5/30/2017	104.98003	104.0895075	103.2140376	102.3532444	101.5067616	100.6742345	99.85532028	99.0496873	98.25701451
170531A00005	5/31/2017	1.94	5/31/2022	5/31/2017	106.04618	104.9402038	103.8571925	102.7964374	101.7572582	100.739002	99.7410421	98.76277641	97.80362657
170531A00080	5/31/2017	2.3	5/31/2024	5/31/2017	118.71523	115.2441378	111.8937467	108.659168	105.5357383	102.5190106	99.60474282	96.78888697	94.06757897
170602A00007	6/2/2017	1.94	6/2/2021	6/2/2017	100.07898	100.0650621	100.0511529	100.0372572	100.023375	100.0095063	99.99565109	99.98180934	99.96798102
170602A00023	6/2/2017	2.09	6/2/2023	6/2/2017	112.23584	110.0041601	107.8288502	105.7081099	103.6402113	101.6234942	99.65636261	97.73728224	95.86477715
170602A00033	6/2/2017	2.09	6/2/2022	6/2/2017	106.1044	104.9937899	103.906339	102.8413293	101.7980717	100.7759049	99.7741946	98.79233127	97.82972961

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170606A00014	6/6/2017	1.9	6/6/2022	6/6/2017	106.10503	104.9797609	103.8782588	102.7997759	101.7435965	100.7090341	99.69543036	98.70215333	97.72859624
170606A00017	6/6/2017	1.9	6/6/2022	6/6/2017	106.10503	104.9797609	103.8782588	102.7997759	101.7435965	100.7090341	99.69543036	98.70215333	97.72859624
170608A00017	6/8/2017	1.95	6/8/2022	6/8/2017	106.19195	105.0598609	103.9518089	102.8670376	101.804819	100.7644553	99.74527748	98.74664322	97.76793615
170609A00006	6/9/2017	1.89	12/9/2021	6/9/2017	103.13573	102.5712581	102.0129574	101.4607295	100.9144756	100.374099	99.83950506	99.31060116	98.7872967
170609A00009	6/9/2017	1.82	6/9/2021	6/9/2017	100.18896	100.155496	100.1220674	100.0886781	100.0553282	100.0220175	99.98874596	99.95551353	99.92232012
170609A00025	6/9/2017	2.13	6/9/2022	6/9/2017	106.26585	105.1322361	104.0227249	102.936553	101.8729898	100.8313348	99.8109162	98.81108953	97.83123608
170609A00043	6/9/2017	3.07	6/9/2032	6/9/2017	166.30833	150.3868992	136.1602625	123.4378936	112.0516391	101.8529836	92.7106649	84.50858939	77.14400886
170612A00003	6/12/2017	1.97	6/13/2022	6/12/2017	106.29821	105.14969	104.0258862	102.9260105	101.8493049	100.795043	99.76252867	98.75109417	97.76009888
170613A00032	6/13/2017	2.45	6/13/2025	6/13/2017	125.11817	120.2764575	115.6503314	111.2290037	107.0022904	102.960572	99.09475807	95.39625561	91.85693856
170613A00033	6/13/2017	2.3	6/13/2024	6/13/2017	118.91818	115.4027402	112.0106142	108.7367542	105.5763513	102.524822	99.57779692	96.73110867	93.98078159
170615A00034	6/15/2017	2.13	6/15/2022	6/15/2017	106.3683	105.2151542	104.0869217	102.9828028	101.9020306	100.8438702	99.8076177	98.79259786	97.79816304
170616A00019	6/16/2017	2.64	6/16/2027	6/16/2017	136.5122	128.8173292	121.6080429	114.8511086	108.515744	102.5734197	96.99768291	91.76399555	86.84958583
170622A00016	6/22/2017	2.11	6/22/2022	6/22/2017	106.46574	105.2899066	104.1399466	103.0150097	101.9142861	100.8370007	99.78241082	98.74980519	97.73850184
170622A00037	6/22/2017	3.27	6/22/2033	6/22/2017	171.97232	154.3457467	138.73821	124.9057011	112.6349399	101.7393635	92.05565438	83.44073613	75.76916999
170622A00038	6/22/2017	3.32	6/22/2034	6/22/2017	178.06545	158.5641864	141.4540608	126.4261639	113.2130817	101.5831317	91.3354221	82.29561601	74.31229704
170623A00028	6/23/2017	2.79	6/23/2027	6/23/2017	136.42393	128.7515671	121.5632451	114.8258316	108.5086356	102.5832142	97.02319519	91.80411652	86.90327755
170626A00017	6/26/2017	1.8	6/28/2021	6/26/2017	100.48677	100.4001552	100.3136927	100.2273777	100.1412097	100.0551885	99.96931363	99.8835848	99.79800162
170628A00008	6/28/2017	2.04	9/15/2021	6/28/2017	101.78197	101.4695133	101.1589804	100.8503578	100.5436276	100.2387726	99.93577535	99.63461892	99.33528648
170628A00056	6/28/2017	1.97	6/28/2022	6/28/2017	106.55313	105.3555973	104.1848447	103.0399856	101.9201689	100.8245803	99.7524406	98.70300366	97.67555466
170629A00020	6/29/2017	2.03	6/29/2021	6/29/2017	100.51489	100.42553	100.3363279	100.2472842	100.1583986	100.0696706	99.98109979	99.89268582	99.80442826
170629A00073	6/29/2017	2.2	6/29/2023	6/29/2017	112.91712	110.5963027	108.335521	106.132793	103.9862209	101.8939843	99.85433643	97.86560024	95.92616534
170630A00008	6/30/2017	2.35	7/1/2024	6/30/2017	119.36672	115.7866539	112.3336795	109.002522	105.7881612	102.6858163	99.69093326	96.79917219	94.00639585
170630A00009	6/30/2017	2.53	6/30/2025	6/30/2017	125.72716	120.8162558	116.1259127	111.6449941	107.3629905	103.2699806	99.35659503	95.61398211	92.03377618
170630A00010	6/30/2017	2.63	6/30/2026	6/30/2017	131.70476	125.3923623	119.4222145	113.7739019	108.4283426	103.3676896	98.57524404	94.03537465	89.73344392
170630A00036	6/30/2017	2.01	6/30/2022	6/30/2017	106.63244	105.4280377	104.2507122	103.0995611	101.9737193	100.8723598	99.79469089	98.73995482	97.70742584
170706A00013	7/6/2017	2.27	7/6/2022	7/6/2017	106.87587	105.6532728	104.458549	103.2907538	102.1489847	101.0323789	99.94011141	98.87139303	97.82546827
170706A00028	7/6/2017	2.09	7/6/2022	7/6/2017	106.82724	105.602469	104.4056627	103.2358745	102.0921975	100.9737651	99.87974839	98.80935467	97.7618251
170706A00090	7/6/2017	2.48	7/6/2023	7/6/2017	113.31961	110.9788765	108.6989759	106.4778855	104.3136701	102.2044738	100.1485168	98.1440906	96.18955536
170717A00033	7/17/2017	2.19	7/18/2022	7/17/2017	107.00377	105.7418982	104.5096703	103.3060559	102.130067	100.9807608	99.85723705	98.75863541	97.68413359
170720A00009	7/20/2017	2.14	7/20/2022	7/20/2017	106.97896	105.710862	104.4727023	103.2634335	102.0820533	100.9276056	99.79917742	98.69589668	97.61692987
170721A00007	7/21/2017	1.8	7/21/2021	7/21/2017	100.84863	100.6969654	100.545762	100.3950225	100.2447448	100.0949267	99.94556599	99.79666068	99.64820863
170724A00014	7/24/2017	2.14	7/25/2022	7/24/2017	107.05204	105.7677065	104.5140591	103.2900049	102.0945059	100.9265721	99.78525883	98.66966404	97.57892611
170724A00016	7/24/2017	2.5	7/24/2024	7/24/2017	119.71569	116.0669638	112.5496369	109.1581626	105.8872699	102.7319447	99.68741523	96.74913839	93.91278733

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170728A00029	7/28/2017	2.1	1/27/2022	7/28/2017	104.01402	103.3009125	102.597546	101.903725	101.2192566	100.5439526	99.87763001	99.22011081	98.57122147
170728A00030	7/28/2017	2.18	7/27/2022	7/28/2017	107.13466	105.8434086	104.5831456	103.3527668	102.1512194	100.9774995	99.83064931	98.70975452	97.61394187
170728A00031	7/28/2017	2.27	1/27/2023	7/28/2017	110.16963	108.3558334	106.5814209	104.8451805	103.1459484	101.4826082	99.85408871	98.25936125	96.69743781
170728A00033	7/28/2017	2.46	1/29/2024	7/28/2017	116.72939	113.6978369	110.7614045	107.9164719	105.1595826	102.4874373	99.89688488	97.38491503	94.94865043
170731A00004	7/31/2017	2.16	7/29/2022	7/31/2017	107.14487	105.8471421	104.580709	103.3444501	102.1372973	100.9582323	99.80628406	98.68052552	97.58007161
170731A00012	7/31/2017	1.82	8/2/2021	7/31/2017	101.04149	100.8556598	100.6705169	100.4860604	100.3022865	100.1191914	99.93677128	99.75502239	99.573941
170731A00028	7/31/2017	2.16	8/1/2022	7/31/2017	107.19645	105.888729	104.6127803	103.3674547	102.1516601	100.9643558	99.8045495	98.6712945	97.56368714
170802A00027	8/2/2017	2.16	8/2/2022	8/2/2017	107.21364	105.9025919	104.6234709	103.3751229	102.1564478	100.9663975	99.80397253	98.66821965	97.55822893
170803A00013	8/3/2017	2.14	8/3/2022	8/3/2017	107.20625	105.8920357	104.6099018	103.3586883	102.1372874	100.9446432	99.7797495	98.64164634	97.52941767
170803A00020	8/3/2017	2.84	8/3/2027	8/3/2017	137.28872	129.4434095	122.1008025	115.2259446	108.7864969	102.7525285	97.09632511	91.79221194	86.81639325
170803A00032	8/3/2017	2.12	8/3/2023	8/3/2017	113.32068	110.8854573	108.5154635	106.2084493	103.9622675	101.7748635	99.64426971	97.56860168	95.54605342
170804A00020	8/4/2017	2.13	8/1/2022	8/4/2017	107.15975	105.8522717	104.5765606	103.3314686	102.1159038	100.9288255	99.76924157	98.63620541	97.52881344
170808A00036	8/8/2017	2.04	11/15/2021	8/8/2017	102.77729	102.28522	101.79786	101.3151452	100.8370094	100.3633874	99.89421542	99.42943086	98.96897226
170809A00005	8/9/2017	2.61	8/11/2025	8/9/2017	125.99953	120.9612189	116.1541629	111.566406	107.1866883	103.0043974	99.00952671	95.19263702	91.54482061
170815A00006	8/15/2017	2.5	8/15/2024	8/15/2017	120.05955	116.3342374	112.7452476	109.2867267	105.9531135	102.7391232	99.63973217	96.6501624	93.76586796
170818A00003	8/18/2017	2.23	8/20/2024	8/18/2017	119.74048	115.9911435	112.3798801	108.9007235	105.5480075	102.3163498	99.20063587	96.1960029	93.29782586
170818A00004	8/18/2017	1.95	8/18/2021	8/18/2017	101.30847	101.076933	100.8464646	100.6170577	100.3887048	100.1613988	99.93513239	99.70989839	99.48568972
170818A00035	8/18/2017	1.77	8/18/2021	8/18/2017	101.28366	101.051986	100.8213814	100.591841	100.3633574	100.1359233	99.90953135	99.6841744	99.45984527
170818A00037	8/18/2017	2.08	8/18/2022	8/18/2017	107.38708	106.0233506	104.6941047	103.3980455	102.1339423	100.9006243	99.69697762	98.52194122	97.3745043
170821A00038	8/23/2017	2.39	8/23/2024	8/23/2017	120.34542	116.5760979	112.9457982	109.4485017	106.0784921	102.8303404	99.69888788	96.67923096	93.76670612
170822A00012	8/22/2017	2.11	8/22/2022	8/22/2017	107.49354	106.1161939	104.7739816	103.4655744	102.1897077	100.9451793	99.73084572	98.54561833	97.38846038
170822A00017	8/22/2017	2.11	8/22/2022	8/22/2017	107.49354	106.1161939	104.7739816	103.4655744	102.1897077	100.9451793	99.73084572	98.54561833	97.38846038
170822A00018	8/22/2017	2.25	8/22/2023	8/22/2017	113.57591	111.0864293	108.6647932	106.3086208	104.0156339	101.7836548	99.6106006	97.49447851	95.43338073
170824A00031	8/24/2017	1.98	8/24/2021	8/24/2017	101.41202	101.1632517	100.915704	100.6693699	100.4242403	100.1803066	99.93755987	99.69599161	99.4555932
170824A00037	8/24/2017	1.98	8/24/2021	8/24/2017	101.41202	101.1632517	100.915704	100.6693699	100.4242403	100.1803066	99.93755987	99.69599161	99.4555932
170824A00038	8/24/2017	2.23	8/24/2023	8/24/2017	113.5608	111.0653594	108.6380671	106.2765253	103.9784403	101.7416201	99.56396842	97.44347987	95.37823477
170825A00025	8/25/2017	2.12	8/25/2022	8/25/2017	107.5577	106.1702324	104.8183958	103.5008281	102.2162394	100.9634038	99.74115538	98.54838482	97.38403575
170828A00030	8/28/2017	1.96	9/1/2021	8/28/2017	101.53558	101.2637369	100.9933552	100.7244187	100.4569158	100.190835	99.92616504	99.66289461	99.40101267
170828A00031	8/28/2017	2.07	8/1/2022	8/28/2017	107.08635	105.7793571	104.5041212	103.2594965	102.0443911	100.8577649	99.69862571	98.56602723	97.45906603
170829A00018	8/29/2017	1.9	8/30/2021	8/29/2017	101.48769	101.2216734	100.9570487	100.6938051	100.4319318	100.1714183	99.91225386	99.65442817	99.39793086
170829A00022	8/29/2017	1.72	8/30/2021	8/29/2017	101.45923	101.1930497	100.928269	100.6648728	100.4028502	100.1421906	99.88288318	99.6249176	99.36828343
170829A00023	8/29/2017	1.83	8/29/2022	8/29/2017	107.42124	106.0210754	104.6568057	103.3270643	102.030552	100.7660342	99.53233642	98.32834149	97.15298544
170829A00025	8/29/2017	1.9	8/30/2021	8/29/2017	101.48769	101.2216734	100.9570487	100.6938051	100.4319318	100.1714183	99.91225386	99.65442817	99.39793086

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170831A00004	8/31/2017	2	8/31/2023	8/31/2017	113.48695	110.9636489	108.509831	106.1230412	103.8009382	101.5412839	99.34193782	97.20085179	95.116065
170831A00006	8/31/2017	1.87	8/31/2022	8/31/2017	107.49412	106.0914116	104.7239521	103.3904198	102.089559	100.8201754	99.58113249	98.37134792	97.1897905
170831A00021	8/31/2017	1.99	2/25/2022	8/31/2017	104.41759	103.6150284	102.8247632	102.0465117	101.2800015	100.5249686	99.78115668	99.04831723	98.32620884
170831A00029	8/31/2017	1.87	8/31/2022	8/31/2017	107.49412	106.0914116	104.7239521	103.3904198	102.089559	100.8201754	99.58113249	98.37134792	97.1897905
170831A00050	8/31/2017	1.72	6/14/2021	8/31/2017	100.26301	100.2155787	100.1682102	100.120904	100.0736601	100.0264783	99.97935855	99.93230067	99.88530455
170831A00051	8/31/2017	1.75	8/31/2021	8/31/2017	101.48278	101.2136915	100.9460313	100.6797876	100.4149491	100.1515047	99.88944339	99.62875427	99.36942658
170831A00052	8/31/2017	1.78	11/30/2021	8/31/2017	102.93111	102.3939669	101.862409	101.3363543	100.8157178	100.3004159	99.79036724	99.28549168	98.78571088
170906A00005	9/6/2017	1.69	9/7/2021	9/6/2017	101.57536	101.2860011	100.9983046	100.7122524	100.4278303	100.1450244	99.86382069	99.58420564	99.30616567
170906A00020	9/6/2017	2.14	9/6/2023	9/6/2017	113.55109	111.0163356	108.5515081	106.1541683	103.8219872	101.5527356	99.34427921	97.19457353	95.10165935
170906A00036	9/6/2017	1.81	9/6/2022	9/6/2017	107.47627	106.067597	104.6922035	103.3489056	102.0365796	100.7541543	99.50060761	98.2749643	97.07629284
170906A00037	9/6/2017	1.99	9/6/2022	9/6/2017	107.54634	106.1399368	104.7667042	103.425469	102.1151122	100.8345671	99.58281611	98.35888782	97.16185456
170907A00002	9/7/2017	1.69	9/7/2021	9/7/2017	101.57536	101.2860011	100.9983046	100.7122524	100.4278303	100.1450244	99.86382069	99.58420564	99.30616567
170907A00050	9/7/2017	1.69	9/7/2021	9/7/2017	101.57536	101.2860011	100.9983046	100.7122524	100.4278303	100.1450244	99.86382069	99.58420564	99.30616567
170908A00016	9/10/2018	1.94	9/10/2021	9/10/2018	101.67427	101.3763436	101.0801747	100.7857464	100.4930434	100.2020505	99.91275252	99.62513474	99.33918242
170911A00032	9/11/2017	1.85	9/12/2022	9/11/2017	107.59101	106.1754366	104.791181	103.4372069	102.1125233	100.8161826	99.54727845	98.30494334	97.08834657
170911A00044	9/11/2017	1.73	9/13/2021	9/11/2017	101.68051	101.3737108	101.0687782	100.7656918	100.4644347	100.1649902	99.86734203	99.57147383	99.27736959
170912A00008	9/12/2017	1.98	12/15/2021	9/12/2017	103.23207	102.6501442	102.0747696	101.5058382	100.943242	100.3868755	99.8366357	99.29242155	98.75413438
170912A00009	9/12/2017	2.11	12/15/2022	9/12/2017	109.1894	107.5123243	105.8699481	104.2612679	102.6853231	101.1411891	99.62797575	98.14482571	96.69091293
170912A00031	9/12/2017	1.89	9/12/2022	9/12/2017	107.64489	106.2289261	104.8442895	103.4899411	102.1648897	100.8681877	99.5989283	98.35624399	97.13930386
170913A00025	9/13/2017	1.94	8/16/2021	9/13/2017	101.27419	101.0483887	100.8236099	100.5998432	100.3770818	100.1553187	99.93454729	99.71476081	99.49595265
170913A00027	9/13/2017	2.08	9/13/2022	9/13/2017	107.72558	106.311036	104.9273841	103.5736157	102.2487667	100.9519145	99.68217612	98.43870583	97.22069342
170914A00039	9/14/2017	2.23	9/16/2024	9/14/2017	120.14675	116.3043892	112.6058165	109.0448359	105.6155542	102.3123668	99.12994105	96.06320201	93.10731777
170915A00001	9/15/2017	2.43	9/16/2024	9/15/2017	120.30332	116.4721541	112.7840106	109.2327377	105.8124858	102.5176905	99.34305736	96.28354693	93.33436068
170915A00005	9/15/2017	1.81	9/15/2021	9/15/2017	101.73639	101.4237366	101.1130139	100.8042062	100.4972956	100.1922646	99.8890959	99.58777236	99.28827708
170915A00031	9/15/2017	2.1	9/15/2023	9/15/2017	113.96593	111.3913231	108.8882829	106.4543498	104.0871695	101.7844856	99.54413414	97.36403979	95.24221095
170918A00108	9/18/2017	1.97	9/20/2022	9/18/2017	107.83755	106.4120701	105.0153089	103.6464244	102.3046036	100.9890656	99.6990599	98.43386461	97.19278531
170919A00073	9/19/2017	2.28	9/19/2024	9/19/2017	120.37068	116.5148878	112.8035968	109.2305831	105.7899317	102.4760153	99.28347868	96.20722409	93.24239694
170928A00020	9/29/2017	2.29	9/29/2022	9/29/2017	108.20771	106.7711317	105.360709	103.9757883	102.6157364	101.2799402	99.96780614	98.67875972	97.4122444
171002A00012	10/2/2017	2.08	10/1/2021	10/2/2017	102.05649	101.697388	101.3408074	100.9867231	100.6351089	100.2859392	99.93918835	99.59483146	99.25284376
200228A00015	3/3/2020	1.34	10/16/2023	3/3/2020	112.15801	109.5169353	106.9514016	104.458818	102.0367028	99.68267339	97.39444225	95.16981205	93.00667176
200228A00027	2/28/2020	1.31	2/28/2022	2/28/2020	103.9375	103.1279209	102.3308883	101.5461092	100.773303	100.0121978	99.26252948	98.52404224	97.7964876
200228A00029	2/28/2020	1.31	2/28/2022	2/28/2020	103.9375	103.1279209	102.3308883	101.5461092	100.773303	100.0121978	99.26252948	98.52404224	97.7964876
200228A00030	2/28/2020	1.32	2/28/2023	2/28/2020	108.95729	107.0592744	105.2042322	103.3907716	101.6175621	99.88333075	98.18685899	96.52697962	94.90257404

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200228A00031	2/28/2020	1.35	2/28/2024	2/28/2020	113.94905	110.8637722	107.8781701	104.9883233	102.1905026	99.48115439	96.85689101	94.31448119	91.85084158
200228A00041	2/28/2020	1.14	2/28/2023	2/28/2020	108.88029	106.9784232	105.1196957	103.3027099	101.5261279	99.78867004	98.08911128	96.42627836	94.79904701
200228A00042	2/28/2020	1.17	2/28/2024	2/28/2020	113.86675	110.7725295	107.7784915	104.880694	102.0753812	99.358975	96.72806435	94.17939622	91.70986673
200228A00043	2/28/2020	1.21	2/28/2025	2/28/2020	118.43186	114.083169	109.9171008	105.9248899	102.0982507	98.42934779	94.91076857	91.53549707	88.29688988
200228A00058	2/28/2020	1.31	2/28/2022	2/28/2020	103.9375	103.1279209	102.3308883	101.5461092	100.773303	100.0121978	99.26252948	98.52404224	97.7964876
200228A00060	2/28/2020	1.31	2/28/2022	2/28/2020	103.9375	103.1279209	102.3308883	101.5461092	100.773303	100.0121978	99.26252948	98.52404224	97.7964876
200228A00061	2/28/2020	1.13	7/20/2022	2/28/2020	105.92895	104.6651825	103.4313479	102.22639	101.0493051	99.89913568	98.7749675	97.67592736	96.60118074
200228A00062	2/28/2020	1.32	2/28/2023	2/28/2020	108.95729	107.0592744	105.2042322	103.3907716	101.6175621	99.88333075	98.18685899	96.52697962	94.90257404
200228A00064	2/28/2020	1.35	2/28/2024	2/28/2020	113.94905	110.8637722	107.8781701	104.9883233	102.1905026	99.48115439	96.85689101	94.31448119	91.85084158
200228A00065	2/28/2020	1.4	2/28/2025	2/28/2020	118.57751	114.2430934	110.0902404	106.1102567	102.2949213	98.63645909	95.12751344	91.76112065	88.53068605
200228A00066	2/28/2020	1.35	2/28/2024	2/28/2020	113.94905	110.8637722	107.8781701	104.9883233	102.1905026	99.48115439	96.85689101	94.31448119	91.85084158
200228A00073	2/28/2020	1.32	2/28/2023	2/28/2020	108.95729	107.0592744	105.2042322	103.3907716	101.6175621	99.88333075	98.18685899	96.52697962	94.90257404
200302A00008	3/2/2020	1.2	3/9/2023	3/2/2020	108.868	106.9417515	105.0594207	103.2196352	101.4210792	99.66249055	97.94265807	96.26041882	94.61465568
200302A00011	3/2/2020	1.31	2/27/2025	3/2/2020	118.19954	113.8757504	109.7330481	105.7627615	101.9566947	98.30709642	94.806632	91.4483584	88.22570031
200302A00031	3/2/2020	1.02	11/18/2022	3/2/2020	107.28135	105.6975848	104.1455057	102.6242403	101.1329495	99.67082383	98.23708274	96.83097285	95.45176698
200302A00033	3/2/2020	1.31	3/3/2025	3/2/2020	118.24683	113.9084851	109.7522497	105.7694071	101.9517143	98.29137429	94.78100799	91.41362932	88.18262138
200302A00035	3/2/2020	1.22	7/3/2023	3/2/2020	110.47714	108.1777189	105.9380327	103.756106	101.6300434	99.55802672	97.53831179	95.56922442	93.64915715
200302A00051	3/2/2020	1.22	8/8/2023	3/2/2020	110.95713	108.5413205	106.1905684	103.9026276	101.6753456	99.50666263	97.39460742	95.33729204	93.3329077
200302A00053	3/2/2020	1.31	3/3/2025	3/2/2020	118.24683	113.9084851	109.7522497	105.7694071	101.9517143	98.29137429	94.78100799	91.41362932	88.18262138
200302A00054	3/2/2020	1.31	3/3/2025	3/2/2020	118.24683	113.9084851	109.7522497	105.7694071	101.9517143	98.29137429	94.78100799	91.41362932	88.18262138
200303A00002	3/3/2020	1.06	3/3/2023	3/3/2020	108.77678	106.866169	104.9990033	103.1738874	101.3894887	99.64453167	97.93779403	96.26810441	94.63433941
200303A00004	3/3/2020	1.06	3/3/2022	3/3/2020	103.86576	103.0462272	102.2395601	101.4454555	100.6636218	99.89377658	99.1356459	98.38896415	97.65347366
200303A00007	3/3/2020	1.11	3/4/2024	3/3/2020	113.75521	110.6462776	107.6383431	104.7274535	101.9098391	99.18190602	96.54022595	93.98152754	91.50268764
200303A00010	3/3/2020	1.34	3/3/2025	3/3/2020	118.36941	114.0286456	109.8700687	105.8849563	102.0650627	98.40258801	94.89015074	91.52076238	88.28780367
200303A00034	3/3/2020	1.21	3/3/2025	3/3/2020	117.83824	113.5079503	109.3595197	105.3842429	101.5738864	97.92066189	94.41719879	91.05651915	87.83201375
200304A00007	3/4/2020	1.01	3/15/2022	3/4/2020	103.8997	103.0447226	102.2037419	101.3764188	100.5624227	99.76143368	98.973142	98.19724764	97.43346
200304A00017	3/4/2020	0.83	3/16/2022	3/4/2020	103.85933	103.0001644	102.1551367	101.3239001	100.5061191	99.70146905	98.90963586	98.13031522	97.36321246
200304A00040	3/4/2020	1.12	3/1/2024	3/4/2020	113.29761	110.2153278	107.2328245	104.3461848	101.551681	98.84575998	96.22503367	93.68626973	91.22638312
200304A00053	3/6/2020	2.33	3/6/2025	3/6/2020	122.46025	118.0282445	113.7816711	109.7116817	105.8099073	102.0684292	98.47975114	95.03677428	91.73277312
200304A00054	3/6/2020	2.35	3/8/2027	3/6/2020	132.20893	125.0458304	118.3164366	111.9921634	106.0464651	100.4546773	95.19387339	90.24273244	85.58141798
200305A00002	3/5/2020	1.14	3/5/2025	3/5/2020	117.5753	113.2432546	109.0934083	105.1170394	101.3059008	97.65219025	94.14852322	90.78790759	87.56372009
200305A00007	3/5/2020	1.14	3/5/2025	3/5/2020	117.5753	113.2432546	109.0934083	105.1170394	101.3059008	97.65219025	94.14852322	90.78790759	87.56372009
200305A00009	3/10/2020	1.04	10/18/2023	3/10/2020	111.42408	108.7859656	106.2235316	103.7341763	101.3154073	98.96483247	96.68015472	94.45916811	92.29975351

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200305A00011	3/5/2020	0.95	3/7/2022	3/5/2020	103.75124	102.9211675	102.1043089	101.3003479	100.508981	99.72991417	98.96286259	98.20755004	97.46370877
200305A00012	3/5/2020	1.14	3/5/2025	3/5/2020	117.5753	113.2432546	109.0934083	105.1170394	101.3059008	97.65219025	94.14852322	90.78790759	87.56372009
200305A00020	3/5/2020	0.95	3/5/2025	3/5/2020	117.42637	113.08006	108.917008	104.9284262	101.1060027	97.44187466	93.92860116	90.55913753	87.32681144
200305A00036	3/5/2020	1.36	3/5/2027	3/5/2020	125.80758	118.847468	112.31145	106.171474	100.401499	94.97733551	89.8765031	85.07810048	80.56268582
200305A00040	3/10/2020	0.99	3/10/2023	3/10/2020	108.4895	106.5636683	104.6817878	102.8424939	101.0444743	99.28646998	97.56727225	95.88572029	94.24069877
200305A00043	3/5/2020	0.95	3/7/2022	3/5/2020	103.75124	102.9211675	102.1043089	101.3003479	100.508981	99.72991417	98.96286259	98.20755004	97.46370877
200306A00001	3/6/2020	1.11	3/6/2026	3/6/2020	121.06775	115.4585467	110.1388956	105.0922941	100.3032756	95.75733769	91.44087582	87.34112253	83.44609085
200306A00002	3/6/2020	0.64	3/7/2022	3/6/2020	103.5864	102.7559118	101.9386608	101.1343335	100.3426257	99.5632422	98.79589716	98.04031349	97.29622253
200306A00009	3/6/2020	0.82	3/7/2022	3/6/2020	103.64736	102.8177498	102.0013476	101.1978379	100.4069173	99.62829198	98.86167706	98.10679646	97.36338251
200306A00012	3/6/2020	0.95	3/6/2024	3/6/2020	112.85681	109.7647703	106.7731946	103.8781663	101.0759475	98.36297314	95.73584155	93.19130555	90.72626415
200306A00014	3/6/2020	1.38	3/6/2030	3/6/2020	135.18631	124.0834755	113.9637349	104.7351928	96.31498297	88.62833784	81.607758	75.19227143	69.32677156
200306A00037	3/6/2020	1.11	3/6/2026	3/6/2020	121.06775	115.4585467	110.1388956	105.0922941	100.3032756	95.75733769	91.44087582	87.34112253	83.44609085
200306A00046	3/6/2020	1.01	3/3/2025	3/6/2020	117.02107	112.7068807	108.5740598	104.6139147	100.8182307	97.17923708	93.68958041	90.3422988	87.13079848
200306A00065	3/6/2020	1.38	3/6/2030	3/6/2020	135.18631	124.0834755	113.9637349	104.7351928	96.31498297	88.62833784	81.607758	75.19227143	69.32677156
200306A00098	3/10/2020	1.59	3/8/2030	3/10/2020	137.31958	126.1125248	115.8959089	106.5772371	98.07309301	90.30820707	83.21462196	76.73094779	70.80169654
200306A00100	3/10/2020	1.82	3/10/2031	3/10/2020	143.43048	130.6020904	119.01891	108.5536714	99.09271593	90.53447736	82.78813902	75.77244672	69.41465807
200306A00101	3/10/2020	1.93	3/8/2030	3/10/2020	140.74238	129.3802422	119.0183467	109.5634719	100.9315363	93.0466594	85.84032245	79.25061925	73.22158663
200309A00016	3/9/2020	0.77	9/12/2022	3/9/2020	105.96635	104.565235	103.1951251	101.8549914	100.5438535	99.26077376	98.0048555	96.77524026	95.57110599
200309A00027	3/9/2020	0.97	3/10/2025	3/9/2020	116.93464	112.59795	108.4443079	104.4649617	100.6516299	96.99647502	93.49207684	90.13140745	86.90780796
200309A00046	3/9/2020	0.78	3/11/2025	3/9/2020	116.79441	112.4397171	108.269404	104.2746339	100.4470496	96.77874246	93.26222531	89.89040719	86.65656989
200309A00056	3/9/2020	0.97	3/7/2025	3/9/2020	116.90163	112.5759704	108.4325906	104.4627703	100.6582583	97.01124731	93.51434734	90.16056029	86.9432566
200309A00064	3/9/2020	0.55	3/9/2022	3/9/2020	103.53973	102.7033608	101.8804184	101.0705859	100.2735521	99.48901566	98.71668458	97.95627585	97.2075152
200310A00019	3/10/2020	0.95	3/10/2023	3/10/2020	108.41462	106.4895043	104.608331	102.7697308	100.9723917	99.21505516	97.49651279	95.81560414	94.17121421
200310A00025	3/10/2020	0.87	3/11/2024	3/10/2020	113.13036	110.0077628	106.9871452	104.0645393	101.2361606	98.49839764	95.84780275	93.28108304	90.79509246
200310A00042	3/10/2020	1.41	3/11/2030	3/10/2020	135.53661	124.3989639	114.2485212	104.9929302	96.54891687	88.84134773	81.80239556	75.37079497	69.49117725
200310A00073	3/12/2020	2.12	3/11/2027	3/12/2020	130.76322	123.6324126	116.9346145	110.6412526	104.7257892	99.16356718	93.9316666	89.00877302	84.3750565
200311A00006	3/13/2020	1.12	3/10/2025	3/13/2020	117.55082	113.2019247	109.0364547	105.0456442	101.2211974	97.55526332	94.04040874	90.66959346	87.43614679
200311A00036	3/16/2020	1.03	4/15/2022	3/16/2020	104.34116	103.3891095	102.4543413	101.5363838	100.6347868	99.74911593	98.8789523	98.02389145	97.18354289
200311A00040	3/12/2020	1.3	3/11/2025	3/12/2020	118.30228	113.9350182	109.7518958	105.7441166	101.9033576	98.22174117	94.6918086	91.30649477	88.05910501
200311A00056	3/13/2020	1.27	4/10/2024	3/13/2020	114.25274	111.0277873	107.9102144	104.8958745	101.9808021	99.1612063	96.43346168	93.79410056	91.23980507
200311A00058	3/16/2020	1.1	10/14/2022	3/16/2020	106.74729	105.2759519	103.8321796	102.4152614	101.0245117	99.65926806	98.31888946	97.00275602	95.71026791
200312A00004	3/13/2020	1.23	1/24/2025	3/13/2020	117.50491	113.3030816	109.2735108	105.4081409	101.6993446	98.13989658	94.72295011	91.44201428	88.29093325
200312A00016	3/16/2020	1.09	2/15/2023	3/16/2020	108.36021	106.5064461	104.6939876	102.9215192	101.187785	99.49158215	97.83175796	96.20720742	94.61687058

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200312A00042	3/16/2020	1.38	3/16/2023	3/16/2020	109.2906	107.3379856	105.4301131	103.5656212	101.7432031	99.96160264	98.21961178	96.51606844	94.84985427
200313A00022	3/13/2020	1.11	3/8/2022	3/13/2020	103.89301	103.0592608	102.2388312	101.4313999	100.6366602	99.85431467	99.08407524	98.32566267	97.57880625
200316A00064	3/16/2020	0.99	3/16/2022	3/16/2020	103.89681	103.0387997	102.1948845	101.3647221	100.5479783	99.74433002	98.95346432	98.17507819	97.40887811
200317A00065	3/19/2020	2.05	3/19/2025	3/19/2020	121.50074	117.0418853	112.771169	108.679634	104.7588021	101.0006439	97.39755243	93.94231864	90.62810806
200323A00007	3/23/2020	1.05	9/23/2021	3/23/2020	101.58512	101.2500888	100.9172648	100.5866279	100.2581565	99.93182951	99.60762587	99.28552494	98.96550631
200324A00020	3/24/2020	1.23	3/24/2022	3/24/2020	104.20872	103.3248653	102.4559269	101.6015263	100.7613013	99.93490159	99.12198841	98.32223389	97.53532074
200325A00029	3/25/2020	1.15	3/24/2023	3/25/2020	109.25801	107.2745598	105.3369305	103.4437728	101.5937828	99.78570444	98.01832694	96.29048314	94.60104745
200326A00029	3/26/2020	1.82	3/26/2027	3/26/2020	128.98953	121.8569315	115.1610439	108.8729597	102.9658215	97.41467055	92.19630358	87.28914057	82.67310361
200326A00030	3/26/2020	1.13	3/24/2023	3/26/2020	108.93352	106.9585045	105.0290403	103.1437848	101.3014446	99.50077307	97.74056886	96.01967351	94.33696978
200327A00075	3/31/2020	1.75	3/29/2024	3/31/2020	115.56089	112.3539645	109.252518	106.2525208	103.3501205	100.5416324	97.82353073	95.19244141	92.64513429
200330A00027	3/30/2020	0.62	3/30/2022	3/30/2020	103.86609	102.9641055	102.0776792	101.2064099	100.3499118	99.50781227	98.67975101	97.86537964	97.06436126
200330A00045	3/30/2020	1.47	3/30/2027	3/30/2020	126.75157	119.6726689	113.0290967	106.7919626	100.9344296	95.43155998	90.26017257	85.39871033	80.82711909
200331A00060	3/31/2020	1.09	3/31/2025	3/31/2020	117.66322	113.2399813	109.0055643	104.9509583	101.067631	97.34749838	93.78289876	90.3665688	87.09162059
200401A00020	4/1/2020	0.72	3/29/2022	4/1/2020	103.84034	102.9429562	102.0609763	101.1940049	100.3416619	99.5035801	98.67940429	97.86879107	97.07140822
200401A00025	4/1/2020	0.54	4/1/2022	4/1/2020	103.82216	102.9142393	102.0220898	101.1453016	100.2834809	99.43624738	98.60323353	97.78408402	96.97845528
200402A00011	4/2/2020	0.8	3/31/2023	4/2/2020	108.39291	106.4012999	104.4559783	102.5555974	100.6988556	98.88449702	97.11131013	95.3781255	93.68381423
200402A00021	4/2/2020	0.77	10/2/2024	4/2/2020	115.10254	111.2975591	107.6372237	104.1152965	100.7258406	97.46320521	94.32200996	91.29713086	88.38368656
200403A00006	4/3/2020	1.05	4/3/2025	4/3/2020	117.52657	113.0964317	108.8558222	104.7956804	100.9074248	97.18292565	93.61447916	90.19478264	86.91691176
200403A00014	4/3/2020	0.63	4/17/2023	4/3/2020	108.56144	106.5115995	104.5106028	102.5569902	100.6493535	98.78633601	96.96662986	95.1889742	93.45215309
200403A00021	4/3/2020	0.74	4/29/2022	4/3/2020	104.25788	103.2631543	102.2872708	101.3296955	100.3899176	99.46744517	98.56180435	97.67253833	96.7992067
200406A00006	4/6/2020	1.13	4/7/2025	4/6/2020	117.90266	113.4520552	109.1922851	105.1142004	101.2091404	97.46890133	93.88571058	90.45220127	87.16138919
200406A00013	4/6/2020	0.83	4/1/2022	4/6/2020	103.97464	103.0674116	102.1759159	101.2997453	100.4385077	99.59182425	98.75932863	97.94066689	97.13549671
200406A00020	4/6/2020	0.65	4/6/2022	4/6/2020	103.98286	103.0587873	102.1510374	101.2591782	100.3827952	99.52148872	98.67487238	97.84257306	97.02423013
200407A00001	4/8/2020	2.41	4/7/2025	4/8/2020	123.2734	118.7142988	114.349446	110.1695593	106.1658477	102.3299841	98.65407755	95.13064887	91.75260654
200407A00002	4/8/2020	1.82	4/8/2024	4/8/2020	115.91347	112.6696824	109.5335109	106.5008071	103.5676067	100.7301193	97.98471988	95.32794083	92.75646384
200408A00019	4/10/2020	1.7	4/11/2022	4/10/2020	104.88884	103.9463877	103.0208078	102.1116501	101.2184803	100.3408796	99.47844332	98.63078104	97.7975155
200408A00021	4/8/2020	0.99	4/4/2025	4/8/2020	117.93058	113.4711582	109.2030075	105.1169585	101.2043299	97.45689903	93.86687489	90.42687346	87.1298942
200413A00031	4/13/2020	0.73	4/13/2022	4/13/2020	104.04208	103.0976796	102.1703151	101.2595316	100.3648878	99.48595767	98.62233023	97.77360869	96.93940986
200413A00032	4/13/2020	0.82	4/13/2023	4/13/2020	108.61403	106.5808097	104.5956851	102.6572316	100.7640722	98.91487992	97.10837516	95.34332386	93.61853558
200414A00016	4/16/2020	1.64	4/15/2024	4/16/2020	115.45621	112.1972719	109.0471855	106.0017288	103.0568666	100.2087423	97.45366859	94.78811907	92.20872052
200415A00019	4/15/2020	0.68	4/15/2022	4/15/2020	104.0223	103.0718527	102.1386615	101.2222611	100.3222017	99.43804959	98.56938602	97.71580697	96.87692235
200415A00030	4/15/2020	0.76	3/15/2023	4/15/2020	108.10564	106.1677544	104.2742796	102.4238582	100.6151881	98.84701804	97.11814531	95.42741307	93.77370833
200416A00005	4/16/2020	0.49	4/15/2022	4/16/2020	103.95385	103.0022321	102.0679188	101.1504411	100.2493474	99.36420216	98.49458507	97.64009053	96.80032694

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200417A00016	4/21/2020	2.18	4/21/2025	4/21/2020	122.49965	117.9101694	113.5182487	109.3143511	105.2894534	101.4350126	97.74293837	94.20556611	90.81563261
200420A00047	4/20/2020	0.77	4/20/2023	4/20/2020	108.60155	106.5474224	104.5423467	102.5848517	100.6735205	98.80698764	96.9839372	95.20310056	93.46325436
200424A00006	4/24/2020	0.6	4/24/2023	4/24/2020	108.5874	106.5161871	104.4947846	102.5216924	100.5954613	98.71469547	96.87805006	95.08422892	93.33198255
200428A00013	4/30/2020	1.49	4/29/2024	4/30/2020	115.1759	111.8770287	108.6897575	105.6097053	102.6326843	99.75469453	96.9719141	94.28069012	91.67753038
200429A00003	4/29/2020	0.74	4/28/2023	4/29/2020	108.63956	106.5609962	104.5325956	102.5528352	100.6202509	98.73343258	96.89102188	95.0917098	93.33423454
200429A00010	4/29/2020	0.78	4/29/2025	4/29/2020	117.29293	112.7654009	108.4354964	104.2935825	100.3305433	96.5377527	92.90704566	89.43069104	86.10136619
200429A00015	4/29/2020	0.66	4/29/2024	4/29/2020	113.05286	109.7755336	106.6095954	103.5506545	100.5945191	97.73718575	94.97482973	92.30379601	89.72059068
200429A00017	5/4/2020	0.66	8/15/2022	5/4/2020	105.54116	104.1996426	102.8919076	101.616695	100.3728048	99.15909527	97.9744798	96.81792321	95.68843892
200429A00018	5/4/2020	0.73	4/17/2023	5/4/2020	108.48521	106.4412768	104.4459625	102.4978143	100.5954333	98.73747122	96.92262843	95.14965177	93.41733265
200429A00043	5/1/2020	1.56	4/30/2025	5/1/2020	119.97694	115.4094068	111.0402756	106.8598958	102.8591412	99.02937488	95.36242055	91.85053547	88.48638513
200429A00044	5/1/2020	1.86	4/30/2025	5/1/2020	121.25742	116.663616	112.2690434	108.0640267	104.0394073	100.1865178	96.49715274	92.96354147	89.57832296
200429A00045	5/1/2020	1.54	4/30/2025	5/1/2020	119.89157	115.3257929	110.9583577	106.7796205	102.7804568	98.95223202	95.28677173	91.77633507	88.41358927
200429A00047	5/1/2020	2.7	4/30/2025	5/1/2020	124.84279	120.1754016	115.7095932	111.435593	107.3441524	103.4265181	99.67440288	96.07995826	92.63574889
200429A00050	5/1/2020	2.61	4/30/2025	5/1/2020	124.45865	119.7991389	115.3409629	111.0743538	106.9900726	103.0793752	99.33398323	95.74605646	92.30816754
200429A00052	5/1/2020	1.43	4/30/2024	5/1/2020	115.00128	111.7018249	108.5141225	105.433777	102.4565908	99.57855474	96.79583815	94.10478017	91.50188105
200429A00053	5/1/2020	2.18	4/30/2025	5/1/2020	122.62328	118.0014391	113.579729	109.3484329	105.2983578	101.4208037	97.70753375	94.15074787	90.74305665
200429A00056	5/1/2020	1.54	4/30/2025	5/1/2020	119.89157	115.3257929	110.9583577	106.7796205	102.7804568	98.95223202	95.28677173	91.77633507	88.41358927
200429A00058	5/1/2020	1.83	4/30/2025	5/1/2020	121.12938	116.5381951	112.1461666	107.9436136	103.9213807	100.0708035	96.38367952	92.85224087	89.46912918
200430A00008	4/30/2020	0.94	4/30/2025	4/30/2020	117.33059	112.8173745	108.5008222	104.3713588	100.4199246	96.63794611	93.01730734	89.55032308	86.22971361
200430A00009	4/30/2020	1.16	4/30/2026	4/30/2020	121.87872	116.0618453	110.553527	105.3358624	100.3920761	95.70644458	91.26422515	87.05158962	83.05556306
200430A00016	4/30/2020	0.82	4/30/2024	4/30/2020	113.09081	109.8208155	106.6618174	103.6094469	100.6595312	97.80808459	95.0512992	92.3855358	89.80731546
200504A00004	5/4/2020	0.75	5/5/2025	5/4/2020	117.22445	112.6781599	108.3311852	104.1737605	100.1966536	96.39113107	92.74892835	89.26222201	85.92360388
200504A00015	5/4/2020	0.68	5/4/2023	5/4/2020	108.59204	106.4952219	104.4494515	102.4531654	100.5048607	98.60309037	96.74646104	94.93363039	93.16330504
200505A00004	5/5/2020	0.77	5/5/2025	5/5/2020	117.31038	112.7623227	108.4136309	104.2545437	100.2758266	96.46874424	92.82502991	89.33685835	85.99681958
200505A00006	5/5/2020	0.39	11/4/2021	5/5/2020	101.89299	101.4351241	100.981364	100.5316564	100.0859471	99.64418277	99.20631129	98.77228123	98.34204216
200506A00005	5/6/2020	0.97	5/6/2025	5/6/2020	117.5196	112.9824528	108.6438106	104.4939678	100.5237431	96.72445025	93.08786862	89.60621581	86.27212193
200507A00005	5/7/2020	0.67	5/5/2023	5/7/2020	108.58391	106.4840565	104.435394	102.4363571	100.4854363	98.58117841	96.72218408	94.90710547	93.13464389
200508A00004	5/8/2020	0.43	5/8/2023	5/8/2020	108.41231	106.2994943	104.2385155	102.2277745	100.2657335	98.35091253	96.48188686	94.65728456	92.87578413
200511A00015	5/11/2020	0.6	2/1/2023	5/11/2020	107.31009	105.5074388	103.7442615	102.0193274	100.3314604	98.67953301	97.06246368	95.47921434	93.92878828
200511A00016	5/11/2020	0.71	2/1/2024	5/11/2020	111.77407	108.8033624	105.9266262	103.1402629	100.4408396	97.82508007	95.28985651	92.83218118	90.44919918
200511A00017	5/11/2020	0.83	2/3/2025	5/11/2020	116.01434	111.8095203	107.7785141	103.9131267	100.2056051	96.64860862	93.23518443	89.95874403	86.81304184
200511A00018	5/11/2020	0.98	2/2/2026	5/11/2020	120.09111	114.611853	109.411131	104.4732914	99.78364741	95.32841642	91.09465905	87.07022228	83.24368709
200511A00020	5/11/2020	1.4	2/1/2028	5/11/2020	128.77174	120.5803922	112.9577648	105.8614926	99.25258258	93.09512829	87.35604897	82.00485274	77.01342071

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200511A00022	5/11/2020	1.6	2/1/2030	5/11/2020	137.09021	126.0183165	115.9153112	106.6915357	98.26605753	90.56578209	83.52465611	77.08295576	71.18665024
200511A00028	5/13/2020	1.02	5/13/2024	5/13/2020	113.87123	110.5468935	107.3367024	104.2361021	101.2407506	98.34650342	95.54940328	92.84567073	90.2316949
200513A00002	5/13/2020	0.56	5/13/2024	5/13/2020	112.8922	109.5717448	106.3656777	103.269427	100.2786306	97.38912571	94.59693782	91.89827147	89.28950094
200527A00022	5/27/2020	0.53	5/27/2022	5/27/2020	104.3929	103.3107827	102.2509036	101.2125857	100.1951773	99.1980528	98.22061126	97.26227525	96.32248972
200529A00004	5/29/2020	0.56	5/29/2024	5/29/2020	113.06643	109.6912337	106.4340151	103.2899831	100.2545738	97.32343507	94.49241505	91.75755181	89.11506341
200529A00009	5/29/2020	0.42	5/30/2023	5/29/2020	108.65287	106.4688107	104.3399535	102.264539	100.2408798	98.26735396	96.34240252	94.46452602	92.63228195
200601A00006	6/1/2020	0.6	6/1/2023	6/1/2020	108.74073	106.5559043	104.4262841	102.3501102	100.3256943	98.35141364	96.42570822	94.54707783	92.71407924
200604A00010	6/4/2020	0.89	6/4/2025	6/4/2020	117.45961	112.8280631	108.4031175	104.1744647	100.1323695	96.26763277	92.57155924	89.03592672	85.65295782
200604A00012	6/4/2020	1.59	6/4/2030	6/4/2020	138.15888	126.5934547	116.0759388	106.5061652	97.79401186	89.85834601	82.62608622	76.03136684	70.01479291
200611A00010	6/11/2020	1.08	6/11/2027	6/11/2020	124.73657	117.4718546	110.6696626	104.2982597	98.3282436	92.73236457	87.48535672	82.5637838	77.94589755
200611A00011	6/11/2020	1.2	6/9/2028	6/11/2020	128.27339	119.6549712	111.6646771	104.2536682	97.37713554	90.99395099	85.06634692	79.55962568	74.44189537
200611A00013	6/11/2020	0.59	6/12/2023	6/11/2020	108.84349	106.625062	104.4632446	102.3562097	100.3022032	98.29954031	96.34660267	94.44183486	92.58374157
200615A00019	6/17/2020	1.34	6/16/2025	6/17/2020	119.55832	114.844406	110.3416125	106.0393445	101.927602	97.99694017	94.2384347	90.64365023	87.20461074
200615A00023	6/17/2020	1.68	6/17/2024	6/17/2020	116.43706	112.96111	109.6074981	106.3712053	103.24745	100.2316757	97.31953865	94.50689675	91.78979868
200626A00015	6/26/2020	0.43	6/26/2023	6/26/2020	108.97771	106.709983	104.5009722	102.3487443	100.251447	98.20730341	96.21460813	94.27172369	92.37707733
200629A00005	6/29/2020	0.55	6/29/2022	6/29/2020	104.82604	103.6380701	102.4767775	101.3412718	100.230703	99.14425799	98.08115873	97.04066021	96.02204884
200630A00004	6/30/2020	0.66	7/1/2024	6/30/2020	113.23338	109.7656764	106.4216807	103.196248	100.0844857	97.08173463	94.18355632	91.38572109	88.6841967
200701A00004	7/1/2020	0.54	7/1/2022	7/1/2020	104.83975	103.6453852	102.477982	101.3366384	100.2204907	99.12871302	98.06051519	97.01514085	95.99186567
200709A00004	7/10/2020	1.4	7/10/2025	7/10/2020	120.08834	115.2850104	110.6995908	106.3210009	102.1387858	98.14307996	94.32457031	90.67446175	87.18444527
200709A00005	7/10/2020	2.23	7/10/2030	7/10/2020	145.19897	133.1757108	122.2438243	112.2984466	103.2453036	94.99958704	87.48495942	80.632668	74.3807557
200709A00006	7/10/2020	2.58	7/10/2030	7/10/2020	148.86907	136.6732035	125.5799883	115.4837057	106.2892933	97.91122083	90.272489	83.30373806	76.94245367
200709A00007	7/10/2020	1.67	7/9/2027	7/10/2020	128.96632	121.4741114	114.4617436	107.8960157	101.7461976	95.98383058	90.58254791	85.51790999	80.76725365
200720A00012	7/20/2020	0.77	7/15/2025	7/20/2020	117.30413	112.5443084	108.0017899	103.6654719	99.5248825	95.57014261	91.7919288	88.18143849	84.73035767
200720A00039	7/22/2020	2.48	7/21/2025	7/22/2020	125.10108	120.1525723	115.4286654	110.9178914	106.6094391	102.4931097	98.55927895	94.79886065	91.20327343
200720A00044	7/22/2020	2.22	7/21/2026	7/22/2020	128.68845	122.4152797	116.4858991	110.8796057	105.5770612	100.5601911	95.81209491	91.31696298	87.06000024
200722A00010	7/22/2020	0.66	7/22/2024	7/22/2020	113.45004	109.9117651	106.5016507	103.214279	100.0444993	96.98741185	94.03835395	91.19288635	88.44678112
200722A00011	7/22/2020	0.59	7/24/2023	7/22/2020	109.32473	106.9734919	104.6847018	102.456238	100.2860688	98.17224849	96.1129129	94.106275	92.15062117
200727A00016	7/27/2020	0.43	7/27/2023	7/27/2020	109.33544	106.9679757	104.6637041	102.4204674	100.2361989	98.10892008	96.03673566	94.0178295	92.05046046
200728A00007	7/28/2020	0.52	1/27/2022	7/28/2020	102.92773	102.2188264	101.5196286	100.8299361	100.1495566	99.47830263	98.81599183	98.16244667	97.51749428
200730A00001	7/30/2020	0.46	7/30/2024	7/30/2020	113.3662	109.7911337	106.3466333	103.0271296	99.82733317	96.74221462	93.7669901	90.89710738	88.12823291
200731A00005	7/31/2020	0.45	7/31/2024	7/31/2020	113.34166	109.7638739	106.3168558	102.9950233	99.7930744	96.70596825	93.72891017	90.8573379	88.08690856
200803A00005	8/3/2020	0.54	6/30/2023	8/3/2020	108.93679	106.6638733	104.4499172	102.2929731	100.1911759	98.14273647	96.14593804	94.19913246	92.30073693
200806A00002	8/6/2020	0.43	8/6/2024	8/6/2020	113.33082	109.7344379	106.270098	102.93214	99.71518458	96.61411888	93.62408141	90.74044766	87.95881672

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200807A00004	8/7/2020	0.29	8/8/2022	8/7/2020	105.16088	103.8415064	102.5548838	101.299809	100.0751345	98.87976816	97.71266926	96.57284598	95.45935234
200810A00004	8/10/2020	0.43	8/9/2024	8/10/2020	113.35965	109.7533891	106.279828	102.9332643	99.70827903	96.5997229	93.60270023	90.7125547	87.92485582
200811A00003	8/11/2020	0.57	8/11/2025	8/11/2020	117.33221	112.4635504	107.8212359	103.3934837	99.1691954	95.13791427	91.28978375	87.61550912	84.10632177
200817A00011	8/17/2020	0.53	2/18/2025	8/17/2020	115.56067	111.3003978	107.2184929	103.3064363	99.55617468	95.96008935	92.51096985	89.20198903	86.02667996
200817A00014	8/17/2020	0.51	8/17/2022	8/17/2020	105.37636	104.0295785	102.7168771	101.4369786	100.1886672	98.97078626	97.78223532	96.62196617	95.48898007
200818A00005	8/18/2020	1.05	8/18/2027	8/18/2020	125.00057	117.4997114	110.4894388	103.935167	97.804935	92.06918916	86.70058843	81.6738269	76.96547126
200818A00009	8/18/2020	1.7	8/18/2033	8/18/2020	150.21003	133.7200165	119.183407	106.3585665	95.03486758	85.0285762	76.17929752	68.3469078	61.40890279
200819A00007	8/19/2020	0.38	8/21/2023	8/19/2020	109.49571	107.0506653	104.6726021	102.3591585	100.1080795	97.91720987	95.78448875	93.70794427	91.68568894
200827A00007	8/27/2020	0.77	8/27/2025	8/27/2020	117.68753	112.7805527	108.1031767	103.6433592	99.38976367	95.33171497	91.45915607	87.76260806	84.23313307
200828A00002	8/28/2020	0.73	8/28/2026	8/28/2020	121.4547	115.2172985	109.3320283	103.7771453	98.53237024	93.57878301	88.89872329	84.47569917	80.29430289
200902A00018	9/4/2020	1.08	9/3/2025	9/4/2020	119.19464	114.2319462	109.5018164	104.9920635	100.6912102	96.58844565	92.67358263	88.93701723	85.36969195
200911A00006	9/11/2020	0.37	9/11/2023	9/11/2020	109.6988	107.1884647	104.7480276	102.3750638	100.0672557	97.82238361	95.63832082	93.51302863	91.44455212
200911A00020	9/15/2020	1.14	9/15/2025	9/15/2020	119.59203	114.5823148	109.8085776	105.258462	100.920327	96.78320161	92.83674253	89.07119426	85.4773526
200911A00021	9/15/2020	1.1	9/15/2025	9/15/2020	119.40384	114.398347	109.6286915	105.0825187	100.7481936	96.61475079	92.67185224	88.90974757	85.31923738
200911A00022	9/15/2020	1.42	9/15/2025	9/15/2020	120.90939	115.8700894	111.0677803	106.4900648	102.1252606	97.96235739	93.99097454	90.20132112	86.58415919
200911A00023	9/15/2020	2.04	9/14/2027	9/15/2020	132.16719	124.3433037	117.0318408	110.1966	103.8041229	97.82347008	92.22601917	86.98527903	82.07672057
200911A00024	9/15/2020	2.09	9/14/2027	9/15/2020	132.5201	124.6846845	117.3622357	110.5165228	104.1140583	98.12387608	92.5173283	87.26790015	82.35104032
200911A00025	9/15/2020	2.28	9/13/2030	9/15/2020	146.46667	134.1470987	122.9639331	112.8063046	103.574698	95.17973344	87.54108692	80.58653036	74.25107834
200911A00026	9/15/2020	1.45	9/15/2025	9/15/2020	121.05054	116.0080652	111.2026949	106.6220223	102.2543606	98.08869551	94.11464226	90.32240614	86.70274561
200917A00002	9/17/2020	0.53	9/17/2025	9/17/2020	117.45942	112.4696884	107.7164119	103.1871658	98.87024862	94.75463308	90.82992362	87.08631659	83.51456325
200922A00023	9/24/2020	2.5	9/26/2022	9/24/2020	108.45972	107.0263692	105.6197627	104.2391954	102.8839915	101.5534982	100.2470847	98.9641417	97.70407991
200922A00027	9/24/2020	1.65	9/23/2025	9/24/2020	122.08275	116.991378	112.140007	107.5160937	103.1078156	98.9040262	94.89421255	91.06845601	87.41739548
200922A00029	9/24/2020	2.73	9/25/2023	9/24/2020	115.30356	112.6897973	110.1489274	107.6784934	105.2761392	102.9396018	100.6667075	98.45536777	96.30357503
200922A00030	9/24/2020	2.45	9/25/2023	9/24/2020	114.61262	112.0074159	109.4749141	107.0126649	104.6183176	102.2896148	100.0243881	97.82055378	95.67610919
200922A00033	9/24/2020	2.37	9/23/2024	9/24/2020	120.19402	116.3426688	112.635669	109.0668335	105.630272	102.3203786	99.13181575	96.05950073	93.09859134
200922A00034	9/24/2020	2.24	9/23/2026	9/24/2020	129.57934	123.0662134	116.9199914	111.1181228	105.63956	100.4646472	95.57502194	90.95352274	86.58410511
200922A00035	9/24/2020	2.94	9/23/2024	9/24/2020	122.23639	118.3493764	114.6077176	111.0051888	107.5358647	104.1941059	100.9745429	97.87206248	94.88179308
200922A00036	9/24/2020	1.55	9/23/2025	9/24/2020	121.60972	116.5290278	111.6879655	107.0740087	102.67535	98.48085721	94.48003087	90.66296525	87.0203115
200922A00037	9/24/2020	2.76	9/23/2025	9/24/2020	127.33335	122.123465	117.1576679	112.4232372	107.9081836	103.601202	99.4916292	95.56940342	91.82502758
200922A00039	9/24/2020	3	9/23/2025	9/24/2020	128.46861	123.2331054	118.2425676	113.4842412	108.946101	104.6168076	100.4856652	96.54258124	92.77802912
200922A00041	9/24/2020	2.68	9/23/2024	9/24/2020	121.30479	117.4340361	113.7081866	110.1210267	106.666647	103.3394232	100.1340007	97.04527993	94.06840281
200922A00043	9/24/2020	2.4	9/25/2023	9/24/2020	114.48924	111.8855621	109.3545546	106.8937669	104.5008494	102.1735457	99.90968819	97.70719414	95.56406171
200922A00044	9/24/2020	2.61	9/25/2023	9/24/2020	115.00744	112.3973481	109.8600645	107.3931383	104.9942156	102.6610359	100.3914278	98.18330463	96.0346611

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200925A00002	9/25/2020	0.74	9/25/2025	9/25/2020	117.79524	112.7943309	108.0306072	103.4916436	99.16572817	95.04181846	91.10949993	87.35894686	83.78088611
200925A00004	9/25/2020	0.53	9/25/2023	9/25/2020	109.87475	107.3282295	104.8531088	102.4469832	100.1075408	97.83256129	95.61991199	93.46754354	91.37348625
200925A00008	9/25/2020	0.74	9/25/2025	9/25/2020	117.79524	112.7943309	108.0306072	103.4916436	99.16572817	95.04181846	91.10949993	87.35894686	83.78088611
201022A00012	10/26/2020	2.25	10/24/2030	10/26/2020	146.61552	134.1370903	122.8224494	112.5569384	103.2377338	94.77257361	87.07862494	80.08147767	73.71425026
201028A00003	10/30/2020	1.42	2/27/2026	10/30/2020	122.61684	116.9938295	111.6595569	106.5975912	101.7925372	97.22996163	92.89632622	88.77892694	84.86583722
201028A00004	10/30/2020	1.55	12/29/2023	10/30/2020	113.71864	110.8249045	108.0199691	105.3005475	102.6634965	100.105811	97.62461636	95.21716198	92.88081495
201028A00006	10/30/2020	1.56	2/15/2024	10/30/2020	114.3923	111.3409695	108.3870655	105.5268086	102.7565976	100.0729981	97.47273359	94.9526769	92.50984183
201030A00004	11/2/2020	2.56	10/29/2040	11/2/2020	190.07855	160.0940368	135.3431463	114.8746934	97.91520429	83.83494463	72.12057551	62.35312124	54.19019698
201030A00005	11/2/2020	2.49	10/29/2040	11/2/2020	188.41516	158.5941215	133.9855959	113.6414694	96.79085906	82.8062195	71.17606458	61.48298997	53.38594613
201116A00011	11/16/2020	0.71	11/15/2024	11/16/2020	114.77327	110.8458889	107.0727985	103.4471122	99.96229388	96.61213353	93.39072927	90.29247017	87.31202024
201119A00008	11/19/2020	0.28	5/19/2022	11/19/2020	104.16865	103.1106946	102.0740464	101.0580666	100.0621425	99.08568562	98.1281301	97.18893193	96.26756775
201204A00016	12/8/2020	1.58	12/8/2023	12/8/2020	113.50815	110.6833087	107.9437228	105.2862961	102.7080682	100.2062055	97.77799419	95.42083505	93.13223725
201208A00029	12/10/2020	1.52	12/9/2025	12/10/2020	122.32997	116.9752395	111.8844942	107.0433366	102.4382285	98.05643835	93.88598918	89.91560946	86.13468773
201208A00031	12/10/2020	1.43	12/9/2024	12/10/2020	117.75876	113.6993722	109.8016109	106.0581478	102.4620314	99.00666331	95.685779	92.49342827	89.42395786
210114A00009	1/19/2021	2.66	1/17/2030	1/19/2021	147.44527	135.9636265	125.4709773	115.8767353	107.0990598	99.06397238	91.70456312	84.96028105	78.77629933
210125A00006	1/27/2021	2.16	1/26/2027	1/27/2021	130.53468	123.5635194	117.0078396	110.8406579	105.0368907	99.57320827	94.42790265	89.58076594	85.01297841
210125A00007	1/27/2021	2.98	1/27/2031	1/27/2021	155.97734	142.6773204	130.6373079	119.7307142	109.8443084	100.87674	92.73723522	85.34444256	78.62540979
210128A00008	1/28/2021	0.54	4/9/2024	1/28/2021	112.00117	108.8134179	105.7319819	102.752758	99.87181926	97.08541171	94.3899452	91.78198561	89.2582471
210129A00008	1/29/2021	0.62	10/8/2024	1/29/2021	114.06959	110.2772558	106.6296332	103.1204574	99.7437702	96.49390124	93.36545267	90.35328448	87.4525009
210129A00013	1/29/2021	0.65	1/9/2025	1/29/2021	115.06771	110.959585	107.0187934	103.2375724	99.60857157	96.12482429	92.77972474	89.56700701	86.48072543
210201A00004	2/3/2021	1.15	2/3/2025	2/3/2021	117.29372	113.064187	109.0092144	105.1205828	101.3905115	97.81163336	94.37697008	91.07990909	87.91418173
210210A00005	2/10/2021	0.52	2/13/2024	2/10/2021	111.35365	108.3521354	105.446617	102.633373	99.90885578	97.26968222	94.71262441	92.23460123	89.83267045
210212A00008	2/12/2021	0.95	10/13/2026	2/12/2021	122.12758	115.7533595	109.7449083	104.0794664	98.73580188	93.69409942	88.93585881	84.44380142	80.20178366
210212A00016	2/17/2021	1.32	2/18/2025	2/17/2021	118.14016	113.8463152	109.7312612	105.7864923	102.0039635	98.37606279	94.89558483	91.55570614	88.34996219
210216A00006	2/16/2021	1.44	2/15/2030	2/16/2021	137.35452	126.1373414	115.9090785	106.5776139	98.05985618	90.28081211	83.17275833	76.67450161	70.73071807
210216A00007	2/16/2021	1.3	2/16/2029	2/16/2021	132.65449	122.9372493	113.9898205	105.7473815	98.15089191	91.14654688	84.68528622	78.72235245	73.21689211
210216A00008	2/16/2021	0.71	2/17/2026	2/16/2021	119.68119	114.1360125	108.8758781	103.8845946	99.14698069	94.64880089	90.37670037	86.3181451	82.46136633
210216A00009	2/16/2021	0.92	2/16/2027	2/16/2021	123.92415	117.0396062	110.5736838	104.4987686	98.78921432	93.42119522	88.37256598	83.62273397	79.15254167
210224A00011	2/26/2021	1.17	2/27/2023	2/26/2021	108.66735	106.7750564	104.9255643	103.1174872	101.3495017	99.62034145	97.92879426	96.27369883	94.6539422
210305A00013	3/5/2021	2.41	3/5/2036	3/5/2021	170.86624	149.374438	130.8526338	114.8720309	101.067842	89.12944451	78.79209635	69.82995356	62.05018065
210312A00004	3/12/2021	0.34	3/10/2023	3/12/2021	107.52999	105.6087194	103.7314077	101.8966879	100.1032449	98.34981723	96.63519405	94.95821252	93.31775547
210312A00010	3/12/2021	0.63	3/12/2024	3/12/2021	111.97515	108.8766665	105.8793546	102.9792883	100.1727214	97.45607807	94.82594376	92.27905674	89.81230006
210323A00007	3/23/2021	0.51	3/25/2024	3/23/2021	112.21313	109.0585907	106.0081205	103.0577266	100.2035896	97.44205772	94.76963882	92.18299201	89.67892042

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210326A00002	3/26/2021	0.57	6/26/2024	3/26/2021	113.38589	109.9192433	106.5760653	103.3512401	100.2398935	97.23738345	94.33928706	91.54138898	88.83967016
210414A00001	4/14/2021	0.7	5/16/2024	4/14/2021	112.88882	109.5700963	106.3657717	103.2712727	100.2822331	97.39448608	94.60405377	91.90713752	89.30010872
210428A00006	4/28/2021	1.23	4/28/2026	4/28/2021	122.23853	116.4192987	110.9082613	105.6875634	100.7404705	96.05129622	91.60533121	87.3887774	83.38868705
210428A00007	4/28/2021	1.74	10/27/2028	4/28/2021	133.92279	124.6112943	116.0069632	108.0525848	100.6958501	93.88890603	87.58795537	81.75289405	76.34698282
210428A00015	4/28/2021	2.02	4/28/2031	4/28/2021	146.21896	133.0659111	121.2021376	110.4945735	100.824503	92.08595183	84.18426234	77.034835	70.56201488
210429A00005	4/29/2021	2.08	4/29/2031	4/29/2021	146.9189	133.7262972	121.8262215	111.0852841	101.3844863	92.61760105	84.68974548	77.5161184	71.02088443
210527A00019	5/27/2021	1	5/27/2026	5/27/2021	122.18395	116.2362397	110.6096173	105.2851217	100.2450101	95.4726726	90.95255393	86.67008094	82.61159555
210527A00009	5/27/2021	0.5	5/28/2024	5/27/2021	112.86269	109.4938016	106.2426169	103.1043598	100.0744799	97.14863771	94.32269327	91.59269587	88.95487413
210507A00009	5/7/2021	2.02	5/7/2032	5/7/2021	149.96703	135.2336605	122.075715	110.3163962	99.79956651	90.3872448	81.95741481	74.40210742	67.62572167
190826A00029	8/26/2019	1.53	8/26/2024	8/26/2019	117.37844	113.6501773	110.0602056	106.6025068	103.2713725	100.0613827	96.96738801	93.98449477	91.10804978
190826A00063	8/26/2019	2.05	8/28/2028	8/26/2019	135.87946	126.7039621	118.2098586	110.3429514	103.053635	96.29648235	90.02987181	84.21564789	78.81881494
190828A00031	8/28/2019	1.71	8/28/2024	8/28/2019	117.49486	113.7717031	110.1865185	106.7333099	103.4063845	100.2003368	97.11003161	94.13058825	91.257366
190829A00012	8/29/2019	1.54	8/29/2024	8/29/2019	117.45245	113.7134132	110.1133324	106.6461596	103.3061529	100.0878598	96.98610102	93.9959538	91.11273771
190829A00015	8/30/2019	2.06	8/30/2022	8/30/2019	107.55186	106.1527345	104.7890671	103.4595173	102.1628135	100.8977464	99.66316583	98.45797661	97.28113568
190829A00029	8/29/2019	1.75	7/14/2023	8/29/2019	111.81654	109.4678015	107.1806754	104.9530978	102.7830888	100.6687513	98.60826597	96.59988812	94.64194352
190829A00050	8/29/2019	1.73	8/29/2024	8/29/2019	117.57782	113.8501253	110.2606354	106.8033464	103.4725586	100.2628592	97.16910597	94.18641088	91.31012603
190917A00022	9/17/2019	2.02	9/16/2022	9/17/2019	107.67577	106.2585446	104.8712263	103.5128742	102.1825911	100.879517	99.60282731	98.35173119	97.12546951
190917A00028	9/17/2019	2.02	3/1/2023	9/17/2019	110.26408	108.350415	106.4800671	104.6516408	102.8638006	101.1152683	99.40481986	97.73128251	96.09353212
190917A00044	9/17/2019	1.86	9/17/2021	9/17/2019	101.78378	101.4652758	101.1487774	100.8342633	100.5217148	100.2111133	99.90244077	99.59567905	99.29081037
190917A00045	9/17/2019	1.86	9/17/2021	9/17/2019	101.78378	101.4652758	101.1487774	100.8342633	100.5217148	100.2111133	99.90244077	99.59567905	99.29081037
190918A00007	9/20/2019	1.95	12/15/2022	9/20/2019	108.93003	107.2551571	105.6149364	104.0083724	102.4345055	100.8924122	99.38120349	97.90002297	96.44804555
190919A00025	9/19/2019	1.8	9/19/2024	9/19/2019	118.65244	114.826622	111.1444612	107.5997667	104.1866526	100.8995197	97.73303993	94.68214096	91.74199286
190920A00018	9/20/2019	1.98	9/20/2022	9/20/2019	107.67698	106.2554736	104.862566	103.4974184	102.1592227	100.8472021	99.56061031	98.29872919	97.06086801
190924A00010	9/24/2019	1.95	9/24/2021	9/24/2019	101.89846	101.5599003	101.2235843	100.8894942	100.5576079	100.2279038	99.90036027	99.57495626	99.25167081
190925A00011	9/25/2019	1.89	9/25/2024	9/25/2019	118.50098	114.6729273	110.9887898	107.4423996	104.0278832	100.7396498	97.57237582	94.52099079	91.58066387
190926A00012	9/26/2019	1.93	9/27/2021	9/26/2019	101.93972	101.5924391	101.2475185	100.9049321	100.5646561	100.2266673	99.89094285	99.55746005	99.22619657
190927A00012	10/1/2019	1.96	10/1/2024	10/1/2019	118.83524	114.9819549	111.2740757	107.7053566	104.2698571	100.9619215	97.77616399	94.70745423	91.75090397
190930A00041	9/30/2019	1.94	10/25/2021	9/30/2019	102.39105	101.9615025	101.5355477	101.113144	100.6942469	100.2788131	99.86679966	99.45816464	99.05286658
190930A00069	9/30/2019	1.9	9/29/2023	9/30/2019	113.31539	110.7140127	108.185555	105.7275656	103.3376938	101.0136812	98.75335742	96.55463582	94.41551017
191001A00006	10/1/2019	1.83	6/18/2024	10/1/2019	116.94269	113.4554868	110.0910286	106.8442787	103.7104374	100.6849311	97.76339981	94.94168614	92.21582432
191003A00002	10/3/2019	1.58	10/4/2021	10/3/2019	101.9546	101.5866856	101.2214263	100.8587948	100.4987629	100.1413025	99.78638624	99.43398686	99.08407763
191003A00019	10/3/2019	1.71	9/27/2024	10/3/2019	117.88064	114.0571879	110.3777422	106.8361328	103.4264849	100.1432051	96.98096701	93.93469648	90.99955861
191004A00004	10/4/2019	1.54	10/4/2024	10/4/2019	117.91659	114.0553466	110.3406447	106.7661588	103.3258734	100.0140635	96.82527812	93.75432651	90.79626384

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191004A00032	10/4/2019	2.01	1/3/2028	10/4/2019	133.06986	124.828757	117.1509161	109.9949201	103.3226118	97.09881623	91.2910928	85.86950851	80.80643173
191007A00027	10/7/2019	1.69	10/7/2022	10/7/2019	107.47596	106.0206594	104.5922578	103.1900746	101.8134491	100.461742	99.1343349	97.83062942	96.55004617
191008A00031	10/8/2019	1.52	10/8/2024	10/8/2019	117.89674	114.0225274	110.2958209	106.7102329	103.2596899	99.93841225	96.74089845	93.66191013	90.69645804
191018A00015	10/18/2019	1.89	10/18/2021	10/18/2019	102.25895	101.8500626	101.4444434	101.0420573	100.6428656	100.2468304	99.85391424	99.46408036	99.07729251
191025A00010	10/25/2019	2.24	7/25/2028	10/25/2019	137.05622	127.9554389	119.5216398	111.7024288	104.449797	97.71972855	91.4718485	85.66910295	80.27746931
191104A00019	11/5/2019	1.9	2/1/2022	11/5/2019	103.95776	103.229774	102.5119485	101.8040744	101.1059459	100.4173629	99.73813051	99.06805938	98.4069651
191120A00005	11/20/2019	2.63	11/20/2034	11/20/2019	169.21337	149.7074324	132.6832122	117.8097585	104.8018723	93.41357998	83.43256246	74.67540007	66.98350899
191120A00010	11/20/2019	1.88	1/20/2022	11/20/2019	103.7496	103.0584954	102.3765781	101.7036633	101.0395736	100.3841361	99.73718253	99.0985489	98.46807542
191120A00024	11/20/2019	2.23	11/16/2029	11/20/2019	142.47709	131.4408865	121.3433239	112.0996768	103.6332749	95.87469761	88.76105543	82.2353449	76.24587076
191121A00004	11/21/2019	1.77	11/21/2024	11/21/2019	119.40912	115.3627045	111.4754761	107.7403058	104.1504224	100.6993951	97.38111379	94.18977124	91.11984649
191206A00020	12/9/2019	1.91	12/15/2021	12/9/2019	103.19251	102.6107138	102.0354676	101.4666635	100.9041937	100.3479526	99.79783715	99.25374638	98.71558163
191218A00014	12/18/2019	2.04	12/18/2024	12/18/2019	120.21586	116.0813531	112.1119204	108.3000391	104.6385783	101.120772	97.74019854	94.49076054	91.36666663
191226A00020	12/26/2019	2.44	12/21/2029	12/26/2019	144.94129	133.6688845	123.3626137	113.9345123	105.3050541	97.40230282	90.16115145	83.52264146	77.43335333
200103A00009	1/3/2020	1.9	1/3/2024	1/3/2020	114.75571	111.8323225	108.9989222	106.2521576	103.5888309	101.0058851	98.50039688	96.06956989	93.71072791
200115A00014	1/17/2020	1.88	9/15/2022	1/17/2020	107.47578	106.0610153	104.6764564	103.3211423	101.9941542	100.694612	99.42167233	98.17452667	96.95239951
200115A00017	1/15/2020	1.88	1/17/2023	1/15/2020	109.33234	107.5556536	105.8171286	104.1156025	102.4499633	100.8191439	99.22211902	97.65790403	96.12555225
200115A00022	1/15/2020	1.88	10/14/2022	1/15/2020	107.8699	106.3900052	104.9378291	103.5126565	102.1137977	100.7405859	99.39237632	98.06854519	96.76848904
200115A00024	1/15/2020	1.88	1/17/2023	1/15/2020	109.33234	107.5556536	105.8171286	104.1156025	102.4499633	100.8191439	99.22211902	97.65790403	96.12555225
200122A00028	1/22/2020	1.84	1/21/2022	1/22/2020	103.73894	103.0448848	102.3600883	101.6843695	101.0175489	100.3594516	99.70990719	99.06874971	98.43581748
200122A00035	1/22/2020	1.94	1/22/2025	1/22/2020	120.29502	116.0460864	111.9705467	108.0603174	104.3077421	100.7055673	97.24691807	93.92527633	90.73445949
200124A00008	1/24/2020	1.92	1/22/2027	1/24/2020	130.06134	123.0793069	116.5141526	110.3387781	104.5279914	99.05836331	93.9080942	89.05689181	84.48585885
200127A00013	1/27/2020	1.56	1/27/2023	1/27/2020	109.17086	107.361845	105.5922096	103.8607368	102.1662607	100.5076633	98.8838718	97.29385628	95.73662751
200128A00015	1/28/2020	1.81	1/28/2025	1/28/2020	119.85656	115.5968393	111.511697	107.5929583	103.8328841	100.2241444	96.7597939	93.43324894	90.23826651
200129A00010	1/29/2020	1.76	1/31/2022	1/29/2020	103.84365	103.1191374	102.4046947	101.700116	101.0051983	100.319744	99.64356075	98.97646161	98.31826449
200130A00021	1/30/2020	1.54	1/30/2023	1/30/2020	109.18097	107.3629251	105.5846068	103.8447803	102.1422646	100.4759269	98.84468062	97.24748295	95.68333241
200131A00015	2/5/2020	1.73	2/5/2025	2/5/2020	119.63741	115.3561548	111.2513395	107.3146507	103.5382241	99.91461377	96.43676711	93.09800138	89.89198168
200131A00047	1/31/2020	1.68	1/31/2023	1/31/2020	109.19859	107.3816981	105.6044822	103.8657146	102.1642157	100.498854	98.86854416	97.27224457	95.70895483
200203A00011	2/3/2020	1.7	2/15/2023	2/3/2020	109.46064	107.5966256	105.7741114	103.9917773	102.2483617	100.5426565	98.87350408	97.23979445	95.64046298
200204A00016	2/4/2020	1.72	2/6/2023	2/4/2020	109.36005	107.5237991	105.7279632	103.9712736	102.2525176	100.5705333	98.92420631	97.31246765	95.73429123
200214A00013	2/18/2020	1.78	11/10/2021	2/18/2020	102.5741	102.0972586	101.6248545	101.1568227	100.6931025	100.2336344	99.77836001	99.32722199	98.88016401
200218A00004	2/18/2020	1.73	2/21/2023	2/18/2020	109.60609	107.7228177	105.8817861	104.0816448	102.3210989	100.5989084	98.91388612	97.26489409	95.65084127
200218A00028	2/18/2020	1.73	2/21/2023	2/18/2020	109.60609	107.7228177	105.8817861	104.0816448	102.3210989	100.5989084	98.91388612	97.26489409	95.65084127
200221A00004	2/21/2020	1.69	2/21/2025	2/21/2020	119.6737	115.3402448	111.187258	107.2061393	103.3887598	99.72742864	96.21486678	92.84418151	89.60884338

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200221A00014	2/21/2020	1.49	2/21/2023	2/21/2020	109.42138	107.5353202	105.6916513	103.8890104	102.126096	100.4016622	98.71451596	97.06351392	95.44755998
200224A00002	2/24/2020	1.56	2/24/2023	2/24/2020	109.34057	107.4508444	105.6036775	103.7976988	102.0315982	100.3041217	98.61406844	96.96028804	95.34167759
200224A00020	2/24/2020	1.59	2/24/2025	2/24/2020	119.30415	114.9682964	110.8134354	106.8309304	103.0126107	99.35074716	95.83802549	92.46752062	89.23267328
200224A00046	2/24/2020	1.59	2/24/2025	2/24/2020	119.30415	114.9682964	110.8134354	106.8309304	103.0126107	99.35074716	95.83802549	92.46752062	89.23267328
200226A00017	2/26/2020	1.53	2/27/2023	2/26/2020	109.32957	107.4309994	105.5753527	103.7612381	101.9873288	100.2523552	98.55510195	96.8944047	95.2691476
200227A00009	2/27/2020	1.47	2/27/2025	2/27/2020	118.85127	114.5146731	110.3595561	106.3772341	102.5594964	98.89857766	95.38712977	92.0181969	88.7851915
200227A00022	2/27/2020	1.41	2/27/2023	2/27/2020	109.10883	107.2123517	105.3587565	103.5466544	101.7747197	100.041684	98.34633272	96.68750274	95.06407914
200227A00030	2/27/2020	1.59	2/27/2026	2/27/2020	123.50591	117.8608885	112.505417	107.4230344	102.5983101	98.01677691	93.66486465	89.52983901	85.59974469
200228A00019	2/28/2020	1.21	2/20/2025	2/28/2020	118.34166	114.0205091	109.879903	105.9112209	102.1063134	98.45747146	94.95739931	91.59918916	88.37629786
200228A00020	2/28/2020	1.32	2/24/2023	2/28/2020	108.90122	107.0156422	105.1725416	103.3705521	101.6083656	99.88473043	98.19844779	96.54836922	94.93339376
200228A00025	2/28/2020	1.57	3/2/2027	2/28/2020	127.12784	120.1391163	113.5750174	107.4074989	101.6105192	96.15988816	91.03312498	86.20932784	81.66905403
200228A00026	2/28/2020	2.14	2/28/2035	2/28/2020	162.38571	142.96788	126.0831268	111.3863502	98.58111879	87.41258834	77.6614811	69.13896329	61.68228241
200228A00040	2/28/2020	1.14	2/28/2023	2/28/2020	108.88029	106.9784232	105.1196957	103.3027099	101.5261279	99.78867004	98.08911128	96.42627836	94.79904701
200302A00028	3/2/2020	1.25	2/26/2024	3/2/2020	113.6299	110.5554683	107.5802205	104.7002686	101.9119077	99.21160701	96.59599997	94.06187536	91.60616861
200302A00034	3/2/2020	1.25	3/1/2024	3/2/2020	113.68084	110.592969	107.6050147	104.7130572	101.9133643	99.20237869	96.57670831	94.03311692	91.56851577
200302A00036	3/2/2020	1.45	3/2/2026	3/2/2020	122.80732	117.1691653	111.8208817	106.7459718	101.928972	97.35538381	93.01160759	88.88488139	84.96322404
200304A00038	3/4/2020	1.01	3/1/2022	3/4/2020	103.71742	102.9057556	102.1067206	101.3200217	100.5453751	99.78250597	99.0311475	98.29104102	97.56193553
200305A00035	3/5/2020	1.25	3/5/2026	3/5/2020	121.79216	116.168505	110.8347523	105.7743874	100.9719327	96.41287551	92.08360217	87.97133655	84.06408369
200306A00030	3/6/2020	0.88	3/6/2023	3/6/2020	108.22877	106.3183383	104.4513824	102.626529	100.842461	99.09791602	97.39168384	95.72260325	94.08955973
200309A00003	3/9/2020	0.72	3/9/2022	3/9/2020	103.59305	102.7576016	101.9355502	101.1265766	100.3303707	99.54663225	98.77507038	98.01540312	97.26735721
200309A00005	3/9/2020	0.77	3/7/2025	3/9/2020	116.70951	112.3704223	108.2146564	104.2334195	100.4183961	96.76171955	93.25594406	89.89401974	86.6692687
200309A00021	3/9/2020	1.05	3/9/2026	3/9/2020	120.78343	115.1706544	109.8481367	104.7993257	100.0087117	95.46175016	91.14479584	87.04504213	83.15046453
200310A00037	3/10/2020	0.84	3/7/2022	3/10/2020	103.66334	102.8336602	102.0171878	101.2136087	100.4226194	99.64392617	98.87724406	98.12229701	97.37881731
200313A00032	3/18/2020	1.46	3/18/2025	3/18/2020	119.04786	114.6413988	110.4212945	106.3786656	102.5051015	98.7926377	95.23372969	91.82122812	88.54835587
200319A00024	3/19/2020	1.12	3/15/2022	3/19/2020	103.99012	103.134727	102.2933389	101.4656129	100.6512185	99.84983565	99.06115452	98.28487503	97.52070648
200326A00028	3/26/2020	1.54	3/26/2025	3/26/2020	119.48092	115.037864	110.7834681	106.7087527	102.8052154	99.06480006	95.47987153	92.04319126	88.74789458
200413A00023	4/13/2020	0.74	2/7/2022	4/13/2020	103.22132	102.4781673	101.7456638	101.0235834	100.3117048	99.60981307	98.91769912	98.23515972	97.56199728
200428A00011	4/30/2020	1.95	4/29/2025	4/30/2020	121.62832	117.0303012	112.6314717	108.4221633	104.3932276	100.5360065	96.84230274	93.3043534	89.91480415
200429A00009	4/29/2020	0.78	4/29/2025	4/29/2020	117.29293	112.7654009	108.4354964	104.2935825	100.3305433	96.5377527	92.90704566	89.43069104	86.10136619
200429A00035	5/1/2020	1.41	4/30/2024	5/1/2020	114.93864	111.6401525	108.4533912	105.3739629	102.3976709	99.52050653	96.73864015	94.0484115	91.44632152
200430A00007	4/30/2020	0.72	4/28/2023	4/30/2020	108.5992	106.5210557	104.4930627	102.5137017	100.581509	98.69507478	96.85304078	95.05409821	93.29698551
200501A00003	5/1/2020	0.66	4/14/2023	5/1/2020	108.31031	106.2771513	104.2921699	102.3539303	100.461052	98.61220379	96.80610268	95.04151119	93.31723564
200506A00002	5/8/2020	0.97	5/5/2025	5/8/2020	117.50944	112.9758429	108.6404586	104.4936017	100.5261105	96.72931712	93.095018	89.61544648	86.2832473

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200506A00010	5/6/2020	0.94	5/6/2026	5/6/2020	121.64711	115.7859295	110.2376718	104.9840685	100.0080132	95.29347855	90.82544264	86.58982092	82.57340287
200511A00014	5/11/2020	0.52	2/1/2022	5/11/2020	102.98926	102.2650988	101.5510626	100.8469406	100.1525274	99.4676236	98.792035	98.12557273	97.46805297
200511A00019	5/11/2020	1.18	2/1/2027	5/11/2020	124.40189	117.5914013	111.1908703	105.1734992	99.51438935	94.19039217	89.17997664	84.46310721	80.02113178
200529A00008	5/29/2020	0.33	5/31/2022	5/29/2020	104.36486	103.268438	102.1948397	101.1433628	100.1133302	99.10409198	98.11502445	97.14552854	96.19502866
200604A00001	6/4/2020	0.65	6/5/2023	6/4/2020	108.89246	106.6941859	104.5516472	102.4630631	100.4267207	98.44097418	96.50424183	94.61500276	92.77179432
200604A00004	6/4/2020	0.76	6/4/2024	6/4/2020	113.28493	109.899576	106.6327486	103.4796269	100.4356146	97.49632935	94.65759108	91.91541169	89.2659848
200604A00009	6/4/2020	0.7	6/4/2025	6/4/2020	117.29964	112.6522225	108.2126487	103.97053	99.91605204	96.03994241	92.33343733	88.78825097	85.39654665
200615A00005	6/15/2020	0.61	6/15/2023	6/15/2020	108.92053	106.6923943	104.5212645	102.4052958	100.3427155	98.33182141	96.37097874	94.4586166	92.59322506
200626A00014	6/26/2020	0.62	6/26/2025	6/26/2020	117.14427	112.4302461	107.9296367	103.6316371	99.5260511	95.60325374	91.8541554	88.27016906	84.84317949
200709A00002	7/10/2020	1.66	7/10/2025	7/10/2020	121.25639	116.427919	111.818196	107.4161011	103.2111465	99.19343535	95.35362467	91.68289097	88.17289822
200709A00014	7/13/2020	0.57	1/20/2023	7/13/2020	107.1165	105.3508053	103.6232211	101.9325821	100.2777726	98.6577217	97.0714013	95.51782385	93.99604029
200720A00037	7/22/2020	2.1	7/21/2025	7/22/2020	123.38071	118.4694888	113.7816261	109.3057053	105.0309643	100.9472517	97.04498769	93.31512869	89.74913384
200720A00041	7/22/2020	2.34	7/21/2027	7/22/2020	133.68395	125.9996541	118.8071809	112.0724314	105.7638545	99.85223915	94.31052832	89.11364855	84.23835424
200722A00012	7/22/2020	0.41	7/21/2023	7/22/2020	109.22057	106.8730127	104.5877568	102.3626854	100.1957748	98.08508678	96.02876413	94.02502646	92.07216631
200731A00004	7/31/2020	0.38	7/31/2023	7/31/2020	109.26522	106.8864097	104.5713618	102.3178907	100.123901	97.98738739	95.90642925	93.87918678	91.90389655
200803A00011	8/3/2020	0.72	8/4/2025	8/3/2020	117.25682	112.4329686	107.8319424	103.4422111	99.25291418	95.25381458	91.43525888	87.78814015	84.30386359
200812A00004	8/12/2020	0.59	8/12/2025	8/12/2020	117.43309	112.5589822	107.9115802	103.4790728	99.25033844	95.21489894	91.36287785	87.68496206	84.17236597
200814A00009	8/18/2020	1.36	8/16/2028	8/18/2020	130.11724	121.1988072	112.9443949	105.3012209	98.22096573	91.65937216	85.57588253	79.93331069	74.69754462
200818A00006	8/18/2020	1.18	8/18/2028	8/18/2020	128.66264	119.7918452	111.5831381	103.9838102	96.94561089	90.42435144	84.3795417	78.77406178	73.57386449
200818A00010	8/18/2020	1.88	8/20/2035	8/18/2020	159.74206	139.8415299	122.6275089	107.7223035	94.80308488	83.59367601	73.8576055	65.39222596	58.02372832
200825A00007	8/27/2020	4.79	8/27/2026	8/27/2020	144.07922	137.2603442	130.8153768	124.721595	118.9577946	113.504177	108.3422466	103.4547181	98.82542898
200928A00002	9/28/2020	0.35	9/28/2023	9/28/2020	109.8316	107.2689994	104.7785531	102.3578305	100.0045017	97.71632792	95.49115787	93.32692347	91.22163632
201030A00002	11/2/2020	2.8	10/29/2040	11/2/2020	195.78161	165.2366037	139.9976048	119.10289	101.7701022	87.36200223	75.35889872	65.33642846	56.94762848
210106A00007	1/8/2021	0.49	7/25/2023	1/8/2021	109.10822	106.7563916	104.4671029	102.2382257	100.0677228	97.95364359	95.89411896	93.88735752	91.9316415
210312A00005	3/12/2021	0.53	3/12/2024	3/12/2021	112.1268	109.0157651	106.0065127	103.0950859	100.2777088	97.55077784	94.91085225	92.3546456	89.87901762
210527A00008	5/27/2021	0.32	5/30/2023	5/27/2021	108.44123	106.2594539	104.1328288	102.0596013	100.0380852	98.06665997	96.14376779	94.26791039	92.43764642
010824A00028	8/24/2001	6.24	8/24/2021	8/24/2001	102.45991	102.2093877	101.9600943	101.7120211	101.4651592	101.2194996	100.9750337	100.7317527	100.4896481
011029A00020	10/29/2001	5.73	10/29/2021	10/29/2001	104.12819	103.6820667	103.2397686	102.8012476	102.3664555	101.9353449	101.5078692	101.0839825	100.6636397
080909A00042	9/9/2008	4.74	9/11/2023	9/9/2008	120.31635	117.6762994	115.108994	112.6119205	110.1826765	107.818961	105.5185691	103.2793869	101.0993875
081215A00091	12/15/2008	4.19	12/15/2023	12/15/2008	121.11449	118.1556563	115.2860977	112.5025548	109.8019114	107.1811863	104.6375256	102.1681966	99.77058183
110527A00007	5/27/2011	3.98	6/1/2021	5/27/2011	100.08604	100.0748799	100.0637325	100.0525957	100.0414694	100.0303536	100.0192484	100.0081536	99.99706933
110818A00006	8/18/2011	3.09	8/30/2021	8/18/2011	101.80046	101.5338928	101.2687236	101.0049377	100.7425243	100.4814728	100.2217726	99.96341332	99.7063845
110818A00012	8/18/2011	2.86	8/31/2022	8/18/2011	108.79288	107.3810362	106.0046035	104.662257	103.3527362	102.0748423	100.8274345	99.60942634	98.41978265

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
110825A00016	8/25/2011	3.06	8/31/2022	8/25/2011	109.05526	107.6415665	106.263321	104.9191938	103.6079235	102.3283104	101.0792127	99.85954319	98.66826591
110919A00026	9/19/2011	2.66	9/30/2021	9/19/2011	102.2719	101.9148946	101.5603764	101.2083215	100.8587043	100.5114996	100.1666824	99.82422826	99.48411287
111024A00022	10/24/2011	3.11	10/30/2023	10/24/2011	117.30146	114.5414127	111.8612704	109.2582541	106.7296983	104.2730464	101.8858453	99.56574068	97.31047235
120228A00010	2/28/2012	2.34	3/2/2022	2/28/2012	104.85656	104.03575	103.2277525	102.4322708	101.649016	100.8777079	100.1180748	99.36985308	98.63278725
120411A00012	4/11/2012	2.87	4/15/2022	4/11/2012	106.01742	105.0569737	104.1139152	103.1877718	102.2780909	101.3844361	100.5063865	99.64353556	98.79549086
121101A00011	11/1/2012	2.03	11/1/2022	11/1/2012	108.56458	107.0213931	105.5081173	104.0239555	102.5681383	101.1399228	99.7385916	98.36345157	97.01383303
121116A00007	11/16/2012	1.99	11/16/2021	11/16/2012	102.76956	102.2745789	101.7843622	101.2988448	100.8179594	100.3416397	99.86982084	99.40243915	98.93943212
131011A00006	10/11/2013	3.28	10/15/2021	10/11/2013	102.75681	102.3554234	101.9571837	101.5620509	101.1699888	100.7809616	100.3949339	100.0118712	99.63173914
140411A00009	4/11/2014	3.1	4/11/2024	4/11/2014	120.37144	117.0395243	113.8181455	110.7030316	107.6900999	104.7754476	101.9553431	99.22621729	96.58465561
140423A00036	4/23/2014	4.03	4/23/2029	4/23/2014	156.29096	145.4391331	135.4404115	126.2228422	117.7209049	109.8749044	102.6304243	95.93783512	89.75185083
140815A00030	8/15/2014	2.96	10/16/2023	8/15/2014	116.25843	113.5653723	110.949017	108.4067417	105.9360294	103.5344643	101.1997262	98.92958682	96.72190538
140922A00026	9/22/2014	3.02	9/30/2024	9/22/2014	123.21237	119.271263	115.4783594	111.8273008	108.3120374	104.9268103	101.666135	98.52478758	95.49779042
141024A00010	10/24/2014	2.81	10/24/2024	10/24/2014	122.86639	118.8497713	114.9871443	111.2717729	107.6972557	104.2575051	100.9467295	97.75941803	94.69032466
150319A00013	3/19/2015	3.25	3/19/2030	3/19/2015	154.20584	142.1891603	131.2184625	121.1967999	112.0366918	103.6591556	95.99284147	88.97325801	82.54208093
150331A00004	3/31/2015	2.08	3/31/2022	3/31/2015	105.14673	104.2355393	103.3400864	102.4599667	101.594789	100.7441752	99.90776015	99.08519056	98.27612488
150408A00004	4/8/2015	2.17	4/10/2023	4/8/2015	111.50422	109.4458312	107.435913	105.4730339	103.5558093	101.6829048	99.85303377	98.06495529	96.31747222
150518A00026	5/18/2015	2.08	11/18/2021	5/18/2015	102.88644	102.3847492	101.8879567	101.3959862	100.9087675	100.4262319	99.94831204	99.47494176	99.00605622
150601A00470	6/1/2015	2.98	5/31/2024	6/1/2015	120.77905	117.2752144	113.8929394	110.6273042	107.4736172	104.4274041	101.4843967	98.64052202	95.89189211
150601A00638	6/1/2015	2.51	9/30/2021	6/1/2015	102.1786	101.822132	101.4681428	101.1166095	100.7675067	100.4208093	100.0764925	99.73453177	99.39490316
150601A00640	6/1/2015	2.57	12/31/2021	6/1/2015	103.82638	103.1949413	102.5711664	101.9549168	101.3460569	100.7444544	100.1499801	99.56250786	98.98191457
150601A00664	6/1/2015	3.78	1/16/2032	6/1/2015	169.92182	154.5146617	140.680316	128.2483854	117.0678191	107.00462	97.93983652	89.76780107	82.39458294
150601A00668	6/1/2015	3.89	1/16/2037	6/1/2015	200.90206	175.7624492	154.1902594	135.6518759	119.6964609	105.94272	94.06783985	83.79823488	74.90179922
150601A00830	6/1/2015	6.743	7/31/2025	6/1/2015	145.02545	139.5869026	134.3919311	129.4281381	124.6838335	120.1479908	115.8102059	111.6606572	107.6900695
150603A00017	6/3/2015	2.84	6/3/2025	6/3/2015	126.68262	121.840861	117.2131278	112.7887796	108.5577684	104.5105989	100.6382947	96.93236726	93.38478615
150603A00018	6/3/2015	2.84	6/3/2025	6/3/2015	126.68262	121.840861	117.2131278	112.7887796	108.5577684	104.5105989	100.6382947	96.93236726	93.38478615
150610A00009	6/10/2015	3.03	6/10/2025	6/10/2015	127.63243	122.7474127	118.0789228	113.6161635	109.3489365	105.2676067	101.363068	97.62671094	94.05039276
150717A00009	7/17/2015	2.18	7/19/2021	7/17/2015	100.87229	100.7262184	100.5805863	100.4353874	100.2906197	100.1462814	100.0023705	99.85888501	99.7158231
150817A00077	8/17/2015	2.49	8/17/2023	8/17/2015	114.41886	111.9274925	109.50376	107.1452947	104.8498349	102.6152184	100.4393768	98.32033027	96.25618342
150819A00012	8/19/2015	3.04	8/19/2025	8/19/2015	128.10274	122.9914256	118.1152375	113.4619805	109.0201672	104.7789737	100.7281975	96.85821659	93.15995352
150923A00049	9/23/2015	1.97	9/23/2021	9/23/2015	101.91612	101.5800853	101.2462669	100.9146448	100.5851973	100.257903	99.93274089	99.60969006	99.28873001
151211A00007	12/11/2015	2.73	12/15/2025	12/11/2015	129.24464	123.6812622	118.3914594	113.3602912	108.5737136	104.018522	99.6822967	95.55335163	91.62068701
160119A00026	1/19/2016	3.14	1/19/2029	1/19/2016	146.90283	136.7849365	127.446063	118.8219084	110.8538118	103.4882266	96.67624944	90.37319388	84.53820594
160329A00044	3/29/2016	1.79	3/29/2022	3/29/2016	104.86241	103.9587627	103.0706182	102.1975834	101.3392756	100.4953247	99.66537306	98.8490748	98.04609531

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160624A00010	6/24/2016	1.66	6/24/2022	6/24/2016	105.99893	104.8195918	103.6663562	102.5383607	101.4347841	100.3548406	99.29777753	98.26287421	97.24943972
160624A00063	6/24/2016	1.52	6/24/2022	6/24/2016	105.98389	104.8024652	103.6472192	102.517293	101.411862	100.3301367	99.2713615	98.23481244	97.21979576
160628A00039	6/28/2016	2.01	6/29/2026	6/28/2016	128.19019	121.9746491	116.0973113	110.5379776	105.2777626	100.2990038	95.58517596	91.12081122	86.89142582
160628A00054	6/28/2016	1.28	6/28/2021	6/28/2016	100.44184	100.3552678	100.268844	100.1825675	100.0964381	100.0104553	99.92461887	99.83892837	99.75338345
160630A00034	6/30/2016	1.51	6/28/2021	6/30/2016	100.45387	100.3673656	100.281011	100.1948027	100.1087406	100.0228241	99.93705294	99.8514268	99.7659453
160701A00039	7/1/2016	1.92	7/1/2026	7/1/2016	127.70685	121.49718	115.6259139	110.0728127	104.8189576	99.84665679	95.13935853	90.68157172	86.45879193
160705A00006	7/5/2016	1.38	7/5/2022	7/5/2016	105.99634	104.7799116	103.5912249	102.4293389	101.2933557	100.1824173	99.09570279	98.03242718	96.99183889
160706A00006	7/6/2016	1.47	7/6/2023	7/6/2016	111.4092	109.0833737	106.8182253	104.6117316	102.4619574	100.3670472	98.32522159	96.33477284	94.39406183
160714A00023	8/10/2016	2.49	8/10/2028	8/10/2016	139.27345	130.0338569	121.4735093	113.5388277	106.180734	99.35425258	93.01814603	87.13458519	81.66884996
160714A00029	8/10/2016	2.27	8/10/2026	8/10/2016	129.22326	122.8675088	116.8632005	111.1889719	105.8248818	100.7523056	95.95384097	91.41322024	87.11522995
160714A00054	7/14/2016	2.03	7/15/2024	7/14/2016	117.98948	114.3987375	110.9367007	107.5979783	104.3774374	101.2701931	98.27159462	95.37721264	92.58282688
160726A00024	7/26/2016	1.61	7/26/2021	7/26/2016	100.88257	100.7169214	100.5518151	100.3872502	100.2232242	100.0597345	99.89677839	99.73435337	99.57245684
160728A00022	7/28/2016	1.37	7/28/2021	7/28/2016	100.88567	100.7142399	100.5433878	100.3731121	100.20341	100.0342787	99.86571523	99.69771686	99.53028074
160804A00014	8/4/2016	1.99	8/5/2024	8/4/2016	118.15419	114.4929133	110.9649119	107.5644979	104.2862709	101.125097	98.07609309	95.1346132	92.2962349
160909A00024	9/9/2016	1.7	9/9/2021	9/9/2016	101.58843	101.2935355	101.0003672	100.7089055	100.4191355	100.1310423	99.84461132	99.55982819	99.2766786
160921A00020	9/21/2016	1.97	9/21/2023	9/21/2016	113.36774	110.7900142	108.2841158	105.8476127	103.4781674	101.1735367	98.93156731	96.75019168	94.62742365
160922A00009	9/22/2016	1.55	9/22/2022	9/22/2016	107.2808	105.857367	104.4619274	103.0936845	101.7518728	100.4357554	99.14462332	97.87779343	96.63460776
160922A00051	9/22/2016	2.5	9/22/2028	9/22/2016	139.87403	130.461296	121.7498112	113.6836913	106.2117754	99.28720602	92.86704697	86.91193633	81.38577221
160926A00046	9/26/2016	1.66	9/26/2023	9/26/2016	113.05256	110.4559066	107.9320302	105.4784742	103.0928837	100.7729966	98.51664011	96.32172624	94.18624795
161004A00034	10/4/2016	1.67	10/4/2021	10/4/2016	101.95748	101.5899045	101.2249762	100.8626692	100.5029553	100.1458066	99.79119581	99.43909583	99.08948006
161006A00011	10/6/2016	1.64	10/6/2022	10/6/2016	107.58498	106.1287748	104.6994845	103.2964248	101.9189345	100.5663741	99.23812499	97.93358853	96.65218523
161013A00038	10/13/2016	1.52	10/13/2021	10/13/2016	102.06834	101.6740449	101.2828011	100.8945746	100.5093302	100.1270337	99.74765111	99.37114919	98.99749505
161212A00040	12/12/2016	2.45	12/12/2023	12/12/2016	116.33315	113.4486641	110.6514342	107.9382766	105.3061482	102.7521366	100.2734541	97.86743084	95.53150924
170111A00013	1/11/2017	3.4	1/10/2031	1/11/2017	160.41498	146.9584737	134.7656197	123.7103007	113.6796298	104.572496	96.29828011	88.77571474	81.93187496
170117A00046	1/17/2017	2.55	1/17/2024	1/17/2017	116.78784	113.7928535	110.8909178	108.0785272	105.352336	102.7091486	100.1459115	97.6597052	95.24773806
170215A00038	2/15/2017	2.71	8/22/2022	2/15/2017	108.26422	106.8815541	105.5341206	104.2205834	102.9396751	101.6901912	100.4709856	99.28096735	98.11909747
170215A00041	2/15/2017	2.6	10/16/2023	2/15/2017	115.34722	112.6657197	110.060658	107.5294253	105.0695124	102.6785107	100.3541075	98.09408131	95.89629791
170216A00010	2/16/2017	2.37	2/16/2022	2/16/2017	104.55175	103.7759127	103.0115758	102.2584805	101.5163799	100.7850344	100.0642113	99.3536844	98.65323425
170216A00045	2/16/2017	3.73	2/17/2037	2/16/2017	199.39952	174.2430817	152.6788764	134.1665616	118.2500642	104.5440349	92.7225398	82.50961104	73.67134222
170317A00059	3/17/2017	2.47	3/17/2023	3/17/2017	111.65499	109.6709447	107.7324005	105.8379812	103.9863601	102.1762619	100.4064601	98.67577458	96.9830693
170320A00014	3/20/2017	2.22	3/21/2022	3/20/2017	105.09366	104.2134956	103.3480324	102.4969065	101.6597636	100.8362614	100.0260684	99.22886392	98.44433737
170327A00072	3/29/2017	3.09	3/29/2027	3/29/2017	138.43947	130.9684569	123.9519045	117.3597928	111.164236	105.3393176	99.86094199	94.70669753	89.85573103
170410A00007	4/10/2017	2.1	4/11/2022	4/10/2017	105.35275	104.4065074	103.4772141	102.5644193	101.6676863	100.7865937	99.92073482	99.06971706	98.23316109

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170427A00047	4/27/2017	3.18	4/27/2029	4/27/2017	148.70149	138.145121	128.4262581	119.4738768	111.2233276	103.6157305	96.59743371	90.11952415	84.13738712
170518A00011	5/18/2017	1.94	5/18/2022	5/18/2017	105.82783	104.7638612	103.7212069	102.6992281	101.6973145	100.7148796	99.75135955	98.80621209	97.87891549
170519A00002	5/19/2017	2.15	5/19/2022	5/19/2017	105.93944	104.8734768	103.8288959	102.8050561	101.8013444	100.8171714	99.85197088	98.90519812	97.97632912
170530A00006	5/30/2017	2.15	5/31/2022	5/30/2017	106.13312	105.0286523	103.947081	102.8877019	101.8498376	100.8328378	99.83607834	98.85895974	97.9009059
170531A00003	5/31/2017	1.94	5/31/2022	5/31/2017	106.04618	104.9402038	103.8571925	102.7964374	101.7572582	100.739002	99.7410421	98.76277641	97.80362657
170602A00034	6/2/2017	1.76	6/2/2021	6/2/2017	100.07788	100.0639437	100.0500222	100.0361143	100.0222202	100.0083396	99.99447275	99.98061947	99.96677979
170609A00007	6/9/2017	1.96	6/9/2022	6/9/2017	106.21958	105.0841645	103.9729267	102.8850991	101.8199479	100.7767696	99.75488969	98.75366083	97.77246181
170613A00007	6/13/2017	2.01	6/11/2021	6/13/2017	100.22396	100.1849392	100.1459692	100.1070468	100.0681719	100.0293446	99.99056465	99.95183201	99.91314659
170614A00012	6/14/2017	1.9	6/14/2022	6/14/2017	106.23926	105.0879192	103.9614289	102.85899	101.7798384	100.7232422	99.68849984	98.6749387	97.68191342
170630A00027	6/30/2017	2.35	6/28/2024	6/30/2017	119.31857	115.7491733	112.3062114	108.984453	105.7789149	102.6848513	99.69774073	96.8132736	94.02734109
170724A00015	7/24/2017	2.32	7/24/2023	7/24/2017	113.26551	110.8689076	108.5357167	106.2637837	104.051049	101.8955399	99.79536631	97.74871647	95.75385282
170725A00047	7/25/2017	2.19	7/25/2022	7/25/2017	107.11218	105.8274636	104.5734329	103.3490017	102.1531318	100.9848331	99.84316063	98.7272123	97.63612631
170726A00034	7/26/2017	2.05	7/26/2021	7/26/2017	100.95502	100.7892826	100.6240853	100.4594297	100.2953132	100.1317332	99.96868715	99.80617238	99.64418634
170728A00032	7/28/2017	2.36	7/27/2023	7/28/2017	113.4073	110.999649	108.6558785	106.3738149	104.1513762	101.9865689	99.8774834	97.82228925	95.81923152
170731A00006	7/31/2017	2.16	8/1/2022	7/31/2017	107.19645	105.888729	104.6127803	103.3674547	102.1516601	100.9643558	99.8045495	98.6712945	97.56368714
170731A00029	7/31/2017	2.34	7/31/2023	7/31/2017	113.42761	111.0073842	108.6516347	106.3581598	104.1248482	101.9496788	99.83071591	97.76610492	95.75406788
170814A00084	8/14/2017	1.91	8/15/2022	8/14/2017	107.29561	105.9393231	104.6171517	103.3278197	102.0701157	100.842887	99.64503654	98.47551922	97.33333903
170906A00034	9/6/2017	1.87	9/7/2021	9/6/2017	101.60626	101.3170801	101.0295507	100.7436619	100.4593994	100.1767496	99.89569841	99.6162324	99.33833808
170907A00059	9/7/2017	1.99	9/7/2022	9/7/2017	107.55665	106.1491594	104.774515	103.4315651	102.119213	100.8364122	99.58216445	98.35551609	97.15555612
170908A00017	9/9/2019	2.32	9/9/2024	9/9/2019	119.8083	116.007779	112.3486667	108.8248576	105.4305518	102.1602359	99.00866689	95.97085672	93.04205839
170921A00063	9/21/2017	2.23	9/21/2022	9/21/2017	108.03027	106.6051682	105.2083855	103.8391041	102.4965369	101.1799272	99.88854689	98.62169521	97.37869755
171005A00006	10/5/2017	2.32	10/7/2024	10/5/2017	120.79226	116.8701416	113.0967382	109.4656265	105.9706963	102.606133	99.36640093	96.24622915	93.24059682
171011A00013	10/11/2017	2.77	10/13/2026	10/11/2017	132.98248	126.3047067	120.0052269	114.0606542	108.449164	103.1503825	98.14528251	93.41608852	88.94618778
171016A00033	10/16/2017	2.2	10/17/2022	10/16/2017	108.38015	106.8871805	105.4223247	103.9848544	102.5740659	101.1892794	99.82983743	98.49510429	97.18446497
171026A00009	10/26/2017	2.75	10/27/2025	10/26/2017	127.8055	122.4675606	117.384645	112.5432343	107.9305949	103.5347307	99.34433651	95.34875456	91.53793417
171026A00010	10/26/2017	2.84	10/26/2026	10/26/2017	133.58357	126.842518	120.4855628	114.4888147	108.8299898	103.4882948	98.44431939	93.67993802	89.17821802
171030A00020	10/30/2017	2.16	1/14/2022	10/30/2017	103.83478	103.1613404	102.4966285	101.8404712	101.192704	100.5531666	99.92170272	99.29816004	98.68239005
171031A00029	10/31/2017	2.43	10/31/2023	10/31/2017	115.16928	112.4419077	109.7935859	107.2215688	104.7232196	102.2960089	99.93750966	97.64539265	95.41742154
171101A00023	11/1/2017	2.78	11/3/2025	11/1/2017	128.05625	122.688662	117.578535	112.7121612	108.0766352	103.6598023	99.45021105	95.43706842	91.61019896
171214A00005	12/14/2017	2.29	12/14/2022	12/14/2017	109.68916	108.0070634	106.3597842	104.7463159	103.1656943	101.6169918	100.0993153	98.61180465	97.15363098
171218A00020	12/18/2017	2.99	12/20/2027	12/18/2017	140.15774	131.7239742	123.8590798	116.5216106	109.6733569	103.2790724	97.30622921	91.72479425	86.50702569
171219A00025	12/19/2017	2.33	12/19/2022	12/19/2017	109.84146	108.1428595	106.4796056	104.8506687	103.2550622	101.6918368	100.1600791	98.65890973	97.18748164
171219A00063	12/19/2017	2.8	12/20/2027	12/19/2017	140.06645	131.5848324	123.6771855	116.3015854	109.4193892	102.994958	96.99540772	91.39038237	86.15184701

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180102A00020	1/2/2018	2.5	1/3/2023	1/2/2018	110.15429	108.4117775	106.7060649	105.0360586	103.4007084	101.7990054	100.2299795	98.69269771	97.18626233
180116A00010	1/16/2018	2.58	1/17/2023	1/16/2018	110.53512	108.7477151	106.9986646	105.2868086	103.6110294	101.9702544	100.3634533	98.78963646	97.24785234
180118A00037	1/18/2018	2.88	1/21/2025	1/18/2018	124.0018	119.6851268	115.5437495	111.5695182	107.7547129	104.0920191	100.5745036	97.19559171	93.94904701
180126A00028	1/26/2018	2.69	1/26/2023	1/26/2018	110.88574	109.0684305	107.2905234	105.5508026	103.8481057	102.1813176	100.5493682	98.95122992	97.38591567
180130A00085	1/30/2018	2.79	1/30/2025	1/30/2018	124.41972	120.0488531	115.8568262	111.8352608	107.9762225	104.2721972	100.7160662	97.30108211	94.02084747
180223A00022	2/23/2018	2.93	2/23/2023	2/23/2018	111.82974	109.9195366	108.0522242	106.2264218	104.4408119	102.6941337	100.9851794	99.31279209	97.67586225
180226A00015	2/26/2018	2.85	9/28/2022	2/26/2018	108.97067	107.5315038	106.1184891	104.730973	103.3683231	102.0299272	100.7151926	99.42354556	98.1544302
180406A00014	4/6/2018	2.95	4/6/2023	4/6/2018	112.66413	110.6118097	108.6074216	106.6495579	104.7368596	102.8680165	101.0417645	99.2568843	97.51219932
180425A00007	4/25/2018	2.98	4/25/2023	4/25/2018	113.38728	111.2636971	109.1910516	107.1678038	105.1924706	103.2636239	101.3798874	99.53993542	97.74248964
180514A00033	5/14/2018	3.36	5/15/2028	5/14/2018	146.48075	137.2336803	128.6428742	120.658174	113.2335076	106.3265364	99.89833398	93.91309509	88.33786974
180521A00025	5/21/2018	3.24	5/21/2025	5/21/2018	128.2096	123.3803097	118.7623841	114.3454193	110.1195775	106.0755567	102.2045587	98.49825874	94.94877746
180529A00066	5/29/2018	2.99	5/26/2023	5/29/2018	113.69331	111.4736006	109.3093675	107.1988591	105.1403935	103.1323537	101.1731843	99.26138937	97.39552898
180530A00014	5/30/2018	2.93	5/30/2023	5/30/2018	113.64169	111.4101014	109.2345406	107.1132315	105.0444666	103.0266049	101.0580683	99.13733924	97.26295753
180530A00026	5/30/2018	3.55	5/30/2031	5/30/2018	164.29782	150.0925368	137.265892	125.6757976	115.1955253	105.7119771	97.12415474	89.34180809	82.28424073
180615A00031	6/15/2018	2.92	6/15/2021	6/15/2018	100.33414	100.2839076	100.2337462	100.1836518	100.1336241	100.0836632	100.0337689	99.98394091	99.93417928
180618A00026	6/18/2018	3.05	4/13/2023	6/18/2018	113.0142	110.9365298	108.9078398	106.9266727	104.991627	103.1013518	101.2545444	99.44994878	97.68635332
180625A00040	6/25/2018	3	6/24/2022	6/25/2018	107.49041	106.3020867	105.1400017	104.0032914	102.8911313	101.8027323	100.7373386	99.69422625	98.67270152
180629A00039	6/29/2018	2.91	6/29/2021	6/29/2018	100.59337	100.5039432	100.4146716	100.3255585	100.2366036	100.1478065	100.0591667	99.97068379	99.88235744
180703A00015	7/3/2018	3.06	7/3/2023	7/3/2018	114.55255	112.2073989	109.9229423	107.6971711	105.5281621	103.4140706	101.3531272	99.34363298	97.38395704
180713A00027	7/13/2018	3.23	7/13/2028	7/13/2018	146.35269	136.8919934	128.1169591	119.9740983	112.4143756	105.3928122	98.86813008	92.80242799	87.16088859
180719A00011	7/19/2018	3	11/12/2021	7/19/2018	103.18076	102.6963522	102.2165043	101.7411473	101.2702182	100.8036552	100.3413976	99.88338589	99.42956158
180801A00013	8/1/2018	3.04	10/15/2021	8/1/2018	102.66263	102.2614744	101.8634604	101.4685522	101.0767133	100.6879079	100.3021009	99.91925758	99.53934372
180820A00036	8/20/2018	3	8/21/2023	8/20/2018	115.33135	112.8240393	110.3848799	108.0114767	105.7015456	103.4529034	101.2634617	99.13122217	97.05427165
180823A00013	8/23/2018	2.97	8/23/2023	8/23/2018	115.29712	112.7840398	110.3394008	107.960801	105.6459415	103.3926245	101.1987486	99.06230273	96.98136208
180829A00008	8/29/2018	3.23	8/30/2027	8/29/2018	141.61653	133.4895726	125.8881182	118.7752372	112.1168026	105.8812579	100.0394091	94.56423417	89.43071017
180829A00044	8/29/2018	2.98	8/26/2022	8/29/2018	108.68946	107.2908981	105.9282695	104.6001983	103.3053823	102.0425837	100.8106257	99.60838846	98.43480574
180831A00016	8/31/2018	2.99	8/31/2023	8/31/2018	115.49089	112.950881	110.4805321	108.0773904	105.7391151	103.4634679	101.2483082	99.09158718	96.99134339
180913A00030	9/13/2018	3.33	9/12/2025	9/13/2018	129.84547	124.6154379	119.628481	114.8719448	110.3339062	106.0031275	101.8690126	97.9215668	94.15135887
180913A00040	9/13/2018	2.89	9/13/2021	9/13/2018	102.03113	101.7236454	101.4180252	101.1142542	100.8123157	100.512193	100.2138696	99.91732927	99.62255596
180914A00026	9/14/2018	3.15	9/14/2023	9/14/2018	116.13472	113.5442299	111.0253981	108.5757653	106.1929767	103.8747756	101.618998	99.4235684	97.28649531
180914A00029	9/14/2018	3.48	9/14/2028	9/14/2018	147.87501	138.1878399	129.2143585	120.8980226	113.1870613	106.0340458	99.39550346	93.23156853	87.50566463
180917A00054	9/17/2018	3.17	9/15/2023	9/17/2018	116.20212	113.6077566	111.0851976	108.6319869	106.2457686	103.9242842	101.6653678	99.46694187	97.32701246
181002A00018	10/2/2018	3.1	10/4/2021	10/2/2018	102.47422	102.1054785	101.7393938	101.3759365	101.0150785	100.6567918	100.301049	99.94782299	99.59708711

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181005A00037	10/9/2018	3.4	10/3/2025	10/9/2018	131.30718	125.9504907	120.8456274	115.979425	111.3394789	106.9140931	102.6922359	98.6634987	94.81805773
181009A00060	10/9/2018	3.07	10/12/2021	10/9/2018	102.6485	102.2557308	101.8659772	101.4792049	101.0953794	100.7144671	100.3364348	99.96124982	99.58887987
181107A00008	11/7/2018	3.42	11/7/2023	11/7/2018	117.85634	115.0720567	112.368884	109.743976	107.1946092	104.7181719	102.3121594	99.9741682	97.70189186
181116A00015	11/19/2018	3.29	2/15/2024	11/19/2018	119.4129	116.2893909	113.2650684	110.3360957	107.4988158	104.7497407	102.0855429	99.50304584	96.99921615
181119A00018	11/19/2018	3.28	11/17/2023	11/19/2018	117.68319	114.8693627	112.1384148	109.4874085	106.9135304	104.4140845	101.986486	99.62825629	97.33701764
181120A00023	11/20/2018	3.15	11/19/2021	11/20/2018	103.3884	102.8828169	102.3821812	101.8864214	101.3954665	100.9092467	100.4276936	99.95074022	99.47832072
181211A00031	12/11/2018	2.95	12/11/2023	12/11/2018	117.66911	114.7698101	111.9580207	109.2305532	106.58436	104.0165247	101.524255	99.1048767	96.75582812
181220A00027	12/20/2018	2.97	2/28/2022	12/20/2018	105.23064	104.4154566	103.6128789	102.8226149	102.0443827	101.2779094	100.52293	99.77918744	99.04643242
190102A00026	1/2/2019	2.62	1/4/2022	1/2/2019	104.01612	103.3711803	102.7342309	102.1051249	101.4837177	100.8698686	100.2634402	99.66429834	99.07231217
190115A00025	1/15/2019	2.96	1/12/2024	1/15/2019	117.85262	114.8584054	111.9567289	109.1441257	106.4172849	103.7730431	101.2083766	98.72039401	96.30632948
190117A00004	1/17/2019	2.9	1/18/2022	1/17/2019	104.39239	103.704872	103.0264016	102.3568052	101.6959092	101.0435447	100.3995471	99.76375608	99.13601531
190123A00034	1/23/2019	2.98	1/23/2025	1/23/2019	125.06081	120.7006378	116.5179522	112.5044757	108.6523717	104.9542161	101.4029735	97.9919733	94.71488906
190129A00061	1/30/2019	2.92	2/1/2022	1/30/2019	104.67361	103.9427947	103.2221685	102.5115212	101.8106466	101.1193441	100.4374185	99.76467994	99.10094364
190201A00013	2/1/2019	2.89	2/1/2024	2/1/2019	118.00737	114.9482774	111.9852878	109.1147374	106.3331259	103.6371129	101.0235085	98.48926585	96.03147305
190208A00005	2/8/2019	2.63	2/8/2023	2/8/2019	111.2627	109.3985346	107.5755265	105.7923767	104.0478457	102.3407458	100.6699381	99.03433049	97.43287499
190208A00009	2/8/2019	2.67	2/8/2024	2/8/2019	117.94252	114.8522954	111.8599699	108.961771	106.154103	103.4335358	100.796796	98.2407579	95.76243618
190215A00006	2/15/2019	2.89	2/15/2024	2/15/2019	118.25207	115.1452472	112.1372064	109.2241218	106.4023491	103.668413	101.0189974	98.45093741	95.96121052
190219A00020	2/19/2019	2.88	2/16/2024	2/19/2019	118.2405	115.1306856	112.1198329	109.2041076	106.3798553	103.6435913	100.9919908	98.42188058	95.93023038
190222A00021	2/22/2019	2.95	8/21/2024	2/22/2019	121.71919	117.9464181	114.3120655	110.8101632	107.4350433	104.1813217	101.0438813	98.01785676	95.09861996
190226A00020	2/26/2019	2.64	2/26/2024	2/26/2019	118.16581	115.0152352	111.9660145	109.0141726	106.1559256	103.3876674	100.70596	98.10752386	95.58922943
190314A00018	3/14/2019	2.53	3/14/2022	3/14/2019	105.2256	104.3663202	103.5210518	102.6894536	101.8711956	101.0659586	100.2734334	99.49332053	98.72533
190326A00002	3/26/2019	2.56	9/26/2022	3/26/2019	108.54291	107.1089522	105.7017432	104.320584	102.9647986	101.6337338	100.3267587	99.04326355	97.78265887
190326A00003	3/26/2019	2.57	3/27/2023	3/26/2019	111.74504	109.7325969	107.766581	105.8456378	103.9684625	102.1337968	100.3404266	98.58718063	96.87292804
190326A00032	3/26/2019	2.4	3/26/2024	3/26/2019	117.95294	114.709265	111.571994	108.5370539	105.6005526	102.7587678	100.0081397	97.34526172	94.76687406
190401A00010	4/1/2019	2.62	4/1/2024	4/1/2019	118.24961	114.9928558	111.84319	108.7965194	105.8489269	102.996666	100.2361524	97.56395642	94.97679499
190409A00031	4/9/2019	2.64	4/9/2024	4/9/2019	118.44279	115.1575833	111.9811565	108.9093219	105.9380728	103.0635788	100.2821764	97.59036139	94.98478047
190430A00002	4/30/2019	2.4	11/2/2022	4/30/2019	109.13441	107.583724	106.0631487	104.5718762	103.1091304	101.6741622	100.2662482	98.88468935	97.52881064
190507A00004	5/7/2019	2.88	5/7/2029	5/7/2019	147.78018	137.1508369	127.371482	118.3695605	110.0790653	102.4399161	95.39739989	88.90166565	82.90726971
190507A00014	5/7/2019	2.6	5/7/2024	5/7/2019	118.78257	115.4015467	112.135311	108.9793275	105.9292639	102.9809832	100.1305342	97.37414189	94.7081983
190508A00008	5/8/2019	2.36	5/9/2022	5/8/2019	106.08889	105.0516925	104.034722	103.0373923	102.0591382	101.0994162	100.1577032	99.2334958	98.32630904
190514A00056	5/14/2019	2.32	5/15/2023	5/14/2019	112.41103	110.2340344	108.1107916	106.039628	104.0189343	102.0471626	100.1228233	98.24448282	96.41076062
190515A00055	5/15/2019	2.26	5/15/2023	5/15/2019	112.28674	110.1110604	107.9891038	105.9192005	103.8997422	101.9291816	100.0060299	98.1288541	96.29627432
190521A00047	5/21/2019	2.54	5/19/2023	5/21/2019	112.62321	110.437209	108.3053701	106.2259977	104.1974646	102.218206	100.2867161	98.4015458	96.56130013

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190523A00015	5/23/2019	2.51	4/1/2024	5/23/2019	117.9149	114.6631648	111.5183986	108.4765055	105.5335724	102.6858568	99.92977818	97.26191032	94.67897364
190523A00016	5/23/2019	2.48	2/15/2023	5/23/2019	110.86775	108.9906256	107.1552534	105.3603039	103.6045089	101.8866533	100.2055729	98.56015163	96.94931883
190523A00024	5/23/2019	2.47	10/31/2022	5/23/2019	108.99753	107.4573199	105.946855	104.4653416	103.0120172	101.5861455	100.1870153	98.81393938	97.46625369
190524A00015	5/24/2019	2.24	5/24/2022	5/24/2019	106.23565	105.1506309	104.0876938	103.0461739	102.0254289	101.0248421	100.0438207	99.08179538	98.13821839
190524A00040	5/24/2019	2.47	5/24/2024	5/24/2019	118.65001	115.2145734	111.8976661	108.6945195	105.6005899	102.6115421	99.72323895	96.93173105	94.23324678
190529A00012	5/29/2019	2.34	11/29/2021	5/29/2019	103.16322	102.6288663	102.1000314	101.5766306	101.0585806	100.5457998	100.0382081	99.53572722	99.03828026
190529A00020	5/29/2019	2.38	5/29/2024	5/29/2019	118.44103	114.9924762	111.663453	108.4491314	105.3449087	102.3463948	99.44940094	96.64992932	93.94416311
190530A00045	5/30/2019	2.44	5/30/2024	5/30/2019	118.64984	115.194837	111.8596448	108.6394173	105.5295383	102.5256047	99.62341587	96.81896257	94.10841735
190531A00009	6/5/2019	2.1	6/3/2022	6/5/2019	106.26531	105.1486041	104.0552775	102.9846033	101.9358831	100.908447	99.90165218	98.9148813	97.94754155
190531A00037	5/31/2019	2.61	5/31/2029	5/31/2019	145.65053	135.0180166	125.2446447	116.2563962	107.9859912	100.3722454	93.35948844	86.89704106	80.93874372
190603A00031	6/3/2019	1.98	6/3/2022	6/3/2019	106.13895	105.022969	103.9303555	102.8603841	101.8123567	100.7856037	99.7794822	98.79337536	97.8266905
190603A00041	6/3/2019	2.01	6/3/2021	6/3/2019	100.09764	100.0809112	100.0642007	100.047507	100.0308303	100.0141704	99.99752731	99.98090103	99.96429152
190603A00048	6/3/2019	2.24	6/3/2024	6/3/2019	118.06469	114.6064225	111.2684837	108.0459954	104.9343059	101.9289796	99.02578523	96.22068544	93.50982642
190604A00008	6/4/2019	2.23	6/4/2021	6/4/2019	100.11624	100.0967433	100.077263	100.0578029	100.0383627	100.0189425	99.99954224	99.9801619	99.96080146
190606A00028	6/6/2019	2.74	6/6/2029	6/6/2019	145.27124	134.7066234	124.994546	116.061604	107.8410802	100.2722989	93.30005022	86.87407119	80.94857929
190610A00017	6/10/2019	2.29	6/10/2024	6/10/2019	118.3321	114.8476113	111.4849165	108.2390455	105.1052669	102.0790702	99.15615426	96.33241613	93.60394059
190617A00004	6/17/2019	2.2	6/15/2021	6/17/2019	100.29802	100.2478224	100.197692	100.1476285	100.0976318	100.0477018	99.99783826	99.94804114	99.89831028
190617A00026	6/17/2019	2.17	6/17/2022	6/17/2019	106.44617	105.2862506	104.1515196	103.0411655	101.9544091	100.890504	99.84873526	98.82841722	97.82889243
190620A00025	6/20/2019	2.04	6/20/2022	6/20/2019	106.35458	105.1857285	104.0424676	102.9239617	101.8294134	100.7580594	99.70916843	98.68203963	97.6760011
190620A00027	6/20/2019	2.14	6/20/2024	6/20/2019	117.98962	114.4792905	111.0925397	107.8242929	104.6697134	101.6241925	98.68333734	95.84295942	93.09906352
190621A00015	6/21/2019	2.2	6/21/2024	6/21/2019	118.20178	114.6848854	111.2918617	108.0176124	104.8572867	101.8062626	98.86013485	96.01470318	93.26596139
190621A00019	6/21/2019	2.12	6/21/2021	6/21/2019	100.39209	100.325126	100.258265	100.1915043	100.1248439	100.0582833	99.99182253	99.92546123	99.85919921
190621A00023	6/21/2019	1.93	6/21/2022	6/21/2019	106.38993	105.2155477	104.0669765	102.9433724	101.8439283	100.7678716	99.71446218	98.68299105	97.67277839
190625A00021	6/25/2019	1.88	6/26/2023	6/25/2019	112.16393	109.8607046	107.6169296	105.4306542	103.3000049	101.2231842	99.19846708	97.22419706	95.2987832
190627A00010	6/27/2019	1.97	6/27/2024	6/27/2019	118.04183	114.4963599	111.0765804	107.7772842	104.593518	101.5205644	98.55392883	95.68932722	92.92267504
190701A00009	7/3/2019	2.14	7/2/2024	7/3/2019	118.1662	114.6149084	111.1896673	107.8852532	104.6966895	101.6192368	98.64838018	95.77981689	93.00944496
190703A00021	7/3/2019	2.11	7/2/2021	7/3/2019	100.57101	100.4731732	100.3755349	100.278092	100.1808438	100.0837898	99.98692937	99.89026193	99.79378691
190711A00020	7/11/2019	1.98	7/11/2022	7/11/2019	106.78624	105.5457381	104.3339331	103.1498349	101.9925017	100.861034	99.75457199	98.67229389	97.61341339
190729A00006	7/29/2019	2.14	7/29/2022	7/29/2019	107.12058	105.8230097	104.5567327	103.3206274	102.1136256	100.9347093	99.78290724	98.65729261	97.55698036
190730A00007	7/30/2019	2.19	7/30/2024	7/30/2019	118.75292	115.1007413	111.5808118	108.1875218	104.9155392	101.7597931	98.7154594	95.7779465	92.94288256
190730A00016	7/30/2019	2	7/30/2024	7/30/2019	118.63423	114.9710426	111.4408206	108.0379087	104.7569357	101.5927938	98.5406243	95.59580328	92.75392851
190802A00017	8/2/2019	2.01	11/15/2023	8/2/2019	114.31513	111.5517733	108.8699161	106.2666753	103.7392868	101.2851013	98.90157872	96.58628296	94.33687708
190805A00009	8/5/2019	1.91	8/5/2024	8/5/2019	117.87969	114.2230255	110.6995036	107.303448	104.0294627	100.8724176	97.8274338	94.88986896	92.05530429

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190805A00029	8/5/2019	1.93	8/5/2022	8/5/2019	106.98119	105.6620344	104.3752496	103.1196577	101.8941352	100.6976123	99.52906898	98.38753286	97.27207605
190808A00011	8/8/2019	1.86	8/8/2023	8/8/2019	112.44386	110.0106158	107.6428108	105.3381787	103.0945558	100.9098722	98.78214624	96.7094804	94.69005655
190808A00023	8/8/2019	1.68	11/8/2023	8/8/2019	113.74662	111.0041643	108.3421923	105.7578717	103.2484876	100.8114374	98.44422485	96.14445562	93.90983204
190808A00049	8/8/2019	1.89	8/8/2024	8/8/2019	117.85204	114.1863039	110.6543516	107.2504598	103.969194	100.8053882	97.75413009	94.8107464	91.97078934
190814A00009	8/14/2019	1.84	8/14/2024	8/14/2019	117.76104	114.0777823	110.5295675	107.1105896	103.815337	100.6385722	97.57531634	94.62083417	91.77062027
190816A00022	8/16/2019	1.77	8/16/2024	8/16/2019	117.54548	113.8595273	110.3089462	106.8879123	103.5908908	100.4126234	97.3481116	94.3926019	91.5415721
190816A00036	8/16/2019	1.77	8/16/2024	8/16/2019	117.54548	113.8595273	110.3089462	106.8879123	103.5908908	100.4126234	97.3481116	94.3926019	91.5415721
190819A00001	8/19/2019	1.82	8/19/2021	8/19/2019	101.29434	101.0599841	100.8267207	100.5945435	100.363445	100.1334175	99.90445358	99.67654591	99.44968712
190819A00004	8/20/2019	1.81	5/24/2024	8/20/2019	116.5342	113.1321083	109.8476694	106.6761534	103.6130448	100.6540362	97.7950167	95.03206197	92.36142461
190820A00029	8/20/2019	1.76	8/20/2024	8/20/2019	117.56387	113.8649141	110.3022115	106.8698792	103.5623296	100.3742548	97.30061051	94.33660059	91.477663
190820A00030	8/20/2019	1.76	4/16/2024	8/20/2019	115.84036	112.5724198	109.4136831	106.3599102	103.4070503	100.5512317	97.78875297	95.11607446	92.5298102
190620A00055	6/25/2019	2.08	4/17/2023	6/25/2019	111.16506	109.0939103	107.0719202	105.0976193	103.1695934	101.2864796	99.44696414	97.64978036	95.89370662
190701A00006	7/1/2019	2.11	7/1/2021	7/1/2019	100.55468	100.4596677	100.3648397	100.2701946	100.1757319	100.081451	99.98735144	99.89343265	99.79969412
190701A00008	7/3/2019	2.1	7/3/2023	7/3/2019	112.42625	110.1049571	107.843859	105.6409633	103.494361	101.4022216	99.36278871	97.37437634	95.43536579
190712A00001	7/12/2019	2.05	7/12/2024	7/12/2019	118.53385	114.9312722	111.457751	108.1078793	104.8765137	101.758759	98.74995469	95.84566161	93.04165021
190717A00007	7/17/2019	2.18	10/14/2022	7/17/2019	108.30167	106.8184873	105.3630789	103.9347315	102.5327538	101.1564774	99.80525588	98.4784641	97.17549717
190724A00025	7/24/2019	1.96	7/24/2023	7/24/2019	112.79166	110.3936349	108.0592104	105.7862284	103.5726188	101.4163992	99.31567007	97.26861105	95.27347643
190726A00017	7/26/2019	2.44	7/24/2026	7/26/2019	129.9812	123.662967	117.6909644	112.0443314	106.7035807	101.6505	96.86806106	92.34033614	88.05242038
190729A00009	7/29/2019	2.19	7/29/2024	7/29/2019	118.73834	115.0895945	111.5728758	108.1825885	104.9134139	101.7602934	98.71841402	95.78319491	92.95027408
190731A00029	7/31/2019	1.93	7/29/2022	7/31/2019	107.03296	105.7332752	104.464987	103.2269672	102.0181428	100.8374913	99.68403702	98.55684914	97.45503878
190802A00004	8/2/2019	2	8/2/2022	8/2/2019	107.01745	105.7076933	104.4298452	103.182749	101.965305	100.7764656	99.61523208	98.4806516	97.37181477
190805A00048	8/5/2019	1.88	8/5/2022	8/5/2019	106.91944	105.6006974	104.314316	103.0591207	101.8339883	100.637849	99.46968305	98.32851825	97.21342684
190806A00027	8/6/2019	1.71	8/7/2023	8/6/2019	112.43277	109.9956516	107.6241363	105.315957	103.0689428	100.8810172	98.75019232	96.6745645	94.65231001
190807A00053	8/7/2019	1.66	8/6/2021	8/7/2019	101.07359	100.8763486	100.6798893	100.484207	100.289297	100.0951546	99.90177522	99.70915431	99.51728736
190808A00050	8/8/2019	1.7	8/8/2024	8/8/2019	117.73002	114.0532285	110.5109359	107.0973838	103.8070976	100.6348737	97.57576446	94.62506366	91.77829256
190809A00020	8/9/2019	2.44	8/9/2034	8/9/2019	167.99622	148.7876094	131.9899316	117.2862582	104.4028742	93.10318664	83.18252125	74.46367149	66.79308759
190809A00021	8/9/2019	2.12	8/9/2029	8/9/2019	141.97242	131.2383227	121.3938793	112.3606698	104.0675794	96.45008131	89.44959398	83.01290362	77.09164618
190814A00003	8/14/2019	2.01	8/14/2029	8/14/2019	140.99232	130.2819374	120.4615831	111.4526368	103.1838189	95.59046588	88.61388332	82.2007653	76.30267323
190815A00007	8/15/2019	1.81	7/6/2023	8/15/2019	111.8296	109.5056475	107.2421767	105.0371757	102.8887193	100.7949616	98.75413198	96.76453113	94.82452776
190819A00022	8/19/2019	1.8	8/19/2024	8/19/2019	117.68959	113.9916728	110.4298495	106.9982492	103.6912953	100.5036905	97.43039991	94.46663631	91.60784587
190820A00019	8/20/2019	1.76	8/21/2023	8/20/2019	112.40232	109.9298748	107.5248202	105.184792	102.9075286	100.6908679	98.53274206	96.43117253	94.38426504
190826A00028	8/26/2019	1.56	8/26/2022	8/26/2019	107.02743	105.6374881	104.2833947	102.9637808	101.6773438	100.4228457	99.19910958	98.00501572	96.83949802
190826A00030	8/26/2019	1.72	8/26/2026	8/26/2019	127.21429	120.8258677	114.7952546	109.1004564	103.7209549	98.63760264	93.8325231	89.28901835	84.99148454

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190826A00065	8/26/2019	2.09	8/28/2029	8/26/2019	140.23839	129.5869147	119.8219647	110.8650751	102.6451196	95.09758919	88.16394284	81.79102589	75.93054757
190828A00019	8/28/2019	2	3/28/2028	8/28/2019	133.864	125.298273	117.3357859	109.9310516	103.0422307	96.63081966	90.66136952	85.10122913	79.92031168
190830A00023	8/30/2019	1.78	9/15/2022	8/30/2019	107.34034	105.9265518	104.5429547	103.1885854	101.8625255	100.5638955	99.29185242	98.04558822	96.82432779
190904A00020	9/4/2019	1.69	9/1/2023	9/4/2019	112.39523	109.8894938	107.4527293	105.0825144	102.7765317	100.5325654	98.34849548	96.22229321	94.1520158
190910A00017	9/16/2019	1.86	9/16/2024	9/16/2019	118.27334	114.4774193	110.8235379	107.3055767	103.9177201	100.6544369	97.51046379	94.48079142	91.56064997
190910A00027	9/10/2019	1.86	9/9/2022	9/10/2019	107.40345	105.9950344	104.6187867	103.2736064	101.9584416	100.6722876	99.41418488	98.18321632	96.97850486
190918A00003	9/18/2019	1.95	9/19/2022	9/18/2019	107.61124	106.1914572	104.8005833	103.4377566	102.1021472	100.792958	99.50942329	98.25080733	97.01640256
190923A00012	9/23/2019	2.43	9/25/2034	9/23/2019	168.4012	148.9792068	132.0151213	117.1834216	104.2032525	92.83210052	82.86039124	74.10687002	66.41465044
190923A00020	9/23/2019	2.05	9/24/2029	9/23/2019	141.83486	130.9418107	120.9638222	111.8193688	103.4345753	95.74246136	88.68226691	82.19884551	76.24212041
190925A00004	9/25/2019	1.7	9/24/2024	9/25/2019	118.36112	114.5246442	110.8326734	107.2789946	103.8576965	100.5631533	97.39000928	94.33316418	91.38775968
190930A00008	9/30/2019	1.9	10/10/2023	9/30/2019	113.48362	110.8449533	108.2811472	105.7896618	103.3680545	101.0139796	98.72518391	96.49950281	94.33485595
190930A00035	9/30/2019	1.93	9/30/2024	9/30/2019	118.71307	114.8652541	111.1625413	107.5987044	104.1678191	100.8642454	97.68261195	94.61780212	91.66494044
190930A00070	9/30/2019	1.93	9/27/2024	9/30/2019	118.67166	114.8343473	111.1414369	107.5867389	104.1643647	100.8687081	97.69443011	94.63644465	91.68990543
190930A00075	9/30/2019	2.19	9/29/2027	9/30/2019	133.38139	125.46678	118.0725633	111.161905	104.7007584	98.65763658	93.00340821	87.71110994	82.75577506
191002A00016	10/2/2019	1.79	10/2/2023	10/2/2019	113.08749	110.479371	107.9446173	105.4807612	103.0854297	100.7563427	98.49130951	96.28822447	94.14506319
191009A00018	10/9/2019	1.74	10/12/2021	10/9/2019	102.10621	101.7150928	101.3269805	100.9418347	100.5596215	100.1803074	99.8038593	99.43024478	99.05943183
191009A00028	10/9/2019	1.76	10/9/2024	10/9/2019	118.22088	114.3518786	110.6299071	107.0486132	103.601951	100.2841669	97.08978345	94.01358496	91.05060345
191011A00013	10/11/2019	1.88	10/11/2022	10/11/2019	107.80787	106.3378512	104.8952137	103.4792515	102.0892873	100.7246659	99.38475365	98.06893749	96.77662413
191031A00033	10/31/2019	2.2	5/31/2028	10/31/2019	136.11674	127.2435638	119.0091959	111.364345	104.2637648	97.66590391	91.53258582	85.82871842	80.52203007
191104A00023	11/4/2019	2.24	8/4/2028	11/4/2019	137.1694	128.0292315	119.5611932	111.712308	104.4340471	97.68193236	91.41517782	85.59636399	80.19114301
191106A00004	11/6/2019	2.01	11/6/2024	11/6/2019	119.52219	115.5376112	111.7075922	108.0253096	104.4842765	101.0783265	97.8015967	94.64851042	91.613762
191106A00022	11/6/2019	2.34	1/2/2030	11/6/2019	144.10287	132.8239926	122.5160296	113.0902456	104.4664479	96.57212477	89.34167347	82.71570871	76.64044418
191108A00011	11/8/2019	2.08	10/18/2024	11/8/2019	119.51304	115.5911862	111.8192151	108.1906042	104.6991526	101.3389611	98.10441596	94.99017359	91.99114587
191113A00016	11/15/2019	2.02	8/15/2024	11/15/2019	118.39773	114.7005261	111.1388781	107.7069552	104.3992226	101.2104209	98.13555067	95.16985712	92.30881649
191119A00027	11/19/2019	1.8	11/19/2024	11/19/2019	119.49527	115.4538068	111.5710781	107.8399828	104.2537795	100.8060652	97.49075554	94.30206741	91.23450221
191122A00005	11/22/2019	2.03	11/22/2027	11/22/2019	134.05492	125.8779025	118.2521092	111.1375596	104.4973696	98.29749784	92.50651272	87.09537945	82.03726573
191125A00036	11/25/2019	2.29	11/23/2029	11/25/2019	143.13974	132.049215	121.9033228	112.6166467	104.1119042	96.31913468	89.17497195	82.62199177	76.60812731
191126A00026	11/26/2019	1.91	11/25/2026	11/26/2019	129.36209	122.6005377	116.233037	110.2345859	104.5819003	99.25328368	94.22851014	89.48871765	85.01630896
191220A00001	12/20/2019	2.62	12/19/2031	12/20/2019	156.03216	141.4823529	128.4288385	116.7092939	106.1797961	96.71265205	88.19449271	80.52460089	73.61344109
191230A00012	12/30/2019	1.77	12/1/2023	12/30/2019	114.3254	111.5029254	108.7652559	106.1093284	103.532213	101.031104	98.60331429	96.24626883	93.95749966
200109A00014	1/14/2020	1.93	8/15/2022	1/14/2020	107.14653	105.7941031	104.4756483	103.1899003	101.9356537	100.7117619	99.51713317	98.35072779	97.21155465
200110A00013	1/10/2020	1.76	1/10/2024	1/10/2020	114.89363	111.9373171	109.0727118	106.2963692	103.6050036	100.9954756	98.46478456	96.01006133	93.62856134
200122A00034	1/22/2020	1.87	1/22/2024	1/22/2020	114.9468	111.9620946	109.070684	106.2690352	103.5537759	100.9216863	98.36969006	95.89484729	93.49434717

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200123A00048	1/23/2020	1.7	1/23/2025	1/23/2020	119.97331	115.7108694	111.6229541	107.7014041	103.938492	100.3268979	96.85968551	93.53027923	90.33244306
200129A00017	2/3/2020	1.75	8/15/2022	2/3/2020	106.919	105.5681166	104.2511812	102.9669263	101.7141475	100.4916989	99.29848938	98.1334799	96.99567998
200130A00025	1/30/2020	1.54	1/30/2023	1/30/2020	109.18097	107.3629251	105.5846068	103.8447803	102.1422646	100.4759269	98.84468062	97.24748295	95.68333241
200131A00016	1/31/2020	1.73	1/31/2025	1/31/2020	119.57541	115.3114453	111.2226376	107.300767	103.5380518	99.92712263	96.46099805	93.13306108	89.93703788
200203A00050	2/3/2020	1.54	2/3/2022	2/3/2020	103.80896	103.0745339	102.3504625	101.6365303	100.9325255	100.2382421	99.55347971	98.87804355	98.211744
200207A00016	2/7/2020	1.74	2/7/2024	2/7/2020	114.80294	111.7706038	108.834374	105.9905501	103.2356066	100.5661803	97.97906086	95.47118285	93.03961791
200210A00005	2/10/2020	1.77	2/10/2027	2/10/2020	129.30576	122.281231	115.6799752	109.4742316	103.6382144	98.14795857	92.98118145	88.11715487	83.53658817
200210A00021	2/10/2020	1.76	2/10/2025	2/10/2020	119.82002	115.5191269	111.39603	107.4423221	103.650053	100.0116971	96.52012804	93.16859457	89.95069822
200214A00015	2/18/2020	1.76	8/6/2024	2/18/2020	117.37827	113.7268462	110.2085527	106.8177061	103.5489049	100.3970149	97.35715274	94.42467271	91.59515281
200224A00018	2/24/2020	1.58	8/19/2024	2/24/2020	116.9252	113.2402512	109.6910448	106.2717173	102.9767044	99.80072045	96.7387419	93.78599222	90.93792788
200224A00029	2/24/2020	1.56	2/24/2023	2/24/2020	109.34057	107.4508444	105.6036775	103.7976988	102.0315982	100.3041217	98.61406844	96.96028804	95.34167759
200225A00006	2/25/2020	1.57	2/25/2022	2/25/2020	104.09401	103.2928403	102.5039503	101.7270592	100.961895	100.2081937	99.46569956	98.73416406	98.01334612
200227A00006	2/27/2020	1.47	2/27/2025	2/27/2020	118.85127	114.5146731	110.3595561	106.3772341	102.5594964	98.89857766	95.38712977	92.0181969	88.7851915
200227A00016	2/27/2020	1.47	2/27/2025	2/27/2020	118.85127	114.5146731	110.3595561	106.3772341	102.5594964	98.89857766	95.38712977	92.0181969	88.7851915
200228A00016	2/28/2020	1.35	2/22/2024	2/28/2020	113.87233	110.806776	107.8397538	104.9674151	102.186093	99.49229232	96.88267981	94.35407523	91.90344296
200228A00039	2/28/2020	1.33	4/28/2023	2/28/2020	109.83007	107.7392401	105.6988179	103.7072733	101.7631354	99.86498741	98.01146456	96.20125165	94.433081
200304A00052	3/6/2020	2.11	3/8/2027	3/6/2020	130.66378	123.5470556	116.8619977	110.5801345	104.6750217	99.12209001	93.89850227	88.98302165	84.35589088
200310A00065	3/13/2020	1.1	3/13/2025	3/13/2020	117.5029	113.1445545	108.9703528	104.9715022	101.1396784	97.46700154	93.94600969	90.56963425	87.33117653
200312A00017	3/16/2020	1.09	2/15/2023	3/16/2020	108.36021	106.5064461	104.6939876	102.9215192	101.187785	99.49158215	97.83175796	96.20720742	94.61687058
200317A00026	3/17/2020	1.22	3/15/2024	3/17/2020	113.77301	110.6382758	107.6058846	104.6718835	101.8324955	99.08411421	96.42329417	93.84674303	91.35131343
200325A00030	3/25/2020	1.5	3/25/2025	3/25/2020	119.94804	115.4813386	111.2045328	107.1085709	103.1848783	99.42533238	95.82223614	92.36829363	89.05658685
200330A00041	4/1/2020	1.09	4/1/2025	4/1/2020	117.67345	113.2467851	109.0092156	104.9517099	101.0657178	97.34313871	93.77629584	90.35791154	87.08108469
200331A00030	4/2/2020	1.17	4/1/2022	4/2/2020	104.27069	103.362044	102.4691444	101.5915869	100.728979	99.88094142	99.04710762	98.22712329	97.42064583
200417A00009	4/17/2020	1.35	4/16/2027	4/17/2020	126.10604	118.9895568	112.3143875	106.0510058	100.1720074	94.65194294	89.4671695	84.59571339	80.0171446
200427A00010	4/27/2020	0.68	4/27/2022	4/27/2020	104.17528	103.187165	102.2176474	101.2662111	100.3323546	99.41559495	98.51546655	97.63152067	96.76332458
200429A00046	5/1/2020	2.07	4/30/2025	5/1/2020	122.15377	117.5415624	113.1291808	108.9069183	104.8655936	100.9965179	97.29146528	93.74264567	90.34267944
200429A00051	5/1/2020	2.54	4/30/2025	5/1/2020	124.15987	119.5064901	115.0542504	110.7933899	106.7146771	102.8093752	99.06921238	95.48635506	92.05338204
200430A00006	4/30/2020	0.61	4/29/2022	4/30/2020	104.13421	103.1401305	102.1648821	101.2079335	100.2687742	99.34691248	98.44187453	97.55320376	96.68045991
200511A00021	5/11/2020	1.53	2/1/2029	5/11/2020	133.03757	123.4236624	114.564718	106.3976564	98.8649782	91.91424479	85.49760759	79.57138372	74.09567291
200511A00023	5/11/2020	1.7	2/3/2031	5/11/2020	141.73863	129.1232823	117.7236544	107.4163888	98.09123594	89.64959562	82.00323178	75.07313483	68.78851434
200513A00003	5/13/2020	0.68	5/13/2025	5/13/2020	117.00172	112.433167	108.0660962	103.8905784	99.89722887	96.07717309	92.42201577	88.9238125	85.5750431
200604A00005	6/4/2020	0.89	6/4/2025	6/4/2020	117.45961	112.8280631	108.4031175	104.1744647	100.1323695	96.26763277	92.57155924	89.03592672	85.65295782
200604A00013	6/4/2020	2.21	6/4/2035	6/4/2020	164.55768	144.6039024	127.2947144	112.2641125	99.19848993	87.82890269	77.92451303	69.28702335	61.74594625

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200615A00004	6/15/2020	0.56	6/15/2022	6/15/2020	104.66172	103.5186349	102.4003173	101.3059656	100.2348167	99.1861393	98.15923278	97.15342527	96.16807233
200710A00006	7/10/2020	0.4	7/10/2023	7/10/2020	109.07165	106.7598372	104.5087108	102.3162409	100.1804811	98.09956564	96.07170563	94.09518493	92.1683566
200716A00015	7/20/2020	1.54	7/19/2024	7/20/2020	116.39221	112.8148536	109.3663435	106.0412541	102.8344271	99.74095451	96.75616491	93.8756099	91.09505209
200720A00035	7/20/2020	1.81	7/20/2035	7/20/2020	158.28464	138.6067771	121.5747369	106.818234	94.02050838	82.91035816	73.25539009	64.85629888	57.54201347
200818A00004	8/18/2020	0.92	8/18/2026	8/18/2020	121.5144	115.3411206	109.5136909	104.010905	98.8129789	93.90144432	89.25905377	84.86969251	80.71829757
200922A00025	9/24/2020	2.61	9/26/2022	9/24/2020	108.61224	107.1777715	105.7700602	104.3884079	103.0321378	101.7005969	100.3931537	99.10919843	97.84814134
200922A00038	9/24/2020	2.33	9/25/2023	9/24/2020	114.3165	111.7149668	109.1860513	106.7273098	104.336394	102.011049	99.74910834	97.54849064	95.40719525
200925A00003	9/25/2020	0.59	9/25/2024	9/25/2020	113.83488	110.088424	106.4835919	103.0142948	99.67473943	96.45941163	93.36306115	90.38068763	87.50752729
201006A00003	10/6/2020	0.29	10/6/2022	10/6/2020	105.67186	104.2300498	102.8148962	101.4257219	100.0618728	98.72271663	97.4076413	96.1160546	94.84738323
201030A00001	11/2/2020	2.54	10/29/2040	11/2/2020	189.6033	159.6654896	134.9552748	114.5223437	97.59396279	83.54102316	71.85071524	62.10451231	53.96041102
201030A00003	11/2/2020	2.58	10/29/2040	11/2/2020	190.55381	160.522584	135.7310178	115.2270431	98.23644578	84.1288661	72.39043578	62.60173018	54.41998294
201116A00010	11/16/2020	0.57	11/15/2023	11/16/2020	110.53945	107.8255377	105.1919946	102.6359712	100.1547375	97.7456773	95.40628225	93.13414677	90.92696317
201130A00005	11/30/2020	0.28	11/30/2022	11/30/2020	106.27294	104.6616756	103.0833094	101.5369198	100.0216178	98.53654694	97.08088142	95.65382518	94.25461028
210106A00006	1/8/2021	0.48	7/17/2023	1/8/2021	108.99544	106.6695459	104.4050221	102.199797	100.0518898	97.95940249	95.92051594	93.93348556	91.9966377
210201A00012	2/3/2021	0.75	11/17/2025	2/3/2021	118.30893	113.1213186	108.1875916	103.4940353	99.02775019	94.77659647	90.72914513	86.87463269	83.20291892
210226A00012	2/26/2021	2.31	2/26/2036	2/26/2021	169.01291	147.6932408	129.3209464	113.4706006	99.78025506	87.94168337	77.69216744	68.80757461	61.09651768
210304A00004	3/4/2021	0.58	3/4/2024	3/4/2021	111.73854	108.6693294	105.699842	102.8261764	100.0446137	97.35160796	94.74377668	92.21789181	89.77087141
010824A00019	8/24/2001	6.24	8/24/2021	8/24/2001	102.45991	102.2093877	101.9600943	101.7120211	101.4651592	101.2194996	100.9750337	100.7317527	100.4896481
011107A00022	11/7/2001	5.56	11/5/2021	11/7/2001	104.20334	103.7367504	103.2743547	102.8160951	102.3619159	101.9117627	101.465582	101.0233213	100.5849288
011107A00031	11/7/2001	5.56	11/5/2021	11/7/2001	104.20334	103.7367504	103.2743547	102.8160951	102.3619159	101.9117627	101.465582	101.0233213	100.5849288
051107A00075	11/7/2005	5.29	11/17/2025	11/7/2005	141.41022	135.6589319	130.1824816	124.9661905	119.9962407	115.2596237	110.7440882	106.4380925	102.3307588
060808A00022	8/8/2006	5.57	6/15/2026	8/8/2006	146.91401	140.2848337	134.0058102	128.0564189	122.4174588	117.0709529	112.000064	107.1890155	102.6230195
081217A00076	12/17/2008	3.86	12/22/2023	12/17/2008	120.36745	117.3959322	114.5146425	111.7202675	109.0096369	106.3797183	103.8276105	101.3505361	98.94583596
090226A00006	2/26/2009	4.55	3/1/2024	2/26/2009	123.87815	120.6310888	117.488168	114.445316	111.4986555	108.644491	105.8792981	103.1997142	100.60253
091112A00011	11/12/2009	4.77	11/15/2024	11/12/2009	130.60193	126.3709229	122.3035348	118.3925131	114.6309687	111.0123557	107.530452	104.1793417	100.9533978
110802A00008	8/2/2011	3.34	8/16/2021	8/2/2011	101.60323	101.376737	101.1512681	100.9268159	100.7033734	100.4809339	100.2594906	100.0390365	99.81956513
110805A00014	8/5/2011	4.06	8/17/2026	8/5/2011	139.65545	132.9926268	126.6951446	120.7408554	115.1090839	109.7805205	104.7371219	99.96202125	95.43944398
111006A00023	10/6/2011	3.81	10/15/2026	10/6/2011	139.2198	132.3602956	125.8870756	119.7763228	114.0058061	108.5547702	103.4038306	98.53487597	93.9309785
111024A00010	10/24/2011	3.11	10/30/2023	10/24/2011	117.30146	114.5414127	111.8612704	109.2582541	106.7296983	104.2730464	101.8858453	99.56574068	97.31047235
120312A00009	3/12/2012	2.72	3/15/2024	3/12/2012	118.72446	115.5059711	112.392216	109.3791489	106.462906	103.6397983	100.9063017	98.25904878	95.69482053
120718A00011	7/18/2012	2.29	7/30/2021	7/18/2012	101.06218	100.8849906	100.7084263	100.5324802	100.3571491	100.1824297	100.0083188	99.83481327	99.66191
120907A00022	9/7/2012	1.88	9/15/2021	9/7/2012	101.75794	101.445246	101.1344805	100.8256301	100.518677	100.2136038	99.91039305	99.60902765	99.3094907
130212A00017	2/12/2013	2.29	2/15/2023	2/12/2013	110.52499	108.6510615	106.8188213	105.0269449	103.2741653	101.5592694	99.88109458	98.23852616	96.63049497

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
130405A00006	4/5/2013	2.41	4/7/2025	4/5/2013	123.9374	119.3466187	114.9517521	110.7434198	106.712741	102.8513043	99.1511401	95.60469514	92.20480854
130424A00005	4/24/2013	3.07	4/24/2030	4/24/2013	154.80623	142.533198	131.3430977	121.1343469	111.8153909	103.3036643	95.52466654	88.41113649	81.90231564
130528A00028	5/28/2013	2.63	5/30/2023	5/28/2013	113.00776	110.7829808	108.6140938	106.4993237	104.4369669	102.4253863	100.4630075	98.54831637	96.67985614
130702A00018	7/2/2013	3.17	7/17/2023	7/2/2013	115.41377	113.0077654	110.6649813	108.3832864	106.1606416	103.9950929	101.8847675	99.82786949	97.8226762
130821A00019	8/21/2013	3.81	8/29/2025	8/21/2013	132.60508	127.3382855	122.314524	117.521122	112.9461519	108.5783792	104.4072179	100.4226879	96.61537681
140113A00012	1/13/2014	3.48	1/17/2023	1/13/2014	112.08157	110.2803655	108.5177824	106.792645	105.1038287	103.4502537	101.8308832	100.244721	98.69080961
140307A00011	3/7/2014	3.19	3/15/2023	3/7/2014	112.97755	110.9872158	109.0424169	107.14176	105.2839087	103.4675787	101.6915359	99.95459333	98.25560906
140702A00034	7/2/2014	2.7	7/1/2022	7/2/2014	107.43217	106.2196615	105.0344566	103.8756381	102.7423322	101.6337033	100.5489521	99.48731312	98.44805368
140710A00026	7/10/2014	2.36	7/15/2021	7/10/2014	100.82917	100.6944169	100.5600343	100.4260252	100.292388	100.1591211	100.026223	99.89369203	99.76152671
140911A00027	9/11/2014	3.18	9/16/2024	9/11/2014	122.97435	119.0968051	115.3635799	111.768476	108.3055985	104.96934	101.7543647	98.65559365	95.66819056
141202A00012	12/2/2014	2.32	12/2/2021	12/2/2014	103.24849	102.7044385	102.16611	101.6334164	101.1062694	100.5845828	100.068272	99.55725419	99.05144823
150220A00022	2/20/2015	2.8	2/20/2025	2/20/2015	124.15844	119.7404956	115.5054552	111.4446364	107.5498262	103.8132536	100.2275625	96.78578607	93.48132401
150317A00013	3/17/2015	2.58	3/17/2025	3/17/2015	124.31529	119.7896501	115.454578	111.3009952	107.3203074	103.5043769	99.84549576	96.33636043	92.97004802
150601A00147	6/1/2015	3.45	7/30/2021	6/1/2015	101.27235	101.0947313	100.9177407	100.7413714	100.5656199	100.3904832	100.215958	100.042041	99.86872915
150601A00615	6/1/2015	2.67	6/30/2022	6/1/2015	107.19373	105.9881316	104.8095789	103.6571688	102.5300387	101.4273637	100.3483545	99.29225526	98.2583422
150601A00636	6/1/2015	2.45	6/30/2021	6/1/2015	100.56654	100.4743234	100.3822797	100.2904067	100.1987038	100.1071707	100.0158068	99.9246116	99.83358475
150601A00646	6/1/2015	2.68	9/30/2022	6/1/2015	108.71852	107.2750902	105.8579874	104.4665547	103.100153	101.7581639	100.4399887	99.14504776	97.87277988
150601A00666	6/1/2015	3.88	1/16/2035	6/1/2015	189.25497	168.1253448	149.6639593	133.5149623	119.3718747	106.9705034	96.0829043	86.51223505	78.08836106
150601A00688	6/1/2015	2.61	2/21/2025	6/1/2015	123.89196	119.458812	115.209801	111.1361636	107.2296086	103.4822923	99.88679077	96.43607457	93.12348478
150601A00694	6/1/2015	3.56	3/6/2030	6/1/2015	156.60474	144.5322143	133.5040351	123.423779	114.2044251	105.7673896	98.04166596	90.96305668	84.47348665
150601A00717	6/1/2015	2.13	4/1/2022	6/1/2015	105.0812	104.1686623	103.2719195	102.3905651	101.5242056	100.6724608	99.83496346	99.01135828	98.20130184
150710A00040	7/10/2015	2.63	7/11/2022	7/10/2015	107.38177	106.1400515	104.9269871	103.7415914	102.5829254	101.4500924	100.3422353	99.25853456	98.1982062
150817A00016	8/17/2015	2.24	8/17/2021	8/17/2015	101.35809	101.1293135	100.9015841	100.6748917	100.4492293	100.2245898	100.0009662	99.77835162	99.55673914
150819A00011	8/19/2015	2.53	8/19/2022	8/19/2015	107.97813	106.6071334	105.2708462	103.967966	102.6972517	101.4575228	100.2476562	99.06658254	97.91328278
150821A00018	8/21/2015	2.6	8/21/2024	8/21/2015	121.04673	117.2719152	113.6360116	110.1330139	106.7572212	103.5032187	100.3658606	97.34025494	94.42174892
150824A00040	8/24/2015	2.36	8/24/2022	8/24/2015	107.85026	106.4639947	105.1132312	103.7966192	102.5128762	101.2607832	100.0391808	98.84696551	97.68308667
150904A00021	9/4/2015	2.52	9/5/2023	9/4/2015	114.81916	112.2645617	109.7804389	107.364334	105.0138925	102.7268615	100.5010845	98.33449634	96.22511845
150923A00045	9/23/2015	1.97	9/23/2021	9/23/2015	101.91612	101.5800853	101.2462669	100.9146448	100.5851973	100.257903	99.93274089	99.60969006	99.28873001
151002A00081	10/2/2015	2.29	10/2/2023	10/2/2015	114.71279	112.0764975	109.5143953	107.023985	104.6028629	102.2487203	99.95933897	97.7325871	95.56641534
151005A00053	10/5/2015	1.99	10/5/2021	10/5/2015	102.08925	101.718472	101.3503923	100.9849778	100.6221996	100.2620291	99.90443842	99.54939969	99.19688566
160307A00026	3/7/2016	2.2	3/7/2023	3/7/2016	110.70193	108.7645588	106.8712319	105.0205607	103.211217	101.4419271	99.71146953	98.01867202	96.36240914
160330A00056	3/30/2016	2.26	3/31/2025	3/30/2016	123.20518	118.6524507	114.293264	110.1183912	106.1190948	102.2870969	98.61455246	95.09402421	91.71845959
160331A00024	3/31/2016	1.91	3/31/2022	3/31/2016	104.89878	103.9902012	103.0972991	102.2196714	101.3569289	100.5086954	99.67460752	98.85431364	98.04747389

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160401A00016	4/1/2016	2.42	4/1/2025	4/1/2016	123.22887	118.690451	114.3446312	110.1822434	106.1946045	102.3734872	98.71109383	95.20003148	91.83328913
160606A00003	6/6/2016	1.66	6/7/2021	6/6/2016	100.15019	100.1223427	100.0945222	100.0667327	100.0389741	100.0112463	99.98354925	99.95588296	99.92824734
160615A00031	6/15/2016	2.51	6/17/2030	6/15/2016	149.74691	137.5021945	126.3607668	116.2172379	106.9768043	98.55413148	90.8723635	83.86224062	77.46131309
160701A00019	7/1/2016	1.73	7/3/2023	7/1/2016	111.60674	109.294641	107.0425457	104.8484665	102.7105002	100.6268215	98.59567909	96.61539201	94.68434625
160706A00010	7/6/2016	1.99	7/7/2025	7/6/2016	122.6997	117.8502421	113.2197223	108.7970418	104.5717299	100.5339046	96.67423522	92.98390877	89.4545979
160725A00010	7/25/2016	1.61	7/26/2021	7/25/2016	100.88257	100.7169214	100.5518151	100.3872502	100.2232242	100.0597345	99.89677839	99.73435337	99.57245684
160815A00005	8/15/2016	2.23	8/17/2026	8/15/2016	129.07817	122.7026884	116.6809797	110.9914641	105.6140029	100.5297923	95.72126687	91.17201097	86.86667644
160825A00055	8/29/2016	2.32	8/30/2021	8/29/2016	101.59808	101.3318685	101.0670516	100.8036166	100.5415527	100.2808493	100.0214958	99.76348175	99.50679685
160830A00031	8/30/2016	1.65	8/31/2021	8/30/2016	101.43717	101.1683725	100.9010005	100.635041	100.3704828	100.107315	99.84552654	99.58510663	99.32604456
160830A00037	8/30/2016	2.16	8/29/2025	8/30/2016	124.16966	119.1122906	114.2899651	109.6903943	105.302011	101.1139211	97.11585931	93.2981493	89.65166554
160830A00038	8/30/2016	2.24	8/28/2026	8/30/2016	129.27025	122.8523507	116.7923684	111.0683523	105.6598295	100.547692	95.71409765	91.14237836	86.81695599
160830A00061	8/30/2018	1.89	8/30/2023	8/30/2018	112.84459	110.339452	107.9031462	105.5332481	103.2274378	100.9834979	98.79930768	96.67283814	94.60214699
160922A00049	9/22/2016	1.79	9/22/2022	9/22/2016	107.43631	106.014539	104.620685	103.2539532	101.9135812	100.5988354	99.30900931	98.04342273	96.80142013
160926A00074	9/26/2016	1.38	9/27/2021	9/26/2016	101.7798	101.4325412	101.0876446	100.7450864	100.4048429	100.0668908	99.73120698	99.39776874	99.06655364
161115A00010	11/15/2016	2.09	11/15/2021	11/15/2016	102.8013	102.3091546	101.8217267	101.3389445	100.8607417	100.3870532	99.91781517	99.452965	98.99244124
161123A00008	11/23/2016	2.2	11/23/2021	11/23/2016	102.98908	102.4729084	101.9618992	101.4559788	100.9550714	100.4591028	99.96800017	99.48169216	99.0001088
161208A00007	12/8/2016	2.6	12/8/2023	12/8/2016	116.25381	113.3921318	110.6165682	107.9239939	105.3114221	102.7759939	100.3149715	97.92573227	95.605763
161213A00017	12/13/2016	2.24	12/13/2022	12/13/2016	109.59093	107.9127083	106.2691843	104.6593601	103.0822765	101.5370105	100.0226731	98.53840834	97.08339122
170111A00020	1/11/2017	2.27	1/11/2022	1/11/2017	103.85453	103.1900179	102.533998	101.8863102	101.2467963	100.6153021	99.99167717	99.37577506	98.76745277
170120A00008	1/20/2017	3.63	1/20/2034	1/20/2017	180.43506	161.4113681	144.6455471	129.8545121	116.7921595	105.2443574	95.02463948	85.97049934	77.94019718
170130A00008	1/30/2017	2.58	1/30/2023	1/30/2017	110.76451	108.9363565	107.148033	105.3983081	103.6859997	102.0099742	100.369144	98.76246519	97.18893504
170203A00031	2/3/2017	2.09	2/3/2022	2/3/2017	104.19826	103.4622796	102.7366714	102.0212177	101.3157064	100.6199313	99.9336918	99.25679274	98.58904435
170216A00041	2/16/2017	2.37	2/16/2022	2/16/2017	104.55175	103.7759127	103.0115758	102.2584805	101.5163799	100.7850344	100.0642113	99.3536844	98.65323425
170313A00033	3/13/2017	3.31	3/15/2027	3/13/2017	138.49842	131.1199259	124.1863005	117.6683021	111.5387658	105.7724447	100.3458643	95.23718914	90.42609917
170405A00013	4/5/2017	2.07	4/5/2022	4/5/2017	105.22335	104.296317	103.3855705	102.490683	101.611243	100.7468529	99.89712898	99.06170013	98.24020785
170524A00047	5/24/2017	2.22	5/24/2023	5/24/2017	112.35978	110.1546097	108.0045738	105.9079358	103.8630247	101.8682341	99.92201883	98.02289266	96.16942513
170530A00064	5/30/2017	2.32	3/27/2023	5/30/2017	111.26444	109.2567384	107.2953686	105.3789816	103.5062752	101.6759936	99.88692531	98.13790109	96.4277925
170531A00004	5/31/2017	1.79	6/1/2021	5/31/2017	100.06264	100.0514879	100.0403511	100.0292249	100.0181094	100.0070045	99.9959102	99.98482647	99.97375332
170602A00015	6/2/2017	1.76	6/2/2021	6/2/2017	100.07788	100.0639437	100.0500222	100.0361143	100.0222202	100.0083396	99.99447275	99.98061947	99.96677979
170602A00026	6/2/2017	2.25	6/3/2024	6/2/2017	118.59986	115.1211183	111.7636156	108.5224233	105.3928471	102.3704108	99.45084525	96.630077	93.90421831
170608A00020	6/8/2017	2.27	6/10/2024	6/8/2017	118.77337	115.2697355	111.888773	108.6254678	105.475046	102.4329574	99.49486313	96.65662497	93.91429425
170612A00013	6/12/2017	1.83	6/14/2021	6/12/2017	100.26822	100.2207859	100.1734128	100.1261022	100.0788538	100.0316676	99.98454336	99.93748103	99.89048046
170622A00015	6/22/2017	1.99	6/22/2021	6/22/2017	100.39938	100.329631	100.2599876	100.1904506	100.1210199	100.0516952	99.98247627	99.9133629	99.84435483

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170622A00036	6/22/2017	3.23	6/22/2032	6/22/2017	166.08399	150.2624198	136.1230096	123.4766977	112.1566211	102.0154078	92.92280875	84.7636283	77.435914
170731A00027	7/31/2017	2	7/30/2021	7/31/2017	101.01118	100.834057	100.6575595	100.4816801	100.3064154	100.1317622	99.95771736	99.78427772	99.61144013
170801A00020	8/1/2017	2.02	8/2/2021	8/1/2017	101.06322	100.8775129	100.6924986	100.5081684	100.3245185	100.1415451	99.95924455	99.77761302	99.59664685
170822A00019	8/22/2017	2.44	8/22/2024	8/22/2017	119.95939	116.2133311	112.6050861	109.1287026	105.778528	102.5491929	99.43559452	96.43288168	93.53644007
170822A00020	8/22/2017	2.59	8/22/2025	8/22/2017	126.06779	120.9914438	116.1495717	111.5299743	107.1211634	102.9123165	98.89323379	95.05429774	91.38643631
170830A00030	8/30/2017	2	3/30/2022	8/30/2017	104.96037	104.0545767	103.1643611	102.2893198	101.4290677	100.5832325	99.75145406	98.93338448	98.12868707
170830A00044	8/30/2017	1.94	8/30/2021	8/30/2017	101.4982	101.2321682	100.9675251	100.7042633	100.4423719	100.1818403	99.92265785	99.66481423	99.40829905
170831A00022	8/31/2017	2.27	2/29/2024	8/31/2017	116.67161	113.5434169	110.5160435	107.5855368	104.7481336	102.000247	99.33845715	96.75950148	94.2602663
170906A00006	9/6/2017	1.81	9/6/2022	9/6/2017	107.47627	106.067597	104.6922035	103.3489056	102.0365796	100.7541543	99.50060761	98.2749643	97.07629284
171012A00027	10/12/2017	2.21	10/12/2022	10/12/2017	108.29644	106.819663	105.3704359	103.9480529	102.5518305	101.1811083	99.83524722	98.51362927	97.21565629
171018A00001	10/18/2017	1.96	10/18/2021	10/18/2017	102.32003	101.9106034	101.5044539	101.1015462	100.7018416	100.3053018	99.91188932	99.52156715	99.13429888
171026A00006	10/26/2017	2.32	10/26/2022	10/26/2017	108.69051	107.1678167	105.6742629	104.2090792	102.771525	101.3608853	99.97646882	98.61760782	97.28365649
171026A00011	10/26/2017	2.94	10/26/2027	10/26/2017	139.07025	130.8700393	123.211667	116.0564794	109.3687719	103.1155497	97.26630849	91.79283499	86.66902351
171030A00023	10/30/2017	2.9	11/1/2027	10/30/2017	138.85996	130.645228	122.9747792	115.8096841	109.1139912	102.854484	97.0004601	91.52352884	86.39742573
171103A00017	11/3/2017	2.09	11/3/2022	11/3/2017	108.68693	107.1367806	105.6167861	104.126142	102.6640697	101.2298176	99.82265984	98.44189555	97.0868474
171130A00005	11/30/2017	2.45	11/30/2022	11/30/2017	109.47936	107.8452548	106.244398	104.6758626	103.1387512	101.6321991	100.1553728	98.70746861	97.28771107
171208A00008	12/8/2017	2.25	12/8/2022	12/8/2017	109.5208	107.8583686	106.2301175	104.6350779	103.0723127	101.5409197	100.0400297	98.56880533	97.12643947
171211A00033	12/11/2017	2.26	12/12/2022	12/11/2017	109.60598	107.9306689	106.2899591	104.6828556	103.1084034	101.5656834	100.0538108	98.57193299	97.11922858
171212A00027	12/12/2017	2.21	12/13/2021	12/12/2017	103.38023	102.8030937	102.2323979	101.6680366	101.1099046	100.5578988	100.0119187	99.47186593	98.93764409
171213A00019	12/13/2017	2.17	12/13/2021	12/13/2017	103.35785	102.7807814	102.2101578	101.645868	101.0878069	100.5358715	99.98996132	99.44997783	98.91582476
171227A00018	12/27/2017	2.83	12/27/2024	12/27/2017	123.40554	119.1815429	115.1265195	111.2327383	107.4928712	103.8999678	100.447433	97.12900696	93.93874551
180104A00018	1/4/2018	2.97	1/4/2027	1/4/2018	135.34359	128.3067283	121.6830771	115.4461239	109.5712011	104.0353465	98.81717525	93.89676383	89.25554186
180117A00016	1/17/2018	2.46	7/19/2021	1/17/2018	100.90102	100.7550464	100.6095018	100.4643889	100.3197056	100.17545	100.0316201	99.88821422	99.74523032
180129A00004	1/29/2018	2.63	1/31/2022	1/29/2018	104.45174	103.7248345	103.008022	102.3010968	101.6038554	100.9160998	100.2376375	99.56828098	98.9078479
180130A00091	1/30/2018	2.74	1/25/2023	1/30/2018	110.95487	109.1399149	107.3642604	105.6266991	103.9260732	102.2612718	100.6312288	99.03492033	97.47136295
180207A00002	2/7/2018	3.13	2/6/2026	2/7/2018	131.22677	125.4619949	119.9870562	114.7857334	109.8428104	105.1440066	100.6759133	96.42593533	92.38223647
180207A00022	2/7/2018	2.79	2/7/2023	2/7/2018	111.28016	109.4232592	107.6072207	105.8307666	104.0926698	102.391754	100.7268915	99.0970006	97.50104286
180226A00034	2/26/2018	2.82	6/27/2022	2/26/2018	107.34732	106.1503521	104.9800136	103.8354279	102.715752	101.6201794	100.5479381	99.49828876	98.47052286
180226A00043	2/26/2018	2.73	9/27/2021	2/26/2018	102.213	101.8651397	101.5196375	101.1764723	100.8356205	100.4970589	100.1607644	99.82671448	99.49488671
180308A00016	3/8/2018	2.88	6/1/2022	3/8/2018	106.91417	105.8021056	104.7131352	103.6465454	102.6016514	101.5777961	100.5743486	99.59070305	98.62627754
180323A00013	3/23/2018	3.18	3/23/2028	3/23/2018	144.26405	135.29384	126.9489858	119.1825394	111.9513136	105.2155606	98.93868055	93.08695775	87.62931896
180410A00017	4/10/2018	3.02	10/10/2023	4/10/2018	116.29816	113.6240406	111.0255764	108.5002004	106.045446	103.6589447	101.3384216	99.08169079	96.88665185
180411A00001	4/11/2018	2.84	1/25/2022	4/11/2018	104.48498	103.7760627	103.0767455	102.3868378	101.7061506	101.0345	100.371707	99.71759714	99.07200067

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180427A00011	4/27/2018	3.03	4/27/2022	4/27/2018	106.39727	105.3976538	104.4167882	103.4541515	102.5092392	101.5815652	100.6706609	99.77607463	98.8973708
180430A00012	4/30/2018	2.95	7/15/2021	4/30/2018	100.89723	100.7625075	100.6281581	100.4941808	100.3605741	100.2273364	100.094466	99.96196157	99.82982146
180430A00078	10/30/2018	3.24	10/30/2023	10/30/2018	117.23734	114.4864888	111.8151196	109.2204697	106.6998929	104.2508507	101.8709074	99.55772495	97.30905864
180503A00040	5/3/2018	3.3	5/5/2025	5/3/2018	127.4913	122.7521361	118.2177588	113.8782179	109.7240987	105.7464925	101.9369662	98.28753446	94.7906336
180514A00032	5/14/2018	3.27	5/14/2026	5/14/2018	134.53016	128.3076419	122.4138338	116.8296092	111.5370519	106.5193761	101.7608492	97.24672033	92.96315361
180514A00035	5/14/2018	3.07	5/14/2024	5/14/2018	120.89029	117.4414066	114.1103712	110.8924911	107.7832852	104.7784765	101.8739817	99.06590122	96.35050959
180518A00020	5/21/2018	3.08	3/15/2022	5/21/2018	105.60118	104.738443	103.8897937	103.0548894	102.233398	101.4249979	100.6293776	99.84623579	99.07528022
180521A00072	5/21/2018	2.96	5/23/2022	5/21/2018	106.95325	105.8673695	104.8035073	103.7609985	102.7392049	101.7375134	100.7553349	99.79210317	98.84727364
180522A00037	5/22/2018	3.01	5/22/2023	5/22/2018	113.97812	111.7620855	109.6012235	107.4938027	105.4381561	103.4326808	101.475835	99.56613526	97.7021539
180529A00043	5/29/2018	2.99	5/30/2023	5/29/2018	113.76848	111.5355255	109.35863	107.236013	105.1659666	103.1468486	101.1770805	99.25514381	97.37957781
180530A00084	5/30/2018	2.61	6/1/2021	5/30/2018	100.07178	100.0606213	100.0494766	100.0383426	100.0272193	100.0161065	100.0050044	99.99391287	99.9828319
180531A00015	5/31/2018	2.95	5/31/2023	5/31/2018	113.70228	111.467017	109.2879207	107.1632096	105.0911698	103.0701543	101.0985796	99.17492261	97.29771824
180604A00027	6/4/2018	2.87	6/4/2021	6/4/2018	100.12873	100.1092171	100.0897261	100.0702552	100.0508044	100.0313735	100.0119626	99.99257159	99.97320049
180611A00030	6/11/2018	2.91	6/12/2023	6/11/2018	114.16549	111.8825349	109.6576658	107.4890057	105.3747539	103.3131815	101.3026277	99.34149655	97.42825374
180612A00005	6/12/2018	3.09	6/12/2023	6/12/2018	114.22352	111.946286	109.7268725	107.5634152	105.4541252	103.3972845	101.3912426	99.43441324	97.52527151
180612A00018	6/12/2018	2.88	6/10/2022	6/12/2018	107.22395	106.0795112	104.9594737	103.8630589	102.7895249	101.7381607	100.7082841	99.6992412	98.71040399
180618A00011	6/18/2018	3.02	6/20/2022	6/18/2018	107.43402	106.2587238	105.1091168	103.9843604	102.8836549	101.8062347	100.7513661	99.71834617	98.70650098
180620A00026	6/20/2018	2.91	6/18/2021	6/20/2018	100.38927	100.3306593	100.2721272	100.2136781	100.1553118	100.0970281	100.038827	99.98070817	99.92267149
180620A00044	6/20/2018	2.89	6/20/2023	6/20/2018	114.27146	111.9629997	109.7136959	107.5216156	105.3849087	103.3017992	101.2705819	99.28961917	97.35733742
180622A00006	6/22/2018	3.53	12/21/2029	6/22/2018	155.63177	143.8864395	133.1364951	123.2918515	114.2710339	106.0003131	98.41293154	91.44841058	85.05192936
180625A00009	6/25/2018	3	6/27/2022	6/25/2018	107.54924	106.3510385	105.1794939	104.0337206	102.9128751	101.8161505	100.7427744	99.69200681	98.66313901
180625A00039	6/25/2018	2.93	6/25/2021	6/25/2018	100.5207	100.4424957	100.3644174	100.2864649	100.2086381	100.1309365	100.0533599	99.97590804	99.89858061
180716A00037	7/16/2018	3.01	7/18/2022	7/16/2018	107.97358	106.705516	105.4671999	104.2575954	103.075712	101.9206044	100.7913697	99.68714545	98.60710694
180719A00004	7/19/2018	3.07	7/19/2023	7/19/2018	114.87884	112.4794697	110.143171	107.8678193	105.6513787	103.4918987	101.3875096	99.3364188	97.3369065
180719A00061	7/19/2018	3.07	7/19/2023	7/19/2018	114.87884	112.4794697	110.143171	107.8678193	105.6513787	103.4918987	101.3875096	99.3364188	97.3369065
180723A00024	10/23/2018	3.1	10/22/2021	10/23/2018	102.82113	102.3992148	101.9807675	101.5657412	101.1540941	100.7457849	100.3407732	99.9390191	99.54048337
180724A00075	7/24/2018	2.98	7/24/2023	7/24/2018	115.11896	112.6940868	110.3333912	108.0346903	105.7958975	103.6150142	101.4901257	99.41939687	97.40106776
180727A00038	7/27/2018	3.36	7/25/2025	7/27/2018	129.15474	124.1045919	119.2831197	114.6786511	110.2801785	106.0773193	102.0602757	98.21979884	94.54715406
180730A00078	7/30/2018	3.14	7/28/2023	7/30/2018	115.21032	112.7786811	110.4115085	108.1066109	105.8618865	103.6753227	101.5449915	99.46904534	97.44571257
180731A00009	7/31/2018	2.97	7/31/2023	7/31/2018	115.22936	112.781182	110.3982496	108.0783279	105.8192785	103.6190541	101.4756944	99.38732099	97.35213363
180820A00054	8/20/2018	3	8/18/2023	8/20/2018	115.27612	112.7787468	110.3490484	107.984656	105.6833092	103.4428465	101.2612004	99.13639196	97.06652619
180827A00010	8/27/2018	2.99	8/25/2023	8/27/2018	115.38125	112.8609773	110.409477	108.0243294	105.7032193	103.443934	101.2443576	99.10246598	97.01632159
180906A00004	9/6/2018	2.92	9/7/2021	9/6/2018	101.90587	101.6161221	101.3280314	101.0415836	100.7567648	100.4735608	100.1919581	99.91194279	99.63350157

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180906A00047	9/6/2018	2.81	9/7/2021	9/6/2018	101.89498	101.6050214	101.3167256	101.0300767	100.7450606	100.4616631	100.1798706	99.89966917	99.62104537
180910A00032	9/10/2018	3.22	9/10/2024	9/10/2018	123.01153	119.1525031	115.4366271	111.8577322	108.4099588	105.0877364	101.8857665	98.7990082	95.82266323
180914A00046	9/14/2018	2.93	9/14/2021	9/14/2018	102.06223	101.7517993	101.4432734	101.1366312	100.8318553	100.5289287	100.2278344	99.9285558	99.63107634
180921A00024	9/21/2018	2.99	9/21/2021	9/21/2018	102.21477	101.8838733	101.5551232	101.2285015	100.9039876	100.5815609	100.2612014	99.94288909	99.62660443
181002A00055	10/2/2018	3.14	10/3/2022	10/2/2018	109.47097	108.0127184	106.581215	105.1757868	103.7957806	102.4405644	101.1095264	99.80207475	98.51763619
181004A00028	10/4/2018	3.31	10/4/2023	10/4/2018	116.90956	114.2472316	111.6596799	109.1443846	106.698924	104.3209723	102.0082945	99.75874274	97.57025243
181010A00019	10/10/2018	3.21	9/15/2021	10/10/2018	102.14215	101.8289702	101.5177219	101.2083871	100.9009482	100.5953876	100.2916881	99.98983262	99.68980437
181010A00023	10/10/2018	3.41	4/1/2024	10/10/2018	120.65349	117.3606372	114.1757831	111.0948012	108.1137453	105.2288407	102.4364764	99.73319664	97.11569374
181015A00024	10/15/2018	3.29	10/16/2023	10/15/2018	117.0937	114.390054	111.7633461	109.2109483	106.7303367	104.3190883	101.9748766	99.69546687	97.47871223
181023A00021	10/23/2018	3.28	10/23/2023	10/23/2018	117.20476	114.4769398	111.8273336	109.2532487	106.7521004	104.3214081	101.9587909	99.66196248	97.42872725
181023A00025	10/23/2018	3.27	10/23/2023	10/23/2018	117.17924	114.4517429	111.8024553	109.2286821	106.7278384	104.2974441	101.9351184	99.63857521	97.40561911
181114A00014	11/14/2018	3.17	11/14/2023	11/14/2018	117.74428	114.9305879	112.199665	109.5485866	106.9745466	104.4748557	102.0469355	99.68831323	97.39661692
181123A00013	11/23/2018	3.14	11/23/2021	11/23/2018	103.46163	102.9440625	102.4316675	101.9243713	101.4220981	100.9247733	100.4323242	99.94467925	99.46176835
181210A00015	12/10/2018	3.12	12/11/2023	12/10/2018	117.70952	114.8187005	112.0149444	109.2950895	106.6561096	104.0951082	101.609312	99.19606468	96.85282126
181211A00009	12/11/2018	3.14	12/11/2023	12/11/2018	117.76354	114.8719924	112.0675262	109.3469778	106.7073202	104.1456565	101.6592128	99.24533254	96.90147018
181214A00012	12/14/2018	3.07	12/14/2021	12/14/2018	103.82864	103.2477318	102.6733279	102.1053184	101.5435966	100.9880585	100.4386022	99.89512805	99.35753857
181217A00052	12/17/2018	3.04	12/17/2021	12/17/2018	103.86983	103.2798647	102.6966052	102.1199349	101.5497424	100.9859188	100.4283578	99.8769552	99.33160935
181219A00005	12/19/2018	3.06	12/19/2023	12/19/2018	117.69529	114.7790202	111.9511492	109.2084409	106.5477999	103.9662651	101.4610024	99.02929845	96.66855461
181221A00018	12/21/2018	2.98	12/21/2021	12/21/2018	103.90627	103.3043673	102.7094339	102.1213494	101.5399959	100.9652583	100.397024	99.83518312	99.27962799
181226A00024	12/26/2018	2.9	12/27/2021	12/26/2018	103.9733	103.3533234	102.7407241	102.1353713	101.5371372	100.9458969	100.3615282	99.78391197	99.21293178
190104A00003	1/4/2019	2.81	1/4/2022	1/4/2019	104.06959	103.4252947	102.7889727	102.1604742	101.5396555	100.9263764	100.3204999	99.7218925	99.13042392
190108A00039	1/8/2019	3.04	4/30/2024	1/8/2019	120.04366	116.6664563	113.4029935	110.2488122	107.1996499	104.2514349	101.400277	98.64245793	95.97442302
190110A00009	1/10/2019	2.97	1/16/2024	1/10/2019	117.95175	114.9436324	112.0287798	109.203685	106.4649995	103.8095247	101.2342037	98.73611414	96.312461
190110A00012	1/10/2019	2.97	1/18/2024	1/10/2019	117.98733	114.9724507	112.0511985	109.2200428	106.4756165	103.8147034	101.2342302	98.73125887	96.30298003
190111A00037	1/11/2019	2.68	1/11/2022	1/11/2019	104.18454	103.5179504	102.8598858	102.2101869	101.5686945	100.9352537	100.3097133	99.69192598	99.08174804
190115A00063	1/15/2019	2.96	1/16/2024	1/15/2019	117.92364	114.9159195	112.0014498	109.1767289	106.4384085	103.7832903	101.2083176	98.71056846	96.28724798
190122A00008	1/22/2019	2.98	1/20/2023	1/22/2019	111.27886	109.4758762	107.7117045	105.9851586	104.2951034	102.6404492	101.0201499	99.43320047	97.87863527
190122A00043	1/22/2019	2.96	1/22/2025	1/22/2019	124.96446	120.6094293	116.4315819	112.4226619	108.5748503	104.8807397	101.3333098	97.92590437	94.65221025
190130A00019	1/30/2019	3.01	1/30/2024	1/30/2019	118.31481	115.2576796	112.2963951	109.4273059	106.6469287	103.9519383	101.3391594	98.80555844	96.34823618
190204A00036	2/4/2019	2.86	11/4/2021	2/4/2019	102.9649	102.5045995	102.0484124	101.596287	101.1481689	100.7040051	100.2637433	99.82733211	99.39472113
190215A00004	2/15/2019	2.84	2/15/2023	2/15/2019	111.51718	109.6340103	107.7927035	105.9919316	104.230423	102.5069594	100.8203739	99.16954725	97.55340615
190227A00002	2/27/2019	2.61	2/28/2022	2/27/2019	105.03145	104.2160058	103.4131946	102.6227205	101.844301	101.0776621	100.3225379	99.57867051	98.84580985
190227A00005	2/27/2019	2.87	2/27/2024	2/27/2019	118.40315	115.2562081	112.2103472	109.261607	106.4062179	103.6405873	100.9612897	98.36505763	95.84877259

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190313A00017	3/13/2019	2.73	7/15/2022	3/13/2019	107.58581	106.3298224	105.1030983	103.9046272	102.7334409	101.5886152	100.4692673	99.37455335	98.30366634
190319A00008	3/19/2019	2.72	3/21/2022	3/19/2019	105.41635	104.5360426	103.6704174	102.8191049	101.981752	101.1580175	100.347571	99.55009288	98.7652735
190320A00005	3/20/2019	2.75	3/20/2024	3/20/2019	118.4369	115.2166409	112.1013252	109.0869211	106.1695798	103.3456235	100.6115367	97.96395758	95.39967064
190322A00022	3/22/2019	2.56	7/22/2021	3/22/2019	100.96844	100.8139424	100.6599223	100.5063801	100.3533137	100.2007208	100.0485993	99.89694699	99.74576168
190329A00016	3/29/2019	2.56	3/29/2022	3/29/2019	105.42663	104.5217112	103.632283	102.7579521	101.8983367	101.0530678	100.2217885	99.40415387	98.59983003
190329A00018	3/29/2019	2.6	3/29/2024	3/29/2019	118.13951	114.8939779	111.7548912	108.7181901	105.7799912	102.9365797	100.1844012	97.52005403	94.94028173
190424A00023	4/24/2019	2.43	4/24/2023	4/24/2019	112.2632	110.1542387	108.0958457	106.0864931	104.1247102	102.2090808	100.3382402	98.51087339	96.72571261
190426A00011	5/1/2019	2.56	3/15/2022	5/1/2019	105.17376	104.3129673	103.4662444	102.6332446	101.8136361	101.0070977	100.2133184	99.43199722	98.66284229
190506A00027	5/6/2019	2.38	5/6/2022	5/6/2019	106.05444	105.0268196	104.0190652	103.0306005	102.0608757	101.1093615	100.1755483	99.25894569	98.3590809
190507A00006	5/7/2019	2.57	5/8/2023	5/7/2019	112.51117	110.3609146	108.2631288	106.2161976	104.2185685	102.2687468	100.3652938	98.50682397	96.69200244
190522A00021	5/23/2019	2.47	10/15/2021	5/23/2019	102.43896	102.0383454	101.6408677	101.2464926	100.8551838	100.4669055	100.0816226	99.69930033	99.3199046
190523A00022	5/23/2019	2.47	10/12/2022	5/23/2019	108.6691	107.1894869	105.7374804	104.3123673	102.9134629	101.5401052	100.191654	98.86749002	97.56701383
190528A00007	5/28/2019	2.44	11/15/2023	5/28/2019	115.44259	112.6644687	109.9681843	107.3508439	104.8096731	102.3420127	99.94531308	97.61712918	95.35511527
190528A00028	5/28/2019	2.42	5/30/2023	5/28/2019	112.564	110.3439963	108.179781	106.0695882	104.0117172	102.0045333	100.0464649	98.13600036	96.27168517
190529A00031	5/29/2019	2.36	5/30/2023	5/29/2019	112.43722	110.2185722	108.0556917	105.9468066	103.8902172	101.8842896	99.92745278	98.01819579	96.15506489
190529A00049	5/29/2019	2.32	6/29/2021	5/29/2019	100.54075	100.4513707	100.3621457	100.2730792	100.1841707	100.0954199	100.0068264	99.91838969	99.83010947
190529A00089	5/29/2019	2.38	5/29/2024	5/29/2019	118.44103	114.9924762	111.663453	108.4491314	105.3449087	102.3463948	99.44940094	96.64992932	93.94416311
190530A00008	5/30/2019	2.38	5/30/2025	5/30/2019	124.60576	119.820857	115.2475006	110.8751931	106.6940127	102.694582	98.8680353	95.20598755	91.70050578
190530A00025	5/30/2019	2.36	6/1/2021	5/30/2019	100.06798	100.0568373	100.0457054	100.034584	100.0234732	100.0123729	100.0012831	99.99020376	99.97913489
190530A00029	5/30/2019	2.25	5/30/2024	5/30/2019	118.53804	115.0729213	111.7282379	108.4991143	105.3809006	102.3691623	99.45966907	96.64838394	93.93145326
190530A00031	5/30/2019	2.21	5/31/2022	5/30/2019	106.32814	105.2205621	104.1359721	103.073661	102.032948	101.0131795	100.0137283	99.03399189	98.07339144
190531A00003	5/31/2019	2.31	10/29/2021	5/31/2019	102.61502	102.1732417	101.7352588	101.3010195	100.8704763	100.443582	100.0202905	99.6005565	99.18433521
190531A00013	5/31/2019	2.31	12/6/2022	5/31/2019	109.36057	107.7092871	106.0918276	104.5072349	102.9545865	101.432994	99.94160147	98.47958384	97.04614564
190531A00038	5/31/2019	2.82	5/31/2034	5/31/2019	173.05374	153.7862614	136.8936617	122.0685358	109.0447951	97.59192663	87.51007496	78.62582552	70.78858594
190603A00040	6/3/2019	2.11	6/3/2022	6/3/2019	106.14239	105.0284144	103.9377296	102.8696148	101.8233752	100.7983439	99.79388116	98.80937253	97.84422794
190604A00030	6/4/2019	2.2	6/3/2022	6/4/2019	106.2371	105.1225767	104.0313581	102.9627173	101.9159592	100.8904167	99.88544991	98.90044424	97.93480944
190605A00012	6/5/2019	1.92	6/6/2022	6/5/2019	106.12626	105.000872	103.8992491	102.8206472	101.7643504	100.7296724	99.71595471	98.72256527	97.74889734
190605A00020	6/5/2019	2.19	2/5/2024	6/5/2019	116.0672	113.0230923	110.0751595	107.2197108	104.453227	101.7723504	99.17387544	96.65474099	94.21202231
190606A00026	6/6/2019	2.23	6/6/2023	6/6/2019	112.27572	110.0377936	107.8564811	105.729972	103.6565261	101.6344713	99.66220053	97.738169	95.86089094
190607A00009	6/7/2019	2.14	6/7/2022	6/7/2019	106.24235	105.1151784	104.011844	102.9315933	101.8737074	100.8374973	99.82230167	98.82748622	97.85244175
190607A00011	6/7/2019	1.94	6/7/2021	6/7/2019	100.1608	100.1329153	100.1050588	100.0772336	100.0494397	100.0216769	99.99394519	99.96624456	99.93857493
190607A00023	6/7/2019	1.92	6/7/2022	6/7/2019	106.14309	105.0144468	103.9097012	102.8281048	101.7689361	100.7315028	99.7151413	98.71921443	97.74311065
190614A00005	6/14/2019	1.99	6/14/2022	6/14/2019	106.3369	105.1849822	104.0579253	102.9549281	101.8752264	100.8180882	99.78281167	98.76872396	97.77517957

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190617A00027	6/17/2019	2.21	6/16/2023	6/17/2019	112.39424	110.1249834	107.9136509	105.7583639	103.6573212	101.6087934	99.61111928	97.66270292	95.76201031
190619A00007	6/19/2019	2.21	6/20/2022	6/19/2019	106.54183	105.3718604	104.2274986	103.1079084	102.012292	100.9398857	99.88995781	98.86180709	97.85476129
190522A00003	5/22/2019	2.55	5/22/2024	5/22/2019	118.87333	115.4410274	112.126893	108.9261863	105.8343856	102.8471769	99.96044259	97.17025139	94.47284884
190523A00014	5/23/2019	2.5	11/15/2023	5/23/2019	115.59991	112.8197285	110.121431	107.5021232	104.9590293	102.4894887	100.0909504	97.76096819	95.49719501
190523A00018	5/23/2019	2.51	3/15/2024	5/23/2019	117.63114	114.4393751	111.3513788	108.3631431	105.4708457	102.6708363	99.95962787	97.33388802	94.79043091
190524A00026	5/28/2019	2.45	6/15/2023	5/28/2019	112.89675	110.6249877	108.4111306	106.2533071	104.1497186	102.0986383	100.0984073	98.14743199	96.24418023
190524A00031	5/24/2019	2.43	5/24/2022	5/24/2019	106.30031	105.2168762	104.1554618	103.1154012	102.096055	101.096809	100.1170732	99.15628036	98.21388508
190529A00013	5/29/2019	2.38	5/29/2024	5/29/2019	118.44103	114.9924762	111.663453	108.4491314	105.3449087	102.3463948	99.44940094	96.64992932	93.94416311
190529A00067	5/29/2019	2.32	6/1/2021	5/29/2019	100.06753	100.0563918	100.0452603	100.0341393	100.0230289	100.011929	100.0008395	99.98976056	99.97869206
190603A00009	6/3/2019	2.17	7/6/2022	6/3/2019	106.76109	105.539207	104.3451839	103.1780785	102.0369885	100.9210514	99.82944249	98.76137274	97.71608698
190603A00019	6/3/2019	2.19	6/3/2021	6/3/2019	100.09897	100.0822528	100.0655571	100.0488781	100.0322158	100.0155701	99.99894108	99.98232867	99.96573285
190603A00047	6/3/2019	2.22	6/2/2023	6/3/2019	112.18981	109.9648158	107.7959138	105.6813147	103.6193024	101.6082279	99.64650589	97.73261184	95.86507931
190605A00055	6/5/2019	2.11	6/6/2022	6/5/2019	106.19342	105.0696884	103.9696533	102.8925712	101.8377293	100.8044441	99.79206001	98.79994752	97.82750233
190606A00027	6/6/2019	2.51	6/5/2026	6/6/2019	129.71392	123.5703204	117.7558804	112.2512103	107.0381686	102.0997719	97.42011459	92.98429451	88.77834467
190607A00003	6/7/2019	1.92	6/7/2022	6/7/2019	106.14309	105.0144468	103.9097012	102.8281048	101.7689361	100.7315028	99.7151413	98.71921443	97.74311065
190613A00011	6/13/2019	2.26	6/13/2024	6/13/2019	118.27933	114.786279	111.4155754	108.1622189	105.021446	101.9887161	99.05970004	96.23026866	93.49648226
190620A00044	6/20/2019	2.04	6/20/2022	6/20/2019	106.35458	105.1857285	104.0424676	102.9239617	101.8294134	100.7580594	99.70916843	98.68203963	97.6760011
190620A00056	6/25/2019	2.07	1/17/2023	6/25/2019	109.65881	107.8792131	106.1378312	104.4335013	102.7651098	101.1315881	99.53190977	97.96508854	96.43017656
190621A00061	6/21/2019	2.12	6/21/2021	6/21/2019	100.39209	100.325126	100.258265	100.1915043	100.1248439	100.0582833	99.99182253	99.92546123	99.85919921
190625A00008	6/25/2019	2.04	6/27/2022	6/25/2019	106.47238	105.2807113	104.1155991	102.9761595	101.8615518	100.7709712	99.70364776	98.65884387	97.63585288
190625A00016	6/25/2019	2.13	6/25/2024	6/25/2019	118.02973	114.5030837	111.1010128	107.8183779	104.6502861	101.5920764	98.6393068	95.78774304	93.03334701
190625A00027	6/25/2019	2.04	6/24/2022	6/25/2019	106.42188	105.2400008	104.0842557	102.9537888	101.8477781	100.7654367	99.70601126	98.66878001	97.65305127
190626A00004	6/26/2019	2.15	6/26/2024	6/26/2019	118.11048	114.5793922	111.1731091	107.8864792	104.7145973	101.6527906	98.69660669	95.84180092	93.08432577
190626A00009	6/26/2019	2.08	6/25/2021	6/26/2019	100.45438	100.3762279	100.2982066	100.220311	100.142541	100.0648962	99.98737621	99.9099809	99.83270993
190701A00028	7/1/2019	2.11	7/1/2021	7/1/2019	100.55468	100.4596677	100.3648397	100.2701946	100.1757319	100.081451	99.98735144	99.89343265	99.79969412
190702A00002	7/2/2019	2.16	7/2/2024	7/2/2019	118.23273	114.6803446	111.2540481	107.9486065	104.7590423	101.6806152	98.70880918	95.83932083	93.0680473
190711A00019	7/11/2019	2.19	7/11/2023	7/11/2019	112.75651	110.4064677	108.117837	105.8885647	103.7166853	101.6003145	99.53764546	97.52694485	95.56654911
190712A00018	7/12/2019	2.25	7/12/2024	7/12/2019	118.68435	115.0919478	111.6279285	108.2869261	105.0638343	101.9537926	98.95217279	96.05456643	93.25677247
190724A00023	7/24/2019	2.13	7/24/2025	7/24/2019	124.27452	119.3130779	114.5779779	110.0576166	105.7410537	101.6179716	97.67863635	93.91386062	90.31496962
190729A00007	7/29/2019	2.17	7/28/2023	7/29/2019	112.98911	110.5831567	108.241126	105.9608413	103.7402167	101.5772548	99.47004244	97.41674607	95.41560772
190802A00015	8/2/2019	2	2/15/2023	8/2/2019	110.00183	108.1327795	106.3053198	104.5181337	102.7699568	101.0595783	99.38583823	97.74762413	96.14386908
190802A00032	8/2/2019	2.01	8/2/2024	8/2/2019	118.18073	114.5285581	111.0090202	107.6164758	104.3455629	101.1911833	98.14848732	95.21285983	92.37990732
190805A00021	8/5/2019	1.89	1/16/2024	8/5/2019	114.91638	111.9506383	109.0771434	106.2924264	103.5931703	100.9762069	98.43850846	95.97718042	93.58945462

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190805A00037	8/5/2019	2.17	8/6/2029	8/5/2019	142.40814	131.6663474	121.8135985	112.7716153	104.469407	96.8425522	89.83255835	83.38628681	77.45543664
190806A00007	8/6/2019	1.88	8/5/2022	8/6/2019	106.91944	105.6006974	104.314316	103.0591207	101.8339883	100.637849	99.46968305	98.32851825	97.21342684
190807A00005	8/7/2019	1.77	8/7/2024	8/7/2019	117.4259	113.7705027	110.2484765	106.85412	103.5820182	100.4270239	97.38424202	94.44901559	91.61691225
190807A00017	8/7/2019	1.76	3/12/2024	8/7/2019	115.34436	112.1962246	109.1504888	106.2031898	103.3505419	100.5889315	97.91490763	95.32517391	92.81657997
190807A00022	8/7/2019	1.76	1/17/2023	8/7/2019	109.12614	107.3513002	105.6145795	103.9148243	102.2509234	100.6218106	99.02646171	97.46389275	95.93315795
190807A00027	8/7/2019	1.77	8/7/2024	8/7/2019	117.4259	113.7705027	110.2484765	106.85412	103.5820182	100.4270239	97.38424202	94.44901559	91.61691225
190808A00012	8/8/2019	1.89	8/8/2024	8/8/2019	117.85204	114.1863039	110.6543516	107.2504598	103.969194	100.8053882	97.75413009	94.8107464	91.97078934
190808A00024	8/8/2019	1.69	2/8/2024	8/8/2019	115.11363	112.063888	109.1110543	106.2513951	103.4813456	100.7975058	98.19663071	95.67562234	93.23152154
190808A00045	8/8/2019	1.86	8/8/2023	8/8/2019	112.44386	110.0106158	107.6428108	105.3381787	103.0945558	100.9098722	98.78214624	96.7094804	94.69005655
190809A00010	8/9/2019	1.88	8/8/2024	8/9/2019	117.81763	114.1524781	110.6210886	107.2177444	103.9370114	100.7737243	97.72297127	94.78007937	91.94060135
190813A00008	8/13/2019	1.88	8/13/2024	8/13/2019	117.88577	114.2035833	110.6562777	107.2380615	103.9434342	100.7671687	97.70429558	94.75008847	91.9000501
190814A00006	8/14/2019	1.84	8/14/2023	8/14/2019	112.48687	110.0347974	107.6490775	105.3273981	103.0675501	100.8674208	98.72498868	96.63831845	94.60555669
190815A00008	8/15/2019	1.82	8/15/2022	8/15/2019	107.00748	105.6560002	104.338474	103.0536384	101.8002888	100.5772789	99.38351752	98.21796519	97.07963124
190815A00015	8/15/2019	1.82	8/15/2022	8/15/2019	107.00748	105.6560002	104.338474	103.0536384	101.8002888	100.5772789	99.38351752	98.21796519	97.07963124
190815A00025	8/15/2019	1.97	8/15/2029	8/15/2019	140.62592	129.9275621	120.1188661	111.1212084	102.8633045	95.28048945	88.31407029	81.91074476	76.02207979
190816A00015	8/16/2019	2.2	8/16/2029	8/16/2019	141.14009	130.4927257	120.7274107	111.7663942	103.5391744	95.98178155	89.0361406	82.64949857	76.77391068
190816A00020	8/16/2019	1.79	8/16/2024	8/16/2019	117.61479	113.9276586	110.3759363	106.9537922	103.6556906	100.476372	97.41083678	94.45433063	91.60233036
190816A00033	8/16/2019	1.77	8/16/2024	8/16/2019	117.54548	113.8595273	110.3089462	106.8879123	103.5908908	100.4126234	97.3481116	94.3926019	91.5415721
190820A00038	8/20/2019	1.76	8/20/2024	8/20/2019	117.56387	113.8649141	110.3022115	106.8698792	103.5623296	100.3742548	97.30061051	94.33660059	91.477663
190827A00002	8/27/2019	1.74	8/27/2024	8/27/2019	117.58673	113.8651736	110.2814152	106.8294695	103.5036555	100.2985788	97.20911415	94.23039046	91.3577757
190829A00021	8/30/2019	2.18	8/30/2021	8/30/2019	101.56128	101.2951368	101.0303839	100.7670127	100.5050124	100.2443723	99.98508181	99.72713056	99.47050819
190904A00001	9/4/2019	1.5	9/4/2024	9/4/2019	117.38805	113.6313042	110.0146562	106.5320201	103.1776205	99.94597041	96.83185477	93.83031495	90.9366342
190905A00002	9/5/2019	1.78	9/6/2022	9/5/2019	107.2674	105.862982	104.4916969	103.1523746	101.8438974	100.5651994	99.31526398	98.09312065	96.89784258
190910A00004	9/11/2019	1.86	9/11/2024	9/11/2019	118.20671	114.4275865	110.7894912	107.2863352	103.9123337	100.6619868	97.5300635	94.5115868	91.60181948
190917A00029	9/17/2019	2.02	12/6/2022	9/17/2019	108.89815	107.250727	105.6370546	104.0561801	102.507183	100.9891768	99.50130744	98.0427515	96.61271523
190923A00081	9/23/2019	1.96	9/20/2024	9/23/2019	118.68403	114.8684429	111.1958788	107.6601909	104.2555327	100.9763415	97.81732284	94.77343554	91.83987845
190924A00035	9/24/2019	1.88	9/13/2024	9/24/2019	118.3044	114.5173297	110.8717242	107.3614831	103.980808	100.7241853	97.58637022	94.5623717	91.64743855
190926A00007	9/26/2019	1.88	9/26/2022	9/26/2019	107.60002	106.173011	104.7726309	103.3981798	102.0489849	100.7243964	99.42378675	98.14654918	96.89209726
190926A00034	9/26/2019	1.88	9/26/2022	9/26/2019	107.60002	106.173011	104.7726309	103.3981798	102.0489849	100.7243964	99.42378675	98.14654918	96.89209726
190930A00077	9/30/2019	2.23	9/28/2029	9/30/2019	141.90779	131.0758777	121.151562	112.0541477	103.7104913	96.05426197	89.02527553	82.56889748	76.63550614
191001A00023	10/1/2019	1.85	9/27/2024	10/1/2019	118.38402	114.5517439	110.8637297	107.3137912	103.8960448	100.6048889	97.43498898	94.3812635	91.43887022
191003A00013	10/3/2019	1.66	10/3/2022	10/3/2019	107.38851	105.9458153	104.5295915	103.1391719	101.773911	100.4331842	99.11638726	97.82293497	96.55226082
191007A00024	10/7/2019	1.7	7/14/2022	10/7/2019	106.36073	105.1156904	103.8996414	102.7115839	101.5505604	100.4156565	99.30599838	98.22075117	97.15911626

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191015A00001	10/15/2019	1.87	10/15/2021	10/15/2019	102.20352	101.8034728	101.4065596	101.0127457	100.6219949	100.2342714	99.84954014	99.46776638	99.08891605
191018A00005	10/18/2019	1.89	5/2/2022	10/18/2019	105.40062	104.3905987	103.399858	102.4278453	101.4740336	100.5379155	99.61900235	98.71682328	97.83092447
191021A00021	10/21/2019	2.22	12/21/2027	10/21/2019	134.48897	126.2445871	118.5600761	111.3944995	104.7101206	98.47213679	92.64843624	87.20937644	82.12758207
191101A00002	11/1/2019	1.85	11/1/2022	11/1/2019	108.08968	106.5536129	105.047276	103.5698742	102.1206442	100.6988492	99.3037773	97.93474085	96.59107521
191104A00018	11/5/2019	1.96	11/5/2024	11/5/2019	119.32263	115.3448986	111.5213818	107.8452709	104.3100977	100.9097139	97.63827305	94.49021429	91.46024656
191104A00025	11/4/2019	2.33	8/2/2030	11/4/2019	146.51929	134.3488635	123.2886219	113.2313146	104.0805842	95.74980366	88.16104747	81.24417564	74.936019
191108A00014	11/8/2019	2.25	11/8/2029	11/8/2019	144.30626	133.1382318	122.9191856	113.5635405	104.9938417	97.13995246	89.93832858	83.33136847	77.26682997
191212A00026	12/13/2019	1.92	6/16/2022	12/13/2019	106.1565	105.0014521	103.871431	102.7656333	101.6832864	100.6236504	99.58601612	98.56970374	97.57406117
191212A00027	12/13/2019	1.93	10/17/2022	12/13/2019	107.98918	106.4992111	105.0372975	103.6027169	102.1947674	100.8127704	99.45606987	98.12403146	96.81604143
191218A00013	12/18/2019	1.94	12/19/2022	12/18/2019	108.97751	107.2901447	105.6378464	104.0195959	102.4344157	100.8813657	99.35954094	97.86807005	96.40611371
191219A00047	12/19/2019	1.76	12/17/2021	12/19/2019	103.19236	102.603959	102.0222592	101.4471469	100.8785106	100.3162413	99.76023234	99.21037947	98.66658075
191223A00008	12/23/2019	1.93	12/23/2021	12/23/2019	103.32735	102.7214576	102.1226508	101.530808	100.9458083	100.3675335	99.79586809	99.23069934	98.67191695
191223A00056	12/23/2019	2.46	12/14/2029	12/23/2019	145.05054	133.7990762	123.5098853	114.0955319	105.4769491	97.582601	90.34772956	83.71368062	77.62729986
200108A00021	1/13/2020	1.97	1/13/2025	1/13/2020	120.29476	116.0746615	112.0258117	108.1402743	104.4105296	100.8294512	97.39028212	94.08661372	90.91236504
200109A00012	1/14/2020	1.94	12/15/2022	1/14/2020	108.91382	107.2390842	105.5989982	103.9925664	102.4188293	100.8768636	99.36578022	97.8847228	96.43286633
200116A00005	1/16/2020	1.92	7/16/2021	1/16/2020	100.77514	100.6377482	100.5007435	100.3641251	100.2278916	100.0920411	99.95657201	99.82148279	99.68677176
200121A00008	1/24/2020	1.84	1/20/2022	1/24/2020	103.72289	103.0318931	102.3500759	101.6772603	101.0132688	100.3579286	99.71107142	99.07253331	98.4421545
200127A00030	1/27/2020	1.8	1/27/2025	1/27/2020	119.80406	115.5485492	111.4673426	107.5522871	103.7956601	100.1901468	96.72881619	93.40509792	90.21276127
200130A00016	1/30/2020	1.58	1/30/2025	1/30/2020	119.58379	115.3062847	111.2047873	107.2710239	103.4971651	99.87579713	96.39989663	93.0628076	89.85821951
200131A00007	1/31/2020	1.68	1/31/2023	1/31/2020	109.19859	107.3816981	105.6044822	103.8657146	102.1642157	100.498854	98.86854416	97.27224457	95.70895483
200203A00051	2/3/2020	1.58	11/3/2021	2/3/2020	102.41198	101.9556488	101.5033798	101.0551198	100.6108157	100.1704152	99.73386702	99.30112061	98.87212643
200207A00004	2/7/2020	1.53	2/7/2023	2/7/2020	109.28367	107.4407757	105.6385673	103.8757666	102.151149	100.4635413	98.81181858	97.19490179	95.61175546
200207A00009	2/7/2020	1.58	2/7/2025	2/7/2020	119.68324	115.3778983	111.2506299	107.2930144	103.4970887	99.85531523	96.36055596	93.00604853	89.78538381
200220A00002	2/20/2020	1.76	2/20/2025	2/20/2020	119.94501	115.6094706	111.454307	107.4709344	103.6512343	99.9875255	96.47253765	93.09938595	89.86154813
200220A00029	2/20/2020	1.72	2/21/2023	2/20/2020	109.58788	107.7047715	105.8639078	104.0639313	102.3035469	100.5815151	98.8966485	97.24780935	95.63390665
200221A00006	2/21/2020	1.5	2/21/2025	2/21/2020	119.53207	115.1843484	111.0181414	107.0247833	103.1960813	99.52428517	96.00206039	92.62246263	89.37891425
200221A00016	2/21/2020	1.69	2/21/2025	2/21/2020	119.6737	115.3402448	111.187258	107.2061393	103.3887598	99.72742864	96.21486678	92.84418151	89.60884338
200221A00031	2/21/2020	1.69	2/21/2025	2/21/2020	119.6737	115.3402448	111.187258	107.2061393	103.3887598	99.72742864	96.21486678	92.84418151	89.60884338
200225A00005	2/25/2020	1.57	2/25/2025	2/25/2020	119.23478	114.8970745	110.740572	106.7566193	102.9370304	99.27406245	95.76038824	92.3890708	89.15353993
200225A00015	2/25/2020	1.54	2/26/2024	2/25/2020	114.48125	111.3944498	108.4071379	105.5154159	102.7155691	100.0040574	97.3775054	94.83269333	92.36654844
200225A00017	2/25/2020	1.94	2/25/2030	2/25/2020	140.72026	129.4006398	119.0743796	109.649119	101.0415429	93.17645046	85.98592497	79.40859259	73.3889604
200225A00046	2/25/2020	1.54	2/23/2024	2/25/2020	114.44115	111.3642587	108.3862828	105.5033597	102.7118058	100.0081102	97.38892486	94.8510555	92.39145326
200226A00002	2/26/2020	1.53	2/27/2023	2/26/2020	109.32957	107.4309994	105.5753527	103.7612381	101.9873288	100.2523552	98.55510195	96.8944047	95.2691476

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200226A00008	2/26/2020	1.38	2/26/2025	2/26/2020	119.10321	114.7477423	110.574802	106.5756399	102.7419886	99.06602951	95.54036487	92.15799215	88.91228001
200226A00012	2/26/2020	1.54	2/28/2022	2/26/2020	104.11667	103.3063144	102.5085135	101.7229744	100.9494165	100.1875674	99.43716328	98.6979479	97.96967273
200227A00012	2/27/2020	1.41	2/27/2023	2/27/2020	109.10883	107.2123517	105.3587565	103.5466544	101.7747197	100.041684	98.34633272	96.68750274	95.06407914
200228A00012	3/3/2020	1.4	3/3/2025	3/3/2020	118.61456	114.2689665	110.1057067	106.1160548	102.2917594	98.62501545	95.10843626	91.73502848	88.49816825
200228A00014	2/28/2020	1.4	2/28/2025	2/28/2020	118.57751	114.2430934	110.0902404	106.1102567	102.2949213	98.63645909	95.12751344	91.76112065	88.53068605
200228A00059	2/28/2020	1.79	2/28/2030	2/28/2020	139.24517	127.9816	117.7089756	108.3350024	99.77643693	91.95815422	84.81231659	78.27763109	72.29868646
200228A00063	2/28/2020	1.32	2/28/2023	2/28/2020	108.95729	107.0592744	105.2042322	103.3907716	101.6175621	99.88333075	98.18685899	96.52697962	94.90257404
200228A00067	2/28/2020	1.4	2/28/2025	2/28/2020	118.57751	114.2430934	110.0902404	106.1102567	102.2949213	98.63645909	95.12751344	91.76112065	88.53068605
200302A00045	3/4/2020	1.31	3/4/2025	3/4/2020	118.2589	113.916838	109.7571436	105.7710881	101.9504186	98.28732784	94.77442674	91.40471934	88.17157898
200303A00001	3/3/2020	1.15	3/3/2025	3/3/2020	118.22292	113.867843	109.6960184	105.6986508	101.8674297	98.19449462	94.67240784	91.2941283	88.05298778
200303A00012	3/3/2020	1.71	3/1/2030	3/3/2020	138.45267	127.2210885	116.9788168	107.6336525	99.10243689	91.31012472	84.18895329	77.67770023	71.7210208
200303A00018	3/3/2020	1.27	3/3/2025	3/3/2020	118.0834	113.7482712	109.5951577	105.6153414	101.8005832	98.14308933	94.63548431	91.27078525	88.04237833
200304A00008	3/4/2020	1.03	11/15/2021	3/4/2020	102.29243	101.8017407	101.3157524	100.8343998	100.3576167	99.88533816	99.41750049	98.95404116	98.49489881
200304A00010	3/4/2020	1.2	3/4/2027	3/4/2020	125.85281	118.8557132	112.2860264	106.115419	100.3175926	94.86812304	89.74431601	84.92507503	80.39078003
200304A00021	3/4/2020	0.94	3/4/2024	3/4/2020	113.25145	110.1498939	107.1491598	104.2452942	101.4345332	98.71328825	96.07813667	93.52581216	91.05319652
200304A00034	3/4/2020	1.12	3/4/2024	3/4/2020	113.33538	110.2428128	107.2505472	104.3546607	101.5514161	98.83724987	96.20876248	93.6627097	91.19599401
200305A00008	3/10/2020	1.01	6/19/2023	3/10/2020	109.83506	107.585016	105.3926941	103.2562198	101.1737904	99.14367532	97.16421269	95.23380617	93.35092167
200305A00029	3/5/2020	1.14	3/5/2025	3/5/2020	117.5753	113.2432546	109.0934083	105.1170394	101.3059008	97.65219025	94.14852322	90.78790759	87.56372009
200306A00039	3/6/2020	0.88	3/6/2023	3/6/2020	108.22877	106.3183383	104.4513824	102.626529	100.842461	99.09791602	97.39168384	95.72260325	94.08955973
200306A00063	3/6/2020	0.64	3/16/2022	3/6/2020	103.70253	102.8440841	101.9997662	101.1692312	100.3521438	99.54817961	98.75702454	97.9783745	97.21193493
200306A00099	3/10/2020	1.92	3/10/2031	3/10/2020	144.56224	131.6767919	120.0405255	109.5258525	100.0188214	91.4175993	83.6311261	76.57792558	70.18505256
200309A00004	3/9/2020	0.71	3/8/2024	3/9/2020	112.61725	109.5119799	106.5079872	103.6013159	100.7881972	98.06503598	95.42840122	92.87501743	90.40175614
200309A00019	3/9/2020	0.89	3/11/2024	3/9/2020	112.73847	109.6319783	106.6267618	103.718892	100.9046171	98.18035595	95.5426897	92.98835267	90.51422245
200309A00020	3/9/2020	0.96	3/10/2025	3/9/2020	116.89356	112.5576851	108.4048315	104.4262495	100.6136587	96.95922247	93.45552138	90.09552838	86.87258537
200309A00033	3/9/2020	1.06	3/9/2026	3/9/2020	120.83604	115.2219629	109.8981837	104.8481579	100.0563738	95.50828463	91.1902434	87.08944166	83.19385316
200309A00041	3/9/2020	0.73	3/9/2022	3/9/2020	103.6011	102.7656136	101.9435266	101.1345178	100.3382771	99.55450429	98.78290837	98.02320745	97.27512822
200316A00013	3/16/2020	1	4/15/2022	3/16/2020	104.31382	103.361916	102.427283	101.509459	100.6079938	99.7224531	98.85241805	97.99748421	97.15726113
200318A00043	3/18/2020	1.06	3/20/2023	3/18/2020	109.0267	107.0585161	105.135669	103.2567993	101.4205991	99.62580937	97.87121845	96.15565939	94.47800811
200323A00010	3/23/2020	1.19	3/23/2022	3/23/2020	104.16067	103.2800986	102.4143335	101.5630069	100.7257601	99.9022464	99.09213019	98.29508679	97.51080192
200326A00026	3/26/2020	1.32	3/26/2024	3/26/2020	114.21748	111.0403254	107.9675925	104.9952894	102.1195976	99.33686525	96.64359923	94.03645698	91.51223931
200327A00036	3/27/2020	0.77	9/27/2023	3/27/2020	110.86171	108.2892835	105.7891587	103.3589016	100.9961743	98.69873112	96.46441439	94.29115027	92.17694513
200327A00074	3/31/2020	1.76	3/29/2024	3/31/2020	115.59123	112.383847	109.2819577	106.2815286	103.3787072	100.5698082	97.85130568	95.21982509	92.67213603
200403A00016	4/3/2020	0.63	4/17/2023	4/3/2020	108.56144	106.5115995	104.5106028	102.5569902	100.6493535	98.78633601	96.96662986	95.1889742	93.45215309

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200415A00035	4/17/2020	2.16	4/16/2025	4/17/2020	122.34683	117.7768884	113.4030445	109.2158652	105.2064213	101.3662572	97.68736354	94.16215146	90.78342795
200420A00011	4/20/2020	0.7	4/19/2024	4/20/2020	113.06728	109.8212218	106.6845026	103.6528549	100.7221991	97.88863732	95.1484439	92.49805702	89.93407037
200430A00017	4/30/2020	0.94	4/30/2025	4/30/2020	117.33059	112.8173745	108.5008222	104.3713588	100.4199246	96.63794611	93.01730734	89.55032308	86.22971361
200504A00013	5/4/2020	1.26	5/4/2027	5/4/2020	125.65544	118.4915929	111.7758571	105.4780036	99.56999084	94.02579449	88.82125271	83.93392378	79.34295536
200505A00005	5/5/2020	0.77	5/5/2025	5/5/2020	117.31038	112.7623227	108.4136309	104.2545437	100.2758266	96.46874424	92.82502991	89.33685835	85.99681958
200515A00001	5/15/2020	0.59	5/15/2023	5/15/2020	108.51879	106.3887887	104.3114542	102.2851525	100.3083089	98.37940789	96.49699142	94.65965568	92.8660489
200527A00021	5/27/2020	0.53	11/26/2021	5/27/2020	102.186	101.6634164	101.1461491	100.6341205	100.1272515	99.62546454	99.1286835	98.63683389	98.14984267
200601A00009	6/1/2020	0.84	6/2/2025	6/1/2020	117.22245	112.6022046	108.1878839	103.9692301	99.93654853	96.08067793	92.392958	88.86519915	85.4896543
200604A00014	6/4/2020	2.42	6/4/2040	6/4/2020	185.38788	156.4495483	132.4881971	112.6133763	96.09839281	82.34948917	70.88094581	61.29494648	53.2652779
200605A00007	6/5/2020	0.52	6/5/2023	6/5/2020	108.93355	106.7286677	104.5798018	102.4851557	100.4430046	98.45169172	96.50962465	94.61527263	92.76716357
200709A00003	7/10/2020	1.63	7/10/2026	7/10/2020	125.21055	119.0680865	113.2618636	107.7717016	102.5787411	97.66534972	93.01503524	88.61236578	84.44289559
200709A00008	7/10/2020	1.88	7/10/2026	7/10/2020	126.62488	120.4447464	114.602347	109.0774274	103.8510601	98.90554815	94.2243387	89.79194234	85.59385899
200720A00014	7/20/2020	0.35	7/20/2022	7/20/2020	105.0012	103.7433955	102.5154191	101.3162244	100.1448101	99.00022129	97.88154606	96.78791352	95.71849135
200720A00034	7/20/2020	0.77	7/21/2025	7/20/2020	117.35941	112.5786966	108.0169887	103.6630538	99.50630283	95.53674872	91.74496828	88.12206683	84.65964527
200720A00042	7/22/2020	2.04	7/21/2026	7/22/2020	127.66375	121.4180273	115.5150032	109.9340275	104.6558121	99.66232964	94.93672435	90.46322889	86.22708807
200730A00002	7/30/2020	0.67	11/6/2024	7/30/2020	114.53741	110.6429322	106.9004188	103.3031384	99.84469648	96.51901511	93.32031563	90.24310217	87.28214619
200814A00011	8/18/2020	1.58	8/16/2030	8/18/2020	138.72183	126.8714212	116.1156298	106.3478199	97.47225944	89.40295	82.06259041	75.38165606	69.29758009
200818A00007	8/18/2020	1.31	8/20/2029	8/18/2020	132.82346	122.5155851	113.0709038	104.4128546	96.4720429	89.18553271	82.49621342	76.35223219	70.70648447
200818A00008	8/18/2020	1.5	8/18/2031	8/18/2020	141.20949	127.9081486	115.9556322	105.2084044	95.53887611	86.83356059	78.99145003	71.92258582	65.54679949
200911A00019	9/15/2020	1.84	9/14/2027	9/15/2020	130.75554	122.9777804	115.7102612	108.9169091	102.5643811	96.62184608	91.06078266	85.85479455	80.97944157
200922A00040	9/24/2020	2	9/23/2024	9/24/2020	118.86828	115.0400692	111.3555673	107.8086029	104.3933084	101.1040994	97.93565951	94.88292556	91.94107442
200928A00003	9/28/2020	0.55	9/26/2025	9/28/2020	117.62959	112.6074471	107.8242426	103.2674329	98.92519491	94.78638229	90.8404834	87.07758187	83.48831986
201006A00007	10/8/2020	1.47	10/10/2023	10/8/2020	112.40304	109.7779824	107.2274823	104.7490086	102.3401274	99.99850187	97.72188731	95.50812707	93.3551486
201015A00017	10/15/2020	0.29	10/17/2022	10/15/2020	105.79678	104.3206388	102.8723597	101.451217	100.0565131	98.68757439	97.34374923	96.02440762	94.72894011
201028A00005	10/30/2020	1.85	10/31/2025	10/30/2020	123.49963	118.247502	113.2481836	108.4882017	103.9548745	99.63625757	95.521097	91.59878609	87.85932465
210128A00010	1/28/2021	0.57	7/9/2024	1/28/2021	113.01459	109.5249685	106.1606039	102.9162575	99.786944	96.76791755	93.85465908	91.04286366	88.32842889
210209A00029	2/12/2021	0.8	12/15/2025	2/12/2021	118.74599	113.457951	108.4325157	103.655287	99.11273211	94.79212873	90.68151171	86.76962391	83.04587042
210212A00014	2/17/2021	1.38	2/17/2026	2/17/2021	122.30498	116.7224851	111.4252524	106.3971403	101.623012	97.08867069	92.78079498	88.68687966	84.79518059
210428A00008	4/28/2021	1.93	4/26/2030	4/28/2021	141.27021	129.7030204	119.168144	109.5682169	100.8155099	92.8309338	85.54314988	78.88777499	72.80667244
210507A00008	5/7/2021	1.94	5/7/2031	5/7/2021	145.39342	132.2486533	120.3967085	109.7037564	100.0504458	91.33027012	83.44812822	76.31905167	69.86708037
210514A00033	5/18/2021	2.8	5/18/2028	5/18/2021	140.6914	131.699558	123.3485628	115.5893355	108.3768028	101.6695477	95.42949459	89.62162379	84.21371162
210528A00003	5/28/2021	0.63	5/28/2024	5/28/2021	112.79406	109.4379263	106.1988025	103.0719506	100.0528557	97.1372116	94.32090965	91.60002861	88.97082486
051003A00009	10/3/2005	5.15	10/15/2025	10/3/2005	139.14185	133.5862922	128.2909608	123.2422426	118.4273084	113.8340641	109.4511045	105.2676703	101.2736088

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
100809A00029	8/9/2010	4.23	8/15/2025	8/9/2010	133.52054	128.303294	123.3240483	118.5705225	114.03115	109.6950292	105.5518808	101.5920086	97.80626179
111024A00027	10/24/2011	3.11	10/30/2023	10/24/2011	117.30146	114.5414127	111.8612704	109.2582541	106.7296983	104.2730464	101.8858453	99.56574068	97.31047235
111216A00001	12/16/2011	3.95	12/30/2031	12/16/2011	172.5676	157.0746047	143.1534909	130.6348144	119.3682747	109.2204643	100.0728876	91.82022321	84.3687957
111223A00006	12/23/2011	2.98	12/30/2021	12/23/2011	104.07894	103.4496255	102.8279044	102.2136436	101.6067096	101.0069719	100.4143031	99.82857876	99.24967738
120113A00012	1/13/2012	3.62	1/15/2027	1/13/2012	139.56744	132.3689604	125.5931763	119.212909	113.2028749	107.5395441	102.2010089	97.1668631	92.41809096
120127A00018	1/27/2012	3.64	2/1/2027	1/27/2012	139.95962	132.6898805	125.8499492	119.411996	113.3501454	107.6403304	102.2601555	97.18877162	92.40676024
120202A00020	2/2/2012	2.7	2/15/2022	2/2/2012	104.77893	104.0051899	103.2428626	102.4917008	101.7514605	101.0219045	100.3028024	99.59393048	98.89507147
120320A00005	3/20/2012	3.18	3/30/2022	3/20/2012	105.98106	105.0704004	104.1753764	103.2955845	102.4306381	101.5801637	100.7438004	99.92119901	99.11202188
120517A00007	5/17/2012	2.42	5/31/2023	5/17/2012	112.90279	110.6699487	108.4933693	106.3712605	104.3019022	102.2836414	100.3148888	98.39411643	96.51985409
121031A00004	10/31/2012	2.07	10/31/2022	10/31/2012	108.608	107.0674692	105.5567429	104.0750272	102.6215569	101.1955929	99.79642157	98.4233535	97.07572237
121227A00024	12/27/2012	2.2	12/30/2021	12/27/2012	103.6049	102.9772329	102.3571444	101.7445024	101.1391732	100.5410267	99.94993566	99.36577583	98.78842592
130531A00019	5/31/2013	2.09	6/1/2021	5/31/2013	100.06598	100.0548294	100.0436897	100.0325607	100.0214423	100.0103345	99.99923734	99.98815076	99.97707475
130712A00005	7/12/2013	3.25	7/17/2023	7/12/2013	115.59462	113.1865441	110.8417352	108.558058	106.3334718	104.1660217	102.0538335	99.9951103	97.98812827
131024A00019	10/24/2013	3.23	10/30/2023	10/24/2013	117.61085	114.8468116	112.1627698	109.5559418	107.0236593	104.563363	102.1725973	99.84900547	97.590325
131217A00023	12/17/2013	3.74	1/2/2024	12/17/2013	119.83405	116.843861	113.9451403	111.1344974	108.4086919	105.7646261	103.1993371	100.7099907	98.29387378
140131A00025	1/31/2014	3.28	1/30/2023	1/31/2014	111.99416	110.1548242	108.3555314	106.5950424	104.8721693	103.1857728	101.5347599	99.9180812	98.33472919
140908A00063	9/8/2014	2.5	8/31/2021	9/8/2014	101.66296	101.3937702	101.1260009	100.8596458	100.5946937	100.3311334	100.0689542	99.80814505	99.54869533
141028A00012	10/28/2014	2.73	10/28/2022	10/28/2014	109.33113	107.7973054	106.2929304	104.8172264	103.3694422	101.9488526	100.5547568	99.18647758	97.8433603
150105A00027	1/5/2015	2.23	1/5/2022	1/5/2015	103.7909	103.143757	102.5046755	101.8735035	101.2500948	100.6343066	100.0259997	99.42503819	98.83128956
150213A00025	2/13/2015	2.37	2/14/2022	2/13/2015	104.51651	103.7468928	102.9885902	102.2413566	101.5049506	100.7791381	100.0636914	99.35838953	98.66301761
150316A00043	3/16/2015	2.37	3/16/2023	3/16/2015	111.44686	109.4681145	107.5347287	105.6453169	103.7985521	101.9931592	100.2279119	98.50163095	96.81318129
150413A00034	4/13/2015	2.25	4/13/2022	4/13/2015	105.41808	104.4668202	103.5326891	102.6152236	101.7139806	100.8285325	99.9584665	99.10338425	98.26290097
150506A00014	5/6/2015	2.21	5/6/2022	5/6/2015	105.88919	104.8624495	103.8555621	102.867953	101.8990723	100.9483911	100.0154002	99.09960918	98.20054559
150601A00485	6/1/2015	3.09	6/21/2024	6/1/2015	121.50585	117.9232853	114.4667158	111.1309562	107.9110709	104.8023577	101.8003352	98.90073052	96.09946876
150601A00490	6/1/2015	3.19	7/2/2024	6/1/2015	121.50837	117.9026495	114.4244408	111.06846	107.8296816	104.7033194	101.684814	98.76981978	95.95419373
150601A00495	6/1/2015	2.99	6/27/2024	6/1/2015	121.28619	117.6880142	114.2169258	110.8676759	107.6352643	104.5149284	101.5021301	98.59254427	95.78204661
150601A00523	6/1/2015	4.55	7/25/2031	6/1/2015	176.19192	161.1458665	147.5638635	135.2939479	124.2007424	114.1635619	105.074746	96.83818903	89.36804322
150601A00548	6/1/2015	2.55	8/13/2021	6/1/2015	101.34992	101.1325331	100.9160904	100.7005875	100.4860184	100.2723769	100.0596568	99.84785231	99.63695732
150601A00594	6/1/2015	3.2	10/20/2026	6/1/2015	135.38193	128.6118867	122.2256678	116.1994944	110.5111809	105.1400203	100.0666782	95.27309505	90.74239586
150601A00609	6/1/2015	2.52	9/30/2021	6/1/2015	102.18206	101.8255771	101.4715804	101.1200397	100.7709295	100.4242247	100.0799005	99.73793249	99.3982966
150601A00642	6/1/2015	2.6	3/31/2022	6/1/2015	105.4667	104.5554034	103.6598171	102.7795373	101.9141743	101.0633514	100.2267042	99.40388093	98.59454092
150601A00650	6/1/2015	2.75	3/31/2023	6/1/2015	112.0919	110.0636033	108.0823199	106.1466747	104.2553457	102.4070577	100.6005803	98.83472608	97.1083488
150601A00689	6/1/2015	2.81	2/28/2025	6/1/2015	124.15985	119.7157365	115.4565707	111.3735223	107.4582437	103.7028393	100.0998373	96.64216447	93.32312129

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A01024	6/1/2015	5.33	2/27/2026	6/1/2015	142.66755	136.548074	130.7358215	125.2135106	119.9649426	114.9749232	110.2291937	105.714367	101.417869
150610A00008	6/10/2015	3.58	6/10/2030	6/10/2015	160.84967	148.1113228	136.5056545	125.9253245	116.2737067	107.4637711	99.41708489	92.06292144	85.33746668
150610A00037	6/10/2015	2.48	6/10/2022	6/10/2015	106.79463	105.6527046	104.5351342	103.4411502	102.3700117	101.3210082	100.2934588	99.28671006	98.3001349
150722A00014	7/22/2015	2.32	7/22/2021	7/22/2015	100.93161	100.7771518	100.6231767	100.4696795	100.316658	100.1641098	100.0120329	99.8604251	99.70928417
150819A00013	8/19/2015	3.51	8/19/2030	8/19/2015	159.24824	146.4104898	134.7337663	124.1061982	114.427272	105.6066249	97.562969	90.22313541	83.52122271
150821A00017	8/21/2015	2.22	8/23/2022	8/21/2015	107.83022	106.4443951	105.0940379	103.777798	102.4943954	101.2426131	100.0212939	98.82933611	97.66569092
150824A00095	8/24/2015	2.34	8/24/2023	8/24/2015	114.18406	111.6738341	109.2322656	106.8569277	104.5455066	102.2957908	100.105666	97.97310947	95.89618512
150826A00039	8/26/2015	3.22	8/27/2029	8/26/2015	152.61033	141.3563474	131.0296413	121.5485225	112.8389278	104.8336665	97.47174808	90.69777788	84.46141558
150827A00029	8/27/2015	2.74	8/27/2024	8/27/2015	121.63609	117.8317479	114.1679375	110.6385528	107.2378021	103.9601859	100.8004797	97.75371771	94.81517828
150909A00018	9/9/2015	2.28	9/9/2021	9/9/2015	101.75719	101.4619733	101.1684838	100.8767023	100.5866138	100.2982037	100.0114571	99.72635981	99.4428974
151223A00074	12/23/2015	3.01	12/23/2027	12/23/2015	141.66592	133.1187259	125.1495572	117.7161946	110.7797176	104.3042325	98.25662183	92.60631529	87.32508099
160119A00025	1/19/2016	3.05	1/19/2028	1/19/2016	141.00186	132.4328718	124.4477217	117.003436	110.0604318	103.5822292	97.53519213	91.8882917	86.61289065
160122A00029	1/22/2016	2.48	1/22/2025	1/22/2016	123.05816	118.739721	114.5973593	110.6228609	106.8084476	103.1467507	99.6307873	96.25393659	93.00991923
160329A00006	3/29/2016	2.12	3/29/2023	3/29/2016	110.9136	108.9030656	106.9390385	105.0201706	103.1451574	101.3127405	99.52170556	97.77088048	96.05913372
160615A00043	6/15/2016	1.59	6/15/2021	6/15/2016	100.26742	100.2172501	100.167146	100.1171088	100.0671383	100.0172344	99.96739706	99.91762605	99.86792126
160616A00028	6/16/2016	1.81	6/16/2023	6/16/2016	111.52865	109.2688999	107.0668802	104.9207159	102.8286112	100.7888421	98.79975265	96.8597519	94.96731067
160620A00003	6/20/2016	1.59	6/21/2021	6/20/2016	100.35664	100.2897089	100.2228784	100.1561482	100.0895181	100.0229878	99.95655731	99.89022624	99.82399441
160628A00031	6/28/2016	1.77	6/28/2023	6/28/2016	111.61984	109.3231669	107.0857943	104.905773	102.7812333	100.7103815	98.69149589	96.72292363	94.80307705
160701A00026	7/1/2016	1.43	7/1/2021	7/1/2016	100.49023	100.3952803	100.3005125	100.2059274	100.1115246	100.0173035	99.92326365	99.82940445	99.7357254
160707A00032	7/7/2016	1.52	7/7/2023	7/7/2016	111.5354	109.2050308	106.935504	104.7247963	102.5709645	100.4721461	98.4265546	96.43247592	94.48826482
160727A00002	7/27/2016	1.87	7/27/2023	7/27/2016	112.28672	109.892008	107.560907	105.2912463	103.0809522	100.9280389	98.83060403	96.78682435	94.79495175
160830A00035	8/30/2016	2.06	8/30/2024	8/30/2016	118.74858	114.9977115	111.3858016	107.9068152	104.5550277	101.3250021	98.21157264	95.20982843	92.31509939
160916A00014	9/16/2016	1.66	9/16/2021	9/16/2016	101.6802	101.3650664	101.0518992	100.7406756	100.4313774	100.1239866	99.81848576	99.51485725	99.21308385
160923A00033	9/23/2016	2.04	9/23/2026	9/23/2016	129.41254	122.8696324	116.6964373	110.8701751	105.3695884	100.1748289	95.26735671	90.62984794	86.24610847
160926A00022	9/26/2016	1.6	9/24/2021	9/26/2016	101.78186	101.4435379	101.1074663	100.7736193	100.441975	100.1125116	99.78520767	99.46004203	99.13699378
160928A00014	9/28/2016	1.37	9/28/2021	9/28/2016	101.79101	101.4408523	101.0930909	100.7477044	100.4046684	100.0639592	99.72555322	99.38942714	99.05555808
161006A00012	10/6/2016	1.98	10/7/2024	10/6/2016	119.55606	115.6558222	111.9036728	108.2932167	104.8183658	101.4733261	98.25258203	95.1508817	92.16322252
161013A00037	10/13/2016	1.52	10/13/2021	10/13/2016	102.06834	101.6740449	101.2828011	100.8945746	100.5093302	100.1270337	99.74765111	99.37114919	98.99749505
161031A00006	10/31/2016	1.76	11/1/2021	10/31/2016	102.42427	101.9742082	101.5280896	101.0858668	100.6474887	100.2129055	99.78206805	99.35492802	98.93143798
170117A00037	1/17/2017	2	1/18/2022	1/17/2017	103.86544	103.1789948	102.5016051	101.833095	101.1732907	100.5220227	99.87912605	99.24444	98.61780784
170119A00006	1/19/2017	2.85	1/21/2025	1/19/2017	123.88308	119.5686781	115.4295045	111.4574108	107.6446798	103.9839993	100.4684383	97.09142454	93.84672353
170130A00010	1/30/2017	2.92	1/30/2025	1/30/2017	124.3058	119.9539273	115.7797313	111.7748988	107.9315622	104.2422698	100.6999611	97.29794328	94.02986984
170203A00013	2/3/2017	3.67	2/1/2036	2/3/2017	192.63953	169.6449249	149.7496815	132.5135102	117.5610524	104.5719958	93.27273875	83.42935447	74.84164607

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170215A00036	2/15/2017	2.61	7/30/2021	2/15/2017	101.11845	100.9411932	100.7645552	100.5885356	100.4131311	100.2383386	100.0641548	99.89057663	99.71760089
170215A00043	2/15/2017	2.7	8/28/2024	2/15/2017	120.96224	117.1798032	113.536979	110.0277116	106.6462519	103.3871399	100.2451887	97.21546817	94.29329004
170216A00044	2/16/2017	3.52	2/17/2032	2/16/2017	167.8591	152.4399096	138.6096663	126.194783	115.0415374	105.0137012	95.99046388	87.86461313	80.54093875
170228A00015	2/28/2017	2.87	5/28/2025	2/28/2017	126.02079	121.2322954	116.6544243	112.2767637	108.0894728	104.0832488	100.2492947	96.57928846	93.06535501
170322A00011	3/22/2017	2.48	3/22/2024	3/22/2017	118.12621	114.8932704	111.7660815	108.7405861	105.8129037	102.9793256	100.2363063	97.58045491	95.00852754
170404A00007	4/4/2017	2.22	4/4/2022	4/4/2017	105.23645	104.313895	103.4074744	102.5167631	101.6413553	100.7808591	99.93489581	99.10309956	98.28511663
170412A00045	4/12/2017	2.01	4/12/2022	4/12/2017	105.28865	104.3396275	103.407662	102.4922968	101.5930913	100.7096201	99.84147289	98.98825338	98.1495789
170417A00014	4/17/2017	1.95	4/18/2022	4/17/2017	105.33486	104.3670218	103.416911	102.4840421	101.567949	100.6681821	99.7843078	98.91590784	98.06257843
170417A00094	4/17/2017	1.95	4/19/2022	4/17/2017	105.35159	104.3805736	103.4273929	102.4915623	101.5726112	100.670086	99.78354928	98.91257895	98.05676767
170419A00025	4/19/2017	2.72	4/19/2027	4/19/2017	136.29453	128.8144053	121.7946562	115.2045545	109.015577	103.2012358	97.73692221	92.59976481	87.76849816
170502A00028	5/2/2017	2.84	5/3/2027	5/2/2017	137.27709	129.7164626	122.6235924	115.9670812	109.7177967	103.8486972	98.33467163	93.15239167	88.2801767
170515A00010	5/15/2017	2.58	5/15/2024	5/15/2017	118.85272	115.4440076	112.1518935	108.9717288	105.8990803	102.9297171	100.0595992	97.28486842	94.60183892
170518A00034	5/18/2017	2.15	5/18/2023	5/18/2017	112.11021	109.9268313	107.7976025	105.7208319	103.6948914	101.7182154	99.78929766	97.90668849	96.06899238
170601A00018	6/1/2017	1.96	6/1/2022	6/1/2017	106.08401	104.9746567	103.8884067	102.8245419	101.7823761	100.7612508	99.76053385	98.77961832	97.81792106
170608A00021	6/8/2017	1.8	6/8/2021	6/8/2017	100.1726	100.141922	100.1112816	100.0806764	100.0501065	100.0195716	99.98907184	99.95860706	99.92817721
170609A00026	6/9/2017	2.3	6/9/2023	6/9/2017	112.47426	110.2251664	108.0331113	105.896266	103.8128709	101.7812358	99.79973662	97.86681232	95.98096186
170612A00039	6/12/2017	2.29	6/12/2024	6/12/2017	118.86985	115.358345	111.9699422	108.6996023	105.542528	102.4941471	99.55010015	96.70622965	93.95856891
170615A00015	6/15/2017	2.25	6/14/2024	6/15/2017	118.76989	115.2536758	111.8609044	108.5865218	105.4257099	102.3738771	99.42664594	96.57984204	93.82948296
170615A00033	6/15/2017	2.01	6/15/2021	6/15/2017	100.28849	100.2382998	100.1881776	100.1381223	100.0881338	100.0382119	99.98835657	99.93856759	99.88884485
170616A00018	6/16/2017	2.4	6/16/2025	6/16/2017	124.94083	120.0930213	115.4614666	111.0353272	106.8043706	102.7589321	98.88988002	95.18858291	91.64687951
170619A00067	6/19/2017	1.84	9/20/2021	6/19/2017	101.82533	101.4981174	101.1730118	100.8499955	100.5290483	100.2101503	99.89328188	99.57842365	99.26555645
170619A00084	6/19/2017	1.95	6/20/2022	6/19/2017	106.3951	105.2238486	104.0782762	102.9575419	101.8608447	100.7874179	99.73652675	98.70746749	97.69956521
170621A00014	6/21/2017	1.82	6/21/2021	6/21/2017	100.37809	100.3110818	100.2441724	100.177364	100.1106566	100.0440499	99.97754356	99.91113746	99.84483135
170622A00039	6/22/2017	3.36	6/22/2035	6/22/2017	184.01542	162.5935277	143.9687032	127.7565605	113.6275446	101.298857	90.52760374	81.1049778	72.8513153
170622A00040	6/22/2017	3.41	6/23/2036	6/22/2017	190.1089	166.6979506	146.5272466	129.1251266	114.0910932	101.0847443	89.8164741	80.03965424	71.54405184
170629A00067	6/29/2017	2.19	6/29/2022	6/29/2017	106.67518	105.4759413	104.3035509	103.1571184	102.0357893	100.9387465	99.86520759	98.81442378	97.78567763
170721A00017	7/21/2017	1.8	7/21/2021	7/21/2017	100.84863	100.6969654	100.545762	100.3950225	100.2447448	100.0949267	99.94556599	99.79666068	99.64820864
170728A00040	7/28/2017	2.44	1/27/2025	7/28/2017	122.9754	118.6422507	114.4863449	110.4993897	106.6735309	103.0013294	99.47573657	96.09007107	92.83799721
170803A00019	8/3/2017	2.14	8/3/2022	8/3/2017	107.20625	105.8920357	104.6099018	103.3586883	102.1372874	100.9446432	99.7797495	98.64164634	97.52941767
170803A00021	8/3/2017	2.5	8/5/2024	8/3/2017	119.90408	116.2134481	112.6568896	109.2286907	105.9234236	102.7359281	99.66129608	96.69485769	93.83216754
170808A00037	8/8/2017	2.19	12/15/2022	8/8/2017	109.31908	107.6409079	105.9974539	104.3877157	102.8107319	101.2655775	99.75136188	98.26722709	96.81234662
170818A00025	8/18/2017	1.77	8/18/2021	8/18/2017	101.28366	101.051986	100.8213814	100.591841	100.3633574	100.1359233	99.90953135	99.6841744	99.45984527
170831A00053	8/31/2017	1.81	3/1/2022	8/31/2017	104.42422	103.6083578	102.8051913	102.0144269	101.2357793	100.4689717	99.71373584	98.96981145	98.23694601

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170831A00054	8/31/2017	1.85	6/30/2022	8/31/2017	106.45144	105.2481437	104.0719088	102.9218314	101.797047	100.6967288	99.62008558	98.56635998	97.53482663
170913A00003	9/13/2017	2.08	9/13/2022	9/13/2017	107.72558	106.311036	104.9273841	103.5736157	102.2487667	100.9519145	99.68217612	98.43870583	97.22069342
170918A00007	9/18/2017	2.8	9/20/2027	9/18/2017	137.60541	129.5831385	122.0841253	115.0714879	108.5111302	102.3715172	96.62346902	91.23997398	86.19601656
170919A00076	9/19/2017	1.97	9/19/2022	9/19/2017	107.82694	106.4025489	105.0072084	103.6400475	102.3002309	100.9869567	99.69945471	98.43698457	97.19883467
170920A00028	9/21/2017	2.16	9/21/2022	9/21/2017	107.93423	106.5098285	105.1137353	103.7451312	102.4032295	101.0872737	99.79653615	98.53031635	97.28794
170929A00057	9/29/2017	2.16	9/29/2023	9/29/2017	114.33896	111.7170194	109.1686497	106.6913757	104.2828219	101.940706	99.66283484	97.44710043	95.29147597
171002A00013	10/2/2017	2.23	11/30/2022	10/2/2017	109.13245	107.5012027	105.9031584	104.3373843	102.8029848	101.2990964	99.82488708	98.37955424	96.96232382
171006A00034	10/6/2017	2.27	10/6/2022	10/6/2017	108.28206	106.8237486	105.3923414	103.9871554	102.6075305	101.2528282	99.92243089	98.61574075	97.33217903
171016A00045	10/16/2017	2.2	10/17/2022	10/16/2017	108.38015	106.8871805	105.4223247	103.9848544	102.5740659	101.1892794	99.82983743	98.49510429	97.18446497
171018A00003	10/18/2017	2.23	10/18/2023	10/18/2017	114.83188	112.1423403	109.5298417	106.9917378	104.5254892	102.1286585	99.79890586	97.53398446	95.33173594
171122A00009	11/22/2017	2.2	11/22/2022	11/22/2017	109.16933	107.558221	105.9795453	104.4324054	102.9159364	101.429304	99.97170421	98.54236094	97.14052547
171206A00010	12/6/2017	2.45	12/6/2022	12/6/2017	109.58381	107.9306609	106.3113731	104.7249854	103.1705744	101.6472506	100.1541572	98.69046841	97.25538791
171208A00007	12/8/2017	2.47	12/9/2024	12/8/2017	122.33602	118.1761177	114.1813424	110.3442078	106.6576151	103.1148271	99.70944721	96.43540019	93.28691416
180116A00045	1/16/2018	2.49	1/11/2022	1/16/2018	103.99576	103.3307274	102.6741956	102.0260006	101.385984	100.7539915	100.1298729	99.51348142	98.90467404
180117A00017	1/17/2018	2.45	6/17/2021	1/17/2018	100.34509	100.2892917	100.2335723	100.1779304	100.1223658	100.0668784	100.0114679	99.95613433	99.9008774
180118A00039	1/18/2018	3.09	1/19/2027	1/18/2018	136.30058	129.1839164	122.4873716	116.1838344	110.2480916	104.6566836	99.38777316	94.42102418	89.7374902
180125A00023	1/25/2018	2.57	1/25/2022	1/25/2018	104.30089	103.5926774	102.894062	102.2048494	101.5248508	100.8538822	100.1917647	99.53832419	98.89339082
180206A00013	2/6/2018	2.72	2/6/2024	2/6/2018	118.05194	114.9665024	111.9786257	109.0845627	106.2807368	103.5637359	100.930303	98.37732826	95.90184073
180207A00012	2/7/2018	2.53	2/7/2022	2/7/2018	104.58315	103.8334813	103.0945471	102.3661189	101.6479739	100.939895	100.2416716	99.55309873	98.87397718
180222A00026	2/22/2018	2.98	2/21/2025	2/22/2018	125.54974	121.0839725	116.8033528	112.6990724	108.7628023	104.9866632	101.3631968	97.88534116	94.5464062
180223A00026	2/23/2018	2.92	12/15/2022	2/23/2018	110.50242	108.814233	107.1609447	105.5415516	103.9550874	102.4006221	100.8772603	99.3841396	97.92042906
180308A00014	3/8/2018	2.79	9/15/2021	3/8/2018	102.01286	101.6999344	101.3889429	101.0798638	100.7726793	100.4673719	100.1639245	99.86232001	99.56254154
180328A00008	3/28/2018	2.85	3/25/2022	3/28/2018	105.601	104.7075579	103.8292057	102.9655643	102.1162665	101.280957	100.4592925	99.65094047	98.85557946
180329A00003	3/29/2018	3.08	3/29/2028	3/29/2018	143.58079	134.612171	126.2705877	118.5088922	111.2837096	104.555121	98.28637093	92.44360232	86.99561399
180403A00009	4/3/2018	2.91	4/3/2025	4/3/2018	125.97553	121.3569153	116.9344122	112.6986721	108.6408369	104.7525151	101.0257544	97.45301662	94.02715384
180412A00036	4/12/2018	3.54	4/15/2038	4/12/2018	205.75488	177.9084998	154.3095002	134.2773931	117.2444279	102.736393	90.35676554	79.77361518	70.70877221
180514A00034	5/14/2018	3.07	5/14/2024	5/14/2018	120.89029	117.4414066	114.1103712	110.8924911	107.7832852	104.7784765	101.8739817	99.06590122	96.35050959
180518A00012	5/18/2018	3.1	5/18/2022	5/18/2018	106.87822	105.8102274	104.7635681	103.7376026	102.7317212	101.7453381	100.7778899	99.82883502	98.89765209
180522A00038	5/22/2018	3.23	5/22/2025	5/22/2018	128.18398	123.3517052	118.7310836	114.311685	110.0836517	106.0376634	102.1649048	98.45703538	94.90616117
180530A00007	5/30/2018	2.66	11/30/2021	5/30/2018	103.39107	102.8525226	102.3195721	101.7921352	101.2701268	100.7534633	100.2420629	99.7358456	99.23473283
180530A00025	5/30/2018	3.49	5/30/2030	5/30/2018	157.77368	145.31432	133.9588203	123.6029815	114.1529611	105.5241983	97.64045142	90.43294017	83.83957984
180530A00044	5/30/2018	2.87	5/31/2022	5/30/2018	106.8845	105.7757701	104.6899979	103.6264782	102.5845318	101.5635073	100.5627791	99.58174633	98.61983175
180530A00069	5/30/2018	2.87	5/31/2022	5/30/2018	106.8845	105.7757701	104.6899979	103.6264782	102.5845318	101.5635073	100.5627791	99.58174633	98.61983175

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180531A00014	5/31/2018	2.8	5/31/2023	5/31/2018	113.70815	111.4666217	109.2815367	107.1510946	105.0735701	103.0473054	101.0707066	99.14224091	97.26043405
180531A00032	5/31/2018	2.8	6/1/2021	5/31/2018	100.07288	100.0617377	100.0506016	100.0394761	100.0283611	100.0172566	100.0061626	99.99507903	99.98400597
180604A00045	6/4/2018	2.87	6/4/2021	6/4/2018	100.12873	100.1092171	100.0897261	100.0702552	100.0508044	100.0313735	100.0119626	99.99257159	99.97320049
180614A00038	6/14/2018	3.08	6/14/2023	6/14/2018	114.23945	111.9559823	109.7305972	107.5614173	105.4466414	103.3845401	101.3734518	99.41178019	97.4979906
180615A00061	6/15/2018	3.28	6/15/2028	6/15/2018	146.3253	136.9690443	128.2843769	120.2194013	112.7264936	105.7619327	99.28556031	93.26047343	87.65274397
180615A00063	6/15/2018	3.2	6/15/2026	6/15/2018	134.67864	128.3392413	122.3400612	116.6609841	111.2831907	106.1890698	101.3621332	96.7869388	92.44901817
180620A00014	6/20/2018	3.4	6/20/2028	6/20/2018	145.91048	136.6101028	127.9765315	119.9582692	112.5080628	105.5825292	99.14181919	93.14931194	87.57133722
090429A00044	4/29/2009	4.1	4/29/2024	4/29/2014	100.0422	100.0340779	100.0259564	100.0178398	100.0097283	100.0016218	99.99352034	99.85319416	99.08437791
100517A00013	5/17/2010	3.71	5/19/2025	5/18/2015	100.05072	100.0424703	100.0342309	100.0259978	100.017771	100.0095507	100.0013366	99.50078869	98.18933297
100707A00014	7/7/2010	3.19	7/7/2025	7/7/2015	100.04636	100.038119	100.0298833	100.021654	100.0134311	100.0052145	99.93209937	98.90559685	97.28728445
111215A00019	12/15/2011	2.53	12/15/2026	12/15/2021	103.6636	103.0661594	102.475853	101.8925577	101.3104348	100.5259803	98.95330817	96.75845532	94.3920679
130416A00025	4/16/2013	2.27	4/18/2028	4/16/2018	100.03858	100.0303424	100.0221143	100.0138926	100.0056771	99.70083593	97.51122583	94.6602378	91.75870692
140416A00025	4/14/2014	3.56	4/16/2029	4/14/2021	100.04929	100.0410448	100.0328083	100.024578	100.0163541	99.99197721	98.43340573	94.85166838	90.80209796
201229A00003	12/29/2020	1.28	12/30/2030	12/30/2025	119.18642	114.2025664	108.78927	102.6370795	96.2155333	90.00119109	84.17597499	78.7835079	73.81514293
201230A00018	12/30/2020	1.52	12/28/2035	12/28/2027	128.06935	120.301319	112.0013421	102.8802217	93.6619468	85.01565157	77.17915374	70.18178893	63.97036521
210108A00007	1/8/2021	1.65	1/8/2036	1/8/2026	123.09521	117.5889361	111.3588175	103.7253625	95.39259985	87.28811416	79.81764376	73.08362921	67.06542984
210225A00010	2/25/2021	2.02	2/25/2041	2/25/2026	123.91187	118.5401816	112.6368392	105.3905817	97.32508168	89.39430105	82.0534865	75.42956336	69.51006107
210405A00013	4/5/2021	1.82	4/7/2036	4/5/2026	121.83002	116.7321825	111.3650429	105.3157157	98.90763135	92.64005831	86.75586322	81.32922718	76.36062439
201116A00019	11/16/2020	1.32	11/15/2030	11/16/2025	119.06644	114.1929029	108.909829	102.8796172	96.54807352	90.39957534	84.6221119	79.26521568	74.32272056
201118A00015	11/18/2020	1.66	11/18/2036	11/18/2027	128.81811	121.1275015	112.8622311	103.6294746	94.18917578	85.29992685	77.25133463	70.08805821	63.75618684
201118A00017	11/18/2020	1.66	11/18/2036	11/18/2027	128.81811	121.1275015	112.8622311	103.6294746	94.18917578	85.29992685	77.25133463	70.08805821	63.75618684
201118A00018	11/18/2020	1.85	11/18/2036	11/18/2027	129.00191	121.353302	113.1659355	104.028332	94.66206593	85.81805617	77.79497702	70.64434865	64.3168701
201202A00016	12/2/2020	1.32	12/3/2035	12/2/2025	118.48948	113.7273244	108.4627641	102.3724405	96.00272988	89.88664653	84.20691849	78.99762636	74.2381775
201202A00017	12/2/2020	1.32	12/3/2035	12/2/2025	118.48948	113.7273243	108.462764	102.3724403	96.00272946	89.88664596	84.20691778	78.99762554	74.23817659
200512A00023	5/12/2020	1.78	5/11/2035	5/12/2025	121.7582	116.8789283	111.599891	105.1686103	97.96274176	90.79484152	84.07481132	77.92988904	72.36658357
200609A00003	6/9/2020	1.66	6/8/2035	6/9/2025	120.32721	115.748386	110.5420492	103.7170762	95.84112639	88.00110381	80.69824346	74.07394824	68.12628355
200612A00001	6/12/2020	0.75	6/12/2030	6/12/2025	114.01392	110.2842552	106.3941735	102.1888451	97.90141109	93.75368947	89.81930112	86.11078733	82.62153636
201022A00008	10/22/2020	1.02	10/22/2035	10/22/2025	117.40731	112.7882099	107.5752414	101.4773996	95.12701594	89.05973412	83.44229563	78.2957399	73.59532401
201029A00008	10/29/2020	0.92	10/29/2030	10/29/2025	114.82045	110.8034164	106.6394745	102.2199721	97.77557271	93.50111312	89.45852377	85.65594278	82.08488466
201030A00025	10/30/2020	2.02	10/28/2050	10/30/2025	123.69781	118.5645791	112.4444025	103.6344078	93.13449463	82.95659723	73.95493061	66.24225616	59.68619879
200326A00035	3/26/2020	1.68	3/26/2030	3/26/2025	116.03613	112.5158592	109.0004177	105.2375883	101.2328175	97.21077447	93.31367838	89.60089159	86.08608694
200423A00008	4/23/2020	1.59	4/23/2030	4/23/2025	119.81413	115.3871847	110.7287917	105.1778212	98.89254537	92.50686159	86.38059446	80.64335341	75.32284811
200423A00009	4/23/2020	1.59	4/23/2030	4/23/2025	119.81413	115.3871847	110.7287917	105.1778212	98.89254537	92.50686159	86.38059446	80.64335341	75.32284811

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200423A00010	4/23/2020	1.59	4/23/2030	4/23/2025	119.81412	115.3871731	110.728784	105.1778182	98.89254785	92.50686971	86.38060797	80.64337193	75.32287122
200430A00021	4/30/2020	1.2	4/30/2030	4/30/2025	114.97811	111.2833313	107.5126749	103.4669732	99.29308268	95.20928775	91.31131346	87.62368316	84.14602753
200505A00010	5/5/2020	0.89	5/6/2030	5/5/2025	114.4808	110.7643959	106.9287127	102.7934595	98.55172763	94.428634	90.5058608	86.80294861	83.31565343
200115A00025	1/15/2020	2.1	1/15/2025	1/15/2023	109.36342	107.6342508	105.9422022	104.2818198	102.5533957	100.4760583	97.99862618	95.3552645	92.71085714
200306A00021	3/6/2020	1.16	3/6/2030	3/6/2025	114.26434	110.7688348	107.1808943	103.262899	99.16246231	95.12729441	91.26817499	87.6140084	84.16595392
200309A00013	3/9/2020	1.1	3/8/2030	3/9/2025	114.06075	110.5664462	106.9666638	103.0291007	98.91944643	94.88523407	91.03183514	87.38524967	83.94543328
200316A00030	3/16/2020	1.35	3/15/2030	3/16/2025	115.45955	111.9387574	108.3921427	104.5626495	100.5065837	96.46020669	92.5611284	88.85531173	85.35264171
200316A00032	3/16/2020	1.35	3/15/2030	3/16/2025	115.45955	111.9387582	108.392143	104.5626489	100.5065819	96.46020351	92.56112394	88.8553061	85.35263502
200318A00015	3/18/2020	1.69	3/18/2030	3/18/2023	109.53814	107.6886982	105.8768498	103.9063006	101.0837624	97.41330419	93.48797905	89.6455523	85.98578656
191220A00029	12/20/2019	2.57	12/19/2031	12/20/2024	119.06564	115.5194201	112.0376195	108.3164844	104.1285101	99.66127507	95.18790169	90.86125007	86.75279842
200102A00020	1/2/2020	2.78	1/3/2040	1/2/2025	122.51721	118.4957358	114.4637186	109.6622677	103.5613878	96.7257375	89.86287226	83.38376167	77.43196447
200108A00009	1/8/2020	2.4	1/8/2035	1/8/2025	120.76661	116.8312553	112.9169328	108.453719	103.0798977	97.23467227	91.42140871	85.90131178	80.76597668
200108A00040	1/8/2020	2.52	1/8/2030	1/8/2025	120.89034	116.9229878	112.982165	108.6019067	103.5225259	98.07480586	92.6252552	87.38443981	82.43621442
200110A00012	1/10/2020	2.57	1/10/2035	1/10/2025	120.2529	116.4471088	112.6495889	108.3408106	103.2446109	97.75188537	92.28854749	87.07308903	82.19694545
200115A00023	1/15/2020	2.16	1/15/2030	1/15/2025	117.10298	113.6952663	110.3511967	106.8470575	103.069498	99.18006648	95.34482743	91.65385931	88.13918954
190930A00083	9/30/2019	2.04	10/1/2029	9/30/2024	116.27989	113.0942793	109.9765684	106.7174888	103.1607819	99.43986507	95.73936523	92.15824991	88.73776516
191007A00012	10/7/2019	2	10/5/2029	10/7/2024	115.69562	112.5238701	109.4047697	106.1017486	102.4797097	98.71496663	94.99023881	91.40160542	87.98133237
191007A00013	10/7/2019	2	10/5/2029	10/7/2024	115.69562	112.5238662	109.4047671	106.1017482	102.4797126	98.71497332	94.99024918	91.40161923	87.98134933
191028A00015	10/28/2019	2.49	10/27/2034	10/28/2024	119.39681	115.8408538	112.3139724	108.3252165	103.4934851	98.1655422	92.79479062	87.63512045	82.7914887
191031A00036	10/31/2019	2.9	10/31/2039	10/31/2024	121.85443	117.9842612	114.0755834	109.4159395	103.4571277	96.74935041	89.9976396	83.61272087	77.73778928
191031A00037	10/31/2019	2.59	10/30/2034	10/31/2024	119.91069	116.1995312	112.5068942	108.3343771	103.3741333	97.99508057	92.62066771	87.47512662	82.65357515
190520A00018	5/20/2019	3.7	5/20/2044	5/20/2024	121.65094	118.2826688	115.0006632	111.3624275	106.2335013	99.44227866	91.92541345	84.53595914	77.6983783
190530A00044	5/30/2019	2.85	5/30/2034	5/30/2024	118.44732	115.3109702	112.2465954	108.9311422	104.8246074	100.0045037	94.9266593	89.91863452	85.14910909
190807A00041	8/7/2019	2.27	8/7/2034	7/7/2024	117.50584	114.2281635	110.9603461	107.1561428	102.4007097	97.10935565	91.78596866	86.69271151	81.9247823
190807A00044	8/7/2019	2.27	8/7/2034	8/7/2024	118.23667	114.7921884	111.3487385	107.3588761	102.4811475	97.13686492	91.79501808	86.69580543	81.92585962
190827A00044	8/27/2019	1.9	8/27/2029	8/27/2024	115.53396	112.4354125	109.3954058	106.1909932	102.6664089	98.9770994	95.30975146	91.76772254	88.38652719
190930A00079	9/30/2019	2.04	10/1/2029	9/30/2024	116.27989	113.0942793	109.9765685	106.717489	103.1607825	99.43986611	95.73936668	92.15825172	88.73776728
190204A00054	2/4/2019	3.98	2/6/2034	2/2/2024	120.78472	117.7164203	114.7359737	111.6345357	107.6919324	102.518387	96.54968126	90.34798289	84.30919894
190222A00023	2/22/2019	3.66	2/22/2034	2/22/2026	136.77837	130.8479932	124.9209028	118.3360682	110.8790269	103.0227836	95.25725799	87.88279142	81.03653517
190301A00015	3/1/2019	3.86	3/1/2034	3/2/2026	134.14141	128.3922096	122.7762405	116.7939423	110.1044472	102.9510334	95.74118135	88.78696231	82.25473501
190409A00016	4/9/2019	2.91	4/9/2029	4/9/2024	118.1574	115.110586	112.1474628	109.0751309	105.4862725	101.3271549	96.90492378	92.4790923	88.1950467
190409A00017	4/9/2019	3.01	4/9/2029	4/9/2024	119.10925	115.9422064	112.8609092	109.6392132	105.7988158	101.2724405	96.42053253	91.5509349	86.8369806
190430A00020	4/30/2019	3.41	4/28/2034	4/28/2026	136.4282	130.1858901	123.7652612	116.6914112	109.0005839	101.1371596	93.48845039	86.28566966	79.63377857

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180627A00005	6/27/2018	3.63	6/30/2033	6/30/2023	115.47176	113.1974987	110.9820638	108.7764737	106.2239385	102.8471358	98.74099241	94.30428156	89.86042231
180703A00033	7/3/2018	3.4	7/3/2028	7/3/2023	113.59818	111.5029679	109.4614612	107.4599092	105.3758976	102.9773684	100.237255	97.31097119	94.35467793
180712A00016	7/12/2018	3.66	7/12/2033	7/12/2028	142.28222	134.3146987	126.7656896	119.3983022	112.1465625	105.1302967	98.46766829	92.23455932	86.45557332
181212A00026	12/12/2018	3.22	12/12/2028	12/12/2023	116.21411	113.6484506	111.1584452	108.7048882	106.1142928	103.2297866	100.112488	96.91922849	93.75706567
190111A00040	1/11/2019	3.74	1/11/2034	1/11/2024	120.08186	117.069592	114.1449599	111.152017	107.4350869	102.5351867	96.81049712	90.83935707	85.01135589
190116A00015	1/16/2019	3.61	1/17/2034	1/16/2024	118.23163	115.4286769	112.7056961	109.9302554	106.6304878	102.5446149	97.93905318	93.19995614	88.55440357
180105A00005	1/5/2018	3.07	1/5/2028	1/5/2023	110.47318	108.8487718	107.2591775	105.7007023	104.1004183	102.1899328	99.81733981	97.14705971	94.3912133
180105A00006	1/5/2018	3.07	1/5/2028	1/5/2023	110.47318	108.8487702	107.2591762	105.7007013	104.1004178	102.1899333	99.81734223	97.14706451	94.39122061
180130A00087	1/30/2018	2.92	1/31/2028	1/30/2023	110.23463	108.6132195	107.0265644	105.4699701	103.8551802	101.8940811	99.46133834	96.75417266	93.97921442
180302A00003	3/2/2018	3.89	3/2/2033	3/2/2023	114.23386	112.2346471	110.2813202	108.3329374	105.9073552	102.1253531	97.02013044	91.32410022	85.5768166
180315A00030	3/15/2018	3.76	3/15/2033	3/17/2025	128.33921	123.8208281	119.4368628	114.817357	109.4083777	103.2344528	96.71640221	90.24599169	84.05650737
180504A00024	5/4/2018	3.62	5/4/2028	5/4/2023	114.89445	112.6968146	110.5543257	108.4448187	106.122678	103.0673904	99.17277565	94.80005104	90.30090933
170721A00021	7/21/2017	2.95	7/21/2032	7/21/2022	108.44411	107.1052959	105.7995475	104.5142091	102.9478128	100.2826567	96.48514375	92.24999426	88.02738416
170802A00074	8/2/2017	2.92	8/2/2027	8/2/2022	108.28519	106.9331468	105.6145015	104.3244112	102.91512	100.7871759	97.68695514	94.09905468	90.42893867
170809A00042	8/9/2017	2.35	8/9/2027	8/9/2022	107.30482	106.0406653	104.8072626	103.6010244	102.3257766	100.6011162	98.27621428	95.65641102	93.00179907
171004A00022	10/4/2017	2.74	10/4/2027	10/4/2022	109.05871	107.5975905	106.1645995	104.7491955	103.1300278	100.7221158	97.46592935	93.82598417	90.14607226
171005A00047	10/5/2017	3.29	10/5/2032	10/5/2022	110.05356	108.5531405	107.0816132	105.6126656	103.6655177	100.2296411	95.43123328	90.14729729	84.9263255
171016A00037	10/16/2017	3.39	10/18/2032	10/16/2022	110.30943	108.7912689	107.3023509	105.8115196	103.7609674	100.0111907	94.74443696	88.95538911	83.24792606
161118A00013	11/18/2016	2.96	11/18/2026	11/18/2021	103.50805	102.9733385	102.4441685	101.9204598	101.3906707	100.4270633	97.95960244	94.42624384	90.60944468
170113A00025	1/13/2017	3.59	1/13/2032	1/13/2022	105.03456	104.3251927	103.6255935	102.9355517	102.2395431	101.1473806	98.71056826	95.15653209	91.24220441
170411A00031	4/11/2017	3.39	4/12/2032	4/11/2022	107.0752	106.0113417	104.9691916	103.9468956	102.8322588	100.9187521	97.69396086	93.74701921	89.6684797
170515A00052	5/15/2017	3.78	5/15/2042	5/15/2024	122.88406	119.4209765	116.0550058	112.4448508	107.702118	101.5976429	94.76922355	87.89265944	81.37813364
170519A00006	5/19/2017	3	5/19/2032	5/19/2022	106.84042	105.7760412	104.7334261	103.709224	102.520103	100.2958608	96.7486538	92.62471081	88.45920673
170705A00037	7/5/2017	2.85	7/6/2032	7/6/2027	129.65877	123.7533312	118.1033489	112.5767929	107.1601622	101.9336501	96.96153861	92.27403984	87.87752441
160506A00056	5/10/2016	3.77	5/10/2041	5/10/2021	100.03982	100.0314099	100.0230067	100.0146087	100.0062158	99.33847762	93.72148026	87.08178083	80.68631746
160627A00034	6/27/2016	1.7	6/26/2026	6/28/2021	100.48927	100.3984588	100.3078125	100.2173387	100.1257883	99.5428043	97.6394425	95.39999079	93.16408543
160711A00011	7/11/2016	1.66	7/13/2026	7/11/2021	101.4037	101.1428211	100.8833146	100.6251715	100.3504616	99.47601665	97.48934289	95.20851447	92.93916063
161006A00023	10/6/2016	2.49	10/6/2031	10/6/2021	103.21017	102.685161	102.1655696	101.6510711	100.9979061	98.9647959	95.28634832	91.18371967	87.1551068
161012A00009	10/12/2016	2.56	10/14/2031	10/12/2021	103.24617	102.7210067	102.2012601	101.686692	101.0574378	99.15096913	95.55145678	91.46994816	87.44405422
161012A00020	10/11/2016	2.96	10/14/2031	10/11/2023	116.34808	113.6854858	111.0833969	108.2132286	104.1609103	98.77137851	92.76268136	86.72031239	80.94918581
150202A00006	2/2/2015	1.92	2/3/2025	2/3/2020	100.03578	100.0275424	100.0193156	100.0110951	100.0028809	99.95173135	98.89776666	97.27801311	95.58709397
150223A00011	2/23/2015	3.54	2/22/2030	2/23/2022	105.40316	104.6207027	103.850168	103.0912742	102.3307466	101.2664385	99.15739976	96.13744309	92.80476334
150417A00033	4/17/2015	1.78	4/18/2022	4/17/2020	100.03459	100.0263623	100.0181366	100.0099172	100.0017041	99.99188769	99.64172303	98.95424715	98.23882277

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150501A00019	5/1/2015	3.69	5/1/2035	5/1/2020	100.03959	100.0311826	100.0227814	100.0143854	100.0059947	99.90925462	96.79335787	91.84633217	86.81588482
151223A00007	12/23/2015	3.76	12/23/2030	12/23/2022	112.11734	110.4033205	108.7250898	107.0518619	104.9436694	101.5163396	96.79966816	91.48897983	86.11955372
160506A00054	5/10/2016	3.31	5/12/2036	5/10/2021	100.03624	100.0278648	100.0194964	100.0111331	100.002775	99.24553501	94.47681934	89.01344898	83.71005195
140508A00011	5/8/2014	2.32	5/8/2024	5/8/2019	100.03918	100.0309476	100.0227173	100.0144932	100.0062755	99.99806422	99.62117526	98.45981159	97.11997502
140723A00038	7/23/2014	2.3	7/23/2024	7/23/2019	100.039	100.0307634	100.0225334	100.0143097	100.0060923	99.99788129	99.55693043	98.31258348	96.89636707
140822A00012	8/22/2014	3.7	8/22/2034	8/23/2021	101.91732	101.6507158	101.385516	101.1217082	100.8575535	100.2021294	97.33166668	92.92415814	88.26185592
141110A00008	11/10/2014	2.31	11/12/2024	11/12/2019	100.03905	100.0308173	100.0225875	100.014364	100.0061468	99.99793607	99.47420383	98.09810342	96.54712869
141119A00005	11/19/2014	2.53	11/19/2024	11/19/2019	100.02899	100.0208732	100.0127638	100.0046595	99.99656004	99.9884657	99.54937484	98.22253772	96.68676193
150108A00029	1/8/2015	3.16	1/9/2035	1/10/2022	104.93636	104.1925599	103.4591264	102.7355904	101.9025912	99.64662229	95.15186434	89.88612169	84.69940594
090429A00044	4/29/2009	4.1	4/29/2024	4/29/2014	100.0422	100.0340779	100.0259564	100.0178398	100.0097283	100.0016218	99.99352041	99.86921123	99.14640027
100517A00013	5/17/2010	3.71	5/19/2025	5/18/2015	100.05072	100.0424703	100.0342309	100.0259978	100.0177711	100.0095507	100.0013367	99.54085448	98.25841875
100707A00014	7/7/2010	3.19	7/7/2025	7/7/2015	100.04636	100.038119	100.0298833	100.0216541	100.0134311	100.0052146	99.90175531	98.92056676	97.32282127
111215A00019	12/15/2011	2.53	12/15/2026	12/15/2021	103.66214	103.0585636	102.4645342	101.8925541	101.3104976	100.5007188	98.9282961	96.76642645	94.40986297
130416A00025	4/16/2013	2.27	4/18/2028	4/16/2018	100.03858	100.0303424	100.0221143	100.0138926	100.0056772	99.69450754	97.50305982	94.67288676	91.77522889
140416A00025	4/14/2014	3.56	4/16/2029	4/14/2021	100.04929	100.0410448	100.0328083	100.024578	100.0163541	100.0081366	98.52109537	95.01475027	90.98567524
201229A00003	12/29/2020	1.28	12/30/2030	12/30/2025	119.01523	113.9692403	108.7875168	102.6241094	96.2161721	90.0117739	84.19023125	78.79754685	73.82805881
201230A00018	12/30/2020	1.52	12/28/2035	12/28/2027	127.6563	119.80755	111.942985	102.8206571	93.64166944	85.02008117	77.19270739	70.19618377	63.98296467
210108A00007	1/8/2021	1.65	1/8/2036	1/8/2026	122.83666	117.2129394	111.3036414	103.659289	95.36986586	87.29474621	79.83432147	73.10031658	67.0794957
210225A00010	2/25/2021	2.02	2/25/2041	2/25/2026	123.73606	118.2424927	112.5793503	105.3214417	97.29924067	89.39859173	82.0662677	75.44178965	69.51934301
210405A00013	4/5/2021	1.82	4/7/2036	4/5/2026	121.6868	116.5176506	111.3315228	105.2735401	98.89132576	92.64369306	86.76679821	81.34107167	76.37071187
201116A00019	11/16/2020	1.32	11/15/2030	11/16/2025	118.91002	113.9731042	108.9076534	102.8666754	96.54863607	90.41048476	84.63721377	79.28040711	74.33674808
201118A00015	11/18/2020	1.66	11/18/2036	11/18/2027	128.41241	120.6210661	112.7891882	103.5599535	94.16647081	85.30624728	77.26778381	70.10498364	63.77061073
201118A00017	11/18/2020	1.66	11/18/2036	11/18/2027	128.41241	120.6210661	112.7891882	103.5599535	94.16647081	85.30624728	77.26778381	70.10498364	63.77061073
201118A00018	11/18/2020	1.85	11/18/2036	11/18/2027	128.61173	120.8625874	113.0912587	103.9575055	94.63897093	85.8256973	77.81367405	70.66414412	64.33448595
201202A00016	12/2/2020	1.32	12/3/2035	12/2/2025	118.31617	113.4810421	108.4552982	102.3534104	95.99833283	89.89041166	84.21293269	79.00293957	74.24259712
201202A00017	12/2/2020	1.32	12/3/2035	12/2/2025	118.31617	113.481042	108.4552981	102.3534101	95.99833241	89.89041108	84.21293197	79.00293874	74.24259621
200512A00023	5/12/2020	1.78	5/11/2035	5/12/2025	121.632	116.6548717	111.5562489	105.1087001	97.93829138	90.79881962	84.08892547	77.94477516	72.37887856
200609A00003	6/9/2020	1.66	6/8/2035	6/9/2025	120.17592	115.4735948	110.4973509	103.6542771	95.81779596	88.00782024	80.71450433	74.09069815	68.14008905
200612A00001	6/12/2020	0.75	6/12/2030	6/12/2025	113.9445	110.1914341	106.402109	102.1923801	97.90499121	93.75723919	89.82238598	86.11303143	82.62325047
201022A00008	10/22/2020	1.02	10/22/2035	10/22/2025	117.22698	112.5350819	107.5750358	101.4645861	95.12540396	89.06348545	83.44629863	78.29886757	73.59743569
201029A00008	10/29/2020	0.92	10/29/2030	10/29/2025	114.73922	110.7017334	106.6469451	102.2222938	97.77883912	93.5049796	89.46214597	85.65900259	82.08763491
201030A00025	10/30/2020	2.02	10/28/2050	10/30/2025	123.50059	118.1689544	112.3333353	103.4926663	93.06965684	82.94389774	73.95908692	66.25055007	59.69465527
200326A00035	3/26/2020	1.68	3/26/2030	3/26/2025	115.99985	112.4606865	108.9879471	105.2237128	101.2241009	97.21090733	93.3191991	89.60786718	86.09251421

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200423A00008	4/23/2020	1.59	4/23/2030	4/23/2025	119.73284	115.2452665	110.7084111	105.1465754	98.88284769	92.5196985	86.40322085	80.66688442	75.34417447
200423A00009	4/23/2020	1.59	4/23/2030	4/23/2025	119.73284	115.2452665	110.7084111	105.1465754	98.88284769	92.5196985	86.40322085	80.66688442	75.34417447
200423A00010	4/23/2020	1.59	4/23/2030	4/23/2025	119.73282	115.245255	110.7084033	105.1465724	98.88285018	92.51970661	86.40323434	80.66690291	75.34419756
200430A00021	4/30/2020	1.2	4/30/2030	4/30/2025	114.92479	111.2070316	107.5113695	103.4641067	99.2925531	95.2118071	91.3149605	87.62703118	84.14901643
200505A00010	5/5/2020	0.89	5/6/2030	5/5/2025	114.41914	110.6787617	106.9326849	102.7942934	98.55378426	94.43177038	90.50894357	86.80557995	83.31768721
200115A00025	1/15/2020	2.1	1/15/2025	1/15/2023	109.36313	107.6329529	105.9405816	104.2836028	102.5454769	100.442413	97.97016595	95.34085059	92.70225584
200306A00021	3/6/2020	1.16	3/6/2030	3/6/2025	114.21543	110.6960522	107.1808574	103.2619759	99.16288841	95.13017376	91.2717658	87.61715325	84.16871216
200309A00013	3/9/2020	1.1	3/8/2030	3/9/2025	114.00984	110.4915936	106.9678545	103.0293681	98.92081074	94.88837701	91.03503125	87.38813928	83.94793882
200316A00030	3/16/2020	1.35	3/15/2030	3/16/2025	115.41919	111.8772856	108.3829539	104.5529275	100.5009966	96.46134297	92.56524733	88.8598263	85.35664271
200316A00032	3/16/2020	1.35	3/15/2030	3/16/2025	115.41919	111.8772863	108.3829541	104.5529268	100.5009948	96.4613398	92.56524289	88.85982069	85.35663604
200318A00015	3/18/2020	1.69	3/18/2030	3/18/2023	109.54019	107.6892265	105.8773355	103.9161251	101.0946931	97.41911135	93.49769197	89.65599153	85.99464722
191220A00029	12/20/2019	2.57	12/19/2031	12/20/2024	119.03688	115.4775697	112.0156738	108.2899593	104.1150992	99.67652433	95.21839265	90.89767813	86.78658828
200102A00020	1/2/2020	2.78	1/3/2040	1/2/2025	122.47283	118.419119	114.4251598	109.5997164	103.5302604	96.74846919	89.91402144	83.43133638	77.47103113
200108A00009	1/8/2020	2.4	1/8/2035	1/8/2025	120.73127	116.772278	112.8868226	108.4093416	103.0580791	97.24726281	91.44990058	85.93077641	80.7898631
200108A00040	1/8/2020	2.52	1/8/2030	1/8/2025	120.84923	116.8588699	112.955613	108.5673613	103.5113194	98.10352203	92.67747609	87.44423744	82.49171528
200110A00012	1/10/2020	2.57	1/10/2035	1/10/2025	120.2131	116.3817531	112.621193	108.3011659	103.226943	97.7700372	92.32399758	87.11255185	82.23152159
200115A00023	1/15/2020	2.16	1/15/2030	1/15/2025	117.07598	113.6569269	110.3325774	106.8262255	103.0550498	99.18014545	95.3548915	91.66793312	88.15269187
190930A00083	9/30/2019	2.04	10/1/2029	9/30/2024	116.25874	113.0647167	109.9604846	106.6991508	103.1450581	99.43864823	95.74789897	92.17114408	88.7502601
191007A00012	10/7/2019	2	10/5/2029	10/7/2024	115.67318	112.4913223	109.3898635	106.0853712	102.4661064	98.71312548	94.99796019	91.41240232	87.9914945
191007A00013	10/7/2019	2	10/5/2029	10/7/2024	115.67318	112.4913185	109.3898609	106.0853709	102.4661093	98.71313215	94.9979705	91.41241609	87.99151142
191028A00015	10/28/2019	2.49	10/27/2034	10/28/2024	119.3667	115.7922397	112.2900752	108.2904175	103.4776482	98.18523448	92.83597473	87.67722039	82.82833281
191031A00036	10/31/2019	2.9	10/31/2039	10/31/2024	121.80643	117.9093431	114.039176	109.3564519	103.4273153	96.77309744	90.04906072	83.66139278	77.77849095
191031A00037	10/31/2019	2.59	10/30/2034	10/31/2024	119.87417	116.1405889	112.4797682	108.2966485	103.357215	98.01357869	92.65785908	87.51515559	82.68904424
190520A00018	5/20/2019	3.7	5/20/2044	5/20/2024	121.64814	118.2744442	114.9951365	111.3357786	106.2179996	99.48836791	92.00896651	84.61864458	77.76217813
190530A00044	5/30/2019	2.85	5/30/2034	5/30/2024	118.44327	115.3003416	112.242541	108.9200212	104.8243286	100.0435054	94.99255571	89.9892943	85.21216934
190807A00041	8/7/2019	2.27	8/7/2034	7/7/2024	117.48642	114.1910822	110.9460593	107.1300114	102.3854065	97.12422648	91.81611568	86.72592436	81.95215199
190807A00044	8/7/2019	2.27	8/7/2034	8/7/2024	118.20779	114.7421916	111.3280413	107.3270208	102.4637362	97.15098375	91.82453547	86.72848622	81.95291109
190827A00044	8/27/2019	1.9	8/27/2029	8/27/2024	115.51468	112.4074501	109.3816951	106.1754074	102.6524286	98.97462635	95.31684628	91.77857172	88.39676695
190930A00079	9/30/2019	2.04	10/1/2029	9/30/2024	116.25874	113.0647167	109.9604847	106.699151	103.1450587	99.43864925	95.74790041	92.17114588	88.75026221
190204A00054	2/4/2019	3.98	2/6/2034	2/2/2024	120.79273	117.7220608	114.7430979	111.646296	107.7470456	102.6737639	96.78345239	90.60572371	84.54712904
190222A00023	2/22/2019	3.66	2/22/2034	2/22/2026	136.70822	130.7223523	124.8913015	118.3109688	110.9270556	103.14979	95.42526671	88.05336919	81.18853832
190301A00015	3/1/2019	3.86	3/1/2034	3/2/2026	134.09629	128.3146266	122.7574461	116.7901506	110.1775988	103.11804	95.96025327	89.01408699	82.45935085
190409A00016	4/9/2019	2.91	4/9/2029	4/9/2024	118.1595	115.1090127	112.1492011	109.0748115	105.4912081	101.3817616	96.99240774	92.57530576	88.28644926

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190409A00017	4/9/2019	3.01	4/9/2029	4/9/2024	119.11176	115.9407468	112.8635359	109.6399683	105.811097	101.3509681	96.54184955	91.6817217	86.96062576
190430A00020	4/30/2019	3.41	4/28/2034	4/28/2026	136.27082	129.9836665	123.7533229	116.6769947	109.0438667	101.2428582	93.62469331	86.42352117	79.75521538
180627A00005	6/27/2018	3.63	6/30/2033	6/30/2023	115.46774	113.1924412	110.9769357	108.7774538	106.2416265	102.9191308	98.87710939	94.47211433	90.0197324
180703A00033	7/3/2018	3.4	7/3/2028	7/3/2023	113.59357	111.4968455	109.4550118	107.458518	105.3731964	102.9873092	100.2794626	97.37946935	94.42969409
180712A00016	7/12/2018	3.66	7/12/2033	7/12/2028	142.22109	134.2334457	126.7501126	119.399242	112.1892659	105.2123655	98.57581168	92.3465659	86.55948133
181212A00026	12/12/2018	3.22	12/12/2028	12/12/2023	116.2185	113.6510537	111.1608204	108.7103433	106.1181518	103.2514976	100.163601	96.98860526	93.82688092
190111A00040	1/11/2019	3.74	1/11/2034	1/11/2024	120.09015	117.0762637	114.1520979	111.1603377	107.4703683	102.6469407	96.98393044	91.02471885	85.17318261
190116A00015	1/16/2019	3.61	1/17/2034	1/16/2024	118.23804	115.4330995	112.7108522	109.9383731	106.6546066	102.6212575	98.06799978	93.33885643	88.68134879
180105A00005	1/5/2018	3.07	1/5/2028	1/5/2023	110.47163	108.8455798	107.2555618	105.7022569	104.1001835	102.1871692	99.83965587	97.1978455	94.45105
180105A00006	1/5/2018	3.07	1/5/2028	1/5/2023	110.47163	108.8455782	107.2555605	105.7022559	104.100183	102.1871697	99.83965824	97.19785019	94.4510572
180130A00087	1/30/2018	2.92	1/31/2028	1/30/2023	110.23309	108.6100502	107.022974	105.4716104	103.85433	101.8884626	99.47839517	96.79729471	94.02795249
180302A00003	3/2/2018	3.89	3/2/2033	3/2/2023	114.23548	112.2355346	110.2820386	108.33978	105.9491574	102.2574833	97.26155564	91.5994744	85.834006
180315A00030	3/15/2018	3.76	3/15/2033	3/17/2025	128.30885	123.7796067	119.4108467	114.8007758	109.458652	103.3803459	96.92062653	90.45755246	84.24282082
180504A00024	5/4/2018	3.62	5/4/2028	5/4/2023	114.89292	112.6942887	110.5515505	108.446551	106.1383127	103.1338447	99.31420638	94.97960196	90.47383605
170721A00021	7/21/2017	2.95	7/21/2032	7/21/2022	108.40109	107.0535191	105.7497675	104.5161169	102.9631043	100.3112906	96.55103813	92.33546518	88.1072071
170802A00074	8/2/2017	2.92	8/2/2027	8/2/2022	108.24055	106.8799328	105.5636215	104.3249898	102.9187847	100.7887276	97.72129555	94.15790418	90.48858174
170809A00042	8/9/2017	2.35	8/9/2027	8/9/2022	107.26504	105.9923148	104.7605026	103.6014344	102.3242677	100.5814908	98.26746936	95.66873651	93.02015039
171004A00022	10/4/2017	2.74	10/4/2027	10/4/2022	109.05673	107.5946189	106.1613843	104.7503942	103.1358234	100.7289915	97.50418554	93.8925013	90.21377596
171005A00047	10/5/2017	3.29	10/5/2032	10/5/2022	110.05198	108.5507904	107.0790777	105.6154167	103.6920839	100.3021118	95.56257073	90.30126502	85.06152088
171016A00037	10/16/2017	3.39	10/18/2032	10/16/2022	110.30809	108.7892777	107.3002066	105.8146787	103.7946919	100.1078807	94.91207411	89.14685337	83.415339
161118A00013	11/18/2016	2.96	11/18/2026	11/18/2021	103.50748	102.9682435	102.436631	101.9204617	101.3919787	100.4123921	98.01121675	94.53886205	90.73099221
170113A00025	1/13/2017	3.59	1/13/2032	1/13/2022	105.0229	104.3057016	103.6036861	102.9355491	102.2417102	101.1622143	98.79606298	95.30488229	91.39372814
170411A00031	4/11/2017	3.39	4/12/2032	4/11/2022	107.05928	105.9807697	104.9342473	103.9472181	102.8410297	100.9441064	97.77491295	93.86356152	89.77933643
170515A00052	5/15/2017	3.78	5/15/2042	5/15/2024	122.8758	119.4081476	116.0458203	112.428299	107.7139324	101.6833211	94.8991849	88.02353738	81.48053151
170519A00006	5/19/2017	3	5/19/2032	5/19/2022	106.82447	105.7454352	104.6984517	103.7098117	102.5331845	100.3203281	96.81366024	92.71213901	88.54265559
170705A00037	7/5/2017	2.85	7/6/2032	7/6/2027	129.61433	123.6940552	118.0847796	112.5643915	107.1630679	101.9527789	96.98969018	92.30435322	87.90587331
160506A00056	5/10/2016	3.77	5/10/2041	5/10/2021	100.03982	100.0314099	100.0230067	100.0146087	100.0062159	99.30706285	93.81598746	87.17994181	80.76185025
160627A00034	6/27/2016	1.7	6/26/2026	6/28/2021	100.48928	100.398368	100.3065327	100.217333	100.1270204	99.5211654	97.61880813	95.39613586	93.16425388
160711A00011	7/11/2016	1.66	7/13/2026	7/11/2021	101.40349	101.1420967	100.8825409	100.6251672	100.3556589	99.45367566	97.47116368	95.20355295	92.93832688
161006A00023	10/6/2016	2.49	10/6/2031	10/6/2021	103.20958	102.6801286	102.1581487	101.6511937	101.0148427	98.98163375	95.32301095	91.22859326	87.1958619
161012A00009	10/12/2016	2.56	10/14/2031	10/12/2021	103.24558	102.7159726	102.1938369	101.6867775	101.0724888	99.16565109	95.59127122	91.5203406	87.48873552
161012A00020	10/11/2016	2.96	10/14/2031	10/11/2023	116.34979	113.6845576	111.0847558	108.2175072	104.1867242	98.8551015	92.88936915	86.85595338	81.07144583
150202A00006	2/2/2015	1.92	2/3/2025	2/3/2020	100.03578	100.0275424	100.0193156	100.0110951	100.0028809	99.92300515	98.86322369	97.26802071	95.58509721

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150223A00011	2/23/2015	3.54	2/22/2030	2/23/2022	105.37706	104.5872682	103.8159686	103.0912767	102.3322416	101.2686129	99.20763277	96.24565192	92.92226711
150417A00033	4/17/2015	1.78	4/18/2022	4/17/2020	100.03459	100.0263623	100.0181366	100.0099172	100.0017042	99.99349749	99.62642412	98.95073186	98.23837519
150501A00019	5/1/2015	3.69	5/1/2035	5/1/2020	100.03959	100.0311826	100.0227814	100.0143854	100.0059947	99.99760927	96.89949289	91.97507442	86.92783335
151223A00007	12/23/2015	3.76	12/23/2030	12/23/2022	112.11687	110.4022156	108.7238418	107.0568233	104.9834082	101.6406886	97.00896224	91.73905973	86.35055825
160506A00054	5/10/2016	3.31	5/12/2036	5/10/2021	100.03624	100.0278648	100.0194964	100.0111331	100.0027751	99.25744584	94.55535674	89.09751794	83.77936153
140508A00011	5/8/2014	2.32	5/8/2024	5/8/2019	100.03918	100.0309476	100.0227173	100.0144932	100.0062756	99.99806426	99.5868897	98.45022709	97.12242075
140723A00038	7/23/2014	2.3	7/23/2024	7/23/2019	100.039	100.0307634	100.0225334	100.0143097	100.0060923	99.99788134	99.52119993	98.30220262	96.8980461
140822A00012	8/22/2014	3.7	8/22/2034	8/23/2021	101.91711	101.6500105	101.384764	101.1217038	100.8587975	100.2141813	97.435418	93.081863	88.4080757
141110A00008	11/10/2014	2.31	11/12/2024	11/12/2019	100.03905	100.0308173	100.0225875	100.014364	100.0061469	99.99793612	99.43646902	98.08690964	96.54900341
141119A00005	11/19/2014	2.53	11/19/2024	11/19/2019	100.02899	100.0208732	100.0127638	100.0046595	99.99656009	99.98846575	99.51230509	98.21271945	96.68999342
150108A00029	1/8/2015	3.16	1/9/2035	1/10/2022	104.92352	104.1714684	103.4355233	102.7356639	101.9138303	99.67987566	95.23252767	89.97595741	84.77473473
110701A00011	7/1/2011	3.87	7/1/2026	7/1/2011	120.4017	117.1971976	114.120614	111.1657161	108.3266175	105.5977611	102.9738982	100.4500693	98.02158611
110719A00017	7/19/2011	3.68	7/20/2026	7/19/2011	119.82627	116.636169	113.5734914	110.6320172	107.8058793	105.0895386	102.4777642	99.96561328	97.54841377
110810A00009	8/10/2011	2.36	8/10/2021	8/10/2011	100.74296	100.6204597	100.4983867	100.3767359	100.2555051	100.1346919	100.014294	99.89430904	99.77473485
110909A00006	9/9/2011	2.26	9/9/2026	9/9/2011	115.99533	112.8107146	109.756716	106.8268049	104.0148331	101.3150035	98.72184813	96.23020673	93.83520745
111115A00005	11/15/2011	2.26	11/15/2021	11/15/2011	101.55895	101.2946141	101.0321902	100.7716554	100.5129873	100.2561637	100.001163	99.74796375	99.49654494
111220A00025	12/20/2011	2.17	12/20/2021	12/20/2011	101.80228	101.4905101	101.1813906	100.87488	100.5709415	100.2695396	99.97063889	99.67420509	99.38020438
210512A00009	5/12/2021	0.66	5/10/2024	5/12/2021	112.03906	108.9213535	105.9089895	102.9978051	100.1838262	97.46325827	94.83247745	92.28802159	89.82658217
210420A00035	4/20/2021	1.92	4/20/2034	4/20/2021	137.21302	126.5340305	116.9246209	108.2641972	100.4468249	93.379344	86.97973788	81.17572048	75.90351119
210423A00001	4/23/2021	1.72	4/23/2036	4/23/2021	135.62841	125.2806476	115.9900054	107.6335782	100.103984	93.30727652	87.1611553	81.59342637	76.54067727
210423A00003	4/23/2021	1.31	4/23/2031	4/23/2021	122.66255	116.4049522	110.5898124	105.1808076	100.1449097	95.45206201	91.07489094	86.98844644	83.16996979
210512A00012	5/12/2021	1.16	5/12/2026	5/12/2021	120.2465	114.9061282	109.8433675	105.0422189	100.48769	96.16572741	92.06315331	88.16760611	84.46748564
210512A00011	5/12/2021	1.16	5/12/2026	5/12/2021	120.2465	114.9061282	109.8433675	105.0422189	100.48769	96.16572741	92.06315331	88.16760611	84.46748564
210512A00008	5/12/2021	0.66	5/10/2024	5/12/2021	112.03906	108.9213535	105.9089895	102.9978051	100.1838262	97.46325827	94.83247745	92.28802159	89.82658217
210319A00012	3/19/2021	0.83	12/19/2024	3/19/2021	114.59561	110.8202352	107.193723	103.7093345	100.3606739	97.14167187	94.04656695	91.06988776	88.20643669
210331A00007	3/31/2021	1.25	3/31/2031	3/31/2021	121.25653	115.1442518	109.4598701	104.1685733	99.23868287	94.64134655	90.35026577	86.34145089	82.59300161
210408A00007	4/8/2021	1.05	4/8/2031	4/8/2021	121.09453	114.917985	109.1781184	103.8390906	98.86830927	94.23611384	89.9154907	85.88181757	82.11263431
210412A00007	4/12/2021	0.66	4/12/2024	4/12/2021	111.7323	108.7078091	105.7830238	102.9540981	100.217361	97.56930282	95.0065676	92.52594518	90.1243641
210412A00008	4/12/2021	0.66	4/12/2024	4/12/2021	111.7323	108.7078091	105.7830238	102.9540981	100.217361	97.56930282	95.0065676	92.52594518	90.1243641
210412A00009	4/12/2021	0.37	4/12/2022	4/12/2021	103.62391	102.7048906	101.8022925	100.9156821	100.0446363	99.18874703	98.34762024	97.52087555	96.70814555
210212A00004	2/12/2021	1.1	2/12/2036	2/12/2021	129.35608	119.596601	110.8241145	102.9249732	95.79975005	89.36134436	83.53335379	78.24867291	73.44828498
210212A00006	2/12/2021	0.77	2/12/2026	2/12/2021	117.81503	112.7371001	107.9134782	103.3299423	98.97314727	94.83056949	90.89045102	87.14174801	83.57408293
210212A00007	2/12/2021	0.76	2/12/2026	2/12/2021	117.47709	112.4932129	107.7576014	103.2564062	98.97663442	94.90609149	91.0333271	87.34758509	83.83875701

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210217A00005	2/17/2021	0.83	2/14/2031	2/17/2021	119.52298	113.5283969	107.9512884	102.7578675	97.91736998	93.40176278	89.18548223	85.2451983	81.55960317
210319A00008	3/19/2021	0.63	3/19/2024	3/19/2021	111.41057	108.4596457	105.6041996	102.8405735	100.1652723	97.57495598	95.06643241	92.63664917	90.28268675
210319A00009	3/19/2021	1.1	3/19/2026	3/19/2021	119.43812	114.2890252	109.400452	104.7577385	100.347131	96.15572047	92.17138601	88.38274224	84.77909081
201207A00021	12/7/2020	1.85	12/7/2050	12/7/2020	162.96405	139.0123217	119.5792766	103.7171915	90.69015075	79.92455054	70.97157327	63.47865495	57.16772688
201221A00022	12/21/2020	0.51	12/19/2025	12/21/2020	116.24837	111.5553801	107.0886144	102.8358328	98.78552384	94.92686139	91.24965975	87.744332	84.40185142
201228A00013	12/28/2020	0.84	12/30/2030	12/28/2020	118.47467	112.6537122	107.2310038	102.1748348	97.45629181	93.04898943	88.92883099	85.07379337	81.46373356
210107A00008	1/7/2021	0.54	1/5/2024	1/7/2021	110.45299	107.7235824	105.0776286	102.5120312	100.0238295	97.61019334	95.26841637	92.9959097	90.79019578
210107A00009	1/7/2021	0.54	1/5/2024	1/7/2021	110.45299	107.7235824	105.0776286	102.5120312	100.0238295	97.61019334	95.26841637	92.9959097	90.79019578
210107A00010	1/7/2021	0.54	1/5/2024	1/7/2021	110.45299	107.7235824	105.0776286	102.5120312	100.0238295	97.61019334	95.26841637	92.9959097	90.79019578
200910A00006	9/10/2020	0.96	9/10/2027	9/10/2020	122.44365	115.6329203	109.2583756	103.2895576	97.69829905	92.4585401	87.54615895	82.93881756	78.61582023
201029A00004	10/29/2020	1.49	10/29/2038	10/29/2020	151.3866	132.7305862	116.8212437	103.2234759	91.57429946	81.57047884	72.95834027	65.52537428	59.09330365
201103A00005	11/3/2020	0.89	11/4/2030	11/3/2020	118.57435	112.8007483	107.418916	102.3979059	97.7094753	93.32783242	89.22940643	85.39263993	81.79780248
201110A00003	11/10/2020	1.12	11/10/2027	11/10/2020	123.87224	116.8293007	110.2476508	104.0944379	98.33931914	92.95425761	87.91333551	83.19258349	78.76982442
201203A00007	12/3/2020	0.58	12/1/2023	12/3/2020	110.21742	107.5891251	105.0390104	102.5642689	100.162213	97.83026872	95.56597006	93.36695392	91.23095491
201207A00009	12/7/2020	1.01	12/7/2027	12/7/2020	123.27423	116.1851266	109.5653111	103.3810086	97.60104897	92.19665708	87.14125602	82.41028813	77.98105133
200709A00019	7/9/2020	0.77	7/9/2025	7/9/2020	116.22024	111.7941347	107.5657233	103.5250299	99.66264312	95.96967954	92.4377504	89.05893112	85.82573276
200716A00004	7/16/2020	0.97	7/16/2027	7/16/2020	122.20263	115.5538209	109.3220366	103.4787012	97.9973516	92.85347107	88.02433611	83.48887537	79.22754073
200724A00011	7/24/2020	1.41	7/26/2038	7/24/2020	149.57218	131.3339735	115.7519595	102.4100381	90.96031821	81.11154618	72.61955261	65.27935922	58.91864939
200806A00004	8/6/2020	0.3	3/6/2024	8/6/2020	105.95891	104.4071851	102.8944461	101.4193792	99.98072318	98.57726996	97.20786193	95.87138939	94.56678809
200814A00003	8/14/2020	0.96	8/14/2035	8/14/2020	127.29807	118.0135297	109.6391455	102.073182	95.22627579	89.01983315	83.38464583	78.25969451	73.59111291
200818A00012	8/18/2020	0.97	8/18/2027	8/18/2020	122.38472	115.6384459	109.3207042	103.4017429	97.85404534	92.65214735	87.77247258	83.19318187	78.89403562
200610A00006	6/10/2020	1.11	6/10/2027	6/10/2020	122.89531	116.3138609	110.1394525	104.3445765	98.90372859	93.79325391	88.9912029	84.47719971	80.23232118
200612A00004	6/12/2020	1.42	6/12/2040	6/12/2020	137.85302	124.3635757	112.6249665	102.3812407	93.41674429	85.54942468	78.62529631	72.51385865	67.10429665
200616A00005	6/16/2020	0.74	6/17/2030	6/16/2020	118.001	112.4843111	107.3282618	102.5053426	97.9903691	93.76027238	89.79390645	86.07187403	82.57636935
200618A00004	6/18/2020	0.7	6/18/2030	6/18/2020	117.78554	112.2789626	107.1323717	102.3183047	97.81162233	93.58929753	89.6302225	85.91503506	82.42596169
200623A00028	6/23/2020	1.23	6/23/2038	6/23/2020	134.6856	122.8968097	112.463588	103.2095143	94.98299408	87.65356052	81.10875089	75.25146698	69.99774162
200709A00018	7/9/2020	0.59	7/7/2023	7/9/2020	108.8227	106.605139	104.4450906	102.3406451	100.2899726	98.29131883	96.34300072	94.44340337	92.59097647
200512A00021	5/12/2020	0.86	5/12/2025	5/12/2020	116.12296	111.8630517	107.7871402	103.8862618	100.1519391	96.57615167	93.15130925	89.87022595	86.72609657
200514A00008	5/14/2020	1.23	5/14/2030	5/14/2020	127.72128	118.9975674	110.9993733	103.6607475	96.92212832	90.72969063	85.03476292	79.79330642	74.96544952
200520A00009	5/20/2020	1.63	5/20/2038	5/20/2020	151.79092	133.8505921	118.4789042	105.2790507	93.91847632	84.11809627	75.64338048	68.2969698	61.91255419
200522A00009	5/22/2020	0.96	5/22/2030	5/22/2020	118.14749	112.6619813	107.5386292	102.749578	98.26934861	94.07461663	90.14401516	86.45795659	82.99847175
200605A00018	6/5/2020	0.91	6/5/2025	6/5/2020	116.53957	112.19926	108.0492205	104.0800389	100.2828201	96.64915653	93.17109909	89.84112918	86.65213302
200608A00001	6/8/2020	1.34	6/7/2030	6/8/2020	128.79886	119.9529628	111.8471366	104.4136915	97.59153781	91.32550673	85.56574467	80.26717262	75.38900318

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200512A00011	5/12/2020	1.48	5/10/2030	5/12/2020	132.55738	122.7043062	113.7008687	105.4682554	97.93538536	91.03811383	84.71852129	78.92427862	73.60807999
200512A00013	5/12/2020	1.17	5/12/2027	5/12/2020	123.09526	116.5856503	110.4738241	104.733219	99.33918651	94.26884298	89.50093442	85.01571209	80.79481832
200512A00014	5/12/2020	1.17	5/12/2027	5/12/2020	123.09526	116.5856503	110.4738241	104.733219	99.33918651	94.26884298	89.50093442	85.01571209	80.79481832
200512A00017	5/12/2020	0.85	5/12/2025	5/12/2020	115.48524	111.3982426	107.4857118	103.7391951	100.1506991	96.71265983	93.4179176	90.25969289	87.23156412
200512A00018	5/12/2020	0.85	5/12/2025	5/12/2020	115.48524	111.3982426	107.4857118	103.7391951	100.1506991	96.71265983	93.4179176	90.25969289	87.23156412
200512A00020	5/12/2020	0.86	5/12/2025	5/12/2020	116.12296	111.8630517	107.7871402	103.8862618	100.1519391	96.57615167	93.15130925	89.87022595	86.72609657
200429A00030	4/29/2020	1.41	4/29/2030	4/29/2020	130.75471	121.3774709	112.7953127	104.9352845	97.73153362	91.12458046	85.06066909	79.49118787	74.37215114
200430A00027	4/30/2020	1.31	4/30/2035	4/30/2020	128.45498	119.3437568	111.1041121	103.6408206	96.86998769	90.71761373	85.11834831	80.01440998	75.35464827
200501A00002	5/1/2020	1.3	5/1/2035	5/1/2020	128.50122	119.3340577	111.0484458	103.5475937	96.74628011	90.56938194	84.95059771	79.83134069	75.15977874
200501A00009	5/4/2020	0.67	5/1/2025	5/4/2020	108.69986	106.4616343	104.2959197	102.1997564	100.1703278	98.20495311	96.30107934	94.45627447	92.66822074
200512A00001	5/12/2020	1.17	5/12/2027	5/12/2020	123.09526	116.5856503	110.4738241	104.733219	99.33918651	94.26884298	89.50093442	85.01571209	80.79481832
200512A00010	5/12/2020	1.48	5/10/2030	5/12/2020	132.55735	122.7042835	113.700855	105.4682499	97.93538744	91.03812281	84.7185366	78.92429972	73.60810642
200413A00013	4/13/2020	1.19	4/12/2030	4/13/2020	119.28963	113.8335131	108.7273003	103.944764	99.46186286	95.25654219	91.30855532	87.59930254	84.11168531
200414A00009	4/14/2020	0.82	4/14/2025	4/14/2020	108.86257	106.6663912	104.5402329	102.4812717	100.486821	98.55432202	96.68133693	94.86554231	93.10472283
200414A00024	4/14/2020	1.37	4/14/2027	4/14/2020	124.16419	117.688023	111.6025498	105.8820129	100.5024842	95.44172714	90.67906844	86.19528081	81.97247445
200421A00026	4/21/2020	1.34	4/19/2030	4/21/2020	128.49859	119.7868852	111.7944697	104.4564272	97.71408646	91.51438647	85.80931039	80.55537956	75.71320067
200424A00022	4/24/2020	1.39	4/24/2030	4/24/2020	128.94331	120.1953415	112.1704112	104.8031848	98.03462408	91.81134328	86.08503781	80.81197396	75.9525322
200428A00009	4/28/2020	1.08	4/29/2030	4/28/2020	118.70707	113.2772734	108.1957601	103.4364169	98.97530876	94.79047862	90.86177017	87.17066715	83.70014816
200406A00032	4/6/2020	1.09	4/4/2025	4/6/2020	116.73607	112.5657621	108.571054	104.7436071	101.0755248	97.55932542	94.18791746	90.95457758	87.85292946
200406A00033	4/6/2020	1.09	4/4/2025	4/6/2020	116.73605	112.5657528	108.5710482	104.7436044	101.0755252	97.55932863	94.18792333	90.95458595	87.85294017
200406A00035	4/6/2020	1.05	4/4/2025	4/6/2020	115.33964	111.5090282	107.8358673	104.3127643	100.9327183	97.68909371	94.57559899	91.5862671	88.71543692
200406A00036	4/6/2020	1.09	4/4/2025	4/6/2020	116.73605	112.5657528	108.5710482	104.7436044	101.0755252	97.55932863	94.18792333	90.95458595	87.85294017
200406A00037	4/6/2020	0.9	4/6/2023	4/6/2020	108.40865	106.4556229	104.5481311	102.6848351	100.864444	99.08571305	97.34744183	95.64847217	93.98768649
200413A00009	4/13/2020	0.77	4/13/2027	4/13/2020	113.0123	109.5636328	106.269803	103.1224375	100.1136764	97.2361417	94.48290442	91.84745413	89.32367076
200330A00058	3/30/2020	1.49	3/29/2030	3/30/2020	129.62401	120.8955652	112.883302	105.522975	98.75648083	92.53123952	86.79964006	81.51854506	76.64884692
200330A00079	3/30/2020	1.51	3/30/2035	3/30/2020	130.07495	120.9024352	112.6025958	105.0805788	98.25276168	92.04533618	86.39307894	81.23828408	76.52983599
200406A00014	4/6/2020	1.33	4/6/2035	4/6/2020	130.06815	120.7987728	112.4187401	104.8306591	97.94874754	91.69736148	86.00971653	80.82677922	76.09630469
200406A00027	4/6/2020	1.31	4/5/2030	4/6/2020	129.54127	120.7555283	112.6943048	105.2923195	98.49056049	92.23564842	86.47926956	81.17766839	76.29119366
200406A00029	4/6/2020	1.61	4/5/2030	4/6/2020	133.52965	123.7096454	114.7278047	106.5071575	98.97821271	92.07819223	85.75034997	79.94336286	74.61078629
200406A00030	4/6/2020	1.61	4/5/2030	4/6/2020	133.52965	123.7096454	114.7278047	106.5071575	98.97821271	92.07819223	85.75034997	79.94336286	74.61078629
200319A00035	3/19/2020	1.72	3/18/2033	3/19/2020	134.41121	124.6902772	115.8769354	107.875631	100.6016791	93.97995199	87.94373475	82.43372481	77.39715625
200323A00090	3/23/2020	1.55	3/23/2027	3/23/2020	115.78657	112.0876667	108.5607725	105.1963191	101.9853381	98.9194238	95.99069362	93.19175239	90.51565872
200326A00032	3/26/2020	1.49	3/26/2030	3/26/2020	120.73361	115.2614396	110.1373226	105.3353703	100.8318337	96.60491223	92.63458049	88.90243063	85.39153025

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200327A00084	3/27/2020	1.1	3/27/2025	3/27/2020	116.08883	112.1065663	108.2892459	104.6291173	101.1188329	97.75142846	94.52030076	91.41918697	88.44214531
200327A00094	3/27/2020	1.6	3/27/2030	3/27/2020	130.53835	121.7593901	113.7001197	106.2960184	99.48873514	93.22546261	87.45838159	82.1441635	77.24352518
200330A00047	3/30/2020	1.5	3/30/2035	3/30/2020	129.9867	120.8204499	112.5262825	105.009406	98.1862551	91.98307193	86.33467766	81.18340584	76.47817577
200309A00084	3/9/2020	1.06	3/9/2027	3/9/2020	121.99686	115.7139636	109.805036	104.2456538	99.01312131	94.08634202	89.44569679	85.07293217	80.95105789
200311A00015	3/11/2020	1.26	3/11/2027	3/11/2020	123.23702	116.896845	110.9340719	105.3240481	100.0438714	95.07225221	90.38939116	85.97686632	81.81753005
200311A00026	3/11/2020	1.34	3/11/2030	3/11/2020	129.81939	120.6190969	112.1891184	104.4595905	97.36738481	90.85542132	84.8720568	79.37053881	74.30851702
200317A00009	3/17/2020	1.61	3/16/2035	3/17/2020	130.95814	121.7234652	113.3673158	105.7942056	98.91995862	92.6702775	86.97950559	81.78955305	77.04896353
200317A00043	3/17/2020	1.29	3/15/2030	3/17/2020	120.52152	115.0398068	109.9076178	105.0988961	100.5897464	96.35823782	92.38422874	88.64920776	85.13615015
200318A00012	3/18/2020	1.68	3/18/2033	3/18/2020	134.04301	124.3485038	115.5591618	107.5796815	100.3256019	93.72199459	87.70232168	82.20743815	77.18471844
200306A00057	3/6/2020	0.92	3/8/2027	3/6/2020	120.92459	115.0101305	109.4413036	104.1957374	99.25263583	94.59266111	90.19782308	86.05137755	82.1377329
200306A00058	3/6/2020	1.06	3/6/2030	3/6/2020	118.46409	113.0964651	108.070187	103.3598668	98.94221793	94.79586418	90.90116938	87.24008332	83.79600232
200309A00034	3/9/2020	0.96	3/9/2035	3/9/2020	126.67246	117.6990254	109.5819322	102.2278772	95.55462825	89.48962486	83.96876424	78.93534756	74.33916504
200309A00081	3/9/2020	1.18	3/8/2030	3/9/2020	129.3364	119.8511082	111.1710463	103.2226246	95.93938238	89.26125958	83.13394709	77.50830686	72.33985312
200309A00082	3/9/2020	1.18	3/8/2030	3/9/2020	129.33638	119.8510987	111.1710436	103.2226278	95.93939077	89.26127243	83.13396378	77.50832683	72.33987589
200309A00083	3/9/2020	0.82	3/9/2023	3/9/2020	107.92552	106.0609652	104.2387527	102.4575603	100.7161212	99.01321999	97.34769019	95.71841192	94.12430939
200220A00026	2/20/2020	2.22	2/21/2040	2/20/2020	149.13172	134.4559196	121.6549821	110.4587467	100.6390091	92.00264103	84.38588682	77.64962975	71.67545703
200221A00012	2/21/2020	2.14	2/21/2040	2/21/2020	148.04688	133.4790726	120.7723565	109.6585503	99.91112521	91.33837068	83.77773339	77.09111826	71.16098225
200227A00046	2/27/2020	1.52	3/1/2027	2/27/2020	114.65955	111.2668188	108.0224718	104.9186626	101.948021	99.10361921	96.37894312	93.76786405	91.26461348
200303A00028	3/3/2020	1.54	3/4/2030	3/3/2020	129.90095	121.2079361	113.2237396	105.8850737	99.13469	92.9207688	87.19637442	81.91896756	77.04996924
200306A00048	3/6/2020	1.04	3/6/2035	3/6/2020	127.37	118.3470455	110.1851345	102.7904556	96.08032667	89.98178996	84.43039149	79.36912167	74.74749534
200306A00050	3/6/2020	0.87	3/6/2030	3/6/2020	118.30251	112.9229873	107.8864547	103.1673422	98.7422031	94.58951816	90.68952364	87.02405538	83.57640787
200206A00032	2/6/2020	2.15	2/6/2030	2/6/2020	138.09068	128.1580082	119.057774	110.7146728	103.0606334	96.0340839	89.57929712	83.64580553	78.18787745
200206A00033	2/6/2020	2.15	2/6/2030	2/6/2020	138.09067	128.158002	119.0577708	110.7146723	103.0606352	96.03408759	89.57930249	83.64581233	78.18788544
200206A00034	2/6/2020	1.84	2/6/2025	2/6/2020	119.12657	115.0577909	111.1543838	107.4086133	103.8131543	100.3610706	97.04579072	93.86108661	90.80105309
200206A00035	2/6/2020	1.78	2/6/2023	2/6/2020	109.2431	107.4494726	105.6951819	103.9789979	102.2997421	100.6562849	99.04754318	97.47247778	95.93009118
200206A00038	2/6/2020	1.78	2/6/2023	2/6/2020	109.2431	107.4494726	105.6951819	103.9789979	102.2997421	100.6562849	99.04754318	97.47247778	95.93009118
200212A00013	2/12/2020	1.98	2/12/2027	2/12/2020	127.44458	121.0106508	114.9545147	109.2517416	103.8796187	98.81702298	94.04430004	89.54315396	85.29654545
200115A00013	1/15/2020	2.18	1/15/2030	1/15/2020	131.4602	123.6524888	116.4407886	109.774242	103.6066773	97.89614955	92.60452862	87.69712943	83.14238019
200116A00012	1/16/2020	2.16	1/19/2027	1/16/2020	128.32491	121.9242061	115.8954086	110.2147129	104.8599756	99.81058581	95.04735025	90.55238773	86.30903232
200130A00046	1/30/2020	1.81	1/29/2027	1/30/2020	115.4233	112.0567412	108.8356009	105.7522773	102.799623	99.97091563	97.25982991	94.660411	92.16705051
200206A00008	2/6/2020	1.64	2/6/2025	2/6/2020	118.25052	114.3317483	110.5708957	106.9605961	103.4938787	100.164142	96.96513133	93.89091839	90.93588169
200206A00027	2/6/2020	2.15	2/6/2030	2/6/2020	138.09067	128.158002	119.0577708	110.7146723	103.0606352	96.03408759	89.57930249	83.64581233	78.18788544
200206A00031	2/6/2020	2.15	2/6/2030	2/6/2020	138.09067	128.158002	119.0577708	110.7146723	103.0606352	96.03408759	89.57930249	83.64581233	78.18788544

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200109A00008	1/9/2020	1.95	1/9/2030	1/9/2020	123.67232	118.1512859	112.9763397	108.1220874	103.5652093	99.28427496	95.25957635	91.47297739	87.90777724
200110A00037	1/10/2020	2.32	1/10/2030	1/10/2020	139.42719	129.489995	120.3789752	112.0199612	104.3458549	97.29591596	90.81512628	84.85362169	79.36618277
200110A00038	1/10/2020	2.32	1/10/2030	1/10/2020	139.42719	129.489995	120.3789752	112.0199612	104.3458549	97.29591596	90.81512628	84.85362169	79.36618277
200110A00039	1/10/2020	2.32	1/10/2030	1/10/2020	139.42719	129.489995	120.3789752	112.0199612	104.3458549	97.29591596	90.81512628	84.85362169	79.36618277
200110A00043	1/10/2020	2.32	1/10/2030	1/10/2020	139.42719	129.489995	120.3789752	112.0199612	104.3458549	97.29591596	90.81512628	84.85362169	79.36618277
200110A00053	1/10/2020	1.99	1/10/2025	1/10/2020	119.39177	115.3925879	111.5532297	107.8663498	104.324988	100.9225455	97.65276392	94.50970497	91.48773242
191203A00013	12/3/2019	1.93	12/3/2024	12/3/2019	118.69552	114.8233515	111.1024438	107.5260211	104.0876472	100.7812106	97.60090587	94.5412165	91.5968989
191206A00005	12/6/2019	2.18	12/7/2026	12/6/2019	128.02862	121.7621705	115.8535236	110.2801774	105.0211714	100.0569684	95.3693501	90.9413214	86.75702147
191209A00005	12/9/2019	2.22	12/10/2029	12/9/2019	134.95899	126.1691857	118.0788118	110.6268514	103.7579782	97.42199411	91.57332687	86.17057833	81.17611979
191224A00002	12/24/2019	2.17	12/24/2029	12/24/2019	123.7838	118.3292138	113.2128136	108.4100328	103.8982926	99.6568262	95.66652057	91.90977302	88.37036111
200103A00002	1/3/2020	2.07	1/3/2030	1/3/2020	135.28641	126.3795824	118.1879058	110.6484588	103.7042398	97.30357542	91.39959348	85.94975039	80.91540793
200109A00006	1/9/2020	1.95	1/9/2030	1/9/2020	123.67233	118.1512945	112.9763448	108.1220894	103.5652086	99.28427175	95.25957096	91.47297007	87.90776821
191112A00024	11/12/2019	2.09	11/12/2024	11/12/2019	119.02497	115.2054801	111.5329333	108.0008441	104.6030534	101.3337073	98.18724001	95.15835844	92.2420269
191113A00013	11/13/2019	2.17	11/13/2026	11/13/2019	127.72734	121.5423271	115.7067346	110.1988267	104.9983379	100.0863633	95.44526001	91.05855645	86.91086862
191122A00003	11/22/2019	2.32	11/22/2039	11/22/2019	160.57954	142.2347963	126.5240919	113.0308509	101.4083209	91.36737078	82.66649143	75.10359203	68.50926063
191203A00009	12/3/2019	2.21	12/3/2029	12/3/2019	138.05525	128.3032498	119.3543398	111.1371235	103.5869386	96.6451889	90.25874475	84.37940547	78.96341747
191203A00010	12/3/2019	2.21	12/3/2029	12/3/2019	138.05525	128.3032498	119.3543398	111.1371235	103.5869386	96.6451889	90.25874475	84.37940547	78.96341747
191203A00011	12/3/2019	2.21	12/3/2029	12/3/2019	138.05525	128.3032498	119.3543398	111.1371235	103.5869386	96.6451889	90.25874475	84.37940547	78.96341747
191031A00025	10/31/2019	1.91	10/31/2024	10/31/2019	109.86923	107.9316683	106.0497878	104.2215162	102.4448795	100.7179921	99.03905179	97.40633574	95.81819621
191101A00004	11/1/2019	1.91	11/1/2029	11/1/2019	133.45377	124.8032996	116.8360903	109.4930276	102.720464	96.46968184	90.69641323	85.36041072	80.42506058
191101A00005	11/1/2019	1.83	11/2/2026	11/1/2019	126.58145	120.4494129	114.6630731	109.2009872	104.0431578	99.17092569	94.5668735	90.21473661	86.09932095
191105A00012	11/5/2019	2.07	11/3/2034	11/5/2019	135.79379	126.3993499	117.8817399	110.1474169	103.1137159	96.70750135	90.86399344	85.52574743	80.64176423
191112A00022	11/12/2019	2.36	11/13/2029	11/12/2019	139.23317	129.4702455	120.5061157	112.2702066	104.6985598	97.7331799	91.32144918	85.41560186	79.97225272
191112A00023	11/12/2019	2.36	11/13/2029	11/12/2019	139.23318	129.4702488	120.5061175	112.2702072	104.6985593	97.73317845	91.32144695	85.41559898	79.97224929
191004A00026	10/4/2019	1.74	10/4/2024	10/4/2019	117.26439	113.6019187	110.0763695	106.6818772	103.4128632	100.2640164	97.2302794	94.30683452	91.48909142
191008A00007	10/8/2019	1.67	10/9/2029	10/8/2019	121.65696	116.382137	111.4294701	106.7758914	102.4001701	98.28275703	94.40563952	90.75220953	87.30714428
191008A00014	10/8/2019	1.85	10/8/2026	10/8/2019	125.51253	119.5163886	113.8536872	108.5040331	103.448383	98.66895009	94.1491146	89.87334159	85.82710465
191009A00009	10/9/2019	1.8	10/9/2026	10/9/2019	114.78341	111.5838058	108.5171427	105.5767076	102.756177	100.0495923	97.45133562	94.95610843	92.55891083
191011A00027	10/11/2019	1.84	10/11/2029	10/11/2019	122.52401	117.2111618	112.2228003	107.5356853	103.1284324	98.98135105	95.07629808	91.39654539	87.92665945
191015A00025	10/15/2019	2.01	10/15/2029	10/15/2019	122.56836	117.2719826	112.2982825	107.6241975	103.2285047	99.09165866	95.19564721	91.52385995	88.06096943
190930A00028	9/30/2019	1.95	9/30/2024	9/30/2019	117.35518	113.8184755	110.4122701	107.131016	103.9694352	100.9225013	97.98542692	95.15365023	92.42282354
191004A00017	10/4/2019	2.02	10/4/2029	10/4/2019	135.78987	126.3366393	117.6491418	109.6604651	102.3098966	95.54232009	89.30767199	83.5604538	78.25929356
191004A00019	10/4/2019	2.02	10/4/2029	10/4/2019	135.78986	126.336633	117.6491387	109.6604647	102.3098986	95.54232415	89.30767777	83.56046102	78.25930199

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191004A00022	10/4/2019	2.02	10/4/2029	10/4/2019	135.78987	126.3366366	117.6491405	109.6604649	102.3098975	95.54232183	89.30767447	83.5604569	78.25929718
191004A00023	10/4/2019	2.02	10/4/2029	10/4/2019	135.78985	126.3366238	117.6491338	109.6604636	102.3099008	95.54232923	89.30768539	83.56047086	78.25931375
191004A00025	10/4/2019	1.74	10/4/2024	10/4/2019	117.26439	113.6019187	110.0763695	106.6818772	103.4128632	100.2640164	97.2302794	94.30683452	91.48909142
190910A00044	9/10/2019	2.02	9/10/2026	9/10/2019	126.21583	120.2727214	114.6560964	109.3461203	104.3242764	99.5732695	95.07693855	90.82017583	86.78885238
190911A00016	9/11/2019	1.9	9/11/2029	9/11/2019	122.63844	117.3727496	112.4258487	107.7750888	103.3996162	99.28021669	95.39917537	91.74014878	88.28804904
190913A00018	9/13/2019	2.11	9/11/2026	9/13/2019	115.53293	112.3611388	109.3194378	106.4013319	103.600697	100.9117588	98.32907088	95.84749318	93.46217302
190925A00009	9/25/2019	2	9/25/2026	9/25/2019	124.84876	119.2200064	113.8965646	108.8600337	104.0932263	99.58007714	95.30556457	91.25563698	87.41714523
190926A00002	9/30/2019	2.01	9/29/2034	9/30/2019	134.88074	125.6621671	117.2945142	109.6879514	102.7629893	96.44921103	90.68416618	85.4124061	80.5846431
190930A00026	9/30/2019	1.95	9/30/2024	9/30/2019	117.35519	113.8184832	110.4122758	107.1310198	103.9694371	100.9225015	97.9854254	95.15364712	92.42281891
190905A00018	9/5/2019	1.85	9/5/2029	9/5/2019	132.51851	124.0587958	116.2570454	109.0571198	102.4080133	96.26335293	90.58095171	85.32240763	80.45274319
190905A00019	9/5/2019	2.08	9/5/2029	9/5/2019	136.06984	126.6796459	118.0440348	110.0974614	102.7804346	96.03892833	89.82385127	84.09057022	78.79848222
190905A00021	9/5/2019	2.08	9/5/2029	9/5/2019	136.06984	126.6796459	118.0440348	110.0974614	102.7804346	96.03892834	89.82385129	84.09057025	78.79848226
190905A00023	9/5/2019	2.08	9/5/2029	9/5/2019	136.06984	126.6796459	118.0440348	110.0974614	102.7804346	96.03892834	89.82385129	84.09057025	78.79848226
190905A00024	9/5/2019	2.08	9/5/2029	9/5/2019	136.06984	126.6796459	118.0440348	110.0974614	102.7804346	96.03892834	89.82385129	84.09057025	78.79848226
190905A00025	9/5/2019	2.08	9/5/2029	9/5/2019	136.06984	126.6796459	118.0440348	110.0974614	102.7804346	96.03892833	89.82385127	84.09057022	78.79848222
190813A00057	8/13/2019	1.9	8/13/2024	8/13/2019	117.18154	113.667523	110.2807104	107.015669	103.8672407	100.8305231	97.90085454	95.07380032	92.3451401
190813A00064	8/13/2019	1.9	8/13/2024	8/13/2019	117.18154	113.667523	110.2807104	107.015669	103.8672407	100.8305231	97.90085454	95.07380032	92.3451401
190813A00067	8/13/2019	1.9	8/13/2024	8/13/2019	117.18154	113.667523	110.2807104	107.015669	103.8672407	100.8305231	97.90085454	95.07380032	92.3451401
190826A00032	8/26/2019	1.72	8/24/2029	8/26/2019	121.54814	116.3810062	111.5239735	106.9551884	102.6545144	98.60338703	94.7846794	91.18258098	87.78248693
190829A00032	8/29/2019	1.69	8/28/2026	8/29/2019	114.52707	111.4227748	108.444476	105.5859339	102.8412669	100.2049274	97.67167992	95.23658181	92.89496451
190829A00039	8/29/2019	1.85	8/29/2034	8/29/2019	133.30783	124.2531245	116.0295106	108.5497199	101.7364784	95.52128746	89.84335858	84.6486845	79.88922879
190712A00016	7/12/2019	2.39	7/12/2029	7/12/2019	123.88156	118.6854412	113.7975391	109.1963611	104.8620917	100.7764463	96.92254214	93.28478072	89.84874126
190718A00012	7/18/2019	2.55	7/18/2029	7/18/2019	136.39913	127.8809347	120.0133323	112.7417226	106.0164171	99.79217128	94.02776224	88.68560935	83.73143229
190731A00013	7/31/2019	2.23	7/22/2022	7/31/2019	103.63527	102.9951285	102.3656905	101.7466537	101.1377319	100.5386501	99.94914389	99.3689586	98.7978492
190802A00011	8/2/2019	2.01	8/2/2029	8/2/2019	122.9958	117.7673725	112.8526317	108.2294803	103.877556	99.77808529	95.91374782	92.26855387	88.82773255
190813A00051	8/13/2019	2.19	8/13/2029	8/13/2019	136.83325	127.4635339	118.8415859	110.9028451	103.5886821	96.84582562	90.62584473	84.88468328	79.58224188
190813A00052	8/13/2019	2.24	8/13/2029	8/13/2019	137.27497	127.88036	119.235326	111.275158	103.9410922	97.17973497	90.94254362	85.18535997	79.86799135
190708A00025	7/8/2019	2.21	7/1/2024	7/8/2019	117.64291	114.2424205	110.9612306	107.7944206	104.7373073	101.7854305	98.93454008	96.1805849	93.51970223
190708A00026	7/8/2019	2.21	7/1/2024	7/8/2019	117.64291	114.2424205	110.9612306	107.7944206	104.7373073	101.7854305	98.93454008	96.1805849	93.51970223
190708A00028	7/8/2019	2.57	7/2/2029	7/8/2019	139.77155	130.3547739	121.6792218	113.6817323	106.3048696	99.49637915	93.20869255	87.39848383	82.02626913
190708A00029	7/8/2019	2.57	7/2/2029	7/8/2019	139.77163	130.3548285	121.6792602	113.6817559	106.3048797	99.49637672	93.20867868	87.39845944	82.02623507
190708A00030	7/8/2019	2.57	7/2/2029	7/8/2019	139.77163	130.3548285	121.6792602	113.6817559	106.3048797	99.49637672	93.20867868	87.39845944	82.02623507
190708A00032	7/8/2019	2.58	7/2/2029	7/8/2019	139.85945	130.4378137	121.7577555	113.7560783	106.3753211	99.56320577	93.27214302	87.4587874	82.08363731

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190605A00025	6/5/2019	2.64	6/5/2029	6/5/2019	140.10068	130.7419835	122.1141978	114.1555065	106.809659	100.02544	93.75619295	87.95939128	82.59625183
190605A00027	6/5/2019	2.64	6/5/2029	6/5/2019	140.10068	130.7419835	122.1141978	114.1555065	106.809659	100.02544	93.75619295	87.95939128	82.59625183
190619A00010	6/19/2019	2.04	6/17/2022	6/19/2019	103.3354	102.7436262	102.1610357	101.5873875	101.0224532	100.4660128	99.91785411	99.3777722	98.8455694
190620A00033	6/20/2019	2.1	6/20/2029	6/20/2019	123.04112	117.9148587	113.0907186	108.5477598	104.2666665	100.2296068	96.42010859	92.82294579	89.42403559
190702A00068	7/2/2019	2.69	7/1/2039	7/2/2019	172.5326	151.4848632	133.5764383	118.3003245	105.2354593	94.03162063	84.3970605	76.08836352	68.90211943
190702A00071	7/2/2019	2.69	7/1/2039	7/2/2019	172.53245	151.4847647	133.5763812	118.3003011	105.2354635	94.03164722	84.39710528	76.08842299	68.90219071
190510A00049	5/10/2019	2.58	5/8/2026	5/10/2019	115.75218	112.8200558	110.0003433	107.2877476	104.6772651	102.1641635	99.74396564	97.41243359	95.16555421
190515A00035	5/15/2019	2.82	2/15/2029	5/15/2019	140.46075	131.3954093	123.014407	115.2616459	108.0859417	101.4405675	95.2828421	89.57375739	84.27764311
190529A00061	5/29/2019	2.46	5/29/2026	5/29/2019	115.65428	112.6754401	109.8124087	107.0596661	104.4119979	101.8644756	99.41243893	97.05147925	94.7774243
190605A00007	6/5/2019	2.47	6/5/2026	6/5/2019	127.65481	121.9372571	116.5202789	111.3863452	106.5190432	101.9030016	97.52381869	93.36799607	89.42287683
190605A00023	6/5/2019	2.64	6/5/2029	6/5/2019	140.1007	130.741997	122.1142064	114.1555107	106.8096593	100.0254369	93.75618681	87.95938244	82.59624061
190605A00024	6/5/2019	2.64	6/5/2029	6/5/2019	140.10068	130.7419835	122.1141978	114.1555065	106.809659	100.02544	93.75619295	87.95939128	82.59625183
190404A00015	4/4/2019	2.88	4/3/2026	4/4/2019	129.03565	123.45734	118.1626727	113.1356493	108.3612559	103.8253991	99.51484429	95.41715959	91.52066265
190411A00022	4/11/2019	2.68	4/11/2022	4/11/2019	104.2389	103.5471531	102.8664225	102.1964314	101.5369137	100.8876124	100.2482788	99.61867263	98.99856139
190501A00015	5/1/2019	2.78	5/1/2029	5/1/2019	125.36253	120.2104297	115.3583506	110.7857316	106.4735861	102.4043709	98.56186672	94.9310684	91.49808598
190502A00016	5/2/2019	2.87	5/1/2026	5/2/2019	129.3596	123.6874911	118.3079364	113.2041907	108.3605587	103.7623218	99.39567188	95.24765025	91.30609113
190506A00025	5/6/2019	3.03	5/4/2029	5/6/2019	143.13273	133.7035922	125.0022981	116.9679667	109.5451402	102.6832712	96.33626335	90.46205712	85.02225611
190506A00026	5/6/2019	3.03	5/4/2029	5/6/2019	143.13273	133.7035922	125.0022981	116.9679667	109.5451402	102.6832712	96.33626335	90.46205712	85.02225611
190401A00017	4/1/2019	2.55	4/1/2022	4/1/2019	105.36198	104.4662617	103.5859456	102.7206334	101.8699428	101.0335045	100.2109613	99.40196817	98.60619121
190402A00005	4/2/2019	2.77	4/2/2032	4/2/2019	141.67594	132.0928847	123.3446949	115.3492261	108.0330836	101.3306308	95.18311754	89.53791143	84.34781945
190403A00010	4/3/2019	3.08	4/3/2029	4/3/2019	143.19599	133.8540911	125.2262804	117.2534133	109.8815598	103.0615177	96.74837509	90.90111542	85.48226006
190403A00013	4/3/2019	3.05	4/3/2029	4/3/2019	141.54924	132.5733181	124.2754902	116.5999576	109.4958232	102.9166331	96.81996636	91.16706461	85.92249748
190403A00014	4/3/2019	3.05	4/3/2029	4/3/2019	141.54925	132.573326	124.2754958	116.5999612	109.4958249	102.9166331	96.81996475	91.16706157	85.92249314
190403A00015	4/3/2019	3.05	4/3/2029	4/3/2019	141.54926	132.5733325	124.2754999	116.5999632	109.4958251	102.9166317	96.81996193	91.16705754	85.92248808
190315A00019	3/15/2019	2.88	3/15/2034	3/15/2019	141.10912	131.8191176	123.3573898	115.6393222	108.5897453	102.1418053	96.23597939	90.81921482	85.84417432
190315A00023	3/15/2019	2.88	3/15/2034	3/15/2019	141.10917	131.8191559	123.3574184	115.6393418	108.5897567	102.1418091	96.23597619	90.81920514	85.84415864
190315A00029	3/15/2019	2.88	3/15/2034	3/15/2019	141.10919	131.8191702	123.3574284	115.6393479	108.5897591	102.1418082	96.23597229	90.81919849	85.84414951
190322A00008	3/22/2019	2.64	3/20/2026	3/22/2019	115.66658	112.7866859	110.0156087	107.3482899	104.779942	102.3060347	99.9222791	97.62461343	95.40918914
190327A00035	3/27/2019	2.68	3/27/2034	3/27/2019	139.39164	130.2147642	121.8561464	114.2321905	107.2686295	100.899413	95.06573443	89.71517973	84.8009822
190329A00067	3/29/2019	2.61	3/29/2024	3/29/2019	116.41568	113.4942689	110.6662397	107.9280689	105.276383	102.7079549	100.2196962	97.80865087	95.47198855
190305A00017	3/5/2019	3.12	3/5/2026	3/5/2019	128.37737	123.1638139	118.2074292	113.4938999	109.0097944	104.7425064	100.6801994	96.81175396	93.12672072
190308A00016	3/8/2019	3.18	3/8/2034	3/8/2019	162.87027	147.817648	134.4418649	122.5396993	111.9339586	102.4699985	94.01272401	86.44400393	79.66044123
190308A00026	3/8/2019	3.18	3/8/2034	3/8/2019	162.87027	147.817648	134.4418649	122.5396993	111.9339586	102.4699985	94.01272401	86.44400393	79.66044123

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190313A00039	3/13/2019	2.7	6/13/2022	3/13/2019	106.82649	105.6971459	104.5919175	103.5100347	102.4507612	101.4133915	100.3972493	99.4016858	98.42607863
190313A00044	3/13/2019	2.7	6/13/2022	3/13/2019	106.82649	105.6971459	104.5919175	103.5100347	102.4507612	101.4133915	100.3972493	99.4016858	98.42607863
190315A00017	3/15/2019	2.88	3/15/2034	3/15/2019	141.10922	131.8191956	123.3574457	115.639358	108.5897628	102.1418061	96.2359651	90.81918677	85.84413377
190205A00022	2/5/2019	3.32	2/5/2029	2/5/2019	143.09002	134.196178	125.9621561	118.3344616	111.2642523	104.7069038	98.62162161	92.97109182	87.72116536
190205A00023	2/5/2019	3.32	2/5/2029	2/5/2019	143.09002	134.196178	125.9621561	118.3344616	111.2642523	104.7069038	98.62162161	92.97109182	87.72116536
190205A00025	2/5/2019	2.88	2/7/2022	2/5/2019	104.70281	103.9625478	103.2328279	102.5134287	101.8041317	101.1047248	100.4150015	99.73476129	99.06380894
190207A00003	2/7/2019	2.68	2/7/2024	2/7/2019	116.29484	113.5018677	110.7951901	108.1715295	105.6277545	103.160877	100.768044	98.44653052	96.19373258
190227A00033	2/27/2019	2.65	2/27/2026	2/27/2019	115.88206	113.0379367	110.3000209	107.6634243	105.1235167	102.675915	100.316468	98.04124249	95.84651032
190305A00015	3/5/2019	3.32	3/5/2029	3/5/2019	143.43276	134.4422749	126.1243861	118.4241292	111.2913525	104.6802679	98.54904702	92.85945734	87.57653363
190131A00013	1/31/2019	3.48	1/31/2034	1/31/2019	167.5929	151.6003999	137.4151723	124.8167318	113.6129072	103.6360521	94.73978013	86.79615249	79.6932503
190131A00023	1/31/2019	3.02	1/30/2034	1/31/2019	141.80499	132.5876079	124.1824482	116.5074559	109.4896332	103.0639732	97.17252371	91.76356633	86.79089719
190205A00017	2/5/2019	3.36	2/5/2029	2/5/2019	143.41812	134.5072542	126.2573571	118.6148522	111.5308167	104.9605514	98.86319394	93.20136771	87.94086614
190205A00019	2/5/2019	2.94	2/5/2024	2/5/2019	117.42267	114.4860024	111.6409172	108.8839222	106.2116864	103.6210308	101.1089202	98.67245539	96.30886591
190205A00020	2/5/2019	3.32	2/5/2029	2/5/2019	143.09002	134.196178	125.9621561	118.3344616	111.2642523	104.7069038	98.62162161	92.97109182	87.72116536
190205A00021	2/5/2019	3.32	2/5/2029	2/5/2019	143.09002	134.196178	125.9621561	118.3344616	111.2642523	104.7069038	98.62162161	92.97109182	87.72116536
190104A00034	1/4/2019	3.18	1/4/2029	1/4/2019	135.44543	128.2229255	121.4966709	115.2283907	109.3830105	103.9283739	98.83498277	94.07576148	89.62584407
190104A00035	1/4/2019	3.1	1/5/2026	1/4/2019	128.37695	123.1764393	118.2277876	113.5172807	109.0320353	104.7599408	100.6896075	96.81031973	93.11199213
190104A00038	1/4/2019	3.25	1/4/2029	1/4/2019	142.14066	133.3834628	125.2700252	117.7486511	110.7720868	104.2971193	98.28420913	92.6971587	87.50281192
190111A00038	1/11/2019	2.63	1/11/2022	1/11/2019	103.98371	103.3446168	102.7136031	102.0905113	101.4751916	100.8674982	100.267289	99.67442512	99.08877147
190118A00006	1/18/2019	3.14	1/18/2034	1/18/2019	142.83022	133.5463341	125.0804716	117.3499938	110.2813879	103.8091879	97.87503137	92.42683325	87.41806146
190129A00073	1/29/2019	3.11	1/29/2029	1/29/2019	125.97828	121.0129903	116.3263112	111.899789	107.7163372	103.7601283	100.0164928	96.47182579	93.1135025
181218A00040	12/18/2018	3.23	6/18/2030	12/18/2018	130.97535	124.8690113	119.1607483	113.8202642	108.8198206	104.1340042	99.73951552	95.6149775	91.74076339
181218A00086	12/18/2018	3.06	10/18/2023	12/18/2018	115.20317	112.7257945	110.3177601	107.9767078	105.7003716	103.4865767	101.3332348	99.23834026	97.19996633
181218A00089	12/18/2018	3.05	6/19/2023	12/18/2018	113.26774	111.1335501	109.0530849	107.0246113	105.046462	103.1170362	101.2347969	99.39826722	97.6060279
181226A00030	12/26/2018	2.91	12/26/2028	12/26/2018	125.55203	120.6409179	116.003407	111.6214897	107.4784914	103.5589591	99.84856286	96.33400653	93.00294593
190103A00020	1/3/2019	3.12	1/5/2026	1/3/2019	129.02364	123.7103874	118.6559315	113.8461422	109.2677434	104.908256	100.7559456	96.79977361	93.02935175
190104A00006	1/4/2019	2.83	1/5/2026	1/4/2019	115.66521	112.884757	110.2063383	107.625323	105.13733	102.7382083	100.4240234	98.19104431	96.03573161
181116A00006	11/16/2018	3.18	11/17/2025	11/16/2018	116.07206	113.3794308	110.7827614	108.2778061	105.8605416	103.5271515	101.274014	99.09769081	96.9949163
181119A00008	11/19/2018	3.23	11/17/2023	11/19/2018	116.07635	113.507363	111.0124943	108.5891404	106.2348045	103.9470939	101.7237141	99.5624648	97.46123507
181128A00004	11/28/2018	3.08	11/28/2023	11/28/2018	117.05098	114.3112312	111.6525202	109.0719455	106.5667296	104.134212	101.7718437	99.47718178	97.24788415
181128A00011	11/28/2018	3.27	11/28/2023	11/28/2018	117.15632	114.4211854	111.7667911	109.1902527	106.6888079	104.2598106	101.9007254	99.60912212	97.38267071
181129A00005	11/29/2018	3.21	11/29/2023	11/29/2018	117.01549	114.2799925	111.6253184	109.0485757	106.5469967	104.1179302	101.7588361	99.46727987	97.24092729
181214A00030	12/14/2018	3.47	12/14/2033	12/14/2018	169.29426	153.2248775	138.9604884	126.2823308	114.9995416	104.9454507	95.97438434	87.95890542	80.78743082

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180925A00116	9/25/2018	3.28	9/25/2028	9/25/2018	126.46097	121.6757877	117.1494427	112.8653536	108.8081363	104.9635055	101.3181893	97.85984989	94.57701114
181003A00019	10/3/2018	3.44	10/3/2025	10/3/2018	129.21685	124.1796279	119.3754347	114.7922003	110.4185424	106.243725	102.2576181	98.45066078	94.81382588
181003A00032	10/3/2018	3.23	10/3/2025	10/3/2018	115.90837	113.2701187	110.7244001	108.2671821	105.894635	103.6031238	101.3891968	99.24957503	97.1811425
181010A00025	10/10/2018	3.48	10/10/2030	10/10/2018	134.52799	128.0035833	121.9194964	116.2411221	110.9368676	105.9778686	101.3377347	96.99231849	92.91950965
181105A00015	11/5/2018	3.57	11/5/2025	11/5/2018	130.36648	125.1934049	120.2641569	115.5658614	111.0863915	106.814323	102.7388896	98.84994174	95.13790769
181115A00044	11/15/2018	3.26	11/15/2023	11/15/2018	116.55087	113.9065999	111.3391071	108.8456951	106.4237776	104.0708753	101.7846108	99.56270373	97.40296615
180913A00012	9/13/2018	3.31	9/13/2033	9/13/2018	143.17898	134.1134591	125.8276785	118.24465	111.2957009	104.919514	99.06128357	93.67197319	88.70766383
180913A00033	9/13/2018	3.31	9/13/2033	9/13/2018	143.17899	134.113462	125.8276803	118.244651	111.2957012	104.9195137	99.06128273	93.67197195	88.70766228
180913A00062	9/13/2018	3.05	9/13/2023	9/13/2018	115.03968	112.59472	110.2165756	107.9029632	105.6516929	103.460666	101.3278704	99.25137641	97.22933273
180914A00049	9/14/2018	3.37	9/14/2033	9/14/2018	143.681	134.5835092	126.268509	118.6587392	111.6852846	105.2866118	99.4077214	93.99940423	89.01758624
180924A00033	9/24/2018	3.08	9/22/2023	9/24/2018	115.16018	112.7507868	110.4072808	108.1274393	105.9091321	103.7503145	101.6490239	99.60337528	97.61155805
180925A00013	9/25/2018	3.41	9/25/2028	9/25/2018	126.30766	121.543869	117.0371289	112.7710122	108.7302714	104.9007459	101.2692775	97.82363223	94.55242869
180809A00032	8/9/2018	3.08	8/9/2023	8/9/2018	114.74696	112.3683951	110.0531985	107.7991827	105.6042598	103.4664322	101.3837875	99.35449424	97.37679753
180809A00034	8/9/2018	3.08	8/9/2023	8/9/2018	114.74696	112.3683951	110.0531985	107.7991827	105.6042598	103.4664322	101.3837875	99.35449424	97.37679753
180813A00045	8/13/2018	2.89	8/13/2025	8/13/2018	114.86659	112.3439157	109.9072422	107.5529048	105.2774203	103.07748	100.9499389	98.89180694	96.90024016
180905A00017	9/5/2018	3.43	9/6/2033	9/5/2018	166.68683	151.3763712	137.7512512	125.6111349	114.7807779	105.1067453	96.45457784	88.70634158	81.75850545
180906A00032	9/6/2018	3.24	9/5/2025	9/6/2018	127.85215	122.9378159	118.2479948	113.7710749	109.4961184	105.4128164	101.5114487	97.7828467	94.21835816
180907A00013	9/7/2018	3.27	9/8/2025	9/7/2018	127.53056	122.6983033	118.0859001	113.6820106	109.4759533	105.4576585	101.6176297	97.94690716	94.43703411
180713A00031	7/13/2018	3.06	7/14/2025	7/13/2018	114.63479	112.1721515	109.7919821	107.4908191	105.2653721	103.1125127	101.0292656	99.01279968	97.06042029
180716A00062	7/16/2018	2.91	7/16/2025	7/16/2018	114.63375	112.1652225	109.7795307	107.4731924	105.2428962	103.0854939	100.9979917	98.97754137	97.0214321
180717A00021	7/17/2018	3.34	7/17/2028	7/17/2018	138.62307	130.9155116	123.7338952	117.0385433	110.7930125	104.9638088	99.52013258	94.43364687	89.67826655
180717A00026	7/17/2018	3.24	7/16/2025	7/17/2018	125.81454	121.3124806	117.0076912	112.8902979	108.9509805	105.1809397	101.5718653	98.1159053	94.80563802
180718A00008	7/18/2018	3.37	7/18/2028	7/18/2018	142.41532	133.7964433	125.785861	118.336784	111.406285	104.9549576	98.9466083	93.3479778	88.12848721
180809A00031	8/9/2018	2.98	8/9/2021	8/9/2018	101.36617	101.1610673	100.9568125	100.753398	100.5508184	100.3490686	100.1481435	99.94803783	99.74874662
180615A00021	6/15/2018	3.02	6/15/2023	6/15/2018	113.09239	110.9783473	108.9173076	106.907563	104.9474765	103.0354757	101.1700506	99.34975006	97.57317907
180628A00068	6/28/2018	3.12	6/28/2028	6/28/2018	134.2195	127.4593388	121.1382795	115.2242216	109.6876205	104.5012682	99.64009525	95.08098987	90.80263368
180628A00078	6/28/2018	2.73	6/28/2023	6/28/2018	107.16658	106.0033756	104.8644447	103.7490537	102.6565009	101.5861125	100.5372407	99.50926275	98.50157982
180702A00022	7/2/2018	2.84	6/30/2023	7/2/2018	113.26494	111.105644	109.001289	106.9500751	104.9502744	103.0002292	101.0983489	99.2431065	97.43303533
180702A00040	7/2/2018	2.9	7/2/2021	7/2/2018	100.64636	100.5487193	100.4512727	100.354021	100.2569636	100.1600999	100.0634293	99.96695123	99.8706651
180712A00044	7/12/2018	3.44	7/12/2033	7/12/2018	142.30314	133.4518138	125.3503181	117.9256499	111.1125879	104.8528051	99.09408718	93.78964462	88.89750744
180420A00011	4/20/2018	2.74	4/20/2023	4/20/2018	106.59836	105.5327551	104.4884423	103.4647917	102.4611998	101.4770863	100.5118939	99.56508625	98.63614756
180517A00018	5/17/2018	3.46	5/17/2033	5/17/2018	143.28364	134.4526981	126.3627782	118.9424051	112.1276548	105.8613001	100.0920579	94.77392597	89.86559902
180517A00024	5/17/2018	3.46	5/17/2033	5/17/2018	143.28363	134.4526927	126.3627747	118.9424031	112.1276541	105.8613005	100.0920591	94.77392799	89.86560166

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180601A00037	6/1/2018	2.86	6/1/2021	6/1/2018	100.0735	100.0623637	100.0512346	100.040116	100.0290079	100.0179104	100.0068233	99.99574667	99.98468052
180601A00038	6/1/2018	2.86	6/1/2021	6/1/2018	100.07348	100.0623469	100.0512208	100.0401052	100.0290001	100.0179055	100.0068214	99.9957478	99.98468463
180605A00031	6/5/2018	3.37	6/5/2030	6/5/2018	131.7801	125.6364647	119.8932782	114.5200696	109.4889398	104.7743275	100.3527969	96.20284571	92.30473191
180309A00011	3/9/2018	3.19	3/10/2025	3/9/2018	124.8755	120.5796294	116.4608598	112.5108226	108.7215946	105.0856745	101.5959575	98.24571193	95.02855686
180322A00040	3/22/2018	3.16	3/21/2031	3/22/2018	139.16088	131.001676	123.4846233	116.5521481	110.1522974	104.2381554	98.76732157	93.70144558	89.00581296
180322A00044	3/22/2018	3.18	3/22/2033	3/22/2018	140.48269	131.9434252	124.1117621	116.9202564	110.3085064	104.2223681	98.61325841	93.43754241	88.65599075
180402A00013	4/2/2018	2.99	4/3/2028	4/2/2018	132.64938	126.136389	120.0352885	114.3167881	108.9538607	103.9215569	99.19683424	94.75840074	90.58657196
180403A00014	4/3/2018	3.11	4/3/2025	4/3/2018	124.9324	120.5601391	116.3706235	112.3552115	108.5057159	104.8143782	101.2738437	97.87713865	94.61764829
180410A00002	4/10/2018	3.14	4/11/2033	4/10/2018	140.43147	131.8364487	123.9581283	116.7277907	110.0839372	103.9714753	98.34100247	93.14817527	88.35315203
180206A00045	2/6/2018	2.71	2/6/2023	2/6/2018	110.65412	108.879941	107.1445226	105.4466541	103.7851762	102.1589777	100.566993	99.00819952	97.4816159
180206A00046	2/6/2018	2.72	2/6/2023	2/6/2018	110.80318	109.006606	107.2493471	105.5301795	103.8479263	102.2014594	100.589697	99.01160111	97.46617548
180206A00048	2/6/2018	2.72	2/6/2023	2/6/2018	110.80319	109.006607	107.2493479	105.5301801	103.8479267	102.2014596	100.589697	99.01160098	97.4661752
180215A00034	2/15/2018	2.9	2/15/2023	2/15/2018	111.27822	109.450729	107.6636838	105.915799	104.2058486	102.5326583	100.8951028	99.2921032	97.7226244
180220A00107	2/20/2018	3.13	2/20/2025	2/20/2018	123.2865	119.2555759	115.3870418	111.6732955	108.1071433	104.6817749	101.3907404	98.22792833	95.1875456
180305A00030	3/5/2018	3.12	3/5/2025	3/5/2018	124.50657	120.236598	116.1422152	112.215115	108.4474353	104.8317349	101.3609682	98.02846155	94.82789068
180104A00023	1/4/2018	2.91	1/4/2028	1/4/2018	131.15786	124.7717366	118.7818045	113.1604567	107.8821862	102.9234113	98.2623192	93.87872265	89.75392983
180104A00024	1/4/2018	2.98	1/4/2028	1/4/2018	135.88332	128.4467036	121.4956709	114.9953763	108.9136724	103.2208859	97.88961451	92.89454015	88.21225971
180104A00041	1/4/2018	3.08	1/4/2033	1/4/2018	160.05774	145.7335944	132.9198187	121.4445096	111.1563853	101.9222037	93.62451562	86.15970734	79.43629676
180125A00027	1/25/2018	2.69	1/24/2025	1/25/2018	113.12061	110.8103832	108.5740345	106.408583	104.3111919	102.2791603	100.3099148	98.40100304	96.55008665
180126A00011	1/26/2018	2.72	1/26/2028	1/26/2018	121.98671	117.7893825	113.800985	110.0091132	106.4021945	102.9694281	99.70072792	96.58667067	93.61844741
180202A00027	2/2/2018	3.02	2/3/2025	2/2/2018	123.64857	119.4889715	115.4973762	111.6659591	107.9873093	104.4544073	101.0606014	97.79958639	94.66538266
171207A00022	12/7/2017	2.45	12/7/2022	12/7/2017	109.33209	107.7226308	106.1460705	104.6014738	103.0879416	101.6046083	100.15064	98.72523293	97.32761236
171207A00024	12/7/2017	2.93	12/7/2027	12/7/2017	136.33355	128.7392116	121.6414177	115.004664	108.7961781	102.985695	97.54525185	92.44900081	87.67303836
171207A00025	12/7/2017	2.91	12/7/2027	12/7/2017	135.1188	127.7897041	120.9348237	114.5204437	108.5154352	102.8910415	97.62068551	92.67979271	88.04562973
171207A00026	12/7/2017	2.93	12/7/2027	12/7/2017	136.33355	128.7392116	121.6414177	115.004664	108.7961781	102.985695	97.54525185	92.44900081	87.67303836
171219A00009	12/19/2017	2.3	12/19/2024	12/19/2017	111.40493	109.3408633	107.338374	105.3951054	103.508812	101.6773509	99.89867633	98.17083458	96.49195914
171219A00067	12/19/2017	2.72	12/20/2027	12/19/2017	133.3247	126.3626687	119.8455731	113.7419187	108.0226205	102.6608094	97.63165163	92.91218302	88.48115808
170921A00055	9/21/2017	2.82	9/21/2027	9/21/2017	133.69238	126.6411125	120.0331477	113.8378481	108.0268585	102.573927	97.45473773	92.64675831	88.12909958
170921A00057	9/21/2017	2.79	9/21/2027	9/21/2017	131.84277	125.1998435	118.9668245	113.1156736	107.6204277	102.4570371	97.60321353	93.03829239	88.74310539
171013A00024	10/13/2017	2.47	10/15/2024	10/13/2017	119.12293	115.5417486	112.093596	108.7727706	105.5738434	102.4916478	99.52126486	96.6580104	93.89742235
171109A00016	11/9/2017	2.94	11/9/2032	11/9/2017	157.41375	143.4977728	131.0339183	119.8587038	109.828039	100.8148258	92.70686551	85.40503385	78.82168845
171204A00009	12/4/2017	2.23	12/4/2024	12/4/2017	111.01407	109.0039978	107.0528627	105.1584416	103.3186126	101.5313499	99.79471855	98.10686996	96.46603702
171204A00024	12/4/2017	2.71	12/4/2024	12/4/2017	121.54493	117.6158667	113.8398926	110.2101472	106.7201228	103.3636399	100.1348282	97.02810983	94.03818269

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170802A00013	8/2/2017	2.5	8/2/2024	8/2/2017	118.99171	115.4818815	112.0977854	108.8341108	105.6858075	102.6480727	99.71633666	96.88625	94.15367112
170804A00005	8/4/2017	1.94	8/5/2024	8/4/2017	109.71311	107.8699447	106.0778404	104.3349534	102.6395187	100.989849	99.38433048	97.82141933	96.29963778
170829A00066	8/29/2017	2.11	8/29/2024	8/29/2017	118.54609	114.9609894	111.5071216	108.1788165	104.9706909	101.8776317	98.89478053	96.0175188	93.24145399
170901A00030	9/1/2017	1.82	9/1/2022	9/1/2017	107.04362	105.7161662	104.4212227	103.1575942	101.9241406	100.7197772	99.54347083	98.39423734	97.27113827
170921A00052	9/21/2017	2.21	9/21/2022	9/21/2017	107.72239	106.3477266	105.0002921	103.6792964	102.3839822	101.1136212	99.86751295	98.64498334	97.44538342
170921A00053	9/21/2017	2.22	9/21/2022	9/21/2017	107.81377	106.4250359	105.0638373	103.7293746	102.420882	101.1376235	99.87889067	98.64400202	97.43230136
170619A00101	6/16/2017	2.74	6/16/2027	6/16/2017	130.62427	124.2730535	118.3005011	112.6815041	107.3927624	102.4126467	97.72106902	93.29936477	89.13018376
170707A00007	7/7/2017	2.65	7/8/2024	7/7/2017	119.1181	115.6784217	112.3597684	109.1571232	106.0657151	103.0810011	100.1986542	97.41455069	94.72476002
170710A00079	7/10/2017	2.76	7/12/2032	7/10/2017	135.2557	127.4926	120.340036	113.7426157	107.6504679	102.0186522	96.80663432	91.97782105	87.49914727
170711A00010	7/11/2017	2.38	7/12/2027	7/11/2017	119.24565	115.4505357	111.8319699	108.3800901	105.0856622	101.9400346	98.93509761	96.06324563	93.31734233
170713A00021	7/13/2017	3.25	7/13/2037	7/13/2017	176.31662	156.8163231	139.9555715	125.3468453	112.6624654	101.6249936	91.99922241	83.58548366	76.21405362
170727A00003	7/27/2017	1.97	7/29/2024	7/27/2017	109.53158	107.7363542	105.9900006	104.2907779	102.6370185	101.0271273	99.4595781	97.93291007	96.44572422
170615A00006	6/15/2017	2.15	6/17/2024	6/15/2017	109.09621	107.4047246	105.7574596	104.1528867	102.5895416	101.0660222	99.58098552	98.13314454	96.72126553
170619A00089	6/16/2017	2.79	6/16/2027	6/16/2017	132.50494	125.7669832	119.4380869	113.4908508	107.8998639	102.6415487	97.69401945	93.03695126	88.65146062
170619A00092	6/16/2017	2.79	6/16/2027	6/16/2017	132.50491	125.7669588	119.4380686	113.4908382	107.8998566	102.6415465	97.69402189	93.03695811	88.65147161
170619A00095	6/16/2017	2.79	6/16/2027	6/16/2017	132.50494	125.7669832	119.4380869	113.4908508	107.8998639	102.6415487	97.69401945	93.03695126	88.65146062
170619A00096	6/16/2017	2.79	6/16/2027	6/16/2017	132.50494	125.7669832	119.4380869	113.4908508	107.8998639	102.6415487	97.69401945	93.03695126	88.65146062
170619A00097	6/16/2017	2.74	6/16/2027	6/16/2017	130.62427	124.2730535	118.3005011	112.6815041	107.3927624	102.4126467	97.72106902	93.29936477	89.13018376
170518A00027	5/18/2017	2.11	5/18/2022	5/18/2017	105.7653	104.7242384	103.7038751	102.7035921	101.7227995	100.7609301	99.81743835	98.89179987	97.98350989
170524A00027	5/24/2017	2.32	5/24/2027	5/24/2017	118.56787	114.8954978	111.39003	108.0423374	104.8438596	101.7865662	98.86292039	96.06584526	93.38869232
170524A00037	5/24/2017	2.46	5/24/2024	5/24/2017	117.15379	114.0008093	110.9543002	108.0100252	105.1639401	102.4121859	99.75107892	97.17710181	94.68689483
170526A00017	5/26/2017	2.16	5/28/2024	5/26/2017	108.86442	107.2229799	105.6236034	104.0648558	102.545363	101.0638089	99.61893226	98.20952392	96.83442439
170602A00019	6/2/2017	2.42	6/3/2024	6/2/2017	117.84992	114.5375235	111.3390214	108.2498177	105.2655327	102.3819892	99.59520204	96.90136816	94.29685693
170602A00030	6/2/2017	1.88	6/2/2022	6/2/2017	105.84262	104.7632467	103.7062163	102.6708354	101.6564413	100.6623983	99.68809616	98.73294872	97.79639301
170406A00036	4/6/2017	3.07	4/6/2032	4/6/2017	135.6313	128.0475789	121.0466983	114.5769017	108.5914884	103.048282	97.90915882	93.13962822	88.70845893
170406A00037	4/6/2017	3.07	4/6/2032	4/6/2017	135.63129	128.0475739	121.0466952	114.5769002	108.5914882	103.0482829	97.90916079	93.13963102	88.70846241
170407A00001	4/6/2017	2.97	4/6/2027	4/6/2017	131.29597	125.0950864	119.2533871	113.747737	108.5566213	103.6600222	99.03930677	94.67712395	90.55730977
170504A00012	5/4/2017	2.28	5/4/2026	5/4/2017	115.59034	112.6066524	109.7391213	106.9822031	104.330663	101.7795534	99.32419637	96.96016666	94.68327653
170504A00049	5/4/2017	2.63	5/6/2024	5/4/2017	118.0864	114.8514122	111.7249992	108.7028939	105.7810201	102.955485	100.2225701	97.57872216	95.02054479
170511A00011	5/11/2017	2.41	5/11/2027	5/11/2017	118.88446	115.2028161	111.6884444	108.3321987	105.1255035	102.0603134	99.12907769	96.32470592	93.64053678
170406A00026	4/6/2017	2.61	4/8/2024	4/6/2017	117.34973	114.2514628	111.2543218	108.3544389	105.5481125	102.8318027	100.202124	97.65583746	95.18984318
170406A00027	4/6/2017	2.61	4/8/2024	4/6/2017	117.34973	114.2514628	111.2543218	108.3544389	105.5481125	102.8318027	100.202124	97.65583746	95.18984318
170406A00029	4/6/2017	3.01	4/6/2027	4/6/2017	133.12251	126.5543578	120.3733611	114.5543491	109.0739198	103.9103094	99.04326899	94.45395141	90.12480718

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170406A00032	4/6/2017	3.01	4/6/2027	4/6/2017	133.12251	126.5543578	120.3733611	114.5543491	109.0739198	103.9103094	99.04326899	94.45395141	90.12480718
170406A00033	4/6/2017	3.01	4/6/2027	4/6/2017	133.12251	126.554354	120.3733586	114.5543477	109.0739194	103.9103099	99.04327023	94.45395336	90.12480977
170406A00034	4/6/2017	3.01	4/6/2027	4/6/2017	133.12251	126.554354	120.3733586	114.5543477	109.0739194	103.9103099	99.04327023	94.45395336	90.12480977
170317A00041	3/17/2017	2.73	3/18/2024	3/17/2017	117.38095	114.3421511	111.4009764	108.5536895	105.7967234	103.1266702	100.5402726	98.03441636	95.60612281
170317A00044	3/17/2017	3.11	3/17/2027	3/17/2017	131.88366	125.7140941	119.8989155	114.4154265	109.2425183	104.3605472	99.75122531	95.39751896	91.28355603
170322A00033	3/22/2017	3.61	3/24/2042	3/22/2017	176.6522	157.4758263	140.9609366	126.6927307	114.3258836	103.5722861	94.19104179	85.98028791	78.77049574
170330A00060	3/30/2017	2.06	3/30/2022	3/30/2017	104.98796	104.102406	103.231985	102.376307	101.5349987	100.7076992	99.89405963	99.0937427	98.3064221
170406A00023	4/6/2017	2.24	4/6/2022	4/6/2017	105.19614	104.2836132	103.3870597	102.506063	101.6402196	100.78914	99.9524478	99.12977949	98.32078362
170406A00024	4/6/2017	2.61	4/8/2024	4/6/2017	117.34973	114.2514628	111.2543218	108.3544389	105.5481125	102.8318027	100.202124	97.65583746	95.18984318
170309A00014	3/9/2017	2.58	3/9/2027	3/9/2017	118.9939	115.41084	111.9866861	108.7129319	105.5815918	102.5851656	99.71660566	96.96928612	94.33697486
170309A00016	3/9/2017	2.39	3/8/2024	3/9/2017	109.19337	107.5920535	106.0309729	104.5087713	103.0241474	101.5758545	100.1626981	98.78353289	97.43726071
170309A00042	3/9/2017	2.18	3/11/2024	3/9/2017	108.8669	107.2702796	105.7137839	104.1960616	102.715815	101.271801	99.86282853	98.48775546	97.14548662
170313A00045	3/13/2017	3.22	3/15/2032	3/13/2017	136.44	128.8678904	121.8737636	115.4066246	109.4204262	103.8735559	98.72837588	93.95081403	89.50999904
170317A00039	3/17/2017	2.73	3/18/2024	3/17/2017	117.38095	114.3421511	111.4009764	108.5536895	105.7967234	103.1266702	100.5402726	98.03441636	95.60612281
170317A00040	3/17/2017	2.74	3/18/2024	3/17/2017	117.64992	114.5669697	111.5833999	108.6954037	105.8993448	103.1917489	100.5692957	98.02881044	95.5672569
170221A00033	2/21/2017	2.31	2/18/2022	2/21/2017	104.47365	103.703695	102.9451873	102.1978681	101.4614906	100.735815	100.0206087	99.31564579	98.62070666
170224A00008	2/24/2017	2.18	2/24/2022	2/24/2017	104.47619	103.6886997	102.913169	102.1493285	101.3969148	100.6556725	99.9253535	99.20571728	98.49653019
170224A00009	2/24/2017	2.39	2/24/2023	2/24/2017	110.49049	108.6516735	106.8540034	105.0961594	103.3768789	101.694953	100.0492242	98.43858318	96.86196663
170301A00031	3/1/2017	2.11	3/1/2024	3/1/2017	108.51322	106.9662304	105.4574132	103.9854919	102.5492469	101.1475096	99.77915965	98.44312269	97.13836797
170303A00004	3/3/2017	2.8	3/4/2024	3/3/2017	117.59896	114.5586428	111.6154695	108.7656711	106.0056526	103.3319852	100.7413976	98.23076715	95.79711167
170307A00013	3/7/2017	2.33	3/7/2024	3/7/2017	108.86967	107.2766326	105.7235503	104.209073	102.7319106	101.2908275	99.88463938	98.51221084	97.17245295
170124A00017	1/24/2017	2.82	1/23/2032	1/24/2017	134.22587	126.8622904	120.0545027	113.7539898	107.9169014	102.5035671	97.47806728	92.80785057	88.46339269
170126A00003	1/26/2017	2.86	1/26/2027	1/26/2017	130.83639	124.8188344	119.1410302	113.7815255	108.720353	103.938918	99.41989561	95.14713677	91.10558141
170126A00004	1/26/2017	2.13	1/26/2022	1/26/2017	104.00828	103.3111148	102.6233985	101.9449356	101.2755399	100.61503	99.96322939	99.31996631	98.68507336
170201A00016	2/1/2017	2.49	2/1/2024	2/1/2017	116.62955	113.6928053	110.8477282	108.090823	105.4187585	102.828355	100.3165767	97.88052329	95.51742328
170207A00055	2/7/2017	2.36	2/8/2027	2/7/2017	118.00121	114.498842	111.1499221	107.9463233	104.8804134	101.9450194	99.13339677	96.43920082	93.8564601
170221A00028	2/21/2017	2.31	2/18/2022	2/21/2017	104.47365	103.703695	102.9451873	102.1978681	101.4614906	100.735815	100.0206087	99.31564579	98.62070666
161229A00019	12/29/2016	2.46	12/29/2026	12/29/2016	117.85602	114.4578693	111.2049949	108.089866	105.1054041	102.244948	99.50222707	96.87133486	94.34670582
170105A00010	1/5/2017	2.61	1/5/2027	1/5/2017	118.05952	114.6160003	111.3211324	108.1671498	105.1467517	102.2530711	99.47964589	96.82039246	94.26958062
170105A00012	1/5/2017	2.68	1/5/2024	1/5/2017	116.3202	113.4728721	110.7123506	108.0354177	105.4389977	102.9201504	100.4760641	98.10404908	95.80153109
170106A00030	1/6/2017	2.39	1/6/2027	1/6/2017	117.86282	114.4152228	111.1168004	107.9597385	104.9366959	102.0407687	99.26546102	96.60465809	94.05260122
170112A00015	1/12/2017	2.32	1/12/2027	1/12/2017	117.63126	114.1902366	110.8981197	107.7471134	104.7298882	101.8395511	99.06961667	96.4139801	93.86689212
170120A00028	1/20/2017	2.34	1/20/2022	1/20/2017	103.97962	103.3006551	102.6306613	101.9694576	101.3168713	100.672734	100.0368821	99.40915576	98.78939958

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
161202A00001	12/2/2016	2.65	12/1/2023	12/2/2016	115.6814	112.9464855	110.29271	107.7171623	105.217056	102.7897223	100.4326045	98.14325247	95.91931743
161207A00014	12/7/2016	2.75	12/8/2031	12/7/2016	133.50048	126.2339818	119.5120307	113.2874166	107.5174375	102.1634355	97.19038437	92.56652147	88.26301911
161214A00034	12/14/2016	2.65	12/14/2026	12/14/2016	117.94855	114.5581813	111.3123639	108.2036333	105.2249631	102.3697399	99.63173697	97.00508829	94.48426548
161222A00013	12/22/2016	2.93	12/22/2026	12/22/2016	130.8586	124.9279435	119.3275239	114.0367777	109.0365464	104.3089688	99.83738536	95.60625115	91.60105465
161227A00073	12/27/2016	2.83	12/28/2026	12/27/2016	127.37611	122.1089397	117.1239456	112.4039297	107.9328492	103.6957334	99.678606	95.86841282	92.2529557
161229A00018	12/29/2016	2.46	12/29/2026	12/29/2016	117.85602	114.4578752	111.2049993	108.089869	105.1054057	102.2449485	99.50222636	96.87133307	94.34670301
161014A00019	10/14/2016	2.39	10/15/2031	10/14/2016	129.53825	122.6256035	116.2222952	110.2848569	104.7739065	99.65373755	94.89194915	90.4591155	86.32849071
161014A00026	10/14/2016	2.16	10/14/2031	10/14/2016	129.1019	122.1853992	115.7799225	109.8417533	104.3312966	99.21266086	94.45328425	90.02360114	85.89674419
161014A00029	10/14/2016	2.51	10/15/2031	10/14/2016	131.41757	124.3761913	117.855055	111.8096515	106.1996722	100.988579	96.14322327	91.63350664	87.43207766
161102A00014	11/2/2016	1.99	11/2/2023	11/2/2016	113.53035	110.9168844	108.3787588	105.9133583	103.5181705	101.1907862	98.92889366	96.73027427	94.59279831
161116A00006	11/16/2016	2.39	11/16/2026	11/16/2016	116.86751	113.5584359	110.3886749	107.3511049	104.4390263	101.6461295	98.96646983	96.39444378	93.92476707
161128A00006	11/28/2016	1.93	11/29/2021	11/28/2016	102.91981	102.3986288	101.8828015	101.3722451	100.8668789	100.3666238	99.8714024	99.3811388	98.8957586
160923A00009	9/23/2016	2.24	9/23/2031	9/23/2016	128.42765	121.6266052	115.3232155	109.4752844	104.0445576	98.99632994	94.2990894	89.92420028	85.84561917
160930A00025	9/30/2016	1.66	9/30/2027	9/30/2016	117.02104	113.1967823	109.5546362	106.0842142	102.7758	99.6203023	96.60921013	93.73455188	90.98885725
161004A00070	10/4/2016	1.92	10/4/2023	10/4/2016	112.94191	110.4227764	107.9740568	105.593382	103.278475	101.0271485	98.83730103	96.70691298	94.63404283
161005A00016	10/5/2016	2.32	10/6/2031	10/5/2016	129.14929	122.256014	115.870707	109.950015	104.4546598	99.34902901	94.60080721	90.18064632	86.06187121
161005A00031	10/5/2016	1.43	10/5/2021	10/5/2016	101.10514	100.8921488	100.6804034	100.4698875	100.2605896	100.0524982	99.84560185	99.6398894	99.4353498
161012A00011	10/12/2016	1.53	10/12/2023	10/12/2016	107.8168	106.2549007	104.729217	103.2386345	101.7820813	100.3585264	98.96697739	97.60647878	96.27611056
160908A00032	9/8/2016	2.17	9/8/2026	9/8/2016	124.8245	119.4041388	114.2725225	109.4123909	104.8076215	100.4431458	96.30487329	92.37962278	88.655058
160908A00033	9/8/2016	2.17	9/8/2026	9/8/2016	124.8245	119.4041388	114.2725225	109.4123909	104.8076215	100.4431458	96.30487329	92.37962278	88.655058
160908A00034	9/8/2016	2.17	9/8/2026	9/8/2016	124.8245	119.4041388	114.2725225	109.4123909	104.8076215	100.4431458	96.30487329	92.37962278	88.655058
160908A00035	9/8/2016	2.3	9/8/2031	9/8/2016	128.8155	121.9942896	115.6721553	109.8067804	104.3598065	99.29643327	94.58506232	90.19697885	86.10606723
160908A00036	9/8/2016	2.3	9/8/2031	9/8/2016	128.81551	121.9943012	115.6721629	109.8067844	104.3598071	99.29643094	94.58505728	90.19697138	86.10605757
160908A00037	9/8/2016	1.4	9/8/2023	9/8/2016	107.34313	105.8396891	104.3720417	102.9390263	101.5395288	100.1724809	98.83685803	97.53167719	96.25599459
160908A00025	9/8/2016	2.21	9/8/2026	9/8/2016	126.24081	120.5173572	115.1038757	109.9816765	105.1333025	100.5424441	96.19385655	92.07328474	88.16739287
160908A00026	9/8/2016	2.21	9/8/2026	9/8/2016	126.24081	120.5173572	115.1038757	109.9816765	105.1333025	100.5424441	96.19385655	92.07328474	88.16739287
160908A00027	9/8/2016	2.21	9/8/2026	9/8/2016	126.24082	120.5173618	115.1038787	109.981678	105.1333027	100.542443	96.19385439	92.07328156	88.16738878
160908A00028	9/8/2016	2.21	9/8/2026	9/8/2016	126.24082	120.5173618	115.1038787	109.981678	105.1333027	100.542443	96.19385439	92.07328156	88.16738878
160908A00030	9/8/2016	2.21	9/8/2026	9/8/2016	126.24081	120.5173572	115.1038757	109.9816765	105.1333025	100.5424441	96.19385655	92.07328474	88.16739287
160908A00031	9/8/2016	2.21	9/8/2026	9/8/2016	126.24081	120.5173572	115.1038757	109.9816765	105.1333025	100.5424441	96.19385655	92.07328474	88.16739287
160908A00016	9/8/2016	1.87	9/8/2023	9/8/2016	112.31445	109.9049582	107.5613609	105.2813783	103.0628312	100.9036331	98.80178538	96.75537268	94.76255886
160908A00017	9/8/2016	1.87	9/8/2023	9/8/2016	112.31445	109.9049582	107.5613609	105.2813783	103.0628312	100.9036331	98.80178538	96.75537268	94.76255886
160908A00019	9/8/2016	1.87	9/8/2023	9/8/2016	112.31445	109.9049582	107.5613609	105.2813783	103.0628312	100.9036331	98.80178538	96.75537268	94.76255886

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160908A00022	9/8/2016	2.21	9/8/2026	9/8/2016	126.24082	120.5173618	115.1038787	109.981678	105.1333027	100.542443	96.19385439	92.07328156	88.16738878
160908A00023	9/8/2016	2.21	9/8/2026	9/8/2016	126.24081	120.5173572	115.1038757	109.9816765	105.1333025	100.5424441	96.19385655	92.07328474	88.16739287
160908A00024	9/8/2016	2.21	9/8/2026	9/8/2016	126.24081	120.5173572	115.1038757	109.9816765	105.1333025	100.5424441	96.19385655	92.07328474	88.16739287
160812A00006	8/12/2016	2.16	8/12/2026	8/12/2016	125.35943	119.9681016	114.8613162	110.0221805	105.4349089	101.0847439	96.95788289	93.04141015	89.32323462
160824A00019	8/24/2016	1.98	8/25/2031	8/24/2016	127.53598	120.8115659	114.5769052	108.7906575	103.4153326	98.41690288	93.7644587	89.42989923	85.3876566
160906A00027	9/6/2016	2.03	9/8/2031	9/6/2016	128.0519	121.2464047	114.9401122	109.0906041	103.6594366	98.61173921	93.9158563	89.54302671	85.46709778
160907A00041	9/7/2016	1.83	9/7/2023	9/7/2016	112.3508	109.9166719	107.5492485	105.2462145	103.005358	100.8245619	98.70179833	96.63512455	94.62267833
160907A00049	9/7/2016	1.41	9/9/2024	9/7/2016	108.97882	107.1015273	105.2772434	103.5040199	101.779998	100.1034021	98.47253487	96.88577311	95.3415642
160908A00015	9/8/2016	1.87	9/8/2023	9/8/2016	112.31445	109.9049582	107.5613609	105.2813783	103.0628312	100.9036331	98.80178538	96.75537268	94.76255886
160810A00025	8/10/2016	2.17	8/10/2026	8/10/2016	125.73799	120.1098152	114.7828069	109.7389687	104.9614915	100.4346643	96.14379549	92.07514078	88.21583629
160810A00027	8/10/2016	2.13	8/10/2026	8/10/2016	124.35454	119.0221873	113.9705203	109.1829237	104.6438645	100.3388186	96.25419864	92.3772883	88.69618075
160810A00028	8/10/2016	2.19	8/10/2026	8/10/2016	126.55653	120.7511402	115.2591831	110.0618475	105.141559	100.4818948	96.06750103	91.88401695	87.91800469
160810A00029	8/10/2016	2.17	8/10/2026	8/10/2016	125.73799	120.1098152	114.7828069	109.7389687	104.9614915	100.4346643	96.14379549	92.07514078	88.21583629
160810A00030	8/10/2016	2.24	8/11/2031	8/10/2016	128.22704	121.4910926	115.2444329	109.4458546	104.0579816	99.04688228	94.38172755	90.03448375	85.97963872
160810A00035	8/10/2016	2.1	8/10/2026	8/10/2016	124.2008	118.8740576	113.8277318	109.0452183	104.5109987	100.2105624	96.13033477	92.25761144	88.58049679
160713A00015	7/13/2016	1.57	7/13/2026	7/13/2016	113.95985	110.9209178	108.0036256	105.2020275	102.5105124	99.9237837	97.43683988	95.04495558	92.74366461
160719A00012	7/19/2016	1.32	7/19/2021	7/19/2016	100.4151	100.3329633	100.2510354	100.1693108	100.0877887	100.0064681	99.92534846	99.84442883	99.76370846
160719A00026	7/19/2016	1.87	7/20/2026	7/19/2016	114.37843	111.3360657	108.4152337	105.6100021	102.9147746	100.3242682	97.83349313	95.43773511	93.13253775
160801A00002	8/1/2016	1.58	8/3/2026	8/1/2016	114.19078	111.0971586	108.1290064	105.280121	102.5446503	99.91707399	97.39218237	94.96505647	92.63104989
160802A00026	8/2/2016	1.84	8/2/2023	8/2/2016	111.87785	109.5511978	107.2862662	105.080945	102.9332139	100.8411394	98.80286954	96.81662993	94.88071985
160810A00022	8/10/2016	1.53	8/10/2021	8/10/2016	101.08497	100.8777518	100.6713968	100.4659025	100.2612633	100.057474	99.8545291	99.65242335	99.4511515
160608A00034	6/8/2016	2.44	6/9/2031	6/8/2016	129.0925	122.419638	116.2243937	110.4671004	105.1117266	100.1255185	95.47867798	91.14407429	87.09698557
160616A00029	6/16/2016	1.58	6/16/2026	6/16/2016	113.7863	110.8005988	107.9328062	105.1772266	102.5284814	99.98149088	97.53145489	95.17383577	92.90434207
160629A00066	6/29/2016	2.61	6/30/2036	6/29/2016	162.30635	145.2338432	130.3543651	117.3624669	105.9974717	96.03665253	87.28948199	79.59278314	72.80663586
160705A00008	7/5/2016	1.7	7/6/2026	7/5/2016	120.66376	115.9755883	111.5225554	107.2911796	103.2688397	99.44371305	95.80472019	92.34147341	89.04422943
160705A00010	7/5/2016	1.68	7/5/2023	7/5/2016	111.12727	108.8920527	106.714547	104.5928437	102.5251126	100.5095988	98.54461836	96.62855546	94.75985852
160711A00004	7/11/2016	1.51	7/13/2026	7/11/2016	113.78226	110.7481582	107.8355078	105.0383678	102.3511359	99.76852397	97.28553838	94.89746131	92.59983362
160608A00025	6/8/2016	2.36	6/8/2026	6/8/2016	126.08729	120.6154265	115.4281909	110.5090652	105.842581	101.4142494	97.21049291	93.21858336	89.42658408
160608A00027	6/8/2016	2.36	6/8/2026	6/8/2016	126.08729	120.6154265	115.4281909	110.5090652	105.842581	101.4142494	97.21049291	93.21858336	89.42658408
160608A00028	6/8/2016	2.36	6/8/2026	6/8/2016	126.08729	120.6154265	115.4281909	110.5090652	105.842581	101.4142494	97.21049291	93.21858336	89.42658408
160608A00029	6/8/2016	2.36	6/8/2026	6/8/2016	126.08729	120.6154265	115.4281909	110.5090652	105.842581	101.4142494	97.21049291	93.21858336	89.42658408
160608A00030	6/8/2016	2.36	6/8/2026	6/8/2016	126.08729	120.6154265	115.4281909	110.5090652	105.842581	101.4142494	97.21049291	93.21858336	89.42658408
160608A00033	6/8/2016	2.44	6/9/2031	6/8/2016	129.09253	122.4196582	116.2244077	110.4671087	105.1117298	100.1255169	95.47867208	91.14406445	87.09697212

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160608A00019	6/8/2016	2.36	6/8/2026	6/8/2016	126.08729	120.6154265	115.4281909	110.5090652	105.842581	101.4142494	97.21049291	93.21858336	89.42658408
160608A00020	6/8/2016	2.36	6/8/2026	6/8/2016	126.08729	120.6154265	115.4281909	110.5090652	105.842581	101.4142494	97.21049291	93.21858336	89.42658408
160608A00021	6/8/2016	1.91	6/8/2023	6/8/2016	111.12388	108.9851545	106.9001935	104.8672764	102.8847508	100.9510291	99.06458582	97.22395454	95.4277251
160608A00022	6/8/2016	1.91	6/8/2023	6/8/2016	111.12388	108.9851545	106.9001935	104.8672764	102.8847508	100.9510291	99.06458582	97.22395454	95.4277251
160608A00023	6/8/2016	2.36	6/8/2026	6/8/2016	126.0873	120.6154355	115.4281972	110.509069	105.8425826	101.4142488	97.21049034	93.21857897	89.42657802
160608A00024	6/8/2016	2.36	6/8/2026	6/8/2016	126.08729	120.6154265	115.4281909	110.5090652	105.842581	101.4142494	97.21049291	93.21858336	89.42658408
160524A00101	5/24/2016	2.98	5/23/2031	5/24/2016	149.61645	138.0067631	127.4726189	117.9061203	109.2108289	101.300488	94.0978945	87.53390186	81.54653697
160603A00014	6/3/2016	1.74	6/3/2026	6/3/2016	114.24993	111.2525438	108.3734844	105.6070375	102.9478083	100.3907008	97.93089996	95.56385351	93.28525623
160603A00029	6/3/2016	2.18	6/3/2031	6/3/2016	128.41101	121.7497096	115.5663924	109.8212738	104.4782264	99.50441556	94.86997544	90.54771859	86.51287613
160606A00018	6/6/2016	1.74	6/5/2026	6/6/2016	114.25032	111.2528085	108.3736392	105.6070929	102.9477738	100.3905852	97.93071115	95.5635989	93.28494252
160608A00015	6/8/2016	1.63	6/8/2021	6/8/2016	100.16398	100.1334008	100.1028568	100.0723476	100.0418732	100.0114335	99.98102836	99.95065782	99.92032178
160608A00016	6/8/2016	1.63	6/8/2021	6/8/2016	100.16388	100.1333219	100.102796	100.0723048	100.0418484	100.0114267	99.98103955	99.95068695	99.92036884
160428A00028	4/28/2016	2	4/28/2026	4/28/2016	114.561	111.6520109	108.8547817	106.1640427	103.5748098	101.0823695	98.68226299	96.37027022	94.14239543
160504A00022	5/4/2016	2	5/4/2023	5/4/2016	110.92772	108.8700281	106.8620247	104.9021949	102.9890776	101.1212663	99.2974065	97.5161936	95.77637057
160511A00015	5/11/2016	2.42	5/11/2026	5/11/2016	126.08294	120.6880625	115.5699811	110.7128576	106.1018442	101.7230191	97.56332381	93.6105048	89.85305986
160511A00016	5/11/2016	2.48	5/12/2031	5/11/2016	129.13237	122.5117979	116.3615988	110.6429734	105.3206607	100.3625861	95.73955075	91.42495223	87.39453496
160523A00086	5/23/2016	2.2	5/26/2026	5/23/2016	124.77157	119.5978991	114.6881183	110.0271004	105.6006717	101.3955475	97.39927074	93.60015625	89.98723841
160524A00028	5/24/2016	2.06	5/24/2023	5/24/2016	111.33575	109.2142937	107.1454814	105.1276554	103.1592257	101.2386635	99.36449819	97.53531516	95.74975269
160413A00020	4/13/2016	2.48	4/13/2026	4/13/2016	126.06739	120.7501736	115.7018505	110.9072595	106.3521734	102.0232387	97.90791778	93.99443432	90.27172351
160413A00021	4/13/2016	2.48	4/13/2026	4/13/2016	126.06739	120.7501736	115.7018505	110.9072595	106.3521734	102.0232387	97.90791778	93.99443432	90.27172351
160413A00033	4/13/2016	2.32	4/13/2026	4/13/2016	121.85622	117.3558407	113.0712889	108.9907379	105.103078	101.3978703	97.86530207	94.49614599	91.28172189
160414A00042	4/13/2016	2.48	4/13/2026	4/13/2016	126.06739	120.7501736	115.7018505	110.9072595	106.3521734	102.0232387	97.90791778	93.99443432	90.27172351
160421A00016	4/21/2016	2.26	4/21/2026	4/21/2016	124.69876	119.6167682	114.789396	110.2023121	105.8420736	101.6960645	97.75244031	94.00007668	90.42852182
160427A00004	4/27/2016	2.09	4/27/2026	4/27/2016	114.36484	111.4687724	108.6837246	106.0044681	103.4260618	100.9438328	98.55335944	96.2504568	94.03116174
160401A00005	4/1/2016	2.02	4/3/2023	4/1/2016	110.47713	108.5136611	106.5957012	104.7219223	102.891039	101.101812	99.35304585	97.64358708	95.97232246
160404A00019	4/4/2016	2.48	4/4/2031	4/4/2016	128.91718	122.3623261	116.2696622	110.60134	105.3229338	100.4031086	95.81331959	91.52754388	87.5220388
160412A00029	4/12/2016	2.48	4/14/2031	4/12/2016	128.91831	122.3630429	116.2700414	110.6014412	105.3228079	100.4027988	95.81286264	91.52697079	87.52137582
160413A00014	4/13/2016	2.55	4/14/2031	4/13/2016	129.35497	122.7773489	116.6635658	110.9756288	105.6789865	100.7421895	96.13658954	91.83606945	87.81680098
160413A00016	4/13/2016	2.55	4/14/2031	4/13/2016	129.35497	122.777349	116.6635658	110.9756288	105.6789865	100.7421894	96.13658945	91.83606933	87.81680084
160413A00018	4/13/2016	1.78	4/13/2026	4/13/2016	113.9373	111.0453619	108.2644762	105.5894077	103.0152067	100.5371926	98.15093704	95.85224874	93.6371591
160212A00047	2/12/2016	1.94	2/12/2026	2/12/2016	113.50585	110.7295732	108.0566962	105.4824705	103.0024002	100.6122284	98.30792279	96.08566234	93.94182447
160301A00012	3/1/2016	2.02	3/1/2023	3/1/2016	109.97101	108.1122689	106.2954151	104.5191003	102.7820357	101.082988	99.42077585	97.79426751	96.20237793
160303A00035	3/3/2016	2.14	3/3/2026	3/3/2016	114.49919	111.601422	108.8141004	106.1320673	103.550442	101.0646062	98.67018791	96.36304717	94.13926158

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160307A00024	3/7/2016	2.17	3/6/2026	3/7/2016	114.35663	111.5109358	108.7727238	106.1369956	103.5990235	101.1543338	98.79869155	96.52808592	94.33871675
160328A00038	3/28/2016	2.54	3/30/2026	3/28/2016	125.02689	120.0062548	115.2338009	110.6957468	106.3791504	102.2718553	98.36243827	94.64016174	91.09492869
160329A00017	3/29/2016	2.48	3/30/2026	3/29/2016	124.73864	119.727793	114.9646804	110.4355443	106.1274652	102.0283074	98.12666767	94.41182697	90.87370583
160209A00008	2/9/2016	2.45	2/10/2031	2/9/2016	128.30551	121.8899374	115.9199655	110.3596143	105.1761143	100.3395993	95.82282848	91.60093626	87.65120782
160210A00049	2/10/2016	1.78	2/10/2026	2/10/2016	113.50282	110.7193806	108.0398332	105.4593923	102.9735323	100.5779686	98.26864325	96.04171132	93.89352795
160210A00051	2/10/2016	2.28	2/10/2031	2/10/2016	128.199	121.7659661	115.7808684	110.2074553	105.0127221	100.1665939	95.64164472	91.41284478	87.45733343
160210A00054	2/10/2016	1.78	2/10/2026	2/10/2016	113.50283	110.7193869	108.0398377	105.459395	102.9735334	100.5779681	98.26864137	96.0417081	93.89352347
160211A00038	2/11/2016	1.83	2/11/2026	2/11/2016	113.20812	110.4393415	107.7736804	105.2064016	102.7330216	100.3492954	98.05120189	95.8349304	93.69686838
160212A00006	2/12/2016	1.57	2/13/2023	2/12/2016	104.79597	103.8400168	102.9024118	101.9826183	101.0801192	100.1944178	99.32503712	98.47151844	97.63342078
160115A00011	1/15/2016	2.18	1/15/2026	1/15/2016	113.92672	111.1883618	108.5505256	106.0086516	103.5584216	101.1957443	98.9167419	96.71773723	94.5952421
160119A00072	1/19/2016	2.77	1/21/2031	1/19/2016	132.04158	125.0318109	118.5241927	112.4769382	106.8520976	101.6151811	96.7348178	92.18245082	87.93206397
160126A00004	1/26/2016	2.52	1/26/2026	1/26/2016	126.89232	121.609546	116.5869978	111.8102985	107.2659494	102.941273	98.82435849	94.90401022	91.16970067
160201A00016	2/1/2016	2.1	2/2/2026	2/1/2016	113.93733	111.1508563	108.4681318	105.8843887	103.395118	100.9960505	98.68314183	96.45255958	94.30067021
160203A00017	2/3/2016	2.07	2/3/2023	2/3/2016	109.66237	107.8801466	106.1368238	104.431194	102.7620973	101.1284216	99.52910023	97.96310966	96.42946707
160209A00006	2/9/2016	1.91	2/9/2026	2/9/2016	113.42402	110.6499647	107.9792171	105.4070325	102.9289196	100.5406261	98.23812353	96.01759474	93.87542072
151223A00036	12/23/2015	2.64	12/23/2025	12/23/2015	118.80729	115.248746	111.838239	108.5683761	105.432186	102.4230925	99.53488891	96.76171548	94.0980372
151223A00078	12/23/2015	2.28	12/23/2025	12/23/2015	114.3768	111.6686654	109.0587255	106.5425714	104.1160264	101.7751313	99.51613202	97.33546673	95.2297552
151228A00013	12/28/2015	2.27	12/29/2025	12/28/2015	114.35209	111.6441709	109.034458	106.5185424	104.0922456	101.7516072	99.49287143	97.31247541	95.2070378
151229A00026	12/29/2015	2.28	12/29/2025	12/29/2015	114.37838	111.6698215	109.0594936	106.542985	104.1161163	101.7749261	99.51565785	97.33474777	95.22881374
160104A00020	1/4/2016	2.47	1/4/2023	1/4/2016	109.87107	108.1693795	106.503561	104.8725447	103.2753061	101.7108609	100.1782631	98.67660266	97.20500414
160106A00042	1/6/2016	2.43	1/6/2026	1/6/2016	114.59209	111.8379379	109.1848591	106.6282672	104.1638221	101.7874116	99.495138	97.28330533	95.14840729
151201A00004	12/1/2015	2.44	12/1/2022	12/1/2015	109.25911	107.6606206	106.0946132	104.5601759	103.05643	101.5825291	100.1376575	98.72102846	97.33188345
151204A00011	12/4/2015	2.28	12/4/2025	12/4/2015	114.37177	111.6649874	109.0562796	106.5412523	104.1157369	101.7757819	99.51763988	97.33775571	95.23275498
151209A00024	12/9/2015	2.22	12/9/2025	12/9/2015	114.21557	111.512236	108.9068771	106.3950946	103.9727236	101.6358162	99.3806285	97.20360856	95.10138521
151210A00011	12/10/2015	2.16	12/12/2022	12/10/2015	104.95789	104.0872638	103.2327999	102.3940353	101.5705229	100.7618331	99.96755297	99.1872853	98.42064795
151215A00039	12/15/2015	2.46	12/15/2025	12/15/2015	114.4283	111.7264848	109.1223921	106.6116471	104.1901027	101.8538274	99.59909217	97.42235922	95.32027024
151216A00006	12/16/2015	2.3	12/16/2021	12/16/2015	103.3869	102.8088262	102.2372683	101.6721162	101.1132625	100.5606019	100.0140315	99.47345092	98.93876168
151113A00035	11/13/2015	1.8	11/14/2022	11/13/2015	104.41498	103.592558	102.785164	101.9923709	101.2137639	100.4489444	99.69752963	98.9591511	98.23345447
151118A00025	11/18/2015	2.4	11/18/2022	11/18/2015	108.78976	107.2652958	105.7711219	104.3064046	102.8703412	101.4621576	100.0811071	98.72646948	97.39754923
151118A00037	11/18/2015	2.75	11/18/2025	11/18/2015	122.26937	118.0757881	114.0700108	110.2423479	106.58367	103.0853707	99.73933395	96.53790311	93.47385212
151120A00019	11/20/2015	2.72	11/20/2030	11/20/2015	130.19316	123.8247477	117.8896052	112.3534207	107.1848927	102.3554425	97.83895781	93.61156198	89.65140637
151124A00007	11/24/2015	1.98	11/23/2022	11/24/2015	104.45876	103.6358457	102.8279783	102.0347255	101.2556722	100.4904197	99.73858435	98.99979759	98.27370462
151125A00037	11/25/2015	2.41	11/25/2025	11/25/2015	114.08296	111.4370023	108.8853739	106.4239005	104.0486254	101.7557955	99.54184928	97.40340556	95.33725325

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
151006A00050	10/6/2015	2.21	10/6/2022	10/6/2015	104.37434	103.5986883	102.8369719	102.0887936	101.3537685	100.631527	99.92171383	99.22398743	98.53801935
151013A00033	10/13/2015	2.23	10/14/2025	10/13/2015	113.38109	110.8009633	108.3113838	105.908396	103.5882505	101.3473887	99.18243161	97.09016944	95.06755195
151029A00008	10/29/2015	2.28	10/29/2025	10/29/2015	113.51079	110.9266332	108.4332235	106.0265923	103.7029792	101.4588151	99.29071154	97.19544955	95.16997051
151030A00004	10/30/2015	2.48	10/30/2025	10/30/2015	121.57861	117.4400093	113.4852245	109.7048519	106.0900286	102.6323949	99.32406309	96.15758798	93.12593948
151030A00026	10/30/2015	3.29	10/30/2030	10/30/2015	147.52913	137.1925381	127.744995	119.102763	111.1905102	103.9404189	97.29139643	91.18837122	85.58166723
151102A00024	11/2/2015	2.37	11/2/2022	11/2/2015	108.68253	107.1722308	105.6911592	104.2385342	102.8136023	101.4156365	100.0439345	98.69781802	97.37663168
150925A00034	9/25/2015	2.36	9/25/2025	9/25/2015	113.46729	110.9327561	108.4858572	106.1228095	103.8400256	101.6340987	99.50179267	97.44003171	95.44589165
150929A00076	9/29/2015	2.28	9/29/2025	9/29/2015	113.27111	110.7408139	108.2980199	105.9389492	103.6600195	101.457829	99.3291459	97.27089899	95.28016819
150929A00083	9/29/2015	2.09	9/29/2025	9/29/2015	113.16889	110.6349197	108.1887483	105.8265838	103.5448248	101.3400517	99.20901648	97.14863245	95.1559653
150929A00087	9/29/2015	2.09	9/29/2025	9/29/2015	113.16889	110.6349197	108.1887483	105.8265838	103.5448248	101.3400517	99.20901648	97.14863245	95.1559653
151001A00023	10/1/2015	2.02	10/1/2025	10/1/2015	113.22317	110.6414243	108.1504091	105.7461636	103.4249259	101.183126	99.0173741	96.92445049	94.90129568
151005A00084	10/5/2015	2.25	10/5/2022	10/5/2015	108.05811	106.6349218	105.2379275	103.8664579	102.5198697	101.1975407	99.8988689	98.62327182	97.37018562
150814A00029	8/14/2015	2.39	8/14/2025	8/14/2015	113.29168	110.8102286	108.4132147	106.0970413	103.8582948	101.6937322	99.60027062	97.57497896	95.61506877
150824A00033	8/24/2015	2.22	8/25/2025	8/24/2015	112.88455	110.4115196	108.0226764	105.7144349	103.4833896	101.3263049	99.24010585	97.22186831	95.26881088
150824A00050	8/24/2015	2.03	8/25/2025	8/24/2015	112.78419	110.3075815	107.9154523	105.6041966	103.3703909	101.2107829	99.12228179	97.10194911	95.14698986
150825A00008	8/25/2015	2.82	8/25/2025	8/25/2015	123.83898	119.4075659	115.17297	111.1251522	107.2546505	103.5525447	100.0104215	96.62034241	93.3748136
150828A00018	8/28/2015	1.7	8/29/2022	8/28/2015	103.40006	102.7586166	102.1279675	101.5078127	100.8978611	100.2978329	99.70745897	99.12648049	98.55464843
150911A00007	9/10/2015	2.51	9/9/2022	9/10/2015	108.1046	106.7190749	105.365036	104.0414044	102.7471527	101.4813001	100.2429096	99.03108557	97.84497142
150803A00040	8/3/2015	3.01	8/2/2030	8/3/2015	130.20506	124.0255104	118.2553322	112.862898	107.8192905	103.0980507	98.67495111	94.52779146	90.63621439
150803A00041	8/3/2015	3.01	8/2/2030	8/3/2015	130.20501	124.0254694	118.2553028	112.8628791	107.8192812	103.0980501	98.67495854	94.52780613	90.63623565
150803A00042	8/3/2015	3.01	8/2/2030	8/3/2015	130.20503	124.0254873	118.2553152	112.8628865	107.8192841	103.098049	98.67495376	94.5277981	90.6362247
150804A00022	8/4/2015	2.37	8/4/2022	8/4/2015	107.3612	106.0678829	104.8060074	103.5744388	102.372092	101.1979331	100.0509768	98.93028298	97.83495473
150805A00015	8/5/2015	2.29	8/5/2022	8/5/2015	107.44723	106.1478075	104.8801013	103.6429535	102.4352661	101.2559932	100.1041379	98.97874966	97.87892139
150812A00052	8/14/2015	2.13	8/14/2025	8/14/2015	113.02253	110.5412795	108.1446293	105.8289687	103.5908714	101.4270822	99.33450763	97.31020632	95.35138055
150729A00041	7/29/2015	2.44	7/29/2025	7/29/2015	113.16666	110.7353183	108.3854489	106.1136313	103.9166122	101.7912986	99.73474881	97.74416422	95.81688089
150803A00033	8/3/2015	3.41	8/2/2030	8/3/2015	147.72977	137.5972635	128.317726	119.8124158	112.0103565	104.8475258	98.26613491	92.21398738	86.64390613
150803A00036	8/3/2015	3.41	8/2/2030	8/3/2015	147.72977	137.5972635	128.317726	119.8124158	112.0103565	104.8475258	98.26613491	92.21398738	86.64390613
150803A00037	8/3/2015	3.41	8/2/2030	8/3/2015	147.72974	137.5972411	128.3177111	119.8124075	112.010354	104.8475281	98.26614155	92.21399769	86.64391958
150803A00038	8/3/2015	3.41	8/2/2030	8/3/2015	147.72977	137.5972635	128.317726	119.8124158	112.0103565	104.8475258	98.26613491	92.21398738	86.64390613
150803A00039	8/3/2015	3.01	8/2/2030	8/3/2015	130.20502	124.0254811	118.2553111	112.8628844	107.8192837	103.0980502	98.67495627	94.52780178	90.6362294
150624A00077	6/24/2015	2.54	6/24/2022	6/24/2015	106.74094	105.5967917	104.4776554	103.3827129	102.311182	101.2623141	100.2353919	99.22972863	98.24466561
150701A00056	7/1/2015	2.34	7/1/2025	7/1/2015	113.27336	110.8359149	108.4802161	106.2028263	104.0004799	101.8700728	99.80865254	97.81341027	95.88167239
150714A00003	7/14/2015	3.76	7/12/2030	7/14/2015	135.41286	129.003529	123.0169284	117.4205491	112.1846545	107.2820243	102.687724	98.37889621	94.33457268

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150722A00033	7/22/2015	2.47	7/22/2025	7/22/2015	113.23558	110.8032048	108.4523116	106.179481	103.9814604	101.8551577	99.79763177	97.8060844	95.87785212
150722A00035	7/22/2015	2.92	7/22/2025	7/22/2015	123.84406	119.4984848	115.3423673	111.3662356	107.5611474	103.9186612	100.4308045	97.09004532	93.88926467
150729A00028	7/29/2015	2.25	7/29/2025	7/29/2015	113.06856	110.6336875	108.2805695	106.0057666	103.8060082	101.6781852	99.61934107	97.6266632	95.69747472
150604A00039	6/4/2015	2.82	6/4/2030	6/4/2015	129.56569	123.5039903	117.8384444	112.5388341	107.5775024	102.9291153	98.57044979	94.48020269	90.63881836
150615A00024	6/15/2015	2.26	6/16/2025	6/15/2015	112.83924	110.4585542	108.1564886	105.9297802	103.7753264	101.6901762	99.67152132	97.71668859	95.82313223
150617A00017	6/17/2015	2.27	6/17/2025	6/17/2015	112.86268	110.4814234	108.1788047	105.9515643	103.7965987	101.7109557	99.69182627	97.73653637	95.84253937
150617A00018	6/17/2015	2.45	6/17/2025	6/17/2015	112.93568	110.5583572	108.2593919	106.0355365	103.8837046	101.8009598	99.78450784	97.8316883	95.93996749
150617A00030	6/17/2015	2.91	6/16/2025	6/17/2015	123.35246	119.1129273	115.0547609	111.1690733	107.4474627	103.8819869	100.4651358	97.18980486	94.04927078
150617A00036	6/17/2015	2.44	6/15/2022	6/17/2015	106.48035	105.3646769	104.2728415	103.2040824	102.1576697	101.1329043	100.1291159	99.14566195	98.18192567
150414A00037	4/14/2015	2.34	4/14/2025	4/14/2015	112.18609	109.9209011	107.7279267	105.6042571	103.5471215	101.5538811	99.62202152	97.74914664	95.93297168
150420A00012	4/20/2015	2.07	4/20/2022	4/20/2015	105.28797	104.3308013	103.391163	102.4685737	101.5625714	100.6727108	99.79856224	98.93971143	98.09575843
150427A00014	4/27/2015	2.98	4/27/2035	4/27/2015	143.69566	133.4993706	124.2782551	115.9257807	108.3480939	101.4624092	95.19561624	89.48307138	84.26754863
150529A00055	5/29/2015	1.78	5/31/2022	5/29/2015	102.88961	102.3442176	101.8067075	101.2768922	100.7545878	100.2396166	99.73180694	99.23099265	98.7370131
150603A00012	6/3/2015	2.77	6/3/2030	6/3/2015	129.27929	123.2311494	117.5782702	112.2905061	107.3402626	102.7022626	98.35333527	94.27222545	90.4394214
150603A00032	6/3/2015	2.21	6/3/2025	6/3/2015	112.71973	110.3425201	108.0437748	105.8202388	103.6688177	101.586568	99.57068865	97.61851321	95.72750219
150224A00010	2/24/2015	2.34	2/24/2025	2/24/2015	113.95773	111.3297521	108.7893314	106.3327538	103.956494	101.6572049	99.43170745	97.27698068	95.19015237
150227A00011	2/27/2015	2.33	2/27/2025	2/27/2015	118.5094	114.9991415	111.625794	108.3830362	105.2648882	102.2656867	99.38006599	96.60294012	93.92948605
150311A00003	3/11/2015	2.72	3/31/2025	3/11/2015	121.62653	117.6352165	113.8069508	110.134111	106.6094772	103.226205	99.97780356	96.85811559	93.86129839
150318A00003	3/18/2015	2.04	3/18/2022	3/18/2015	103.49217	102.874458	102.265261	101.6643861	101.0716468	100.4868627	99.9098589	99.3404658	98.77851899
150320A00019	3/20/2015	2.25	3/20/2025	3/20/2015	118.47759	114.9166879	111.4962489	108.2098014	105.0512153	102.0146791	99.09468139	96.28599329	93.58365242
150410A00021	4/10/2015	2.27	4/10/2025	4/10/2015	112.03032	109.7686568	107.5790816	105.4586904	103.4047179	101.4145302	99.48561824	97.61559036	95.80216624
150115A00031	1/15/2015	1.42	1/18/2022	1/15/2015	101.82877	101.4720301	101.1187385	100.7688381	100.4222748	100.0789957	99.73894914	99.40208452	99.06835239
150203A00012	2/3/2015	1.61	2/3/2022	2/3/2015	102.07335	101.67496	101.2808065	100.8908151	100.5049132	100.1230297	99.74509561	99.37104326	99.00080676
150203A00027	2/3/2015	2.26	2/4/2030	2/3/2015	125.53406	119.8759291	114.5754823	109.6062702	104.9440175	100.5664301	96.45301906	92.58494146	88.9448566
150213A00014	2/13/2015	2.41	2/13/2025	2/13/2015	112.14897	109.9751837	107.8685336	105.8263813	103.84621	101.9256208	100.0623262	98.25414429	96.49899298
150219A00016	2/19/2015	2.68	2/19/2025	2/19/2015	121.59608	117.5880165	113.7405604	110.0461966	106.4978142	103.0886821	99.81242583	96.66300604	93.63469842
150223A00017	2/23/2015	1.77	2/23/2022	2/23/2015	104.32683	103.5213496	102.7281683	101.9470033	101.1775836	100.4196461	99.67293542	98.93720388	98.21221095
141015A00027	10/15/2014	2.01	10/15/2021	10/15/2014	102.25715	101.8624525	101.4708387	101.0822743	100.6967235	100.3141512	99.93452287	99.55780436	99.18396217
141015A00029	10/15/2014	2.32	10/15/2024	10/15/2014	117.05314	113.8744145	110.8098163	107.8545259	105.0039543	102.2537325	99.59970021	97.03789388	94.56453678
141017A00022	10/17/2014	2.78	10/17/2024	10/17/2014	119.7113	116.1953713	112.8091763	109.5471646	106.4040539	103.374817	100.4546679	97.63904853	94.92361718
141107A00027	11/7/2014	1.98	11/8/2021	11/7/2014	101.46955	101.2084464	100.9491955	100.6917778	100.436172	100.1823572	99.93031267	99.68001816	99.43145368
141203A00039	12/3/2014	3.6	12/4/2034	12/3/2014	148.7992	138.4069619	128.9917834	120.4486828	112.684969	105.6187073	99.17738695	93.29676245	87.91984536
150114A00029	1/14/2015	1.99	1/14/2022	1/14/2015	101.98546	101.629796	101.2775372	100.928633	100.5830304	100.2406777	99.90152425	99.56552038	99.23261766

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
140821A00030	8/21/2014	2.27	8/21/2024	8/21/2014	110.31516	108.4601798	106.6566487	104.9026995	103.1965515	101.5365028	99.92092573	98.34826316	96.81702487
140821A00040	8/21/2014	3.41	8/21/2031	8/21/2014	155.93751	143.8146008	132.8286451	122.8637325	113.8164912	105.5946621	98.11584249	91.30637907	85.1003903
140908A00080	9/8/2014	2.51	3/8/2024	9/8/2014	114.54078	111.9869138	109.5111715	107.1105992	104.7823739	102.5238003	100.3323042	98.20542623	96.14081513
140917A00030	9/17/2014	3.23	9/17/2029	9/17/2014	142.50794	133.7434809	125.6496691	118.1698247	111.2524076	104.8505261	98.92149194	93.42642053	88.32987046
140924A00057	9/24/2014	3.25	9/25/2028	9/24/2014	142.22409	133.7148691	125.812516	118.4697518	111.6432406	105.293241	99.38328962	93.87991373	88.75237113
140925A00039	9/25/2014	2.02	9/27/2021	9/25/2014	101.0243	100.8446518	100.6659264	100.4881161	100.3112131	100.1352096	99.9600983	99.78587156	99.61252203
140428A00015	4/28/2014	2.35	4/29/2024	4/28/2014	109.40684	107.7535861	106.1427721	104.5729506	103.0427331	101.5507892	100.0958445	98.67667724	97.29211595
140618A00019	6/18/2014	3.08	6/18/2024	6/18/2014	110.93045	109.1633585	107.4433378	105.7687361	104.1379747	102.5495423	101.0019921	99.49393793	98.0240518
140703A00026	7/3/2014	3.11	7/3/2024	7/3/2014	119.30055	116.0661571	112.9431021	109.9268301	107.0130054	104.1974979	101.4763714	98.84587323	96.30242465
140717A00027	7/17/2014	3.14	7/17/2026	7/17/2014	128.4166	123.1486525	118.1513732	113.4090337	108.9069136	104.6312325	100.5690839	96.70837501	93.03777024
140730A00035	7/30/2014	2.67	1/30/2023	7/30/2014	105.68884	104.7645627	103.8577812	102.9679843	102.0946826	101.237406	100.3957028	99.56913876	98.75729621
140730A00037	7/30/2014	2.83	1/30/2024	7/30/2014	109.31632	107.8038201	106.3278756	104.8872905	103.4809143	102.1076438	100.7664207	99.45622975	98.17609622
130422A00020	4/22/2013	1.98	4/22/2025	4/22/2013	111.39514	109.1458096	106.968218	104.8594733	102.8168215	100.8376398	98.91942967	97.05980958	95.25650902
130614A00018	6/14/2013	2.83	6/14/2023	6/14/2013	107.10402	105.9453772	104.8108311	103.6996564	102.611159	101.5446722	100.4995551	99.47519144	98.47098826
131018A00006	10/18/2013	3.28	10/20/2025	10/18/2013	126.4562	121.9091678	117.5678937	113.4217809	109.4608355	105.6756323	102.0572793	98.59738447	95.28802518
140219A00005	2/19/2014	3.13	2/20/2029	2/19/2014	127.1122	122.0312223	117.2387497	112.7154631	108.4434908	104.406292	100.5885477	96.97606232	93.55567315
140313A00028	3/13/2014	2.86	3/13/2024	3/13/2014	115.95903	113.2910806	110.7057397	108.1998813	105.7705175	103.4147945	101.1299853	98.91348356	96.76279689
140318A00003	3/17/2014	3.08	3/18/2024	3/17/2014	118.97337	115.8773734	112.8810986	109.9807224	107.1725934	104.4532234	101.8192788	99.26757258	96.79505689
120808A00006	8/8/2012	2.06	8/9/2027	8/8/2012	118.29439	114.4795145	110.8441617	107.378203	104.0721557	100.9171414	97.90484281	95.02746488	92.27769805
120820A00009	8/20/2012	2.4	8/22/2022	8/20/2012	107.46503	106.1569526	104.8816838	103.637988	102.4246945	101.2406898	100.0849148	98.95636063	97.85406642
120820A00011	8/20/2012	2.4	8/22/2022	8/20/2012	107.46503	106.1569523	104.8816836	103.6379878	102.4246943	101.2406898	100.0849148	98.95636068	97.85406652
121016A00013	10/16/2012	1.64	10/14/2022	10/16/2012	103.95998	103.1862137	102.4263809	101.6800777	100.9469187	100.2265342	99.51856864	98.82268048	98.13854105
121114A00020	11/14/2012	1.74	11/14/2022	11/14/2012	107.83514	106.3497313	104.8936529	103.4660993	102.0662963	100.6934973	99.34698233	98.02605641	96.73004877
130206A00009	2/6/2013	2.83	2/7/2028	2/6/2013	130.16764	123.9139968	118.0479816	112.5424814	107.3724549	102.5147635	97.94801591	93.65242483	89.60967762
120330A00013	3/30/2012	2.98	4/2/2024	3/30/2012	117.1203	114.237246	111.4460194	108.7431472	106.1253108	103.5893356	101.1321842	98.75094956	96.44284844
120517A00021	5/17/2012	1.85	5/17/2024	5/17/2012	108.83717	107.1476234	105.5022857	103.8996224	102.338169	100.8165234	99.33334276	97.88734002	96.47728159
120806A00014	8/6/2012	1.77	8/8/2022	8/6/2012	103.57957	102.8959417	102.224462	101.564777	100.9165429	100.2794296	99.6531206	99.03731194	98.43171116
120806A00015	8/6/2012	2.38	8/6/2027	8/6/2012	118.88119	115.058717	111.4156998	107.9420292	104.6282463	101.4654931	98.44547075	95.5604	92.80298515
120807A00025	8/7/2012	1.82	8/8/2022	8/7/2012	103.61263	102.9287609	102.257045	101.5971279	100.9486656	100.3113281	99.68479859	99.06877312	98.46295954
120807A00026	8/7/2012	2.42	8/9/2027	8/7/2012	119.02924	115.2018098	111.5540715	108.0759089	104.7578493	101.5910224	98.56711747	95.67834423	92.91739678
110701A00011	7/1/2011	3.87	7/1/2026	7/1/2011	120.39639	117.1920828	114.1156876	111.1609695	108.3220427	105.5933504	102.9696445	100.4459657	98.01762607
110719A00017	7/19/2011	3.68	7/20/2026	7/19/2011	119.82098	116.6310799	113.5685896	110.6272944	107.8013273	105.08515	102.4735317	99.96153009	97.54447342
110810A00009	8/10/2011	2.36	8/10/2021	8/10/2011	100.74297	100.6204674	100.4983943	100.3767435	100.2555127	100.1346995	100.0143015	99.89431659	99.77474237

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
110909A00006	9/9/2011	2.26	9/9/2026	9/9/2011	115.99036	112.8059409	109.7521255	106.8223893	104.0105842	101.3109137	98.71791019	96.22641383	93.83155309
111115A00005	11/15/2011	2.26	11/15/2021	11/15/2011	101.55893	101.294595	101.0321713	100.7716366	100.5129687	100.2561453	100.0011447	99.74794559	99.49652692
111220A00025	12/20/2011	2.17	12/20/2021	12/20/2011	101.80226	101.4904953	101.1813759	100.8748653	100.570927	100.2695252	99.97062462	99.67419094	99.38019034
210512A00009	5/12/2021	0.66	5/10/2024	5/12/2021	112.04248	108.9246704	105.9122075	103.0009279	100.186857	97.46620035	94.83533388	92.29079534	89.82927607
210420A00035	4/20/2021	1.92	4/20/2034	4/20/2021	137.20545	126.5272063	116.9184574	108.2586219	100.441774	93.37476136	86.97557386	81.17193131	75.90005814
210423A00001	4/23/2021	1.72	4/23/2036	4/23/2021	135.62226	125.2751236	115.9850357	107.6290985	100.099938	93.30361513	87.15783553	81.59041053	76.53793225
210423A00003	4/23/2021	1.31	4/23/2031	4/23/2021	122.66206	116.4045551	110.589498	105.1805669	100.1447345	95.45194508	91.07482571	86.98842702	83.16999089
210512A00012	5/12/2021	1.16	5/12/2026	5/12/2021	120.24459	114.9044794	109.8419621	105.041041	100.4867245	96.16496034	92.06257159	88.16719746	84.46723858
210512A00011	5/12/2021	1.16	5/12/2026	5/12/2021	120.24459	114.9044794	109.8419621	105.041041	100.4867245	96.16496034	92.06257159	88.16719746	84.46723858
210512A00008	5/12/2021	0.66	5/10/2024	5/12/2021	112.04248	108.9246704	105.9122075	103.0009279	100.186857	97.46620035	94.83533388	92.29079534	89.82927607
210319A00012	3/19/2021	0.83	12/19/2024	3/19/2021	114.57333	110.798517	107.1725475	103.6886833	100.3405293	97.122017	94.02738554	91.05116423	88.18815612
210331A00007	3/31/2021	1.25	3/31/2031	3/31/2021	121.256	115.1438158	109.4595183	104.1682965	99.23847304	94.64119641	90.35016877	86.34140113	82.59299381
210408A00007	4/8/2021	1.05	4/8/2031	4/8/2021	121.09406	114.9176031	109.1778176	103.8388621	98.86814498	94.23600662	89.91543412	85.88180584	82.11266225
210412A00007	4/12/2021	0.66	4/12/2024	4/12/2021	111.73932	108.7146543	105.7896997	102.9606101	100.2237143	97.57550251	95.01261856	92.53185209	90.13013145
210412A00008	4/12/2021	0.66	4/12/2024	4/12/2021	111.73932	108.7146543	105.7896997	102.9606101	100.2237143	97.57550251	95.01261856	92.53185209	90.13013145
210412A00009	4/12/2021	0.37	4/12/2022	4/12/2021	103.62392	102.7049004	101.8023022	100.9156916	100.0446456	99.18875614	98.34762918	97.52088434	96.70815418
210212A00004	2/12/2021	1.1	2/12/2036	2/12/2021	129.35016	119.5912764	110.8193166	102.9206414	95.7958315	89.35779272	83.53012847	78.24573828	73.44560973
210212A00006	2/12/2021	0.77	2/12/2026	2/12/2021	117.81077	112.7331748	107.9098679	103.3266288	98.97011338	94.8277991	90.88792896	87.13946002	83.57201557
210212A00007	2/12/2021	0.76	2/12/2026	2/12/2021	117.4728	112.4892456	107.7539432	103.2530394	98.97354216	94.90325808	91.03073775	87.34522586	83.8366148
210217A00005	2/17/2021	0.83	2/14/2031	2/17/2021	119.52244	113.5279449	107.9509211	102.7575762	97.91714633	93.40159958	89.18537292	85.24513698	81.55958452
210319A00008	3/19/2021	0.63	3/19/2024	3/19/2021	111.41935	108.4682246	105.6125811	102.8487638	100.1732772	97.58278133	95.07408363	92.64413152	90.29000529
210319A00009	3/19/2021	1.1	3/19/2026	3/19/2021	119.43514	114.2863366	109.3980313	104.7555694	100.3451984	96.15401002	92.16988432	88.38143672	84.7779696
201207A00021	12/7/2020	1.85	12/7/2050	12/7/2020	162.9736	139.0205392	119.5863794	103.7233583	90.69552767	79.92925807	70.97571099	63.48230556	57.17095933
201221A00022	12/21/2020	0.51	12/19/2025	12/21/2020	116.24137	111.5487627	107.0823655	102.8299329	98.77995485	94.92160609	91.24470192	87.73965633	84.39744345
201228A00013	12/28/2020	0.84	12/30/2030	12/28/2020	118.47396	112.6531065	107.2304903	102.1744042	97.45593577	93.04870038	88.92860209	85.07361846	81.46360706
210107A00008	1/7/2021	0.54	1/5/2024	1/7/2021	110.46094	107.7313744	105.0852667	102.5195197	100.0311725	97.61739494	95.27548047	93.00284005	90.79699599
210107A00009	1/7/2021	0.54	1/5/2024	1/7/2021	110.46094	107.7313744	105.0852667	102.5195197	100.0311725	97.61739494	95.27548047	93.00284005	90.79699599
210107A00010	1/7/2021	0.54	1/5/2024	1/7/2021	110.46094	107.7313744	105.0852667	102.5195197	100.0311725	97.61739494	95.27548047	93.00284005	90.79699599
200910A00006	9/10/2020	0.96	9/10/2027	9/10/2020	122.44344	115.6329206	109.2585686	103.2899247	97.69882324	92.45920578	87.54695184	82.93972453	78.61682928
201029A00004	10/29/2020	1.49	10/29/2038	10/29/2020	151.36433	132.711036	116.8040192	103.2082466	91.56078627	81.55844537	72.94758605	65.51572893	59.08462206
201103A00005	11/3/2020	0.89	11/4/2030	11/3/2020	118.57356	112.8000578	107.4183221	102.3973991	97.70904699	93.32747489	89.22911266	85.39240358	81.79761781
201110A00003	11/10/2020	1.12	11/10/2027	11/10/2020	123.87201	116.8292857	110.2478264	104.0947852	98.33982073	92.95489763	87.91409946	83.19345809	78.77079755
201203A00007	12/3/2020	0.58	12/1/2023	12/3/2020	110.22306	107.594653	105.0444275	102.5695785	100.1674179	97.83537187	95.57097424	93.3718618	91.2357691

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
201207A00009	12/7/2020	1.01	12/7/2027	12/7/2020	123.27393	116.1850468	109.5654332	103.3813122	97.60151547	92.19726943	87.14199868	82.4111469	77.98201327
200709A00019	7/9/2020	0.77	7/9/2025	7/9/2020	116.20242	111.7769379	107.549123	103.509001	99.64716192	95.9547233	92.42329753	89.0449611	85.81222605
200716A00004	7/16/2020	0.97	7/16/2027	7/16/2020	122.20225	115.5536768	109.322107	103.4789661	97.99779253	92.85407114	88.02507979	83.48974839	79.22853
200724A00011	7/24/2020	1.41	7/26/2038	7/24/2020	149.5522	131.3164458	115.7365335	102.3964139	90.94824241	81.10080427	72.60996278	65.27076703	58.91092336
200806A00004	8/6/2020	0.3	3/6/2024	8/6/2020	105.96045	104.4086912	102.89592	101.4208219	99.98213561	98.57865297	97.20921638	95.8727161	94.56808784
200814A00003	8/14/2020	0.96	8/14/2035	8/14/2020	127.29213	118.0081643	109.6342877	102.0687753	95.22227073	89.01618612	83.3813185	78.25665309	73.58832759
200818A00012	8/18/2020	0.97	8/18/2027	8/18/2020	122.38444	115.6383944	109.3208548	103.4020764	97.85454402	92.65279505	87.77325444	83.19408426	78.89504605
200610A00006	6/10/2020	1.11	6/10/2027	6/10/2020	122.89483	116.3136128	110.1394195	104.3447389	98.90406856	93.79375486	88.99184963	84.47797825	80.23321865
200612A00004	6/12/2020	1.42	6/12/2040	6/12/2020	137.84115	124.3531571	112.6157914	102.373133	93.40955509	85.543028	78.61958524	72.50874229	67.09969751
200616A00005	6/16/2020	0.74	6/17/2030	6/16/2020	117.99958	112.4830257	107.3271031	102.5042995	97.98943143	93.75943095	89.79315287	86.07120063	82.57576916
200618A00004	6/18/2020	0.7	6/18/2030	6/18/2020	117.78412	112.2776796	107.1312153	102.3172636	97.81068648	93.58845774	89.62947039	85.91436298	82.42536268
200623A00028	6/23/2020	1.23	6/23/2038	6/23/2020	134.67859	122.8905989	112.4580787	103.2046155	94.97862778	87.6496595	81.10525724	75.2483307	69.99491947
200709A00018	7/9/2020	0.59	7/7/2023	7/9/2020	108.82049	106.6029612	104.4429478	102.3385363	100.2878972	98.28927586	96.34098949	94.44142314	92.58902652
200512A00021	5/12/2020	0.86	5/12/2025	5/12/2020	116.10211	111.8428394	107.7675426	103.8672551	100.1335007	96.55826003	93.13394376	89.85336693	86.70972523
200514A00008	5/14/2020	1.23	5/14/2030	5/14/2020	127.72789	119.0039522	111.0055389	103.6666995	96.92787261	90.73523328	85.04011008	79.7984643	74.97042434
200520A00009	5/20/2020	1.63	5/20/2038	5/20/2020	151.77311	133.8349731	118.4651583	105.266912	93.90771995	84.1085317	75.63484593	68.28932765	61.90568719
200522A00009	5/22/2020	0.96	5/22/2030	5/22/2020	118.14625	112.6608758	107.5376411	102.7486968	98.2685646	94.07392106	90.14340007	86.45741472	82.9979965
200605A00018	6/5/2020	0.91	6/5/2025	6/5/2020	116.51982	112.1801442	108.0307197	104.0621285	100.2654766	96.63235755	93.15482328	89.82535618	86.63684342
200608A00001	6/8/2020	1.34	6/7/2030	6/8/2020	128.80559	119.9594618	111.8534116	104.419748	97.59738166	91.33114391	85.57118134	80.27241504	75.39405765
200512A00011	5/12/2020	1.48	5/10/2030	5/12/2020	132.5666	122.7131836	113.7094157	105.476483	97.94330458	91.04573559	84.7258564	78.93133772	73.61487352
200512A00013	5/12/2020	1.17	5/12/2027	5/12/2020	123.09471	116.5853279	110.473709	104.733293	99.3394326	94.26924575	89.50147959	85.01638649	80.7956098
200512A00014	5/12/2020	1.17	5/12/2027	5/12/2020	123.09471	116.5853279	110.473709	104.733293	99.3394326	94.26924575	89.50147959	85.01638649	80.7956098
200512A00017	5/12/2020	0.85	5/12/2025	5/12/2020	115.46582	111.3794195	107.4674596	103.7214918	100.1335238	96.69599247	93.40173907	90.24398493	87.2163093
200512A00018	5/12/2020	0.85	5/12/2025	5/12/2020	115.46582	111.3794195	107.4674596	103.7214918	100.1335238	96.69599247	93.40173907	90.24398493	87.2163093
200512A00020	5/12/2020	0.86	5/12/2025	5/12/2020	116.10211	111.8428394	107.7675426	103.8672551	100.1335007	96.55826003	93.13394376	89.85336693	86.70972523
200429A00030	4/29/2020	1.41	4/29/2030	4/29/2020	130.76283	121.3852948	112.8028536	104.9425512	97.73853529	91.13132598	85.06716737	79.49744771	74.37818122
200430A00027	4/30/2020	1.31	4/30/2035	4/30/2020	128.44903	119.3383585	111.0992086	103.6363581	96.86591896	90.71389705	85.11494688	80.01129125	75.35178346
200501A00002	5/1/2020	1.3	5/1/2035	5/1/2020	128.49526	119.3286508	111.0435376	103.54313	96.74221286	90.565669	84.94720185	79.82822904	75.1569222
200501A00009	5/4/2020	0.67	5/1/2025	5/4/2020	108.69577	106.4576504	104.2920394	102.195976	100.1666438	98.20136222	96.29757835	94.45286029	92.66489044
200512A00001	5/12/2020	1.17	5/12/2027	5/12/2020	123.09471	116.5853279	110.473709	104.733293	99.3394326	94.26924575	89.50147959	85.01638649	80.7956098
200512A00010	5/12/2020	1.48	5/10/2030	5/12/2020	132.56657	122.7131609	113.709402	105.4764776	97.94330665	91.04574456	84.7258717	78.93135882	73.61489994
200413A00013	4/13/2020	1.19	4/12/2030	4/13/2020	119.28788	113.8319221	108.7258505	103.9434434	99.46066066	95.25544856	91.30756125	87.59839978	84.11086633
200414A00009	4/14/2020	0.82	4/14/2025	4/14/2020	108.85887	106.6627857	104.5367189	102.4778461	100.4834808	98.55106422	96.67815877	94.86244112	93.10169604

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200414A00024	4/14/2020	1.37	4/14/2027	4/14/2020	124.16352	117.6875803	111.6023155	105.8819693	100.5026149	95.44201686	90.67950327	86.1958478	81.97316166
200421A00026	4/21/2020	1.34	4/19/2030	4/21/2020	128.50506	119.7931435	111.8005184	104.4622715	97.71973177	91.51983831	85.81457444	80.56046158	75.71810644
200424A00022	4/24/2020	1.39	4/24/2030	4/24/2020	128.94983	120.2016461	112.1765026	104.8090685	98.0403057	91.81682861	86.09033275	80.81708446	75.95746423
200428A00009	4/28/2020	1.08	4/29/2030	4/28/2020	118.70533	113.2756925	108.1943194	103.4351046	98.97411413	94.78939188	90.86078236	87.16977007	83.69933433
200406A00032	4/6/2020	1.09	4/4/2025	4/6/2020	116.71367	112.5440089	108.5499179	104.7230654	101.055556	97.53990885	94.16903335	90.93620702	87.83505433
200406A00033	4/6/2020	1.09	4/4/2025	4/6/2020	116.71366	112.5439996	108.5499121	104.7230628	101.0555565	97.53991212	94.16903927	90.93621543	87.83506508
200406A00035	4/6/2020	1.05	4/4/2025	4/6/2020	115.32045	111.4903883	107.8177543	104.2951589	100.9156021	97.67244913	94.55940917	91.5705159	88.7001089
200406A00036	4/6/2020	1.09	4/4/2025	4/6/2020	116.71366	112.5439996	108.5499121	104.7230628	101.0555565	97.53991212	94.16903927	90.93621543	87.83506508
200406A00037	4/6/2020	0.9	4/6/2023	4/6/2020	108.41139	106.4583143	104.5507779	102.6874384	100.8670048	99.08823233	97.34992056	95.65091128	93.99008688
200413A00009	4/13/2020	0.77	4/13/2027	4/13/2020	113.00796	109.5594819	106.2658355	103.118644	100.1100479	97.23266978	94.4795812	91.84427216	89.32062301
200330A00058	3/30/2020	1.49	3/29/2030	3/30/2020	129.63032	120.9016761	112.8892179	105.5286997	98.76201876	92.53659511	86.80481805	81.52355034	76.65368446
200330A00079	3/30/2020	1.51	3/30/2035	3/30/2020	130.06893	120.8969754	112.5976331	105.0760595	98.24863844	92.04156726	86.38962747	81.23511745	76.52692534
200406A00014	4/6/2020	1.33	4/6/2035	4/6/2020	130.06208	120.7932711	112.413744	104.8261136	97.94460418	91.69357758	86.00625443	80.82360565	76.09339019
200406A00027	4/6/2020	1.31	4/5/2030	4/6/2020	129.54773	120.7617843	112.7003561	105.2981707	98.49621637	92.2411141	86.4845503	81.18276957	76.29612071
200406A00029	4/6/2020	1.61	4/5/2030	4/6/2020	133.53859	123.7182751	114.7361266	106.515181	98.98594718	92.08564721	85.75753495	79.95028723	74.61745934
200406A00030	4/6/2020	1.61	4/5/2030	4/6/2020	133.53859	123.7182751	114.7361266	106.515181	98.98594718	92.08564721	85.75753495	79.95028723	74.61745934
200319A00035	3/19/2020	1.72	3/18/2033	3/19/2020	134.40389	124.6835991	115.8708353	107.8700506	100.5965664	93.9752608	87.93942399	82.42975782	77.39350031
200323A00090	3/23/2020	1.55	3/23/2027	3/23/2020	115.7824	112.0836901	108.5569841	105.1927086	101.9818961	98.91614118	95.98756201	93.18876385	90.51280581
200326A00032	3/26/2020	1.49	3/26/2030	3/26/2020	120.7317	115.2596863	110.1357185	105.3339032	100.8304923	96.60368631	92.63346063	88.90140821	85.39059741
200327A00084	3/27/2020	1.1	3/27/2025	3/27/2020	116.06778	112.0861042	108.2693566	104.60978	101.1000278	97.73313645	94.50250366	91.40186735	88.42528649
200327A00094	3/27/2020	1.6	3/27/2030	3/27/2020	130.54466	121.7655064	113.7060423	106.301751	99.49428173	93.23082764	87.46356967	82.14917942	77.24837383
200330A00047	3/30/2020	1.5	3/30/2035	3/30/2020	129.98069	120.8149939	112.5213232	105.0048898	98.18213468	91.97930558	86.33122855	81.18024138	76.47526711
200309A00084	3/9/2020	1.06	3/9/2027	3/9/2020	121.99605	115.713388	109.8046789	104.245497	99.01314794	94.08653659	89.44604491	85.07342058	80.95167429
200311A00015	3/11/2020	1.26	3/11/2027	3/11/2020	123.23619	116.8962542	110.9337007	105.3238782	100.0438859	95.07243551	90.38972883	85.97734501	81.81813743
200311A00026	3/11/2020	1.34	3/11/2030	3/11/2020	129.82695	120.6264219	112.1962063	104.4664462	97.37401377	90.8618292	84.87824951	79.37652243	74.31429773
200317A00009	3/17/2020	1.61	3/16/2035	3/17/2020	130.95207	121.7179657	113.3623169	105.7896533	98.91580527	92.66648102	86.97602886	81.78636322	77.04603152
200317A00043	3/17/2020	1.29	3/15/2030	3/17/2020	120.51961	115.0380611	109.9060214	105.0974369	100.5884129	96.35701983	92.38311678	88.6481932	85.13522509
200318A00012	3/18/2020	1.68	3/18/2033	3/18/2020	134.0357	124.3418424	115.553077	107.5741149	100.3205019	93.71731508	87.69802163	82.20348099	77.18107154
200306A00057	3/6/2020	0.92	3/8/2027	3/6/2020	120.9233	115.0090658	109.4404538	104.1950853	99.25216557	94.59235805	90.19767364	86.05136916	82.13785393
200306A00058	3/6/2020	1.06	3/6/2030	3/6/2020	118.4622	113.0947422	108.0686108	103.3584253	98.94090003	94.79465979	90.90006925	87.239079	83.79508604
200309A00034	3/9/2020	0.96	3/9/2035	3/9/2020	126.66656	117.6936745	109.5770699	102.2234506	95.55059063	89.48593519	83.96538622	78.93224912	74.33631778
200309A00081	3/9/2020	1.18	3/8/2030	3/9/2020	129.34485	119.8592784	111.1789448	103.2302578	95.94675703	89.2683827	83.1408259	77.51494868	72.34626534
200309A00082	3/9/2020	1.18	3/8/2030	3/9/2020	129.34483	119.8592689	111.1789421	103.230261	95.94676538	89.26839551	83.14084255	77.51496862	72.34628808

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200309A00083	3/9/2020	0.82	3/9/2023	3/9/2020	107.92824	106.063639	104.2413828	102.4601479	100.7186672	99.01572535	97.35015593	95.72083896	94.12669864
200220A00026	2/20/2020	2.22	2/21/2040	2/20/2020	149.12012	134.4458019	121.6461354	110.450992	100.632195	91.99663888	84.38058731	77.64493968	71.67129686
200221A00012	2/21/2020	2.14	2/21/2040	2/21/2020	148.03536	133.4690291	120.7635746	109.6508526	99.90436109	91.33241257	83.77247276	77.08646261	71.1568526
200227A00046	2/27/2020	1.52	3/1/2027	2/27/2020	114.65501	111.2624707	108.0183085	104.9146749	101.9442	99.0999568	96.3754315	93.76449586	91.26138178
200303A00028	3/3/2020	1.54	3/4/2030	3/3/2020	129.907	121.2138107	113.2294438	105.8906091	99.14005866	92.92597344	87.20141805	81.92385352	77.0547011
200306A00048	3/6/2020	1.04	3/6/2035	3/6/2020	127.36407	118.3416645	110.1802448	102.7860041	96.07626632	89.97807951	84.42699444	79.36600577	74.74463202
200306A00050	3/6/2020	0.87	3/6/2030	3/6/2020	118.30063	112.9212729	107.8848871	103.1659093	98.74089379	94.58832228	90.68843192	87.02305934	83.57549973
200206A00032	2/6/2020	2.15	2/6/2030	2/6/2020	138.09886	128.1659495	119.0654816	110.7221491	103.0678815	96.04110739	89.5861003	83.65239306	78.19425431
200206A00033	2/6/2020	2.15	2/6/2030	2/6/2020	138.09885	128.1659432	119.0654784	110.7221485	103.0678832	96.04111107	89.58610567	83.65239985	78.1942623
200206A00034	2/6/2020	1.84	2/6/2025	2/6/2020	119.10282	115.0346773	111.1318864	107.38671	103.7918243	100.3402937	97.02554777	93.84135923	90.78182369
200206A00035	2/6/2020	1.78	2/6/2023	2/6/2020	109.24506	107.4514026	105.6970811	103.9808671	102.3015819	100.6580961	99.04932646	97.47423377	95.9318205
200206A00038	2/6/2020	1.78	2/6/2023	2/6/2020	109.24506	107.4514026	105.6970811	103.9808671	102.3015819	100.6580961	99.04932646	97.47423377	95.9318205
200212A00013	2/12/2020	1.98	2/12/2027	2/12/2020	127.44349	121.0098169	114.953922	109.2513703	103.8794507	98.81704149	94.04448951	89.54350001	85.29703476
200115A00013	1/15/2020	2.18	1/15/2030	1/15/2020	131.4632	123.6554654	116.4437372	109.7771562	103.6095517	97.8989798	92.60731106	87.69986116	83.14505891
200116A00012	1/16/2020	2.16	1/19/2027	1/16/2020	128.32364	121.9232198	115.8946756	110.2142128	104.8596896	99.81049659	95.04744164	90.55264482	86.30944126
200130A00046	1/30/2020	1.81	1/29/2027	1/30/2020	115.41865	112.0522889	108.8313342	105.748187	102.7957005	99.96715274	97.25621888	94.65694457	92.16372178
200206A00008	2/6/2020	1.64	2/6/2025	2/6/2020	118.22838	114.3102082	110.5499307	106.9401856	103.4740031	100.1447826	96.94627018	93.87253829	90.91796619
200206A00027	2/6/2020	2.15	2/6/2030	2/6/2020	138.09885	128.1659432	119.0654784	110.7221485	103.0678832	96.04111107	89.58610567	83.65239985	78.1942623
200206A00031	2/6/2020	2.15	2/6/2030	2/6/2020	138.09885	128.1659432	119.0654784	110.7221485	103.0678832	96.04111107	89.58610567	83.65239985	78.1942623
200109A00008	1/9/2020	1.95	1/9/2030	1/9/2020	123.67005	118.1491972	112.9744174	108.1203181	103.5635809	99.28277624	95.25819716	91.47170836	87.90660977
200110A00037	1/10/2020	2.32	1/10/2030	1/10/2020	139.43488	129.4974922	120.3862752	112.0270632	104.3527591	97.30262352	90.82163907	84.85994223	79.37231409
200110A00038	1/10/2020	2.32	1/10/2030	1/10/2020	139.43488	129.4974922	120.3862752	112.0270632	104.3527591	97.30262352	90.82163907	84.85994223	79.37231409
200110A00039	1/10/2020	2.32	1/10/2030	1/10/2020	139.43488	129.4974922	120.3862752	112.0270632	104.3527591	97.30262352	90.82163907	84.85994223	79.37231409
200110A00043	1/10/2020	2.32	1/10/2030	1/10/2020	139.43488	129.4974922	120.3862752	112.0270632	104.3527591	97.30262352	90.82163907	84.85994223	79.37231409
200110A00053	1/10/2020	1.99	1/10/2025	1/10/2020	119.3681	115.3695414	111.5307794	107.8444748	104.3036684	100.9017624	97.63249896	94.48994071	91.46845213
191203A00013	12/3/2019	1.93	12/3/2024	12/3/2019	118.67289	114.8012687	111.0808941	107.5049868	104.0671114	100.761157	97.58131896	94.52208132	91.5782011
191206A00005	12/6/2019	2.18	12/7/2026	12/6/2019	128.02718	121.7610126	115.8526179	110.2795045	105.0207133	100.0567082	95.36927229	90.94141149	86.75726603
191209A00005	12/9/2019	2.22	12/10/2029	12/9/2019	134.96388	126.1739939	118.0835314	110.6314773	103.7625065	97.42642204	91.57765239	86.17480015	81.18023725
191224A00002	12/24/2019	2.17	12/24/2029	12/24/2019	123.78138	118.3269809	113.2107521	108.4081294	103.8965349	99.655203	95.66502148	91.90838852	88.36908245
200103A00002	1/3/2020	2.07	1/3/2030	1/3/2020	135.29175	126.3848199	118.193034	110.6534736	103.7091383	97.30835558	91.4042541	85.95429096	80.91982857
200109A00006	1/9/2020	1.95	1/9/2030	1/9/2020	123.67006	118.1492058	112.9744224	108.1203201	103.5635801	99.28277302	95.25819176	91.47170102	87.90660072
191112A00024	11/12/2019	2.09	11/12/2024	11/12/2019	119.00336	115.1843741	111.5123127	107.9806935	104.583358	101.3144528	98.16841278	95.1399453	92.22401519
191113A00013	11/13/2019	2.17	11/13/2026	11/13/2019	127.72585	121.5411005	115.7057525	110.1980708	104.9977911	100.0860097	95.44508481	91.05854597	86.91101011

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191122A00003	11/22/2019	2.32	11/22/2039	11/22/2019	160.55838	142.2163153	126.5078971	113.0166081	101.3957493	91.35623383	82.65658958	75.09475651	68.50134837
191203A00009	12/3/2019	2.21	12/3/2029	12/3/2019	138.06219	128.3100279	119.3609568	111.1435769	103.5932268	96.65131154	90.26470208	84.3851985	78.96904779
191203A00010	12/3/2019	2.21	12/3/2029	12/3/2019	138.06219	128.3100279	119.3609568	111.1435769	103.5932268	96.65131154	90.26470208	84.3851985	78.96904779
191203A00011	12/3/2019	2.21	12/3/2029	12/3/2019	138.06219	128.3100279	119.3609568	111.1435769	103.5932268	96.65131154	90.26470208	84.3851985	78.96904779
191031A00025	10/31/2019	1.91	10/31/2024	10/31/2019	109.86866	107.931114	106.0492425	104.2209798	102.4443518	100.7174729	99.03854081	97.40583278	95.81770108
191101A00004	11/1/2019	1.91	11/1/2029	11/1/2019	133.45806	124.807534	116.8402591	109.497125	102.7244858	96.47362425	90.70027361	85.36418703	80.42875145
191101A00005	11/1/2019	1.83	11/2/2026	11/1/2019	126.57997	120.4481974	114.6620976	109.2002339	104.04261	99.17056793	94.5666914	90.21471678	86.09945096
191105A00012	11/5/2019	2.07	11/3/2034	11/5/2019	135.78758	126.3936993	117.8765915	110.1427175	103.1094185	96.70356422	90.8603798	85.52242465	80.63870335
191112A00022	11/12/2019	2.36	11/13/2029	11/12/2019	139.23971	129.4766421	120.5123685	112.2763124	104.7045164	97.73898629	91.32710502	85.42110754	79.97760922
191112A00023	11/12/2019	2.36	11/13/2029	11/12/2019	139.23971	129.4766454	120.5123703	112.2763129	104.7045159	97.73898484	91.32710279	85.42110466	79.97760579
191004A00026	10/4/2019	1.74	10/4/2024	10/4/2019	117.24563	113.5835671	110.0584076	106.6642934	103.3956464	100.2471559	97.21376481	94.29065593	91.47323922
191008A00007	10/8/2019	1.67	10/9/2029	10/8/2019	121.65431	116.3796747	111.4271873	106.7737744	102.3982064	98.28093512	94.4039488	90.75064023	87.30568743
191008A00014	10/8/2019	1.85	10/8/2026	10/8/2019	125.51098	119.5150921	113.8526302	108.5031981	103.4477539	98.66851177	94.148853	89.87324362	85.82715811
191009A00009	10/9/2019	1.8	10/9/2026	10/9/2019	114.77857	111.5791571	108.512676	105.5724143	102.752049	100.0456219	97.4475156	94.95243191	92.5553713
191011A00027	10/11/2019	1.84	10/11/2029	10/11/2019	122.52133	117.2086822	112.2205015	107.5335535	103.126455	98.97951638	95.07459551	91.3949651	87.92519238
191015A00025	10/15/2019	2.01	10/15/2029	10/15/2019	122.56568	117.2695021	112.2959822	107.6220636	103.2265247	99.08982116	95.19394151	91.52227627	88.05949878
190930A00028	9/30/2019	1.95	9/30/2024	9/30/2019	117.33804	113.8017059	110.3958537	107.1149424	103.9536943	100.9070836	97.97032297	95.13885112	92.40832062
191004A00017	10/4/2019	2.02	10/4/2029	10/4/2019	135.79545	126.3421258	117.6545307	109.6657507	102.3150745	95.54738686	89.31262521	83.56529184	78.26401549
191004A00019	10/4/2019	2.02	10/4/2029	10/4/2019	135.79544	126.3421194	117.6545276	109.6657503	102.3150765	95.54739091	89.31263098	83.56529906	78.26402391
191004A00022	10/4/2019	2.02	10/4/2029	10/4/2019	135.79544	126.342123	117.6545293	109.6657505	102.3150753	95.54738859	89.31262769	83.56529494	78.2640191
191004A00023	10/4/2019	2.02	10/4/2029	10/4/2019	135.79542	126.3421102	117.6545227	109.6657492	102.3150787	95.54739597	89.31263859	83.56530887	78.26403564
191004A00025	10/4/2019	1.74	10/4/2024	10/4/2019	117.24563	113.5835671	110.0584076	106.6642934	103.3956464	100.2471559	97.21376481	94.29065593	91.47323922
190910A00044	9/10/2019	2.02	9/10/2026	9/10/2019	126.21413	120.2712943	114.654919	109.3451748	104.3235462	99.57273904	95.07659341	90.82000254	86.78883839
190911A00016	9/11/2019	1.9	9/11/2029	9/11/2019	122.63563	117.370141	112.4234258	107.7728378	103.3975242	99.27827191	95.39736697	91.73846675	88.28648418
190913A00018	9/13/2019	2.11	9/11/2026	9/13/2019	115.52799	112.3563846	109.3148661	106.3969343	103.5964654	100.9076857	98.32514897	95.84371571	93.45853353
190925A00009	9/25/2019	2	9/25/2026	9/25/2019	124.84671	119.2182121	113.8950061	108.8586948	104.0920916	99.57913239	95.30479652	91.25503322	87.41669419
190926A00002	9/30/2019	2.01	9/29/2034	9/30/2019	134.87467	125.6566404	117.2894732	109.683345	102.7587723	96.44534358	90.6806128	85.40913537	80.58162712
190930A00026	9/30/2019	1.95	9/30/2024	9/30/2019	117.33805	113.8017137	110.3958594	107.1149462	103.9536962	100.9070837	97.97032143	95.13884799	92.40831597
190905A00018	9/5/2019	1.85	9/5/2029	9/5/2019	132.52166	124.0619608	116.2602102	109.0602742	102.4111485	96.26646158	90.58402741	85.32544502	80.45573778
190905A00019	9/5/2019	2.08	9/5/2029	9/5/2019	136.07468	126.6844452	118.0487822	110.1021479	102.7850524	96.04347118	89.82831403	84.09494877	78.80277335
190905A00021	9/5/2019	2.08	9/5/2029	9/5/2019	136.07468	126.6844452	118.0487822	110.1021479	102.7850524	96.0434712	89.82831405	84.0949488	78.80277339
190905A00023	9/5/2019	2.08	9/5/2029	9/5/2019	136.07468	126.6844452	118.0487822	110.1021479	102.7850524	96.0434712	89.82831405	84.0949488	78.80277339
190905A00024	9/5/2019	2.08	9/5/2029	9/5/2019	136.07468	126.6844452	118.0487822	110.1021479	102.7850524	96.0434712	89.82831405	84.0949488	78.80277339

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190905A00025	9/5/2019	2.08	9/5/2029	9/5/2019	136.07468	126.6844452	118.0487822	110.1021479	102.7850524	96.04347118	89.82831403	84.09494877	78.80277335
190813A00057	8/13/2019	1.9	8/13/2024	8/13/2019	117.16848	113.65473	110.2681729	107.0033795	103.8551921	100.8187085	97.88926737	95.06243421	92.33398891
190813A00064	8/13/2019	1.9	8/13/2024	8/13/2019	117.16848	113.65473	110.2681729	107.0033795	103.8551921	100.8187085	97.88926737	95.06243421	92.33398891
190813A00067	8/13/2019	1.9	8/13/2024	8/13/2019	117.16848	113.65473	110.2681729	107.0033795	103.8551921	100.8187085	97.88926737	95.06243421	92.33398891
190826A00032	8/26/2019	1.72	8/24/2029	8/26/2019	121.54524	116.3783067	111.5214622	106.9528512	102.6523385	98.6013607	94.78279176	91.180822	87.78084736
190829A00032	8/29/2019	1.69	8/28/2026	8/29/2019	114.52208	111.4179728	108.4398551	105.5814857	102.8369836	100.2008015	97.66770438	95.23274994	92.89126997
190829A00039	8/29/2019	1.85	8/29/2034	8/29/2019	133.30189	124.2477122	116.0245712	108.545204	101.7323422	95.51749214	89.83986973	84.6454716	79.88626469
190712A00016	7/12/2019	2.39	7/12/2029	7/12/2019	123.87848	118.682573	113.7948659	109.1938687	104.859767	100.7742773	96.92051762	93.28289045	89.84697576
190718A00012	7/18/2019	2.55	7/18/2029	7/18/2019	136.4012	127.8830898	120.0155548	112.7439971	106.0187302	99.79451115	94.03011852	88.687973	83.73379544
190731A00013	7/31/2019	2.23	7/22/2022	7/31/2019	103.63526	102.9951207	102.3656828	101.746646	101.1377242	100.5386426	99.94913636	99.36895113	98.79784179
190802A00011	8/2/2019	2.01	8/2/2029	8/2/2019	122.99286	117.7646325	112.8500826	108.2271079	103.8753474	99.77602842	95.9118317	92.26676831	88.82606817
190813A00051	8/13/2019	2.19	8/13/2029	8/13/2019	136.83749	127.4677699	118.8458088	110.9070427	103.592844	96.84994286	90.62990985	84.88869002	79.58618505
190813A00052	8/13/2019	2.24	8/13/2029	8/13/2019	137.27921	127.8845984	119.2395517	111.2793586	103.9452572	97.18385558	90.94661227	85.18937037	79.87193827
190708A00025	7/8/2019	2.21	7/1/2024	7/8/2019	117.63646	114.2360941	110.9550189	107.7883205	104.7313159	101.7795449	98.92875744	96.1749026	93.51411767
190708A00026	7/8/2019	2.21	7/1/2024	7/8/2019	117.63646	114.2360941	110.9550189	107.7883205	104.7313159	101.7795449	98.92875744	96.1749026	93.51411767
190708A00028	7/8/2019	2.57	7/2/2029	7/8/2019	139.77469	130.3579798	121.682481	113.6850276	106.3081861	99.49970361	93.21201371	87.40179187	82.02955557
190708A00029	7/8/2019	2.57	7/2/2029	7/8/2019	139.77476	130.3580344	121.6825194	113.6850512	106.3081961	99.49970119	93.21199984	87.40176748	82.02952152
190708A00030	7/8/2019	2.57	7/2/2029	7/8/2019	139.77476	130.3580344	121.6825194	113.6850512	106.3081961	99.49970119	93.21199984	87.40176748	82.02952152
190708A00032	7/8/2019	2.58	7/2/2029	7/8/2019	139.86258	130.4410195	121.7610148	113.7593738	106.3786377	99.56653054	93.27546453	87.46209583	82.08692418
190605A00025	6/5/2019	2.64	6/5/2029	6/5/2019	140.10316	130.7445597	122.1168514	114.1582195	106.8124157	100.0282266	93.7589974	87.96220292	82.59906142
190605A00027	6/5/2019	2.64	6/5/2029	6/5/2019	140.10316	130.7445597	122.1168514	114.1582195	106.8124157	100.0282266	93.7589974	87.96220292	82.59906142
190619A00010	6/19/2019	2.04	6/17/2022	6/19/2019	103.33539	102.743618	102.1610277	101.5873795	101.0224453	100.466005	99.91784629	99.37776444	98.84556169
190620A00033	6/20/2019	2.1	6/20/2029	6/20/2019	123.03795	117.9119088	113.0879658	108.54519	104.2642665	100.2273646	96.41801302	92.82098656	89.42220317
190702A00068	7/2/2019	2.69	7/1/2039	7/2/2019	172.50513	151.4608444	133.5553638	118.2817649	105.2190536	94.01706482	84.38409789	76.07677694	68.89172478
190702A00071	7/2/2019	2.69	7/1/2039	7/2/2019	172.50498	151.460746	133.5553068	118.2817416	105.2190578	94.01709146	84.3841427	76.07683645	68.89179609
190510A00049	5/10/2019	2.58	5/8/2026	5/10/2019	115.74685	112.8149091	109.9953732	107.2829464	104.6726257	102.159679	99.73962969	97.40823996	95.16149705
190515A00035	5/15/2019	2.82	2/15/2029	5/15/2019	140.46065	131.3955304	123.0147263	115.2621389	108.0865864	101.4413441	95.2837329	89.57474652	84.27871634
190529A00061	5/29/2019	2.46	5/29/2026	5/29/2019	115.64903	112.6703785	109.8075248	107.0549522	104.4074466	101.86008	99.40819232	97.0473754	94.77345721
190605A00007	6/5/2019	2.47	6/5/2026	6/5/2019	127.65286	121.9355895	116.5188764	111.3851898	106.5181182	101.9022914	97.52330859	93.36767238	89.42272675
190605A00023	6/5/2019	2.64	6/5/2029	6/5/2019	140.10318	130.7445732	122.11686	114.1582238	106.8124161	100.0282236	93.75899128	87.9621941	82.59905022
190605A00024	6/5/2019	2.64	6/5/2029	6/5/2019	140.10316	130.7445597	122.1168514	114.1582195	106.8124157	100.0282266	93.7589974	87.96220292	82.59906142
190404A00015	4/4/2019	2.88	4/3/2026	4/4/2019	129.03288	123.454855	118.1604606	113.1336933	108.3595402	103.8239089	99.51356571	95.41607955	91.51976889
190411A00022	4/11/2019	2.68	4/11/2022	4/11/2019	104.2389	103.5471526	102.866422	102.1964308	101.5369131	100.8876117	100.2482781	99.61867186	98.99856057

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190501A00015	5/1/2019	2.78	5/1/2029	5/1/2019	125.35921	120.2073227	115.3554464	110.7830158	106.4710455	102.4019933	98.55964072	94.92898358	91.49613265
190502A00016	5/2/2019	2.87	5/1/2026	5/2/2019	129.35743	123.6855947	118.3062978	113.2027934	108.3593872	103.7613616	99.39490917	95.24707231	91.30568595
190506A00025	5/6/2019	3.03	5/4/2029	5/6/2019	143.13443	133.7054258	125.0042369	116.969992	109.5472354	102.6854218	96.33845647	90.46428129	85.02450127
190506A00026	5/6/2019	3.03	5/4/2029	5/6/2019	143.13443	133.7054258	125.0042369	116.969992	109.5472354	102.6854218	96.33845647	90.46428129	85.02450127
190401A00017	4/1/2019	2.55	4/1/2022	4/1/2019	105.36199	104.4662724	103.585956	102.7206437	101.8699529	101.0335144	100.2109711	99.40197776	98.60620063
190402A00005	4/2/2019	2.77	4/2/2032	4/2/2019	141.67073	132.0881001	123.3402962	115.3451759	108.0293484	101.3271806	95.17992547	89.53495347	84.34507402
190403A00010	4/3/2019	3.08	4/3/2029	4/3/2019	143.19695	133.8552093	125.2275378	117.2547898	109.8830369	103.0630793	96.75000672	90.90280417	85.4839945
190403A00013	4/3/2019	3.05	4/3/2029	4/3/2019	141.54982	132.574073	124.2763898	116.6009821	109.4969548	102.9178559	96.82126606	91.16842862	85.92391452
190403A00014	4/3/2019	3.05	4/3/2029	4/3/2019	141.54983	132.5740809	124.2763955	116.6009857	109.4969565	102.9178558	96.82126447	91.1684256	85.9239102
190403A00015	4/3/2019	3.05	4/3/2029	4/3/2019	141.54984	132.5740874	124.2763996	116.6009877	109.4969567	102.9178544	96.82126165	91.16842157	85.92390513
190315A00019	3/15/2019	2.88	3/15/2034	3/15/2019	141.10325	131.8137633	123.3524915	115.6348332	108.5856241	102.1380152	96.23248757	90.81599215	85.84119486
190315A00023	3/15/2019	2.88	3/15/2034	3/15/2019	141.1033	131.8138016	123.3525201	115.6348528	108.5856355	102.1380189	96.23248435	90.81598245	85.84117916
190315A00029	3/15/2019	2.88	3/15/2034	3/15/2019	141.10332	131.8138159	123.3525301	115.6348589	108.585638	102.1380181	96.23248047	90.81597583	85.84117005
190322A00008	3/22/2019	2.64	3/20/2026	3/22/2019	115.66117	112.7814559	110.010554	107.3434033	104.7752164	102.3014634	99.91785572	97.62033194	95.4050438
190327A00035	3/27/2019	2.68	3/27/2034	3/27/2019	139.38585	130.2094776	121.8513101	114.2277584	107.2645606	100.8956711	95.06228705	89.71199813	84.79804076
190329A00067	3/29/2019	2.61	3/29/2024	3/29/2019	116.42345	113.5018504	110.6736427	107.9352989	105.2834455	102.7148549	100.2264389	97.81524095	95.47843066
190305A00017	3/5/2019	3.12	3/5/2026	3/5/2019	128.37336	123.1601088	118.2040165	113.4907626	109.0069165	104.7398731	100.6777965	96.80956837	93.12473992
190308A00016	3/8/2019	3.18	3/8/2034	3/8/2019	162.85607	147.8048433	134.4303051	122.5292451	111.9244877	102.4614037	94.00491095	86.43688958	79.6539524
190308A00026	3/8/2019	3.18	3/8/2034	3/8/2019	162.85607	147.8048433	134.4303051	122.5292451	111.9244877	102.4614037	94.00491095	86.43688958	79.6539524
190313A00039	3/13/2019	2.7	6/13/2022	3/13/2019	106.82649	105.6971434	104.5919151	103.5100323	102.4507588	101.4133891	100.397247	99.40168356	98.42607643
190313A00044	3/13/2019	2.7	6/13/2022	3/13/2019	106.82649	105.6971434	104.5919151	103.5100323	102.4507588	101.4133891	100.397247	99.40168356	98.42607643
190315A00017	3/15/2019	2.88	3/15/2034	3/15/2019	141.10336	131.8138414	123.3525474	115.634869	108.5856416	102.138016	96.23247329	90.81596412	85.84115433
190205A00022	2/5/2019	3.32	2/5/2029	2/5/2019	143.08935	134.1957564	125.9619516	118.3344491	111.2644093	104.7072099	98.62205856	92.9716432	87.7218164
190205A00023	2/5/2019	3.32	2/5/2029	2/5/2019	143.08935	134.1957564	125.9619516	118.3344491	111.2644093	104.7072099	98.62205856	92.9716432	87.7218164
190205A00025	2/5/2019	2.88	2/7/2022	2/5/2019	104.70281	103.9625401	103.2328202	102.5134211	101.8041243	101.1047174	100.4149943	99.73475411	99.06380186
190207A00003	2/7/2019	2.68	2/7/2024	2/7/2019	116.3034	113.5102424	110.8033894	108.1795583	105.635618	103.16858	100.7755911	98.45392626	96.20098125
190227A00033	2/27/2019	2.65	2/27/2026	2/27/2019	115.87656	113.0326136	110.2948728	107.6584438	105.118697	102.6712494	100.3119503	98.03686677	95.84227084
190305A00015	3/5/2019	3.32	3/5/2029	3/5/2019	143.43267	134.4424002	126.1246949	118.4245988	111.2919627	104.6810004	98.54988545	92.86038703	87.57754143
190131A00013	1/31/2019	3.48	1/31/2034	1/31/2019	167.576	151.5851383	137.401362	124.8042112	113.6015347	103.625703	94.73034507	86.78753505	79.68536547
190131A00023	1/31/2019	3.02	1/30/2034	1/31/2019	141.79933	132.5824352	124.1777127	116.5031132	109.4856437	103.0603019	97.16913923	91.76044087	86.78800591
190205A00017	2/5/2019	3.36	2/5/2029	2/5/2019	143.41745	134.5068278	126.2571483	118.614836	111.5309703	104.9608546	98.86362836	93.20191688	87.94151526
190205A00019	2/5/2019	2.94	2/5/2024	2/5/2019	117.43206	114.4951989	111.6499222	108.8927414	106.2203252	103.6294945	101.1172138	98.68058374	96.31683371
190205A00020	2/5/2019	3.32	2/5/2029	2/5/2019	143.08935	134.1957564	125.9619516	118.3344491	111.2644093	104.7072099	98.62205856	92.9716432	87.7218164

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190205A00021	2/5/2019	3.32	2/5/2029	2/5/2019	143.08935	134.1957564	125.9619516	118.3344491	111.2644093	104.7072099	98.62205856	92.9716432	87.7218164
190104A00034	1/4/2019	3.18	1/4/2029	1/4/2019	135.44323	128.2209774	121.4949537	115.2268828	109.3816921	103.9272271	98.83399112	94.07491024	89.62511976
190104A00035	1/4/2019	3.1	1/5/2026	1/4/2019	128.3702	123.1701021	118.2218336	113.5116891	109.0267868	104.755017	100.6849911	96.80599446	93.10794256
190104A00038	1/4/2019	3.25	1/4/2029	1/4/2019	142.13943	133.3825005	125.2693085	117.7481531	110.7717833	104.2969885	98.2842313	92.69731602	87.50308836
190111A00038	1/11/2019	2.63	1/11/2022	1/11/2019	103.9837	103.3446083	102.7135947	102.0905029	101.4751833	100.8674901	100.2672809	99.67441717	99.08876361
190118A00006	1/18/2019	3.14	1/18/2034	1/18/2019	142.82451	133.5411217	125.0756997	117.3456175	110.2773675	103.805488	97.87162055	92.4236834	87.41514756
190129A00073	1/29/2019	3.11	1/29/2029	1/29/2019	125.97464	121.0095736	116.3231043	111.8967777	107.7135082	103.7574696	100.0139931	96.46947458	93.11129009
181218A00040	12/18/2018	3.23	6/18/2030	12/18/2018	130.97376	124.8675696	119.1594474	113.8190918	108.8187655	104.1330562	99.73866532	95.61421663	91.74008411
181218A00086	12/18/2018	3.06	10/18/2023	12/18/2018	115.20516	112.7277361	110.3196539	107.9785552	105.7021741	103.4883355	101.3349513	99.24001564	97.20160183
181218A00089	12/18/2018	3.05	6/19/2023	12/18/2018	113.26642	111.1322483	109.0518044	107.0233515	105.0452225	103.1158165	101.2335965	99.39708559	97.60486467
181226A00030	12/26/2018	2.91	12/26/2028	12/26/2018	125.54833	120.6374515	116.0001508	111.6184296	107.4756145	103.5562531	99.84601665	96.33160967	93.00068877
190103A00020	1/3/2019	3.12	1/5/2026	1/3/2019	129.01684	123.7040028	118.6499398	113.8405222	109.262475	104.9033204	100.751325	96.79545109	93.02531151
190104A00006	1/4/2019	2.83	1/5/2026	1/4/2019	115.65966	112.8793872	110.2011403	107.6202898	105.1324548	102.7334849	100.4194457	98.18660657	96.03142832
181116A00006	11/16/2018	3.18	11/17/2025	11/16/2018	116.0665	113.3740451	110.7775394	108.2727414	105.855628	103.5223832	101.2693854	99.09319653	96.9905513
181119A00008	11/19/2018	3.23	11/17/2023	11/19/2018	116.08057	113.5114911	111.0165369	108.5930998	106.2386832	103.950894	101.7274379	99.56611441	97.46481246
181128A00004	11/28/2018	3.08	11/28/2023	11/28/2018	117.05655	114.3166888	111.6578676	109.0771858	106.5718658	104.1392469	101.7767801	99.48202235	97.25263149
181128A00011	11/28/2018	3.27	11/28/2023	11/28/2018	117.16187	114.4266272	111.7721233	109.1954784	106.6939299	104.2648318	101.9056487	99.61395006	97.38740589
181129A00005	11/29/2018	3.21	11/29/2023	11/29/2018	117.02111	114.2855023	111.6307174	109.0538671	106.5521834	104.123015	101.7638219	99.47216933	97.24572301
181214A00030	12/14/2018	3.47	12/14/2033	12/14/2018	169.27609	153.208398	138.9455161	126.2687011	114.9871095	104.934089	95.96398073	87.94936092	80.77865799
180925A00116	9/25/2018	3.28	9/25/2028	9/25/2018	126.45712	121.672165	117.1460308	112.862139	108.8051062	104.9606482	101.3154939	97.85730614	94.57460958
181003A00019	10/3/2018	3.44	10/3/2025	10/3/2018	129.20392	124.1672201	119.3635311	114.780778	110.4075798	106.2332015	102.2475144	98.44095823	94.80450694
181003A00032	10/3/2018	3.23	10/3/2025	10/3/2018	115.90286	113.2647737	110.7192135	108.2621479	105.8897472	103.5983769	101.3845855	99.2450942	97.17678732
181010A00025	10/10/2018	3.48	10/10/2030	10/10/2018	134.52697	128.0026885	121.9187175	116.2404481	110.9362882	105.9773749	101.3373182	96.9919718	92.91922593
181105A00015	11/5/2018	3.57	11/5/2025	11/5/2018	130.35576	125.1831719	120.2543862	115.5565309	111.0774803	106.8058113	102.7307587	98.84217389	95.13048605
181115A00044	11/15/2018	3.26	11/15/2023	11/15/2018	116.55522	113.9108562	111.3432747	108.8497765	106.4277753	104.0747916	101.788448	99.56646403	97.40665164
180913A00012	9/13/2018	3.31	9/13/2033	9/13/2018	143.17382	134.108738	125.8233518	118.2406782	111.2920486	104.9161499	99.05817964	93.66910445	88.70500795
180913A00033	9/13/2018	3.31	9/13/2033	9/13/2018	143.17383	134.108741	125.8233537	118.2406791	111.2920489	104.9161496	99.0581788	93.66910321	88.70500639
180913A00062	9/13/2018	3.05	9/13/2023	9/13/2018	115.03932	112.5943494	110.2161996	107.9025822	105.6513071	103.4602757	101.3274759	99.25097811	97.22893081
180914A00049	9/14/2018	3.37	9/14/2033	9/14/2018	143.67582	134.5787716	126.2641672	118.6547534	111.6816196	105.2832359	99.40460664	93.99652548	89.01492109
180924A00033	9/24/2018	3.08	9/22/2023	9/24/2018	115.16037	112.7509597	110.4074382	108.127582	105.9092605	103.7504293	101.6491255	99.6034643	97.61163493
180925A00013	9/25/2018	3.41	9/25/2028	9/25/2018	126.30382	121.540257	117.0337266	112.7678061	108.7272488	104.8978952	101.2665879	97.82109355	94.55003154
180809A00032	8/9/2018	3.08	8/9/2023	8/9/2018	114.74493	112.3663935	110.0512245	107.7972355	105.602339	103.4645371	101.3819176	99.35264907	97.37497655
180809A00034	8/9/2018	3.08	8/9/2023	8/9/2018	114.74493	112.3663935	110.0512245	107.7972355	105.602339	103.4645371	101.3819176	99.35264907	97.37497655

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180813A00045	8/13/2018	2.89	8/13/2025	8/13/2018	114.8614	112.3388736	109.9023435	107.548144	105.2727924	103.0729799	100.9455619	98.88754871	96.89609634
180905A00017	9/5/2018	3.43	9/6/2033	9/5/2018	166.66796	151.3591374	137.73548	125.5966732	114.7674908	105.0945133	96.44329529	88.69591482	81.74885138
180906A00032	9/6/2018	3.24	9/5/2025	9/6/2018	127.83732	122.9235593	118.2342841	113.757886	109.4834284	105.4006035	101.4996923	97.77152722	94.20745695
180907A00013	9/7/2018	3.27	9/8/2025	9/7/2018	127.51631	122.6846041	118.0727264	113.6693392	109.4637621	105.4459267	101.6063373	97.9360353	94.42656483
180713A00031	7/13/2018	3.06	7/14/2025	7/13/2018	114.62985	112.1673535	109.7873168	107.4862816	105.2609577	103.108217	101.0250842	99.00872863	97.05645563
180716A00062	7/16/2018	2.91	7/16/2025	7/16/2018	114.6288	112.1604086	109.7748503	107.4686407	105.2384683	103.0811853	100.9937981	98.97345873	97.01745643
180717A00021	7/17/2018	3.34	7/17/2028	7/17/2018	138.62038	130.9131315	123.7317952	117.0366979	110.7913983	104.9624046	99.51891897	94.43260611	89.6773825
180717A00026	7/17/2018	3.24	7/16/2025	7/17/2018	125.79771	121.2962395	116.9920149	112.8751626	108.9363635	105.1668197	101.5582217	98.10271859	94.79288971
180718A00008	7/18/2018	3.37	7/18/2028	7/18/2018	142.41243	133.7938991	125.7836306	118.3348378	111.404596	104.9535011	98.945362	93.3469213	88.12760194
180809A00031	8/9/2018	2.98	8/9/2021	8/9/2018	101.36618	101.1610794	100.9568246	100.75341	100.5508304	100.3490806	100.1481554	99.9480497	99.74875846
180615A00021	6/15/2018	3.02	6/15/2023	6/15/2018	113.09133	110.9773092	108.9162862	106.9065581	104.9464876	103.0345025	101.1690927	99.34880701	97.57225059
180628A00068	6/28/2018	3.12	6/28/2028	6/28/2018	134.21651	127.4566317	121.1358302	115.2220084	109.6856233	104.4994687	99.63847664	95.07953678	90.80133202
180628A00078	6/28/2018	2.73	6/28/2023	6/28/2018	107.16689	106.0036811	104.8647452	103.7493493	102.6567918	101.5863986	100.5375223	99.5095399	98.50185262
180702A00022	7/2/2018	2.84	6/30/2023	7/2/2018	113.26303	111.1037679	108.9994438	106.9482601	104.9484888	102.9984724	101.0966202	99.24140521	97.43136079
180702A00040	7/2/2018	2.9	7/2/2021	7/2/2018	100.64636	100.5487219	100.4512753	100.3540236	100.2569662	100.1601025	100.0634319	99.96695381	99.87066768
180712A00044	7/12/2018	3.44	7/12/2033	7/12/2018	142.29836	133.4474343	125.3463028	117.9219623	111.1091958	104.8496796	99.09120249	93.78697777	88.89503783
180420A00011	4/20/2018	2.74	4/20/2023	4/20/2018	106.59882	105.5332067	104.4888864	103.4652286	102.4616295	101.4775092	100.51231	99.56549581	98.63655069
180517A00018	5/17/2018	3.46	5/17/2033	5/17/2018	143.27915	134.4485895	126.3590122	118.9389475	112.1244753	105.8583716	100.089356	94.77142915	89.86328788
180517A00024	5/17/2018	3.46	5/17/2033	5/17/2018	143.27914	134.4485842	126.3590087	118.9389456	112.1244746	105.858372	100.0893573	94.77143118	89.86329052
180601A00037	6/1/2018	2.86	6/1/2021	6/1/2018	100.0735	100.0623637	100.0512346	100.040116	100.0290079	100.0179104	100.0068233	99.99574667	99.98468052
180601A00038	6/1/2018	2.86	6/1/2021	6/1/2018	100.07348	100.0623469	100.0512208	100.0401052	100.0290001	100.0179055	100.0068214	99.9957478	99.98468463
180605A00031	6/5/2018	3.37	6/5/2030	6/5/2018	131.7785	125.6350135	119.8919687	114.5188895	109.4878777	104.7733732	100.351941	96.20207977	92.30404809
180309A00011	3/9/2018	3.19	3/10/2025	3/9/2018	124.8518	120.5565798	116.4384441	112.489018	108.7003792	105.0650272	101.5758584	98.22614171	95.00949717
180322A00040	3/22/2018	3.16	3/21/2031	3/22/2018	139.16146	131.0022952	123.4852735	116.552822	110.1529887	104.2388586	98.76803205	93.70215929	89.00652644
180322A00044	3/22/2018	3.18	3/22/2033	3/22/2018	140.47866	131.9397321	124.1083786	116.9171516	110.305653	104.2197415	98.61083672	93.43530603	88.65392212
180402A00013	4/2/2018	2.99	4/3/2028	4/2/2018	132.64696	126.1342067	120.0333264	114.3150281	108.9522859	103.9201521	99.19558527	94.75729461	90.58559675
180403A00014	4/3/2018	3.11	4/3/2025	4/3/2018	124.90932	120.537713	116.3488319	112.3340313	108.485125	104.7943553	101.2543685	97.85819169	94.599211
180410A00002	4/10/2018	3.14	4/11/2033	4/10/2018	140.42725	131.832587	123.9545891	116.724542	110.0809504	103.9687248	98.33846553	93.14583146	88.35098309
180206A00045	2/6/2018	2.71	2/6/2023	2/6/2018	110.65601	108.8818028	107.1463547	105.4484572	103.786951	102.1607249	100.5687132	99.0098934	97.48328406
180206A00046	2/6/2018	2.72	2/6/2023	2/6/2018	110.80512	109.0085134	107.2512241	105.5320268	103.8497446	102.2032494	100.5914594	99.01333654	97.46788457
180206A00048	2/6/2018	2.72	2/6/2023	2/6/2018	110.80512	109.0085144	107.2512248	105.5320274	103.849745	102.2032497	100.5914594	99.01333642	97.46788428
180215A00034	2/15/2018	2.9	2/15/2023	2/15/2018	111.28043	109.4529075	107.6658273	105.9179083	104.2079245	102.5347017	100.8971144	99.2940838	97.72457471
180220A00107	2/20/2018	3.13	2/20/2025	2/20/2018	123.26458	119.2342526	115.3662936	111.6531017	108.0874841	104.6626315	101.3720948	98.20976316	95.16984438

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180305A00030	3/5/2018	3.12	3/5/2025	3/5/2018	124.48279	120.2134718	116.1197217	112.1932314	108.4261397	104.8110063	101.3407867	98.00880801	94.80874678
180104A00023	1/4/2018	2.91	1/4/2028	1/4/2018	131.15587	124.7699891	118.7802781	113.1591325	107.8810469	102.922441	98.26150327	93.87804769	89.75338349
180104A00024	1/4/2018	2.98	1/4/2028	1/4/2018	135.88228	128.4459167	121.4951167	114.9950325	108.9135185	103.2209034	97.88978618	92.89485045	88.21269438
180104A00041	1/4/2018	3.08	1/4/2033	1/4/2018	160.03847	145.7158518	132.9034546	121.4293878	111.1423847	101.9092167	93.61244633	86.1484703	79.42581569
180125A00027	1/25/2018	2.69	1/24/2025	1/25/2018	113.11623	110.8061103	108.5698679	106.4045188	104.3072268	102.2752909	100.306138	98.39731564	96.54648578
180126A00011	1/26/2018	2.72	1/26/2028	1/26/2018	121.98267	117.7855555	113.7973568	110.0056722	106.3989297	102.9663293	99.69778562	96.58387594	93.61579188
180202A00027	2/2/2018	3.02	2/3/2025	2/2/2018	123.62456	119.465598	115.4746237	111.6438055	107.9657336	104.4333891	101.0401216	97.77962645	94.64592486
171207A00022	12/7/2017	2.45	12/7/2022	12/7/2017	109.33227	107.7228124	106.1462494	104.60165	103.0881152	101.6047794	100.1508086	98.72539916	97.32777623
171207A00024	12/7/2017	2.93	12/7/2027	12/7/2017	136.33288	128.7387898	121.6412192	115.0046669	108.7963626	102.9860428	97.54574629	92.44962662	87.67378163
171207A00025	12/7/2017	2.91	12/7/2027	12/7/2017	135.11788	127.7890264	120.9343671	114.5201873	108.5153596	102.8911292	97.62092039	92.68016001	88.04611596
171207A00026	12/7/2017	2.93	12/7/2027	12/7/2017	136.33288	128.7387898	121.6412192	115.0046669	108.7963626	102.9860428	97.54574629	92.44962662	87.67378163
171219A00009	12/19/2017	2.3	12/19/2024	12/19/2017	111.40318	109.3391566	107.3367049	105.3934728	103.5072147	101.6757878	99.89714638	98.16933675	96.49049245
171219A00067	12/19/2017	2.72	12/20/2027	12/19/2017	133.32334	126.3615468	119.8446753	113.7412244	108.0221108	102.6604672	97.63146119	92.91212984	88.48122893
170921A00055	9/21/2017	2.82	9/21/2027	9/21/2017	133.69156	126.6405218	120.0327644	113.8376534	108.0268351	102.5740589	97.45501043	92.6471583	88.12961453
170921A00057	9/21/2017	2.79	9/21/2027	9/21/2017	131.84152	125.1988124	118.965999	113.1150359	107.6199616	102.4567273	97.60304622	93.0382548	88.74318577
171013A00024	10/13/2017	2.47	10/15/2024	10/13/2017	119.10504	115.5242417	112.0764679	108.7560099	105.5574392	102.4755894	99.50554213	96.6426135	93.88234181
171109A00016	11/9/2017	2.94	11/9/2032	11/9/2017	157.39469	143.48014	131.017574	119.843525	109.8139159	100.8016605	92.69457064	85.39353122	78.81090804
171204A00009	12/4/2017	2.23	12/4/2024	12/4/2017	111.01291	109.0028593	107.0517475	105.157349	103.3175418	101.5303004	99.79368968	98.1058611	96.46504759
171204A00024	12/4/2017	2.71	12/4/2024	12/4/2017	121.52221	117.593705	113.8182669	110.1890398	106.6995167	103.3435186	100.1151761	97.00891188	94.01942443
170802A00013	8/2/2017	2.5	8/2/2024	8/2/2017	118.98017	115.4705664	112.0866933	108.8232353	105.6751425	102.6376122	99.70607503	96.8761817	94.14379083
170804A00005	8/4/2017	1.94	8/5/2024	8/4/2017	109.71374	107.8705555	106.0784347	104.3355318	102.6400817	100.990397	99.38486414	97.82193902	96.30014395
170829A00066	8/29/2017	2.11	8/29/2024	8/29/2017	118.53094	114.9461476	111.4925825	108.1645712	104.9567308	101.8639486	98.88136645	96.0043661	93.22855531
170901A00030	9/1/2017	1.82	9/1/2022	9/1/2017	107.04361	105.7161576	104.4212143	103.1575859	101.9241324	100.7197691	99.54346292	98.39422955	97.2711306
170921A00052	9/21/2017	2.21	9/21/2022	9/21/2017	107.72234	106.3476784	105.0002448	103.6792499	102.3839365	101.1135762	99.86746876	98.6449399	97.44534072
170921A00053	9/21/2017	2.22	9/21/2022	9/21/2017	107.81372	106.4249869	105.0637891	103.7293272	102.4208355	101.1375778	99.87884573	98.64395784	97.43225793
170619A00101	6/16/2017	2.74	6/16/2027	6/16/2017	130.62278	124.2718072	118.2994811	112.6806915	107.3921399	102.4121983	97.72077993	93.29922135	89.13017344
170707A00007	7/7/2017	2.65	7/8/2024	7/7/2017	119.11054	115.6710057	112.3524902	109.149979	106.0587012	103.0741142	100.1918907	97.40790742	94.71823379
170710A00079	7/10/2017	2.76	7/12/2032	7/10/2017	135.25334	127.4904545	120.3380868	113.7408429	107.6488538	102.017181	96.80529178	91.97659446	87.49802526
170711A00010	7/11/2017	2.38	7/12/2027	7/11/2017	119.24129	115.446381	111.8280097	108.3763139	105.0820601	101.9365974	98.93181652	96.06011248	93.31434941
170713A00021	7/13/2017	3.25	7/13/2037	7/13/2017	176.30527	156.8065127	139.9470713	125.3394629	112.6560383	101.6193844	91.99431443	83.58117813	76.21026658
170727A00003	7/27/2017	1.97	7/29/2024	7/27/2017	109.53259	107.7373354	105.9909578	104.2917119	102.63793	101.0280171	99.46044678	97.93375831	96.44655265
170615A00006	6/15/2017	2.15	6/17/2024	6/15/2017	109.09781	107.4062859	105.7589856	104.1543785	102.5910002	101.0674487	99.58238081	98.13450955	96.72260116
170619A00089	6/16/2017	2.79	6/16/2027	6/16/2017	132.50386	125.7661593	119.4374945	113.4904698	107.8996757	102.6415364	97.69416729	93.03724477	88.65188648

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170619A00092	6/16/2017	2.79	6/16/2027	6/16/2017	132.50383	125.7661349	119.4374761	113.4904572	107.8996685	102.6415341	97.69416973	93.03725162	88.65189747
170619A00095	6/16/2017	2.79	6/16/2027	6/16/2017	132.50386	125.7661593	119.4374945	113.4904698	107.8996757	102.6415364	97.69416729	93.03724477	88.65188648
170619A00096	6/16/2017	2.79	6/16/2027	6/16/2017	132.50386	125.7661593	119.4374945	113.4904698	107.8996757	102.6415364	97.69416729	93.03724477	88.65188648
170619A00097	6/16/2017	2.74	6/16/2027	6/16/2017	130.62278	124.2718072	118.2994811	112.6806915	107.3921399	102.4121983	97.72077993	93.29922135	89.13017344
170518A00027	5/18/2017	2.11	5/18/2022	5/18/2017	105.7653	104.7242409	103.7038774	102.7035944	101.7228018	100.7609323	99.81744051	98.89180198	97.98351195
170524A00027	5/24/2017	2.32	5/24/2027	5/24/2017	118.56339	114.891217	111.3859419	108.0384319	104.8401271	101.7829979	98.85950785	96.06258054	93.38556795
170524A00037	5/24/2017	2.46	5/24/2024	5/24/2017	117.1549	114.001871	110.9553138	108.0109925	105.1648631	102.4130663	99.75191854	97.17790218	94.6876575
170526A00017	5/26/2017	2.16	5/28/2024	5/26/2017	108.86608	107.2245996	105.6251873	104.0664051	102.5468786	101.0652919	99.62038357	98.21094448	96.8358151
170602A00019	6/2/2017	2.42	6/3/2024	6/2/2017	117.84906	114.5366613	111.3381512	108.2489404	105.264649	102.3810996	99.59430728	96.90046882	94.29595357
170602A00030	6/2/2017	1.88	6/2/2022	6/2/2017	105.84262	104.7632455	103.7062151	102.6708342	101.6564401	100.6623972	99.68809498	98.73294756	97.79639187
170406A00036	4/6/2017	3.07	4/6/2032	4/6/2017	135.62949	128.045948	121.045229	114.5755774	108.5902942	103.0472046	97.90818654	93.13875035	88.70766593
170406A00037	4/6/2017	3.07	4/6/2032	4/6/2017	135.62948	128.045943	121.0452258	114.5755758	108.590294	103.0472056	97.90818851	93.13875315	88.70766942
170407A00001	4/6/2017	2.97	4/6/2027	4/6/2017	131.29427	125.0936227	119.2521436	113.7466966	108.5557683	103.6593419	99.03878549	94.67674914	90.55706978
170504A00012	5/4/2017	2.28	5/4/2026	5/4/2017	115.58507	112.6015717	109.7342192	106.9774718	104.326095	101.7751419	99.31993457	96.95604829	94.67929557
170504A00049	5/4/2017	2.63	5/6/2024	5/4/2017	118.09067	114.8555577	111.7290274	108.7068089	105.7848256	102.9591849	100.226168	97.58222151	95.02394888
170511A00011	5/11/2017	2.41	5/11/2027	5/11/2017	118.87996	115.1985229	111.6843443	108.3282818	105.12176	102.0567345	99.12565497	96.3214314	93.63740297
170406A00026	4/6/2017	2.61	4/8/2024	4/6/2017	117.35723	114.25877	111.261451	108.3613958	105.5549025	102.8384311	100.208596	97.66215777	95.19601656
170406A00027	4/6/2017	2.61	4/8/2024	4/6/2017	117.35723	114.25877	111.261451	108.3613958	105.5549025	102.8384311	100.208596	97.66215777	95.19601656
170406A00029	4/6/2017	3.01	4/6/2027	4/6/2017	133.12121	126.5533009	120.3725287	114.5537228	109.073483	103.9100466	99.04316578	94.45399454	90.12498438
170406A00032	4/6/2017	3.01	4/6/2027	4/6/2017	133.12121	126.5533009	120.3725287	114.5537228	109.073483	103.9100466	99.04316578	94.45399454	90.12498438
170406A00033	4/6/2017	3.01	4/6/2027	4/6/2017	133.12121	126.5532972	120.3725261	114.5537214	109.0734825	103.910047	99.04316702	94.45399649	90.12498696
170406A00034	4/6/2017	3.01	4/6/2027	4/6/2017	133.12121	126.5532972	120.3725261	114.5537214	109.0734825	103.910047	99.04316702	94.45399649	90.12498696
170317A00041	3/17/2017	2.73	3/18/2024	3/17/2017	117.38986	114.350857	111.4094827	108.5620023	105.8048488	103.1346138	100.5480401	98.04201294	95.61355365
170317A00044	3/17/2017	3.11	3/17/2027	3/17/2017	131.88184	125.7125235	119.8975725	114.4142937	109.2415795	104.3597875	99.75063072	95.39707662	91.283254
170322A00033	3/22/2017	3.61	3/24/2042	3/22/2017	176.6397	157.465075	140.9516608	126.6847038	114.3189166	103.566221	94.18574625	85.97565072	78.7664233
170330A00060	3/30/2017	2.06	3/30/2022	3/30/2017	104.98797	104.1024167	103.2319955	102.3763173	101.5350089	100.7077092	99.89406944	99.09375234	98.30643157
170406A00023	4/6/2017	2.24	4/6/2022	4/6/2017	105.19615	104.2836236	103.3870699	102.506073	101.6402294	100.7891496	99.95245726	99.12978879	98.32079276
170406A00024	4/6/2017	2.61	4/8/2024	4/6/2017	117.35723	114.25877	111.261451	108.3613958	105.5549025	102.8384311	100.208596	97.66215777	95.19601656
170309A00014	3/9/2017	2.58	3/9/2027	3/9/2017	118.98924	115.4063864	111.9824259	108.7088552	105.5776892	102.5814285	99.71302573	96.96585561	94.33368643
170309A00016	3/9/2017	2.39	3/8/2024	3/9/2017	109.19496	107.5936045	106.0324907	104.510257	103.0256019	101.5772787	100.1640928	98.78489901	97.43859905
170309A00042	3/9/2017	2.18	3/11/2024	3/9/2017	108.86848	107.2718224	105.7152937	104.1975393	102.7172616	101.2732175	99.86421563	98.48911409	97.14681757
170313A00045	3/13/2017	3.22	3/15/2032	3/13/2017	136.43836	128.8664111	121.8724368	115.4054345	109.4193587	103.8725983	98.72751699	93.9500437	89.5093082
170317A00039	3/17/2017	2.73	3/18/2024	3/17/2017	117.38986	114.350857	111.4094827	108.5620023	105.8048488	103.1346138	100.5480401	98.04201294	95.61355365

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170317A00040	3/17/2017	2.74	3/18/2024	3/17/2017	117.65906	114.5758943	111.5921198	108.7039252	105.907674	103.1998919	100.577258	98.03659751	95.57487402
170221A00033	2/21/2017	2.31	2/18/2022	2/21/2017	104.47364	103.703691	102.9451833	102.1978642	101.4614867	100.7358112	100.020605	99.31564205	98.62070297
170224A00008	2/24/2017	2.18	2/24/2022	2/24/2017	104.47619	103.6886977	102.913167	102.1493265	101.3969129	100.6556706	99.92535162	99.20571543	98.49652835
170224A00009	2/24/2017	2.39	2/24/2023	2/24/2017	110.49296	108.6541013	106.8563917	105.0985094	103.3791913	101.6972288	100.0514643	98.44078846	96.86413788
170301A00031	3/1/2017	2.11	3/1/2024	3/1/2017	108.51453	106.967519	105.4586745	103.9867268	102.5504562	101.148694	99.78031982	98.44425935	97.13948176
170303A00004	3/3/2017	2.8	3/4/2024	3/3/2017	117.60861	114.5680743	111.6246921	108.7746912	106.0144764	103.3406187	100.7498465	98.23903687	95.80520757
170307A00013	3/7/2017	2.33	3/7/2024	3/7/2017	108.87124	107.2781755	105.7250604	104.2105511	102.7333578	101.2922446	99.88602723	98.51357032	97.17378485
170124A00017	1/24/2017	2.82	1/23/2032	1/24/2017	134.22457	126.8611443	120.0534881	113.7530929	107.9161096	102.5028694	97.47745368	92.80731214	88.46292144
170126A00003	1/26/2017	2.86	1/26/2027	1/26/2017	130.83434	124.8170485	119.1394921	113.7802164	108.7192557	103.9380164	99.41917483	95.14658292	91.10518165
170126A00004	1/26/2017	2.13	1/26/2022	1/26/2017	104.00827	103.311104	102.6233878	101.9449251	101.2755295	100.6150197	99.96321927	99.31995632	98.6850635
170201A00016	2/1/2017	2.49	2/1/2024	2/1/2017	116.63901	113.7020718	110.856803	108.0997118	105.4274666	102.8368877	100.324939	97.88872011	95.52545922
170207A00055	2/7/2017	2.36	2/8/2027	2/7/2017	117.99651	114.4943489	111.1456205	107.9422036	104.8764665	101.9412367	99.12977027	96.43572286	93.85312348
170221A00028	2/21/2017	2.31	2/18/2022	2/21/2017	104.47364	103.703691	102.9451833	102.1978642	101.4614867	100.7358112	100.020605	99.31564205	98.62070297
161229A00019	12/29/2016	2.46	12/29/2026	12/29/2016	117.85118	114.4532311	111.2005466	108.0855982	105.1013081	102.2410156	99.49845037	96.86770655	94.34321893
170105A00010	1/5/2017	2.61	1/5/2027	1/5/2017	118.05476	114.6114423	111.3167644	108.1629624	105.1427361	102.2492189	99.47594921	96.81684384	94.266173
170105A00012	1/5/2017	2.68	1/5/2024	1/5/2017	116.32841	113.4809143	110.7202338	108.0431465	105.4465764	102.9275831	100.4833549	98.11120178	95.80854947
170106A00030	1/6/2017	2.39	1/6/2027	1/6/2017	117.85805	114.4106582	111.1124266	107.9555459	104.9326757	102.0369125	99.26176084	96.60110642	94.04919099
170112A00015	1/12/2017	2.32	1/12/2027	1/12/2017	117.62651	114.1856817	110.8937551	107.7429298	104.7258765	101.835703	99.0659243	96.41043592	93.86348907
170120A00028	1/20/2017	2.34	1/20/2022	1/20/2017	103.97961	103.3006453	102.6306517	101.9694481	101.3168619	100.6727248	100.0368729	99.40914672	98.78939065
161202A00001	12/2/2016	2.65	12/1/2023	12/2/2016	115.68721	112.9521797	110.2982902	107.7226317	105.2224175	102.794979	100.4377592	98.148308	95.92427642
161207A00014	12/7/2016	2.75	12/8/2031	12/7/2016	133.49935	126.2329892	119.5111597	113.2866543	107.5167722	102.1628567	97.18988295	92.56608902	88.26264818
161214A00034	12/14/2016	2.65	12/14/2026	12/14/2016	117.94373	114.5535533	111.3079248	108.1993739	105.2208746	102.3658143	99.62796637	97.00146543	94.48078345
161222A00013	12/22/2016	2.93	12/22/2026	12/22/2016	130.85639	124.9260113	119.3258447	114.0353329	109.0353187	104.307942	99.8365445	95.60558235	91.60054499
161227A00073	12/27/2016	2.83	12/28/2026	12/27/2016	127.37322	122.1063008	117.121544	112.4017492	107.9308745	103.6939504	99.6770014	95.86697442	92.25167206
161229A00018	12/29/2016	2.46	12/29/2026	12/29/2016	117.85118	114.453237	111.200551	108.0856012	105.1013097	102.241016	99.49844967	96.86770476	94.34321612
161014A00019	10/14/2016	2.39	10/15/2031	10/14/2016	129.5374	122.6248617	116.2216578	110.2843126	104.7734451	99.65335008	94.89162746	90.45885233	86.32827955
161014A00026	10/14/2016	2.16	10/14/2031	10/14/2016	129.10106	122.1846739	115.779301	109.8412242	104.3308498	99.21228732	94.45297587	90.02335068	85.89654517
161014A00029	10/14/2016	2.51	10/15/2031	10/14/2016	131.41671	124.3754519	117.8544213	111.8091119	106.1992164	100.9881979	96.14290852	91.6332509	87.43187431
161102A00014	11/2/2016	1.99	11/2/2023	11/2/2016	113.53375	110.9202036	108.3820044	105.9165323	103.5212751	101.1938233	98.93186515	96.73318208	94.59564423
161116A00006	11/16/2016	2.39	11/16/2026	11/16/2016	116.86265	113.553777	110.384202	107.3468093	104.4348994	101.6421634	98.96265707	96.3907772	93.92123994
161128A00006	11/28/2016	1.93	11/29/2021	11/28/2016	102.91981	102.3986276	101.8828003	101.3722439	100.8668777	100.3666227	99.87140129	99.38113769	98.89575751
160923A00009	9/23/2016	2.24	9/23/2031	9/23/2016	128.4269	121.625962	115.3226707	109.4748272	104.0441786	98.99602028	94.29884144	89.92400711	85.84547459
160930A00025	9/30/2016	1.66	9/30/2027	9/30/2016	117.01691	113.1928532	109.5508976	106.0806555	102.7724112	99.61707417	96.60613394	93.73161943	90.98606084

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
161004A00070	10/4/2016	1.92	10/4/2023	10/4/2016	112.94297	110.4237963	107.9750443	105.5943382	103.2794009	101.0280452	98.83816939	96.70775393	94.63485727
161005A00016	10/5/2016	2.32	10/6/2031	10/5/2016	129.14844	122.2552805	115.8700772	109.9494777	104.4542049	99.34864753	94.60049106	90.18038828	86.0616648
161005A00031	10/5/2016	1.43	10/5/2021	10/5/2016	101.10511	100.8921236	100.6803783	100.4698626	100.2605649	100.0524737	99.84557752	99.63986525	99.43532582
161012A00011	10/12/2016	1.53	10/12/2023	10/12/2016	107.81759	106.2556752	104.7299749	103.2393762	101.7828073	100.3592371	98.96767318	97.60716011	96.27677782
160908A00032	9/8/2016	2.17	9/8/2026	9/8/2016	124.82213	119.402032	114.2706542	109.4107449	104.8061828	100.4419003	96.30380797	92.37872536	88.65431705
160908A00033	9/8/2016	2.17	9/8/2026	9/8/2016	124.82213	119.402032	114.2706542	109.4107449	104.8061828	100.4419003	96.30380797	92.37872536	88.65431705
160908A00034	9/8/2016	2.17	9/8/2026	9/8/2016	124.82213	119.402032	114.2706542	109.4107449	104.8061828	100.4419003	96.30380797	92.37872536	88.65431705
160908A00035	9/8/2016	2.3	9/8/2031	9/8/2016	128.81475	121.9936533	115.6716173	109.8063299	104.3594338	99.29612982	94.58482038	90.19679152	86.10592832
160908A00036	9/8/2016	2.3	9/8/2031	9/8/2016	128.81477	121.9936649	115.6716249	109.8063338	104.3594345	99.29612749	94.58481535	90.19678405	86.10591866
160908A00037	9/8/2016	1.4	9/8/2023	9/8/2016	107.34309	105.8396425	104.371993	102.9389757	101.5394763	100.1724266	98.8368021	97.53161965	96.25593552
160908A00025	9/8/2016	2.21	9/8/2026	9/8/2016	126.23879	120.5155935	115.1023582	109.9803879	105.132227	100.5415667	96.19316339	92.07276283	88.16703009
160908A00026	9/8/2016	2.21	9/8/2026	9/8/2016	126.23879	120.5155935	115.1023582	109.9803879	105.132227	100.5415667	96.19316339	92.07276283	88.16703009
160908A00027	9/8/2016	2.21	9/8/2026	9/8/2016	126.23879	120.5155982	115.1023612	109.9803895	105.1322272	100.5415656	96.19316124	92.07275967	88.16702602
160908A00028	9/8/2016	2.21	9/8/2026	9/8/2016	126.23879	120.5155982	115.1023612	109.9803895	105.1322272	100.5415656	96.19316124	92.07275967	88.16702602
160908A00030	9/8/2016	2.21	9/8/2026	9/8/2016	126.23879	120.5155935	115.1023582	109.9803879	105.132227	100.5415667	96.19316339	92.07276283	88.16703009
160908A00031	9/8/2016	2.21	9/8/2026	9/8/2016	126.23879	120.5155935	115.1023582	109.9803879	105.132227	100.5415667	96.19316339	92.07276283	88.16703009
160908A00016	9/8/2016	1.87	9/8/2023	9/8/2016	112.31376	109.9042738	107.560677	105.2806952	103.062149	100.902952	98.8011054	96.75469401	94.76188162
160908A00017	9/8/2016	1.87	9/8/2023	9/8/2016	112.31376	109.9042738	107.560677	105.2806952	103.062149	100.902952	98.8011054	96.75469401	94.76188162
160908A00019	9/8/2016	1.87	9/8/2023	9/8/2016	112.31376	109.9042738	107.560677	105.2806952	103.062149	100.902952	98.8011054	96.75469401	94.76188162
160908A00022	9/8/2016	2.21	9/8/2026	9/8/2016	126.23879	120.5155982	115.1023612	109.9803895	105.1322272	100.5415656	96.19316124	92.07275967	88.16702602
160908A00023	9/8/2016	2.21	9/8/2026	9/8/2016	126.23879	120.5155935	115.1023582	109.9803879	105.132227	100.5415667	96.19316339	92.07276283	88.16703009
160908A00024	9/8/2016	2.21	9/8/2026	9/8/2016	126.23879	120.5155935	115.1023582	109.9803879	105.132227	100.5415667	96.19316339	92.07276283	88.16703009
160812A00006	8/12/2016	2.16	8/12/2026	8/12/2016	125.35696	119.9658983	114.8593622	110.020459	105.4334043	101.0834417	96.95676932	93.04047251	89.322461
160824A00019	8/24/2016	1.98	8/25/2031	8/24/2016	127.53533	120.8110206	114.5764529	108.790288	103.4150366	98.41667219	93.7642859	89.4297777	85.38758043
160906A00027	9/6/2016	2.03	9/8/2031	9/6/2016	128.05117	121.2457857	114.9395906	109.090169	103.6590785	98.61144963	93.91562749	89.54285178	85.46697059
160907A00041	9/7/2016	1.83	9/7/2023	9/7/2016	112.35003	109.9159046	107.5484831	105.245451	103.0045967	100.8238028	98.70104157	96.63437024	94.62192657
160907A00049	9/7/2016	1.41	9/9/2024	9/7/2016	108.97888	107.1015825	105.2772939	103.5040659	101.7800397	100.1034397	98.47256843	96.88580286	95.34159028
160908A00015	9/8/2016	1.87	9/8/2023	9/8/2016	112.31376	109.9042738	107.560677	105.2806952	103.062149	100.902952	98.8011054	96.75469401	94.76188162
160810A00025	8/10/2016	2.17	8/10/2026	8/10/2016	125.73586	120.1079657	114.7812137	109.737614	104.9603588	100.4337383	96.14306181	92.07458602	88.21544793
160810A00027	8/10/2016	2.13	8/10/2026	8/10/2016	124.35209	119.0200011	113.9685814	109.1812154	104.6423715	100.3375263	96.25309366	92.37635798	88.69541329
160810A00028	8/10/2016	2.19	8/10/2026	8/10/2016	126.55461	120.7494933	115.2577978	110.0607054	105.1406431	100.4811891	96.06699062	91.883688	87.91784425
160810A00029	8/10/2016	2.17	8/10/2026	8/10/2016	125.73586	120.1079657	114.7812137	109.737614	104.9603588	100.4337383	96.14306181	92.07458602	88.21544793
160810A00030	8/10/2016	2.24	8/11/2031	8/10/2016	128.22638	121.4905391	115.2439729	109.4454778	104.0576787	99.04664504	94.38154858	90.03435642	85.97955709

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160810A00035	8/10/2016	2.1	8/10/2026	8/10/2016	124.19835	118.8718757	113.8257969	109.0435139	104.5095093	100.2092735	96.12923292	92.25668403	88.57973204
160713A00015	7/13/2016	1.57	7/13/2026	7/13/2016	113.95481	110.9160647	107.9989516	105.1975246	102.5061728	99.91960017	97.43280554	95.04106391	92.73990941
160719A00012	7/19/2016	1.32	7/19/2021	7/19/2016	100.4151	100.3329683	100.2510405	100.1693159	100.0877937	100.0064731	99.92535344	99.8444338	99.76371342
160719A00026	7/19/2016	1.87	7/20/2026	7/19/2016	114.37339	111.3312119	108.4105586	105.6054977	102.9104332	100.3200826	97.82945644	95.43384083	93.12877971
160801A00002	8/1/2016	1.58	8/3/2026	8/1/2016	114.18581	111.0923693	108.1243979	105.2756848	102.5403787	99.91295953	97.38821798	94.96123547	92.62736595
160802A00026	8/2/2016	1.84	8/2/2023	8/2/2016	111.87558	109.5489617	107.2840628	105.0787734	102.9310735	100.8390294	98.80078928	96.81457879	94.87869721
160810A00022	8/10/2016	1.53	8/10/2021	8/10/2016	101.08498	100.8777632	100.6714082	100.4659139	100.2612747	100.0574853	99.85454036	99.65243457	99.45116267
160608A00034	6/8/2016	2.44	6/9/2031	6/8/2016	129.09196	122.4191922	116.2240359	110.4668208	105.1115164	100.1253699	95.47858406	91.14402873	87.09698275
160616A00029	6/16/2016	1.58	6/16/2026	6/16/2016	113.7812	110.7956788	107.9280635	105.1726533	102.5240701	99.97723449	97.52734667	95.16986935	92.90051139
160629A00066	6/29/2016	2.61	6/30/2036	6/29/2016	162.30119	145.229588	130.3508805	117.3596326	105.9951863	96.03483038	87.28805082	79.59168186	72.80581283
160705A00008	7/5/2016	1.7	7/6/2026	7/5/2016	120.66056	115.9726405	111.5198468	107.2886953	103.2665657	99.44163637	95.80282853	92.33975529	89.0426741
160705A00010	7/5/2016	1.68	7/5/2023	7/5/2016	111.12509	108.8899089	106.7124378	104.5907683	102.5230703	100.5075886	98.54263968	96.62660748	94.75794054
160711A00004	7/11/2016	1.51	7/13/2026	7/11/2016	113.77722	110.7433128	107.8308413	105.033872	102.3468032	99.76434708	97.28151046	94.89357582	92.59608438
160608A00025	6/8/2016	2.36	6/8/2026	6/8/2016	126.08507	120.6134823	115.4265046	110.5076196	105.8413602	101.4132383	97.20967754	93.21795062	89.42612171
160608A00027	6/8/2016	2.36	6/8/2026	6/8/2016	126.08507	120.6134823	115.4265046	110.5076196	105.8413602	101.4132383	97.20967754	93.21795062	89.42612171
160608A00028	6/8/2016	2.36	6/8/2026	6/8/2016	126.08507	120.6134823	115.4265046	110.5076196	105.8413602	101.4132383	97.20967754	93.21795062	89.42612171
160608A00029	6/8/2016	2.36	6/8/2026	6/8/2016	126.08507	120.6134823	115.4265046	110.5076196	105.8413602	101.4132383	97.20967754	93.21795062	89.42612171
160608A00030	6/8/2016	2.36	6/8/2026	6/8/2016	126.08507	120.6134823	115.4265046	110.5076196	105.8413602	101.4132383	97.20967754	93.21795062	89.42612171
160608A00033	6/8/2016	2.44	6/9/2031	6/8/2016	129.09199	122.4192125	116.2240499	110.4668291	105.1115196	100.1253684	95.47857817	91.14401889	87.09696931
160608A00019	6/8/2016	2.36	6/8/2026	6/8/2016	126.08507	120.6134823	115.4265046	110.5076196	105.8413602	101.4132383	97.20967754	93.21795062	89.42612171
160608A00020	6/8/2016	2.36	6/8/2026	6/8/2016	126.08507	120.6134823	115.4265046	110.5076196	105.8413602	101.4132383	97.20967754	93.21795062	89.42612171
160608A00021	6/8/2016	1.91	6/8/2023	6/8/2016	111.12319	108.9844728	106.8995226	104.8666162	102.884101	100.9503895	99.06395612	97.22333452	95.42711453
160608A00022	6/8/2016	1.91	6/8/2023	6/8/2016	111.12319	108.9844728	106.8995226	104.8666162	102.884101	100.9503895	99.06395612	97.22333452	95.42711453
160608A00023	6/8/2016	2.36	6/8/2026	6/8/2016	126.08508	120.6134913	115.4265109	110.5076234	105.8413617	101.4132377	97.20967497	93.21794623	89.42611564
160608A00024	6/8/2016	2.36	6/8/2026	6/8/2016	126.08507	120.6134823	115.4265046	110.5076196	105.8413602	101.4132383	97.20967754	93.21795062	89.42612171
160524A00101	5/24/2016	2.98	5/23/2031	5/24/2016	149.61641	138.0067928	127.4727056	117.9062501	109.2109899	101.30067	94.09808915	87.53410197	81.5467366
160603A00014	6/3/2016	1.74	6/3/2026	6/3/2016	114.2448	111.2476035	108.3687221	105.6024453	102.9433785	100.3864265	97.92677438	95.55987026	93.28140922
160603A00029	6/3/2016	2.18	6/3/2031	6/3/2016	128.41049	121.7492866	115.5660561	109.8210145	104.4780354	99.5042852	94.86989874	90.54768932	86.51288871
160606A00018	6/6/2016	1.74	6/5/2026	6/6/2016	114.24519	111.2478682	108.3688769	105.6025006	102.943344	100.3863109	97.92658561	95.55961569	93.28109557
160608A00015	6/8/2016	1.63	6/8/2021	6/8/2016	100.16398	100.1334008	100.1028568	100.0723476	100.0418732	100.0114335	99.98102836	99.95065782	99.92032178
160608A00016	6/8/2016	1.63	6/8/2021	6/8/2016	100.16388	100.1333219	100.102796	100.0723048	100.0418484	100.0114267	99.98103955	99.95068695	99.92036884
160428A00028	4/28/2016	2	4/28/2026	4/28/2016	114.55571	111.6468988	108.8498453	106.1592746	103.5702026	101.0779166	98.67795786	96.36610671	94.1383677
160504A00022	5/4/2016	2	5/4/2023	5/4/2016	110.92953	108.8718044	106.863771	104.9039118	102.9907659	101.1229266	99.29903953	97.51779997	95.7779509

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160511A00015	5/11/2016	2.42	5/11/2026	5/11/2016	126.08063	120.6860186	115.5681868	110.7112968	106.100502	101.7218814	97.56237737	93.60973737	89.85245987
160511A00016	5/11/2016	2.48	5/12/2031	5/11/2016	129.13184	122.5113732	116.3612608	110.6427127	105.3204687	100.3624551	95.73947384	91.42492324	87.39454835
160523A00086	5/23/2016	2.2	5/26/2026	5/23/2016	124.76902	119.5956106	114.6860749	110.0252863	105.5990724	101.3941491	97.39806051	93.59912208	89.98636899
160524A00028	5/24/2016	2.06	5/24/2023	5/24/2016	111.33609	109.2146265	107.1458085	105.1279769	103.1595417	101.2389741	99.36480357	97.53561543	95.75004798
160413A00020	4/13/2016	2.48	4/13/2026	4/13/2016	126.06468	120.7477326	115.6996649	110.9053138	106.3504527	102.0217293	97.90660659	93.99330917	90.27077293
160413A00021	4/13/2016	2.48	4/13/2026	4/13/2016	126.06468	120.7477326	115.6996649	110.9053138	106.3504527	102.0217293	97.90660659	93.99330917	90.27077293
160413A00033	4/13/2016	2.32	4/13/2026	4/13/2016	121.85267	117.3525278	113.068204	108.9878681	105.1004112	101.3953949	97.86300733	94.4940218	91.27975868
160414A00042	4/13/2016	2.48	4/13/2026	4/13/2016	126.06468	120.7477326	115.6996649	110.9053138	106.3504527	102.0217293	97.90660659	93.99330917	90.27077293
160421A00016	4/21/2016	2.26	4/21/2026	4/21/2016	124.69592	119.6141901	114.787061	110.2002054	105.8401813	101.6943736	97.75093851	93.99875254	90.42736454
160427A00004	4/27/2016	2.09	4/27/2026	4/27/2016	114.35957	111.4636877	108.6788143	105.9997248	103.4214783	100.9394023	98.54907568	96.24631363	94.02715338
160401A00005	4/1/2016	2.02	4/3/2023	4/1/2016	110.47994	108.516422	106.5984165	104.724593	102.8936662	101.1043968	99.35558914	97.6460898	95.97478554
160404A00019	4/4/2016	2.48	4/4/2031	4/4/2016	128.91666	122.361904	116.269327	110.6010821	105.3227448	100.4029808	95.81324617	91.52751868	87.5220563
160412A00029	4/12/2016	2.48	4/14/2031	4/12/2016	128.91778	122.362614	116.2696997	110.6011772	105.3226131	100.4026655	95.81278397	91.5269406	87.52138856
160413A00014	4/13/2016	2.55	4/14/2031	4/13/2016	129.35444	122.7769184	116.6632227	110.9753637	105.6787908	100.7420556	96.13651048	91.83603902	87.81681363
160413A00016	4/13/2016	2.55	4/14/2031	4/13/2016	129.35444	122.7769185	116.6632228	110.9753638	105.6787908	100.7420555	96.13651039	91.83603891	87.8168135
160413A00018	4/13/2016	1.78	4/13/2026	4/13/2016	113.93203	111.0402711	108.2595604	105.5846594	103.0106188	100.5327582	98.14664975	95.84810247	93.63314803
160212A00047	2/12/2016	1.94	2/12/2026	2/12/2016	113.50047	110.7243669	108.0516606	105.4775986	102.9976851	100.6076637	98.30350251	96.08138061	93.93767575
160301A00012	3/1/2016	2.02	3/1/2023	3/1/2016	109.97364	108.1148545	106.2979586	104.5216026	102.7844979	101.085411	99.42316068	97.79661505	96.20468907
160303A00035	3/3/2016	2.14	3/3/2026	3/3/2016	114.49382	111.596236	108.8090922	106.1272294	103.5457672	101.0600875	98.66581892	96.35882166	94.13517365
160307A00024	3/7/2016	2.17	3/6/2026	3/7/2016	114.35127	111.5057557	108.7677174	106.1321557	103.594343	101.1498061	98.79431043	96.52384537	94.33461105
160328A00038	3/28/2016	2.54	3/30/2026	3/28/2016	125.02361	120.0032441	115.2310444	110.6932294	106.3768581	102.2697749	98.36055739	94.63846864	91.09341237
160329A00017	3/29/2016	2.48	3/30/2026	3/29/2016	124.73537	119.724792	114.961933	110.4330356	106.1251811	102.0262348	98.12479414	94.41014081	90.87219607
160209A00008	2/9/2016	2.45	2/10/2031	2/9/2016	128.30491	121.8894359	115.9195556	110.3592862	105.1758594	100.3394098	95.82269733	91.60085713	87.651175
160210A00049	2/10/2016	1.78	2/10/2026	2/10/2016	113.49741	110.7141523	108.0347768	105.4545006	102.9687984	100.5733861	98.26420606	96.03741354	93.889364
160210A00051	2/10/2016	2.28	2/10/2031	2/10/2016	128.19841	121.7654805	115.7804738	110.2071421	105.0124815	100.1664182	95.64152693	91.4127785	87.45731296
160210A00054	2/10/2016	1.78	2/10/2026	2/10/2016	113.49742	110.7141586	108.0347812	105.4545033	102.9687995	100.5733857	98.26420418	96.03741031	93.88935951
160211A00038	2/11/2016	1.83	2/11/2026	2/11/2016	113.20275	110.4341481	107.7686573	105.2015417	102.7283182	100.3447421	98.04679257	95.83065929	93.69272996
160212A00006	2/12/2016	1.57	2/13/2023	2/12/2016	104.79619	103.8402267	102.9026183	101.9828215	101.0803192	100.1946147	99.32523097	98.4717093	97.63360872
160115A00011	1/15/2016	2.18	1/15/2026	1/15/2016	113.92127	111.1830857	108.5454184	106.0037063	103.5536318	101.1911036	98.91224442	96.71337729	94.5910143
160119A00072	1/19/2016	2.77	1/21/2031	1/19/2016	132.04197	125.0322907	118.5247499	112.4775626	106.8527802	101.6159139	96.73559351	92.18326308	87.93290706
160126A00004	1/26/2016	2.52	1/26/2026	1/26/2016	126.8868	121.604401	116.5822088	111.8058456	107.2618138	102.937437	98.82080545	94.90072444	91.16666737
160201A00016	2/1/2016	2.1	2/2/2026	2/1/2016	113.93191	111.1456201	108.4630674	105.8794888	103.3903759	100.9914596	98.67869616	96.44825325	94.29649765
160203A00017	2/3/2016	2.07	2/3/2023	2/3/2016	109.66423	107.881973	106.1386211	104.4329629	102.7638385	101.1301358	99.53078804	97.96477169	96.43110392

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160209A00006	2/9/2016	1.91	2/9/2026	2/9/2016	113.41864	110.6447593	107.9741824	105.4021614	102.9242054	100.5360622	98.23370402	96.01331376	93.87127273
151223A00036	12/23/2015	2.64	12/23/2025	12/23/2015	118.80173	115.2434337	111.8331626	108.5635242	105.4275479	102.418658	99.53064846	96.75765997	94.09415799
151223A00078	12/23/2015	2.28	12/23/2025	12/23/2015	114.37129	111.6633336	109.0535605	106.5375665	104.1111752	101.7704278	99.51157035	97.33104138	95.2254609
151228A00013	12/28/2015	2.27	12/29/2025	12/28/2015	114.34659	111.6388479	109.0293017	106.513546	104.0874028	101.7469118	99.48831772	97.30805786	95.20275114
151229A00026	12/29/2015	2.28	12/29/2025	12/29/2015	114.37288	111.6644973	109.0543361	106.5379874	104.1112723	101.7702297	99.51110308	97.33032918	95.22452608
160104A00020	1/4/2016	2.47	1/4/2023	1/4/2016	109.87193	108.170229	106.5043974	104.8733682	103.2761171	101.7116597	100.17905	98.67737786	97.20576792
160106A00042	1/6/2016	2.43	1/6/2026	1/6/2016	114.58659	111.83262	109.1797114	106.6232827	104.1589941	101.7827339	99.49060462	97.27891053	95.14414565
151201A00004	12/1/2015	2.44	12/1/2022	12/1/2015	109.25917	107.6606808	106.0946726	104.5602344	103.0564876	101.5825859	100.1377135	98.72108369	97.33193791
151204A00011	12/4/2015	2.28	12/4/2025	12/4/2015	114.36624	111.6596312	109.0510907	106.5362239	104.1108626	101.7710556	99.51305584	97.33330837	95.22843907
151209A00024	12/9/2015	2.22	12/9/2025	12/9/2015	114.21005	111.5068938	108.9017018	106.3900794	103.9678622	101.6311025	99.37605677	97.19917324	95.09708104
151210A00011	12/10/2015	2.16	12/12/2022	12/10/2015	104.95789	104.0872657	103.2328017	102.3940371	101.5705246	100.7618348	99.96755459	99.18728688	98.42064948
151215A00039	12/15/2015	2.46	12/15/2025	12/15/2015	114.42281	111.7211614	109.1172347	106.606649	104.1852577	101.8491292	99.59453528	97.41793805	95.31597958
151216A00006	12/16/2015	2.3	12/16/2021	12/16/2015	103.3869	102.8088225	102.2372647	101.6721127	101.113259	100.5605984	100.0140281	99.47344751	98.93875831
151113A00035	11/13/2015	1.8	11/14/2022	11/13/2015	104.41496	103.5925384	102.7851447	101.9923518	101.2137451	100.4489259	99.69751134	98.95913305	98.23343665
151118A00025	11/18/2015	2.4	11/18/2022	11/18/2015	108.78972	107.2652558	105.7710825	104.3063658	102.870303	101.46212	100.0810702	98.72643313	97.39751344
151118A00037	11/18/2015	2.75	11/18/2025	11/18/2015	122.26127	118.0680486	114.0626081	110.2352659	106.5768936	103.0788857	99.73312681	96.53196094	93.46816274
151120A00019	11/20/2015	2.72	11/20/2030	11/20/2015	130.19229	123.8239958	117.8889594	112.3528707	107.1844289	102.3550564	97.83864165	93.61130877	89.65120978
151124A00007	11/24/2015	1.98	11/23/2022	11/24/2015	104.45874	103.6358282	102.8279609	102.0347084	101.2556554	100.490403	99.73856792	98.99978137	98.27368861
151125A00037	11/25/2015	2.41	11/25/2025	11/25/2015	114.07751	111.4317217	108.880254	106.418935	104.0438082	101.7511209	99.5373117	97.39899982	95.33297436
151006A00050	10/6/2015	2.21	10/6/2022	10/6/2015	104.37433	103.5986728	102.8369566	102.0887785	101.3537537	100.6315124	99.92169934	99.22397313	98.53800522
151013A00033	10/13/2015	2.23	10/14/2025	10/13/2015	113.37572	110.7957534	108.3063285	105.9034892	103.5834866	101.3427623	99.17793746	97.08580259	95.06330767
151029A00008	10/29/2015	2.28	10/29/2025	10/29/2015	113.50543	110.9214396	108.4281842	106.0217013	103.6982308	101.4542039	99.28623228	97.19109732	95.16574058
151030A00004	10/30/2015	2.48	10/30/2025	10/30/2015	121.56976	117.4315232	113.4770865	109.697046	106.0825396	102.6252086	99.3171658	96.15096677	93.11958208
151030A00026	10/30/2015	3.29	10/30/2030	10/30/2015	147.5357	137.1988445	127.7510474	119.1085705	111.1960816	103.9457632	97.29652239	91.19328749	85.58638223
151102A00024	11/2/2015	2.37	11/2/2022	11/2/2015	108.68242	107.1721265	105.6910566	104.2384332	102.8135029	101.4155386	100.0438381	98.69772312	97.37653822
150925A00034	9/25/2015	2.36	9/25/2025	9/25/2015	113.46204	110.9276614	108.4809104	106.118005	103.835358	101.6295629	99.49738368	97.43574488	95.44172251
150929A00076	9/29/2015	2.28	9/29/2025	9/29/2015	113.26587	110.7357344	108.2930879	105.9341591	103.6553659	101.4533068	99.32475017	97.26662509	95.27601165
150929A00083	9/29/2015	2.09	9/29/2025	9/29/2015	113.16364	110.6298253	108.1838022	105.8217803	103.5401586	101.3355176	99.20460948	97.14434787	95.15179866
150929A00087	9/29/2015	2.09	9/29/2025	9/29/2015	113.16364	110.6298253	108.1838022	105.8217803	103.5401586	101.3355176	99.20460948	97.14434787	95.15179866
151001A00023	10/1/2015	2.02	10/1/2025	10/1/2015	113.21777	110.6361825	108.1453231	105.7412272	103.4201335	101.178472	99.01285332	96.92005792	94.89702656
151005A00084	10/5/2015	2.25	10/5/2022	10/5/2015	108.05803	106.6348441	105.2378511	103.8663828	102.5197959	101.1974681	99.89879746	98.62320154	97.37011648
150814A00029	8/14/2015	2.39	8/14/2025	8/14/2015	113.28658	110.8052776	108.4084042	106.0923659	103.8537496	101.6893122	99.59597133	97.57079598	95.61099792
150824A00033	8/24/2015	2.22	8/25/2025	8/24/2015	112.87949	110.4066034	108.0178998	105.7097926	103.4788765	101.3219164	99.23583721	97.21771524	95.26476921

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150824A00050	8/24/2015	2.03	8/25/2025	8/24/2015	112.77911	110.3026508	107.9106619	105.5995412	103.3658654	101.2063825	99.11800198	97.09778545	95.14293815
150825A00008	8/25/2015	2.82	8/25/2025	8/25/2015	123.82528	119.394372	115.1602638	111.1129126	107.2428572	103.5411786	99.99946436	96.60977701	93.36462348
150828A00018	8/28/2015	1.7	8/29/2022	8/28/2015	103.40006	102.7586089	102.1279598	101.5078051	100.8978536	100.2978254	99.7074515	99.12647308	98.55464106
150911A00007	9/10/2015	2.51	9/9/2022	9/10/2015	108.10457	106.7190499	105.3650114	104.0413802	102.747129	101.4812768	100.2428867	99.03106301	97.84494924
150803A00040	8/3/2015	3.01	8/2/2030	8/3/2015	130.20378	124.0243689	118.2543169	112.8619973	107.8184939	103.0973488	98.67433518	94.52725364	90.63574752
150803A00041	8/3/2015	3.01	8/2/2030	8/3/2015	130.20373	124.024328	118.2542875	112.8619784	107.8184846	103.0973482	98.67434259	94.5272683	90.63576878
150803A00042	8/3/2015	3.01	8/2/2030	8/3/2015	130.20375	124.0243459	118.2542999	112.8619858	107.8184875	103.0973471	98.67433782	94.52726027	90.63575783
150804A00022	8/4/2015	2.37	8/4/2022	8/4/2015	107.3612	106.0678808	104.8060054	103.5744369	102.3720901	101.1979313	100.0509749	98.93028118	97.83495296
150805A00015	8/5/2015	2.29	8/5/2022	8/5/2015	107.44722	106.1478055	104.8800994	103.6429516	102.4352642	101.2559913	100.1041361	98.97874791	97.87891967
150812A00052	8/14/2015	2.13	8/14/2025	8/14/2015	113.01742	110.5363213	108.1398121	105.8242872	103.5863205	101.4226571	99.33020362	97.30601903	95.34730577
150729A00041	7/29/2015	2.44	7/29/2025	7/29/2015	113.16181	110.7306044	108.3808655	106.1091737	103.9122758	101.7870789	99.73064172	97.74016565	95.81298699
150803A00033	8/3/2015	3.41	8/2/2030	8/3/2015	147.73705	137.6042881	128.3244992	119.8189442	112.0166471	104.8535857	98.27197142	92.21960782	86.64931784
150803A00036	8/3/2015	3.41	8/2/2030	8/3/2015	147.73705	137.6042881	128.3244992	119.8189442	112.0166471	104.8535857	98.27197142	92.21960782	86.64931784
150803A00037	8/3/2015	3.41	8/2/2030	8/3/2015	147.73702	137.6042657	128.3244843	119.818936	112.0166446	104.853588	98.27197806	92.21961812	86.64933128
150803A00038	8/3/2015	3.41	8/2/2030	8/3/2015	147.73705	137.6042881	128.3244992	119.8189442	112.0166471	104.8535857	98.27197142	92.21960782	86.64931784
150803A00039	8/3/2015	3.01	8/2/2030	8/3/2015	130.20374	124.0243396	118.2542958	112.8619837	107.8184872	103.0973483	98.67434033	94.52726394	90.63576252
150624A00077	6/24/2015	2.54	6/24/2022	6/24/2015	106.74094	105.5967877	104.4776514	103.382709	102.3111783	101.2623104	100.2353883	99.22972506	98.24466211
150701A00056	7/1/2015	2.34	7/1/2025	7/1/2015	113.26844	110.8311377	108.4755712	106.1983087	103.996085	101.8657962	99.80448989	97.80935753	95.87772566
150714A00003	7/14/2015	3.76	7/12/2030	7/14/2015	135.4114	129.0022173	123.0157549	117.4195014	112.1837213	107.2811953	102.6869899	98.37824837	94.33400343
150722A00033	7/22/2015	2.47	7/22/2025	7/22/2015	113.23072	110.7984779	108.4477154	106.1750109	103.9771118	101.850926	99.79351288	97.80207426	95.87394688
150722A00035	7/22/2015	2.92	7/22/2025	7/22/2015	123.82845	119.4834252	115.3278348	111.352208	107.5476034	103.9055806	100.4181683	97.07783521	93.87746329
150729A00028	7/29/2015	2.25	7/29/2025	7/29/2015	113.0637	110.6289593	108.2759726	106.0012962	103.8016596	101.673954	99.61522299	97.62265419	95.69357091
150604A00039	6/4/2015	2.82	6/4/2030	6/4/2015	129.56412	123.5025743	117.8371678	112.5376845	107.5764689	102.9281877	98.56961875	94.47945987	90.63815609
150615A00024	6/15/2015	2.26	6/16/2025	6/15/2015	112.83465	110.454088	108.1521429	105.9255505	103.7712087	101.6861663	99.66761557	97.71288329	95.81942388
150617A00017	6/17/2015	2.27	6/17/2025	6/17/2015	112.85809	110.4769575	108.1744593	105.947335	103.7924813	101.7069462	99.68792092	97.73273147	95.83883144
150617A00018	6/17/2015	2.45	6/17/2025	6/17/2015	112.9311	110.553906	108.2550604	106.0313205	103.8795999	101.7969624	99.78061395	97.82789433	95.93626995
150617A00030	6/17/2015	2.91	6/16/2025	6/17/2015	123.3351	119.0961363	115.0385187	111.1533577	107.4322524	103.8672618	100.4508767	97.17599325	94.03588927
150617A00036	6/17/2015	2.44	6/15/2022	6/17/2015	106.48035	105.364674	104.2728387	103.2040796	102.1576669	101.1329016	100.1291133	99.14565933	98.1819231
150414A00037	4/14/2015	2.34	4/14/2025	4/14/2015	112.18228	109.9171833	107.7243033	105.6007248	103.5436773	101.5505218	99.6187444	97.74594888	95.92985064
150420A00012	4/20/2015	2.07	4/20/2022	4/20/2015	105.28798	104.3308104	103.391172	102.4685825	101.5625801	100.6727193	99.79857056	98.9397196	98.09576645
150427A00014	4/27/2015	2.98	4/27/2035	4/27/2015	143.68899	133.4933294	124.2727674	115.9207866	108.3435403	101.4582495	95.19180929	89.47958075	84.26434212
150529A00055	5/29/2015	1.78	5/31/2022	5/29/2015	102.8896	102.3442091	101.8066991	101.2768838	100.7545795	100.2396084	99.73179872	99.23098449	98.737005
150603A00012	6/3/2015	2.77	6/3/2030	6/3/2015	129.27773	123.2297367	117.5769965	112.2893593	107.3392315	102.7013371	98.35250617	94.27148437	90.43876069

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150603A00032	6/3/2015	2.21	6/3/2025	6/3/2015	112.71513	110.3380423	108.0394174	105.8159975	103.6646882	101.5825464	99.56677118	97.61469619	95.72378214
150224A00010	2/24/2015	2.34	2/24/2025	2/24/2015	113.95437	111.3265064	108.7861958	106.329724	103.9535657	101.654374	99.42897027	97.27433352	95.18759174
150227A00011	2/27/2015	2.33	2/27/2025	2/27/2015	118.49271	114.9829068	111.6099989	108.3676649	105.2499255	102.2511182	99.3658778	96.58911899	93.91601931
150311A00003	3/11/2015	2.72	3/31/2025	3/11/2015	121.60658	117.6158388	113.7881173	110.1158019	106.5916736	103.2088887	99.96095727	96.84172272	93.84534306
150318A00003	3/18/2015	2.04	3/18/2022	3/18/2015	103.49213	102.8744191	102.2652224	101.6643476	101.0716086	100.4868247	99.90982115	99.34042828	98.77848169
150320A00019	3/20/2015	2.25	3/20/2025	3/20/2015	118.46113	114.9006857	111.4806894	108.1946686	105.0364938	102.0003544	99.08073927	96.2724204	93.5704359
150410A00021	4/10/2015	2.27	4/10/2025	4/10/2015	112.02651	109.7649408	107.5754599	105.4551598	103.4012751	101.4111724	99.48234242	97.6123938	95.79904631
150115A00031	1/15/2015	1.42	1/18/2022	1/15/2015	101.82875	101.4720157	101.1187242	100.7688239	100.4222607	100.0789818	99.73893533	99.40207083	99.06833881
150203A00012	2/3/2015	1.61	2/3/2022	2/3/2015	102.07334	101.6749461	101.2807927	100.8908014	100.5048996	100.1230163	99.7450823	99.37103006	99.00079368
150203A00027	2/3/2015	2.26	2/4/2030	2/3/2015	125.53191	119.873956	114.5736719	109.6046092	104.9424939	100.5650328	96.45173792	92.58376721	88.94378071
150213A00014	2/13/2015	2.41	2/13/2025	2/13/2015	112.1461	109.9723754	107.8657931	105.8237064	103.8435984	101.9230703	100.0598349	98.25171031	96.49661442
150219A00016	2/19/2015	2.68	2/19/2025	2/19/2015	121.57554	117.5680399	113.7211312	110.027295	106.4794213	103.0707798	99.79499671	96.64603359	93.61816679
150223A00017	2/23/2015	1.77	2/23/2022	2/23/2015	104.32683	103.5213478	102.7281665	101.9470016	101.1775819	100.4196444	99.67293377	98.93720225	98.21220934
141015A00027	10/15/2014	2.01	10/15/2021	10/15/2014	102.25709	101.8623906	101.4707772	101.0822132	100.6966629	100.3140911	99.93446322	99.55774517	99.18390342
141015A00029	10/15/2014	2.32	10/15/2024	10/15/2014	117.03957	113.8611412	110.7968302	107.8418184	104.991517	102.2415575	99.58777957	97.02622025	94.55310296
141017A00022	10/17/2014	2.78	10/17/2024	10/17/2014	119.69421	116.1786582	112.792826	109.531166	106.3883966	103.3594907	100.4396629	97.62435537	94.90922678
141107A00027	11/7/2014	1.98	11/8/2021	11/7/2014	101.46953	101.2084259	100.9491752	100.6917576	100.436152	100.1823374	99.93029299	99.67999864	99.43143432
141203A00039	12/3/2014	3.6	12/4/2034	12/3/2014	148.79231	138.4006999	128.9860837	120.4434853	112.6802206	105.6143612	99.17340174	93.29310145	87.91647605
150114A00029	1/14/2015	1.99	1/14/2022	1/14/2015	101.98545	101.6297817	101.2775229	100.9286189	100.5830164	100.2406639	99.9015105	99.56550675	99.23260414
140821A00030	8/21/2014	2.27	8/21/2024	8/21/2014	110.31573	108.4607339	106.6571877	104.9032237	103.1970615	101.536999	99.9214086	98.34873313	96.81748235
140821A00040	8/21/2014	3.41	8/21/2031	8/21/2014	155.93232	143.8097868	132.8241707	122.859562	113.8125929	105.5910078	98.11240735	91.30314099	85.09732967
140908A00080	9/8/2014	2.51	3/8/2024	9/8/2014	114.54757	111.9935458	109.5176554	107.1169395	104.7885749	102.5298663	100.3382394	98.21123441	96.14650008
140917A00030	9/17/2014	3.23	9/17/2029	9/17/2014	142.51076	133.7463173	125.652517	118.1726738	111.2552488	104.8533516	98.92429517	93.42919573	88.3326128
140924A00057	9/24/2014	3.25	9/25/2028	9/24/2014	142.22176	133.7128352	125.8107542	118.468236	111.6419471	105.2921483	99.38237808	93.87916557	88.75177011
140925A00039	9/25/2014	2.02	9/27/2021	9/25/2014	101.02429	100.844637	100.6659118	100.4881015	100.3111986	100.1351953	99.96008406	99.78585742	99.612508
140428A00015	4/28/2014	2.35	4/29/2024	4/28/2014	109.40852	107.7552243	106.1443741	104.5745175	103.0442659	101.5522889	100.0973121	98.67811369	97.29352214
140618A00019	6/18/2014	3.08	6/18/2024	6/18/2014	110.9319	109.1647805	107.4447268	105.7700932	104.1393008	102.5508384	101.003259	99.4951766	98.02526308
140703A00026	7/3/2014	3.11	7/3/2024	7/3/2014	119.29487	116.0605784	112.9376243	109.9214505	107.0077214	104.192307	101.4712711	98.84086122	96.29749864
140717A00027	7/17/2014	3.14	7/17/2026	7/17/2014	128.41373	123.1460557	118.1490324	113.4069324	108.9050363	104.6295645	100.5676116	96.70708573	93.03665206
140730A00035	7/30/2014	2.67	1/30/2023	7/30/2014	105.68895	104.7646745	103.8578912	102.9680925	102.0947891	101.2375108	100.395806	99.56924039	98.75739628
140730A00037	7/30/2014	2.83	1/30/2024	7/30/2014	109.31736	107.8048371	106.3288714	104.8882658	103.4818696	102.1085796	100.7673377	99.45712837	98.17697699
130422A00020	4/22/2013	1.98	4/22/2025	4/22/2013	111.39136	109.1421253	106.9646274	104.8559732	102.8134087	100.8343114	98.91618276	97.05664144	95.25341701
130614A00018	6/14/2013	2.83	6/14/2023	6/14/2013	107.10437	105.9457224	104.8111706	103.6999904	102.6114876	101.5449955	100.4998733	99.47550453	98.47129644

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
131018A00006	10/18/2013	3.28	10/20/2025	10/18/2013	126.44585	121.8992423	117.5583766	113.4126535	109.4520801	105.6672321	102.0492183	98.58964758	95.280598
140219A00005	2/19/2014	3.13	2/20/2029	2/19/2014	127.10858	122.0278315	117.2355708	112.7124815	108.4406932	104.4036658	100.5860814	96.97374527	93.55349544
140313A00028	3/13/2014	2.86	3/13/2024	3/13/2014	115.96619	113.2980728	110.7125736	108.2065619	105.7770496	103.4211825	101.1362336	98.91959638	96.76877826
140318A00003	3/17/2014	3.08	3/18/2024	3/17/2014	118.98248	115.8862694	112.8897901	109.9892157	107.1808948	104.4613387	101.8272137	99.27533247	96.80264708
120808A00006	8/8/2012	2.06	8/9/2027	8/8/2012	118.29014	114.4754678	110.8403079	107.3745316	104.0686568	100.9138056	97.90166145	95.0244297	92.27480131
120820A00009	8/20/2012	2.4	8/22/2022	8/20/2012	107.46502	106.1569512	104.8816825	103.6379867	102.4246932	101.2406886	100.0849135	98.9563594	97.85406521
120820A00011	8/20/2012	2.4	8/22/2022	8/20/2012	107.46502	106.156951	104.8816822	103.6379865	102.4246931	101.2406885	100.0849135	98.95635945	97.8540653
121016A00013	10/16/2012	1.64	10/14/2022	10/16/2012	103.95996	103.1861973	102.4263648	101.6800617	100.946903	100.2265186	99.51855333	98.82266536	98.13852612
121114A00020	11/14/2012	1.74	11/14/2022	11/14/2012	107.83508	106.3496774	104.8935999	103.4660471	102.0662449	100.6934468	99.3469326	98.02600745	96.73000057
130206A00009	2/6/2013	2.83	2/7/2028	2/6/2013	130.16542	123.9120135	118.0462161	112.5409155	107.3710719	102.5135482	97.94695419	93.65150375	89.60888529
120330A00013	3/30/2012	2.98	4/2/2024	3/30/2012	117.12745	114.2442229	111.4528301	108.749797	106.1318048	103.5956787	101.138381	98.75700453	96.44876593
120517A00021	5/17/2012	1.85	5/17/2024	5/17/2012	108.83884	107.1492617	105.503887	103.9011877	102.3396995	100.8180202	99.33480671	97.88877218	96.47868289
120806A00014	8/6/2012	1.77	8/8/2022	8/6/2012	103.57957	102.8959343	102.2244547	101.5647698	100.9165357	100.2794225	99.65311352	99.03730491	98.43170463
120806A00015	8/6/2012	2.38	8/6/2027	8/6/2012	118.87693	115.0546603	111.4118361	107.938348	104.6247376	101.4621476	98.44227977	95.5573553	92.80007903
120807A00025	8/7/2012	1.82	8/8/2022	8/7/2012	103.61263	102.9287536	102.2570377	101.5971206	100.9486584	100.3113209	99.68479151	99.06876609	98.46295257
120807A00026	8/7/2012	2.42	8/9/2027	8/7/2012	119.02498	115.1977481	111.550203	108.0722231	104.7543363	101.5876728	98.56392253	95.67529575	92.91448701
011115A00014	11/15/2001	5.19	11/16/2021	11/15/2001	104.35506	103.8550476	103.3598437	102.8693816	102.3835931	101.9024114	101.425771	100.9536075	100.485858
020918A00047	9/18/2002	4.72	9/19/2022	9/18/2002	107.2904	106.3851623	105.4959463	104.6222948	103.7637707	102.9199535	102.0904392	101.2748393	100.4727799
030605A00010	6/5/2003	3.97	6/5/2023	6/5/2003	108.62183	107.4233992	106.2533396	105.110735	103.9947045	102.9044031	101.8390199	100.7977764	99.77992478
050812A00050	8/12/2005	4.97	8/12/2025	8/12/2005	119.95432	117.2533361	114.6506636	112.1418317	109.7226094	107.388991	105.137182	102.9635866	100.8647955
050823A00085	8/23/2005	4.78	8/25/2025	8/23/2005	131.35404	126.8792724	122.6012356	118.5099156	114.5958807	110.8502391	107.2646049	103.8310656	100.5421515
050823A00088	8/23/2005	4.78	8/25/2025	8/23/2005	131.35413	126.8793523	122.6013016	118.5099686	114.5959213	110.8502681	107.264623	103.8310733	100.5421495
970806A00018	8/1/1997	6.7	10/23/2026	8/1/1997	129.12795	125.698489	122.4084331	119.2508328	116.2191353	113.307163	110.5090888	107.8194143	105.2329488
970806A00059	8/1/1997	8.25	9/22/2025	8/1/1997	149.26445	143.8935256	138.7633322	133.8615941	129.1767336	124.6978261	120.4145594	116.3171961	112.3965381
210514A00007	5/14/2021	0.95	5/15/2028	5/14/2021	115.62942	111.4577552	107.5017365	103.7480987	100.184494	96.7994259	93.5821838	90.52278431	87.6119166
210514A00010	5/14/2021	1.34	5/14/2031	5/14/2021	122.73934	116.5104586	110.7211349	105.3352426	100.3199372	95.64533722	91.2842347	87.21183657	83.40553222
200401A00011	4/1/2020	0.68	4/3/2023	4/1/2020	104.30728	103.2724315	102.2581525	101.2638429	100.2889216	99.33283042	98.39503255	97.47501171	96.57227116
200402A00050	4/6/2020	0.73	4/5/2024	4/6/2020	106.55113	104.9538798	103.397431	101.8803945	100.4014412	98.95929783	97.55274427	96.18061061	94.84177481
200428A00018	4/28/2020	1.33	4/27/2035	4/28/2020	127.89032	119.0615536	111.0664267	103.8145743	97.22633144	91.23137734	85.76756367	80.77989802	76.21966084
200521A00005	5/21/2020	0.75	5/21/2030	5/21/2020	117.75412	112.3560417	107.3062961	102.578589	98.14882935	93.99493164	90.09663459	86.43533727	82.99395102
210409A00010	4/9/2021	1.05	4/9/2031	4/9/2021	120.77783	114.714698	109.0770892	103.8302299	98.94249121	94.38508085	90.13176812	86.15863701	82.4438649
970806A00017	8/1/1997	7.02	7/23/2026	8/1/1997	128.67377	125.4170031	122.2873853	119.2787949	116.3854514	113.6018955	110.9229682	108.343793	105.8597575
200317A00022	3/17/2020	0.97	3/17/2022	3/17/2020	102.03646	101.5906176	101.1501039	100.7148088	100.2846295	99.85946622	99.4392217	99.02380147	98.61311357

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200317A00024	3/17/2020	1.09	3/17/2025	3/17/2020	109.19782	107.0557704	104.9807166	102.9699951	101.0210689	99.13152114	97.29904798	95.52145275	93.79664005
200326A00037	3/26/2020	1.78	3/26/2035	3/26/2020	131.33607	122.3945275	114.2892997	106.930427	100.2385284	94.14347206	88.58322195	83.50283733	78.85360221
200327A00004	3/27/2020	0.63	3/28/2022	3/27/2020	101.90147	101.4530465	101.0100444	100.5723532	100.1398667	99.71248152	99.29009752	98.87261711	98.45994543
200330A00010	3/30/2020	0.61	3/30/2022	3/30/2020	101.89501	101.4460534	101.0025328	100.5643416	100.1313728	99.70352251	99.28068982	98.86277654	98.44968721
200331A00056	3/31/2020	0.96	3/29/2030	3/31/2020	118.54525	113.223985	108.2400529	103.5683887	99.18600411	95.07179674	91.2063816	87.57193907	84.15207714
200210A00007	2/10/2020	1.78	2/10/2025	2/10/2023	116.27708	112.9041712	109.6611049	106.5419602	103.5411311	100.6533047	97.87344357	95.19676947	92.61874813
200225A00049	2/25/2020	1.79	2/24/2040	2/25/2020	141.95787	129.02903	117.6874648	107.7115086	98.91301359	91.13198468	84.23210996	78.09703471	72.62725024
200310A00067	3/10/2020	0.94	3/10/2025	3/10/2020	108.88886	106.7515959	104.6811815	102.6749576	100.7303924	98.84507398	97.01670347	95.24308886	93.52213929
200311A00027	3/11/2020	1.52	3/9/2035	3/11/2020	129.26908	120.4275215	112.4148246	105.1417091	98.52940323	92.50832133	87.01691868	82.00069639	77.41133667
200311A00028	3/11/2020	1.04	3/12/2024	3/11/2020	107.01894	105.4201417	103.8616458	102.3421097	100.8602416	99.41480283	98.00460536	96.62850922	95.2854202
200316A00008	3/16/2020	1.31	3/15/2030	3/16/2020	119.44525	114.1274544	109.1451277	104.4734374	100.0896004	95.97269658	92.10350328	88.46434502	85.03895801
191115A00029	11/15/2019	2.07	11/15/2029	11/15/2019	122.46117	117.2564364	112.3677359	107.7724659	103.4498273	99.38066877	95.54734531	91.93358835	88.52438874
191216A00013	12/16/2019	1.95	12/16/2024	12/16/2019	110.28415	108.2691225	106.313833	104.4160076	102.5734765	100.7841688	99.0461072	97.35740294	95.71625128
191231A00021	12/31/2019	1.9	2/28/2023	12/31/2019	104.61381	103.7493491	102.9009301	102.0680923	101.2503911	100.4473997	99.65870754	98.88392007	98.12265749
191231A00027	12/31/2019	1.9	4/28/2023	12/31/2019	104.61381	103.7493478	102.9009293	102.068092	101.2503914	100.4474006	99.65870922	98.88392253	98.1226608
200130A00027	1/31/2020	1.79	1/31/2025	1/31/2020	110.20191	108.1395192	106.1394156	104.1991952	102.3165615	100.489324	98.71539269	96.99277228	95.31955757
200203A00046	2/3/2020	1.98	2/3/2040	2/3/2020	144.07292	131.0065151	119.5406827	109.4522204	100.5516444	92.6777931	85.69333453	79.4810202	73.94055709
190628A00007	6/28/2019	2.28	6/28/2034	6/28/2019	135.03725	126.3485048	118.4323885	111.2096353	104.6098903	98.57063754	93.03626417	87.95724211	83.28941272
190813A00019	8/13/2019	2.13	8/13/2021	8/13/2019	100.72776	100.6032738	100.4792268	100.3556195	100.2324493	100.1097137	99.98741028	99.86553657	99.7440901
190823A00009	8/23/2019	1.8	8/23/2029	8/23/2019	121.45715	116.4085478	111.6598412	107.1900265	102.9797427	99.01113352	95.26771991	91.7342837	88.39676215
191114A00012	11/14/2019	1.89	11/15/2021	11/14/2019	101.45961	101.1960811	100.9344612	100.6747233	100.416845	100.1608044	99.90657971	99.65414973	99.40349351
191114A00013	11/14/2019	1.9	11/14/2022	11/14/2019	104.36475	103.548146	102.7464236	101.9591537	101.1859268	100.4263491	99.68004236	98.94664262	98.22579975
191114A00014	11/14/2019	1.9	11/14/2023	11/14/2019	107.1948	105.8192934	104.475488	103.1623789	101.8790001	100.6244243	99.39776127	98.1981558	97.02478614
190102A00024	1/2/2019	2.97	1/3/2034	1/2/2019	139.10204	130.5136483	122.663323	115.4776426	108.8912091	102.8457056	97.28907349	92.17479014	87.46123537
190327A00030	3/27/2019	2.9	3/27/2036	3/27/2019	142.75217	132.5725524	123.3954094	115.1070647	107.6079264	100.8106266	94.6384179	89.0237915	83.90728514
190520A00020	5/20/2019	2.39	5/20/2026	5/20/2019	115.60314	112.6732194	109.8565455	107.1477345	104.541701	102.0336378	99.61899918	97.29348453	95.05302356
190604A00010	6/4/2019	2.45	6/4/2021	6/4/2019	100.08613	100.0721883	100.0582632	100.0443519	100.0304545	100.0165709	100.0027011	99.98884506	99.97500279
190618A00009	6/18/2019	2.34	6/18/2021	6/18/2019	100.20343	100.1699405	100.1364983	100.1031014	100.0697498	100.0364433	100.0031819	99.96996547	99.93679394
190627A00020	6/27/2019	2.28	6/25/2021	6/27/2019	100.26017	100.2169077	100.1737099	100.1305787	100.0875142	100.0445161	100.0015843	99.95871869	99.91591907
181029A00097	10/29/2018	3.53	10/27/2028	10/29/2018	139.14222	131.507954	124.401992	117.7837058	111.6158369	105.8641994	100.4974103	95.48664411	90.80541087
181211A00042	12/11/2018	3.7	12/11/2028	12/11/2023	141.64762	133.5926138	126.1040973	119.1377782	112.6530988	106.6129021	100.9831275	95.73253574	90.83245956
181220A00006	12/20/2018	2.93	12/20/2022	12/20/2018	105.45861	104.590648	103.7387542	102.9024676	102.0813443	101.2749574	100.482897	99.70476831	98.94019188
190102A00015	1/2/2019	2.97	1/3/2034	1/2/2019	139.1024	130.5139074	122.6634907	115.4777327	108.8912332	102.845674	97.28899479	92.17467184	87.46108391

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190102A00020	1/2/2019	2.97	1/3/2034	1/2/2019	139.10212	130.513708	122.6633601	115.4776609	108.8912117	102.8456953	97.28905268	92.17476072	87.46119902
190102A00022	1/2/2019	2.97	1/3/2034	1/2/2019	139.10193	130.5135745	122.6632748	115.4776162	108.8912011	102.8457134	97.28909457	92.17482247	87.46127717
180126A00018	1/26/2018	2.34	1/26/2023	1/26/2018	105.35137	104.4370418	103.5399736	102.6596663	101.7956377	100.9474245	100.1145817	99.29668128	98.49331158
180529A00057	5/29/2018	3.09	5/30/2028	5/29/2018	128.1406	122.7712646	117.7167398	112.95555	108.467843	104.2352578	100.2408026	96.46874433	92.90450686
180716A00046	7/16/2018	2.9	7/16/2025	7/16/2018	114.04973	111.686293	109.4003824	107.1887947	105.0484799	102.9765366	100.9702037	99.02685253	97.14397969
180725A00034	7/25/2018	2.79	7/25/2022	7/25/2018	104.04561	103.404831	102.7747714	102.1551298	101.545619	100.945963	100.3558962	99.77516335	99.20351846
180725A00035	7/25/2018	2.85	7/25/2023	7/25/2018	107.50998	106.3102292	105.13596	103.986397	102.8607954	101.7584398	100.678643	99.62074455	98.58410931
180928A00077	9/28/2018	2.85	9/28/2021	9/28/2018	101.18809	101.0077016	100.8282475	100.6497177	100.4721043	100.2953996	100.1195957	99.94468518	99.77066041
170612A00024	6/12/2017	1.72	6/13/2022	6/12/2017	103.13628	102.5487033	101.9701977	101.4005346	100.8394893	100.2868451	99.74239304	99.20593131	98.67726513
170616A00003	6/16/2017	1.91	6/17/2024	6/16/2017	109.08733	107.3638012	105.6861163	104.0526686	102.4619199	100.9123983	99.40269413	97.93145746	96.49739475
170705A00028	7/5/2017	1.86	7/6/2021	7/5/2017	100.39048	100.3205931	100.250848	100.1812446	100.1117824	100.042461	99.97327988	99.90423869	99.83533695
170705A00029	7/5/2017	1.98	7/5/2022	7/5/2017	103.44654	102.813997	102.1918982	101.5799591	100.9779041	100.3854685	99.80239698	99.22844414	98.66337339
170929A00046	9/29/2017	2.49	9/30/2027	9/29/2017	119.03593	115.2486969	111.6395019	108.1982695	104.9155762	101.782601	98.79108227	95.93327872	93.20193269
171206A00020	12/6/2017	2.62	12/6/2027	12/6/2017	120.14653	116.1829495	112.4117594	108.8217565	105.4024769	102.1441429	99.03761383	96.07433933	93.24631765
170130A00039	1/30/2017	2.74	1/31/2028	1/30/2017	121.32011	117.1468265	113.1838451	109.4184525	105.8388108	102.4338875	99.19339517	96.1077355	93.16794809
170130A00043	1/30/2017	2.64	1/29/2027	1/30/2017	118.25004	114.7591741	111.4222878	108.2311235	105.1779315	102.2554362	99.45680357	96.77561102	94.2058197
170130A00046	1/30/2017	2.52	1/30/2026	1/30/2017	115.0817	112.2513164	109.5279835	106.9066719	104.3826323	101.9513744	99.60865088	97.35044253	95.17294411
170313A00041	3/13/2017	3.21	3/15/2032	3/13/2017	134.50703	127.3949662	120.8133374	114.7159995	109.0612452	103.8113447	98.93213594	94.39266026	90.16483689
170315A00005	3/15/2017	2.1	3/15/2022	3/15/2017	102.52357	102.0766097	101.6349668	101.1985405	100.7672285	100.3409313	99.91955198	99.50299642	99.09117293
170530A00019	5/30/2017	1.58	6/1/2021	5/30/2017	100.05276	100.0430094	100.0332651	100.02353	100.0138041	100.0040873	99.99437973	99.98468128	99.97499195
160928A00041	9/28/2016	3.26	9/29/2036	9/30/2019	148.3282	137.127574	127.0871423	118.0686659	109.9518692	102.6319544	96.01747711	90.02852855	84.59517854
160928A00042	9/28/2016	3.05	9/29/2036	9/28/2021	146.40125	135.3146062	125.3784765	116.4556145	108.4266229	101.1874821	94.64743828	88.72719631	83.35737209
160928A00044	9/28/2016	2.89	9/29/2036	9/28/2023	144.9331	133.9332974	124.0766359	115.226623	107.2645304	100.0869317	93.60359916	87.73570508	82.41428146
160930A00032	9/30/2016	2.15	9/30/2031	9/30/2016	126.93696	120.4302757	114.3924786	108.7841715	103.5696226	98.71639341	94.19501115	89.97867503	86.04299397
160930A00033	9/30/2016	1.8	9/30/2026	9/30/2016	114.35954	111.2664123	108.2994144	105.4522706	102.7190614	100.094205	97.57243553	95.14878271	92.81855347
170130A00036	1/30/2017	3.11	1/31/2033	1/30/2017	136.63937	128.7299393	121.4603228	114.7703689	108.6061555	102.9192982	97.66633769	92.80819939	88.3097157
150601A01048	6/1/2015	5.27	1/3/2025	6/1/2015	130.89113	126.795082	122.8587597	119.0749268	115.4367191	111.9376253	108.5714665	105.3323769	102.2147858
150601A01051	6/1/2015	4.91	2/7/2025	6/1/2015	130.30569	126.1165602	122.0944663	118.231659	114.5208018	110.9549455	107.527505	104.2322377	101.0632233
160928A00029	9/28/2016	2.52	9/29/2036	9/28/2016	141.538	130.7390208	121.0661296	112.38458	104.5771916	97.54190908	91.18972122	85.4428816	80.23338438
160928A00030	9/28/2016	2.52	9/29/2036	9/28/2016	141.538	130.7390208	121.0661296	112.38458	104.5771916	97.54190908	91.18972122	85.4428816	80.23338438
160928A00032	9/28/2016	2.52	9/29/2036	9/28/2016	141.538	130.7390208	121.0661296	112.38458	104.5771916	97.54190908	91.18972122	85.4428816	80.23338438
160928A00033	9/28/2016	2.46	9/29/2036	9/28/2016	140.98744	130.22103	120.5779393	111.9237082	104.141407	97.1292027	90.79828155	85.07107239	79.87972539
150601A01013	6/1/2015	5.21	9/29/2023	6/1/2015	120.53976	117.9797443	115.4901857	113.0687294	110.7131127	108.4211617	106.1907876	104.0199829	101.9068171

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A01015	6/1/2015	5.61	10/28/2025	6/1/2015	137.69741	132.6481762	127.8296737	123.2299248	118.8376453	114.6421971	110.6335479	106.8022328	103.1393199
150601A01016	6/1/2015	5.73	10/28/2025	6/1/2015	138.20938	133.1487798	128.3193039	123.708957	119.3064389	115.1010961	111.0828817	107.2423173	103.5704575
150601A01040	6/1/2015	5.4	10/2/2026	6/1/2015	143.35699	137.1470019	131.2692196	125.7037475	120.4319916	115.4365689	110.7012215	106.2107382	101.9508814
150601A01041	6/1/2015	5.99	10/2/2036	6/1/2015	183.28844	168.8829359	155.9874547	144.4220963	134.0302155	124.6752287	116.2378805	108.6139016	101.7119998
150601A01047	6/1/2015	5.35	12/30/2024	6/1/2015	131.09215	127.004167	123.0751818	119.2980069	115.6658265	112.1721742	108.8109126	105.5762146	102.4625455
150601A00994	6/1/2015	5.86	6/24/2022	6/1/2015	110.41518	109.2413283	108.0930716	106.9695701	105.8700242	104.7936683	103.7397694	102.7076253	101.6965625
150601A00997	6/1/2015	5.46	9/30/2022	6/1/2015	112.29116	110.866533	109.4679089	108.0946288	106.7460548	105.4215703	104.1205788	102.8425029	101.586784
150601A01005	6/1/2015	5.82	3/10/2025	6/1/2015	133.66971	129.3979222	125.2979647	121.3618124	117.5818645	113.9509225	110.4621663	107.109131	103.885687
150601A01008	6/1/2015	5.08	4/15/2025	6/1/2015	117.438	115.1538678	112.9412009	110.7971522	108.7190102	106.7041916	104.7502344	102.8547911	101.0156225
150601A01011	6/1/2015	5.05	9/8/2025	6/1/2015	119.09143	116.5456634	114.0858484	111.7083373	109.4096641	107.1865361	105.035823	102.9545484	100.9398809
150601A01012	6/1/2015	5.43	9/15/2023	6/1/2015	120.72246	118.2001774	115.7466426	113.3595097	111.0365328	108.7755593	106.574525	104.4314494	102.3444321
150601A00966	6/1/2015	4.84	2/3/2023	6/1/2015	107.57244	106.632627	105.7105968	104.8058303	103.9178298	103.0461174	102.1902337	101.3497372	100.5242031
150601A00971	6/1/2015	6.42	6/20/2033	6/1/2015	168.33245	157.7212654	148.011302	139.114894	130.9536994	123.457637	116.5639535	110.2164014	104.3645155
150601A00976	6/1/2015	6.8	9/22/2033	6/1/2015	172.22712	161.4310978	151.5578432	142.5166414	134.226544	126.6152441	119.618087	113.1772002	107.2407296
150601A00978	6/1/2015	6.32	11/24/2033	6/1/2015	161.99382	152.5255505	143.8431703	135.8705198	128.5395814	121.7895463	115.5659916	109.820157	104.5083083
150601A00988	6/1/2015	4.57	3/22/2024	6/1/2015	111.97634	110.3760244	108.8154568	107.2933036	105.8082892	104.3591916	102.9448393	101.5641088	100.2159221
150601A00993	6/1/2015	5.37	6/9/2034	6/1/2015	164.72396	153.5931453	143.4736983	134.2605934	125.8607027	118.1913541	111.1790769	104.7585061	98.87142357
150601A00950	6/1/2015	6.76	12/18/2031	6/1/2015	162.21093	153.3470077	145.1462116	137.5512199	130.5101676	123.9760852	117.9064007	112.2624951	107.0093069
150601A00952	6/1/2015	6.34	2/13/2032	6/1/2015	161.39661	152.275709	143.8530622	136.0671646	128.8624637	122.1887372	116.0005427	110.256728	104.9199941
150601A00953	6/1/2015	6.6	6/10/2032	6/1/2015	165.52361	155.88561	147.005967	138.8161339	131.2543599	124.2649651	117.7976998	111.8071744	106.2523534
150601A00955	6/1/2015	5.84	7/15/2032	6/1/2015	152.54238	144.4837076	137.0322217	130.1343329	123.7416878	117.810619	112.3016542	107.1790802	102.410555
150601A00960	6/1/2015	6.49	12/16/2032	6/1/2015	158.6358	150.0229812	142.0776954	134.7393399	127.9534045	121.6708077	115.8473133	110.4430128	105.4218671
150601A00964	6/1/2015	5.25	1/6/2033	6/1/2015	150.81016	142.4734279	134.7903384	127.7010289	121.1516973	115.0939389	109.484162	104.2830713	99.45520943
150601A00935	6/1/2015	6.46	11/21/2030	6/1/2015	154.05501	146.4340377	139.3322743	132.7086595	126.5257229	120.7492456	115.3479552	110.2932505	105.5589543
150601A00939	6/1/2015	5.79	1/17/2031	6/1/2015	149.99777	142.5129831	135.5440996	129.0498211	122.9925018	117.3378028	112.0543771	107.1135877	102.4892537
150601A00943	6/1/2015	6.44	5/9/2031	6/1/2015	157.2812	149.0484155	141.4045537	134.3009113	127.6932233	121.541229	115.8082805	110.4609929	105.4689297
150601A00946	6/1/2015	6.28	8/22/2031	6/1/2015	157.83832	149.3433068	141.470769	134.1680757	127.3874949	121.0857018	115.2233405	109.7646315	104.6770204
150601A00947	6/1/2015	6.19	8/20/2021	6/1/2015	102.31168	102.0747899	101.83902	101.6043577	101.3707952	101.1383247	100.9069385	100.6766288	100.4473883
150601A00948	6/1/2015	6.04	10/22/2031	6/1/2015	149.33661	141.9743339	135.1331268	128.7696316	122.8444974	117.3219805	112.169586	107.3577473	102.8595395
150601A00918	6/1/2015	5.62	4/28/2025	6/1/2015	119.6662	117.2531973	114.9166078	112.6533666	110.4605574	108.3354025	106.2752553	104.2775925	102.3400081
150601A00919	6/1/2015	7.41	6/7/2030	6/1/2015	157.56932	150.1230521	143.1636561	136.6540701	130.5603606	124.8514356	119.4987866	114.4762557	109.7598247
150601A00927	6/1/2015	6.08	8/7/2030	6/1/2015	145.10699	138.7071554	132.7156124	127.101574	121.8368439	116.8955812	112.2540863	107.8906071	103.7851646
150601A00928	6/1/2015	5.94	8/21/2030	6/1/2015	144.56502	138.1562904	132.1581462	126.5395061	121.2719182	116.3293155	111.6877985	107.3254385	103.2221001

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00929	6/1/2015	5.91	8/30/2030	6/1/2015	149.67529	142.3810283	135.5763955	129.223221	123.2866267	117.7347207	112.5383201	107.6707014	103.1073758
150601A00931	6/1/2015	7.13	9/20/2030	6/1/2015	157.39316	149.7511683	142.6212713	135.9635834	129.741657	123.9221632	118.4746027	113.3710453	108.5858947
150601A00897	6/1/2015	6.15	5/28/2029	6/1/2015	143.65371	137.6614337	132.019309	126.7033294	121.6913226	116.9628012	112.4988228	108.2818629	104.2956984
150601A00899	6/1/2015	7.07	6/14/2029	6/1/2015	143.31265	137.800339	132.5995796	127.6893686	123.0502973	118.6644175	114.5151215	110.5870319	106.8659015
150601A00900	6/1/2015	6.06	6/28/2024	6/1/2015	116.10099	114.2629835	112.4734528	110.7307152	109.0331562	107.3792301	105.7674565	104.1964174	102.6647535
150601A00905	6/1/2015	6.14	10/29/2029	6/1/2015	145.96413	139.5525387	133.5331772	127.8779856	122.561142	117.5588647	112.8492371	108.4120479	104.2286468
150601A00906	6/1/2015	6.2	11/1/2029	6/1/2015	146.70961	140.2099342	134.1110108	128.3839601	123.0022206	117.941344	113.1788124	108.6938718	104.467382
150601A00912	6/1/2015	5.96	11/30/2029	6/1/2015	145.50603	139.037837	132.9692508	127.271432	121.917859	116.8841227	112.1477437	107.6880056	103.4858045
150601A00872	6/1/2015	7.42	7/31/2028	6/1/2015	144.83502	139.4470007	134.3438964	129.5078708	124.9223416	120.5718862	116.4421522	112.5197754	108.7923058
150601A00875	6/1/2015	7.14	9/29/2028	6/1/2015	144.92786	139.3718514	134.1166577	129.1430557	124.4331981	119.970509	115.7395844	111.7261012	107.9167337
150601A00883	6/1/2015	6.21	11/30/2028	6/1/2015	141.11735	135.6067861	130.4000851	125.477485	120.8206683	116.4126427	112.2376367	108.2810029	104.5291304
150601A00888	6/1/2015	5.92	3/1/2029	6/1/2015	141.36161	135.6090478	130.1857167	125.0694586	120.2397832	115.6777308	111.3657481	107.2875733	103.4281324
150601A00889	6/1/2015	6.55	3/2/2029	6/1/2015	145.56097	139.5351381	133.8569318	128.5028397	123.451127	118.6816881	114.1759138	109.916569	105.8876817
150601A00893	6/1/2015	6.49	4/6/2029	6/1/2015	145.28136	139.252943	133.5742517	128.2214866	123.1726544	118.4074209	113.9069742	109.6539005	105.6320702
150601A00848	6/1/2015	6.36	2/18/2022	6/1/2015	103.86411	103.4656352	103.071374	102.6812513	102.2951945	101.9131328	101.5349971	101.16072	100.7902358
150601A00851	6/1/2015	7.12	4/30/2027	6/1/2015	136.06077	131.8356518	127.8015615	123.9481154	120.2655732	116.744794	113.3771955	110.1547154	107.0697771
150601A00864	6/1/2015	7.37	3/31/2028	6/1/2015	143.16912	138.0121478	133.1197757	128.4758937	124.065499	119.8746115	115.8901962	112.1000933	108.4929532
150601A00865	6/1/2015	6	4/3/2028	6/1/2015	133.92948	129.4499968	125.1928706	121.1448311	117.2935031	113.6273438	110.1355806	106.8081546	103.6356679
150601A00868	6/1/2015	7.08	6/5/2028	6/1/2015	143.03732	137.7444471	132.7293302	127.9747201	123.4645706	119.1839487	115.1189495	111.2566187	107.5848806
150601A00871	6/1/2015	6.74	7/31/2028	6/1/2015	142.33892	136.9669211	131.8808912	127.0628525	122.4960991	118.1650962	114.0553897	110.1535241	106.4469662
150601A00732	6/1/2015	1.91	4/29/2022	6/1/2015	102.74352	102.2372187	101.7377173	101.2448639	100.7585111	100.2785159	99.80473982	99.33704864	98.87531217
150601A00736	6/1/2015	2.87	5/1/2030	6/1/2015	127.19684	121.5733986	116.3050664	111.3654587	106.7303758	102.3776064	98.28674996	94.43905606	90.81727853
150601A00739	6/1/2015	2.35	5/6/2025	6/1/2015	112.01806	109.7760803	107.6055006	105.5034369	103.4671475	101.4940215	99.58157149	97.72742694	95.92932778
150601A00772	6/1/2015	1.84	5/13/2022	6/1/2015	102.78524	102.2640687	101.7500933	101.2431487	100.7430748	100.2497162	99.76292259	99.2825485	98.80845284
150601A00832	6/1/2015	7.17	8/28/2025	6/1/2015	123.72631	121.1284193	118.6173245	116.1893662	113.8410695	111.5691317	109.3704127	107.2419257	105.1808284
150601A00847	6/1/2015	6.59	1/31/2022	6/1/2015	106.86118	106.1606564	105.4696859	104.7880686	104.1156137	103.4521357	102.7974537	102.1513921	101.5137796
150601A00558	6/1/2015	2.51	8/30/2024	6/1/2015	110.31364	108.4801189	106.6972303	104.9631481	103.2761235	101.6344848	100.0366332	98.48103901	96.966238
150601A00624	6/1/2015	2.48	12/8/2021	6/1/2015	103.39987	102.8412339	102.2886564	101.7420434	101.2012983	100.6663268	100.1370366	99.61333726	99.09514033
150601A00660	6/1/2015	2.26	1/5/2022	6/1/2015	103.76195	103.1197035	102.4854353	101.8589996	101.2402516	100.6290502	100.0252577	99.42873962	98.83936489
150601A00678	6/1/2015	2.12	1/30/2025	6/1/2015	110.84539	108.7634327	106.744532	104.7862401	102.8862274	101.0422719	99.25225363	97.51414921	95.82602652
150601A00690	6/1/2015	2.34	2/28/2025	6/1/2015	111.42931	109.3085781	107.2527781	105.2593654	103.3259193	101.4501319	99.62980219	97.86283029	96.14721187
150601A00714	6/1/2015	1.67	4/1/2022	6/1/2015	102.40645	101.9444975	101.4882511	101.0375887	100.5923963	100.1525631	99.71798167	99.28854735	98.86415853
150601A00526	6/1/2015	2	7/28/2021	6/1/2015	100.51197	100.4220864	100.3324464	100.2430519	100.1539018	100.064995	99.9763304	99.88790702	99.7997238

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00527	6/1/2015	2.5	7/26/2024	6/1/2015	109.99981	108.2247924	106.4977335	104.8169276	103.1807466	101.5876329	100.036096	98.52470854	97.05210379
150601A00529	6/1/2015	2.08	7/28/2021	6/1/2015	100.30737	100.2542954	100.2013133	100.1484281	100.0956394	100.0429469	99.99035039	99.9378496	99.88544427
150601A00543	6/1/2015	2.23	8/8/2024	6/1/2015	109.89699	108.1012066	106.3543822	104.65477	103.0006955	101.3905572	99.8228231	98.2960267	96.80876397
150601A00555	6/1/2015	2.13	9/2/2021	6/1/2015	100.90041	100.7452162	100.5907032	100.4368658	100.2836991	100.1311984	99.97935897	99.82817605	99.67764504
150601A00557	6/1/2015	2.03	9/2/2021	6/1/2015	100.81307	100.6706432	100.5288098	100.3875666	100.2469093	100.106834	99.96733659	99.82841325	99.69006001
150601A00477	6/1/2015	3.21	6/1/2029	6/1/2015	131.1151	125.1732915	119.592741	114.3480338	109.4157341	104.7742215	100.4035378	96.2852482	92.4023147
150601A00492	6/1/2015	1.92	6/25/2021	6/1/2015	100.24141	100.1985309	100.155717	100.1129682	100.0702843	100.0276653	99.98511099	99.94262123	99.90019587
150601A00496	6/1/2015	2.27	6/27/2024	6/1/2015	109.62165	107.8929437	106.210167	104.5717096	102.9760311	101.4216572	99.90717634	98.43123662	96.99254255
150601A00505	6/1/2015	2.07	7/8/2021	6/1/2015	100.37758	100.312152	100.2468516	100.1816834	100.1166468	100.0517416	99.98696714	99.92232318	99.85780926
150601A00508	6/1/2015	1.97	7/8/2021	6/1/2015	100.34124	100.2810998	100.2210774	100.161172	100.1013832	100.0417106	99.98215399	99.92271288	99.86338697
150601A00509	6/1/2015	2.52	7/8/2024	6/1/2015	109.86793	108.1246492	106.4278887	104.7760156	103.1674651	101.6007395	100.074405	98.58708817	97.13747342
150601A00425	6/1/2015	2.64	2/21/2024	6/1/2015	108.87653	107.3540763	105.8687999	104.4194693	103.0049048	101.6239757	100.2755979	98.95873145	97.67237824
150601A00426	6/1/2015	3.37	2/21/2029	6/1/2015	126.13286	121.3022902	116.7401557	112.4287347	108.3516207	104.4936155	100.8406319	97.37960423	94.0984071
150601A00448	6/1/2015	2.61	4/26/2024	6/1/2015	109.40679	107.7774114	106.1895769	104.6418736	103.1329482	101.6615038	100.2262979	98.82613919	97.45988508
150601A00459	6/1/2015	2.42	5/16/2024	6/1/2015	109.26472	107.6096984	105.9973738	104.426284	102.8950268	101.4022596	99.94669572	98.52710196	97.14229587
150601A00473	6/1/2015	2.22	5/31/2024	6/1/2015	109.33217	107.6457635	106.0034488	104.4036998	102.8450544	101.326113	99.84553474	98.40203519	96.99438296
150601A00475	6/1/2015	3.04	6/1/2029	6/1/2015	125.50394	120.5163708	115.8149686	111.3802854	107.1943534	103.240564	99.50355499	95.9691084	92.62405676
150601A00270	6/1/2015	3.12	3/21/2031	6/1/2015	150.45532	139.1505368	128.8690307	119.5101148	110.9836169	103.2087224	96.11295462	89.63126945	83.70525419
150601A00390	6/1/2015	2.39	5/20/2022	6/1/2015	103.33403	102.7695052	102.2145927	101.6690265	101.1325547	100.604935	100.0859337	99.57532574	99.07289424
150601A00395	6/1/2015	2.86	1/3/2024	6/1/2015	108.73727	107.2924132	105.8816618	104.503917	103.1581223	101.8432641	100.5583698	99.30250538	98.074774
150601A00396	6/1/2015	3.61	1/3/2029	6/1/2015	126.71849	121.9592297	117.4600894	113.2041557	109.1757501	105.3603332	101.7444134	98.31546415	95.0618482
150601A00410	6/1/2015	2.68	1/24/2024	6/1/2015	108.67391	107.1985161	105.7584389	104.3525291	102.9796823	101.6388392	100.3289836	99.04913996	97.79837191
150601A00411	6/1/2015	3.38	1/24/2029	6/1/2015	125.934	121.1601491	116.6491682	112.3838474	108.3482463	104.5275891	100.9081717	97.47727598	94.22309175
150601A00030	6/1/2015	5.28	11/26/2027	6/1/2015	150.08851	142.3947066	135.1861175	128.42877	122.0912726	116.1446003	110.5619038	105.3183344	100.3908842
150601A00033	6/1/2015	5.96	12/24/2025	6/1/2015	141.2632	135.8568018	130.7060823	125.7973257	121.117634	116.6548732	112.3976243	108.3351364	104.4572838
150601A00035	6/1/2015	5.73	4/1/2038	6/1/2015	176.79507	163.1344533	150.9469951	140.0491004	130.2821953	121.5090868	113.6108834	106.4843829	100.039853
150601A00038	6/1/2015	5.77	6/2/2023	6/1/2015	119.16485	116.9368448	114.7643337	112.6455542	110.5788119	108.5624786	106.5949895	104.67484	102.8005825
150601A00165	6/1/2015	2.66	6/4/2032	6/1/2015	132.41276	125.211356	118.5588485	112.406568	106.7106088	101.4313254	96.53288665	91.98287975	87.75195745
150601A00261	6/1/2015	3.19	2/11/2033	6/1/2015	153.04876	140.9245838	130.0089303	120.1689025	111.2871971	103.2601794	95.99620656	89.41416516	83.4421951
150601A00011	6/1/2015	5.17	8/3/2022	6/1/2015	110.75886	109.4488308	108.1704168	106.9224758	105.7039217	104.5137197	103.3508828	102.21447	101.1035826
150601A00018	6/1/2015	4.91	9/5/2025	6/1/2015	134.4256	129.5125501	124.8201381	120.3370455	116.0526078	111.9567716	108.0400546	104.2935102	100.7086934
150601A00019	6/1/2015	5.64	10/3/2022	6/1/2015	112.72621	111.276736	109.8538677	108.4569271	107.0852591	105.7382304	104.4152283	103.1156601	101.8389523
150601A00022	6/1/2015	5.43	10/26/2037	6/1/2015	172.0818	159.04198	147.3803661	136.9286384	127.5409577	119.0907633	111.4680493	104.5770471	98.33425014

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00023	6/1/2015	5.46	10/30/2037	6/1/2015	183.73506	168.1692955	154.3465493	142.0459724	131.0769814	121.2748629	112.4970475	104.6199455	97.53625803
150601A00024	6/1/2015	5.58	11/8/2022	6/1/2015	113.55386	111.9913552	110.459401	108.9571722	107.4838703	106.038725	104.6209931	103.2299569	101.8649236
140414A00009	4/14/2014	2.32	4/30/2024	4/14/2014	112.18369	109.9945726	107.8676257	105.8006286	103.7914555	101.8380707	99.93852413	98.09094714	96.29354873
140911A00033	9/11/2014	3.02	9/13/2027	9/11/2014	125.78049	120.7759351	116.0463181	111.5740915	107.3429469	103.3377231	99.54431838	95.94960968	92.54137861
141124A00024	11/24/2014	2.27	11/30/2021	11/24/2014	103.21963	102.673018	102.1321078	101.5968058	101.0670254	100.5426815	100.0236909	99.50997197	99.0014448
141126A00006	11/26/2014	2.41	11/30/2021	11/26/2014	103.25083	102.704148	102.1631552	101.6277648	101.0978903	100.5734468	100.0543513	99.54052248	99.03188055
150601A00001	6/1/2015	5.43	6/15/2037	6/1/2015	181.35327	166.3283094	152.9510877	141.016957	130.3487813	120.7930138	112.216361	104.502942	97.55186613
150601A00005	6/1/2015	4.84	6/9/2025	6/1/2015	132.44935	127.8436635	123.4355136	119.215212	115.1736054	111.3020408	107.5923353	104.0367475	100.6279512
130624A00019	6/24/2013	3.4	6/26/2023	6/24/2013	113.61798	111.5123348	109.4604884	107.4606734	105.5111945	103.6104255	101.7568056	99.94883636	98.18507864
130913A00018	9/13/2013	3.72	9/13/2028	9/13/2013	127.74695	122.8423997	118.2094863	113.8303466	109.688435	105.7684169	102.0560714	98.53820288	95.20256024
130925A00035	9/25/2013	1.53	6/25/2025	9/25/2013	111.23419	108.8303355	106.512941	104.278176	102.1224051	100.0421803	98.03422944	96.09544641	94.22288133
140311A00039	3/11/2014	3.06	3/11/2024	3/11/2014	116.85675	114.0462939	111.322734	108.6827921	106.1233345	103.6413682	101.2340332	98.89859519	96.63243972
140314A00026	3/14/2014	2.99	3/14/2024	3/14/2019	118.09831	115.0982503	112.1931631	109.3794257	106.6535797	104.0123216	101.4524954	98.97108386	96.56520227
140325A00012	3/25/2014	3.61	3/26/2029	3/25/2019	130.62922	125.0382638	119.7758685	114.8192872	110.1475293	105.7412156	101.5824431	97.65466249	93.94256674
121214A00014	12/14/2012	2.16	12/14/2027	12/14/2017	120.56643	116.2352974	112.1261841	108.2254897	104.5205559	100.9995933	97.65161593	94.46638032	91.43433063
121217A00009	12/17/2012	2.02	12/17/2027	12/17/2012	120.13924	115.7782469	111.6410772	107.7139997	103.9842376	100.4398924	97.06987707	93.86385527	90.81218525
121220A00023	12/20/2012	1.82	12/20/2022	12/20/2012	108.28228	106.7244891	105.1983366	103.7029151	102.2373524	100.8008092	99.39247756	98.01157929	96.6573648
130206A00004	2/6/2013	2.14	2/7/2028	2/6/2013	120.10298	115.8567346	111.8273581	108.001583	104.3670636	100.9123045	97.62659532	94.49995177	91.52306068
130207A00012	2/7/2013	2.9	2/7/2033	2/7/2013	137.13047	128.7647047	121.0916351	114.0446961	107.5643579	101.5973301	96.09585774	91.01710255	86.32259687
130624A00017	6/24/2013	3.4	6/26/2023	6/24/2013	113.61798	111.5123348	109.4604884	107.4606734	105.5111945	103.6104255	101.7568056	99.94883636	98.18507864
120827A00052	8/27/2012	2.01	8/27/2027	8/27/2012	118.29968	114.3927617	110.6795803	107.1486187	103.7891416	100.591133	97.54524333	94.64273986	91.87546133
120907A00005	9/7/2012	1.76	9/7/2022	9/7/2012	104.5822	103.7016743	102.8387868	101.9929526	101.1636112	100.3502275	99.55229043	98.76931153	98.00082375
120907A00026	9/7/2012	1.71	9/7/2022	9/7/2012	106.57984	105.3213887	104.0915159	102.8892309	101.7135863	100.563678	99.4386436	98.33765914	97.25993748
120907A00032	9/7/2012	1.86	9/9/2024	9/7/2012	114.05576	111.2563413	108.5525267	105.9403622	103.416083	100.9761057	98.61701817	96.33556988	94.12866331
121120A00010	11/20/2012	1.93	11/22/2027	11/20/2012	119.35596	115.1120936	111.0840908	107.2588396	103.6241291	100.1685787	96.88157573	93.75321861	90.77426422
121120A00011	11/20/2012	2.22	11/22/2027	11/20/2012	126.80669	120.8509303	115.2548944	109.9940056	105.0455175	100.388371	96.00305965	91.87150635	87.97695035
120410A00005	4/10/2012	2.35	4/12/2027	4/10/2012	120.7301	116.5879942	112.6412828	108.8789875	105.2908299	101.8671806	98.59901358	95.47786475	92.4957931
120614A00013	6/14/2012	1.89	6/14/2022	6/14/2012	105.44792	104.4385505	103.4507536	102.4838404	101.5371472	100.6100384	99.70190436	98.81216089	97.94024744
120614A00015	6/14/2012	1.89	6/14/2022	6/14/2012	105.44788	104.4385132	103.4507246	102.4838195	101.5371344	100.6100333	99.70190688	98.81217085	97.94026467
120621A00009	6/21/2012	3.18	6/21/2032	6/21/2012	143.97065	134.1088382	125.1519818	117.0069492	109.590922	102.8301875	96.65907914	91.01904618	85.8578359
120716A00025	7/16/2012	1.83	7/18/2022	7/17/2017	103.78383	103.0643172	102.3599229	101.6701332	100.9944528	100.3324094	99.68355165	99.04744822	98.42368681
120827A00048	8/27/2012	2.01	8/27/2027	8/27/2012	118.29967	114.392759	110.6795787	107.1486182	103.7891419	100.5911341	97.54524524	94.64274243	91.87546448
111128A00006	11/28/2011	3.03	11/28/2031	11/28/2011	134.66854	127.4165228	120.7082885	114.4963311	108.7377202	103.3936304	98.42891776	93.81174317	89.51323675

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
120119A00015	1/19/2012	2.27	1/19/2024	1/19/2012	113.52533	111.0668544	108.680053	106.3622943	104.1110609	101.923947	99.79865301	97.73297985	95.72482355
120210A00004	2/10/2012	1.98	2/10/2022	2/10/2012	104.27197	103.505407	102.7499889	102.0054717	101.2716209	100.5482085	99.83501303	99.13181932	98.43841812
120210A00005	2/10/2012	1.64	2/10/2022	2/10/2012	104.01866	103.2546896	102.5018243	101.7598231	101.0284522	100.3074845	99.59669925	98.89588191	98.20482397
120217A00007	2/17/2012	2.25	2/20/2024	2/17/2012	113.98398	111.4243582	108.9414715	106.5324034	104.194378	101.9247477	99.72098601	97.580681	95.50152887
120315A00002	3/14/2012	2.56	3/15/2027	3/14/2022	121.04749	116.9905256	113.1220847	109.4316952	105.9095448	102.5464357	99.33374179	96.26336931	93.32772045
070518A00023	5/18/2007	5.46	5/18/2027	5/18/2007	127.72572	123.9106793	120.2757733	116.8108188	113.5062834	110.3532419	107.3433343	104.4687255	101.722069
080220A00035	2/20/2008	4.65	2/22/2022	2/20/2008	106.47458	105.6712695	104.8801054	104.1008179	103.3331407	102.5768152	101.8315907	101.0972236	100.3734777
080423A00066	4/23/2008	4.41	4/24/2023	4/23/2008	112.06148	110.477346	108.9285401	107.4140114	105.9327516	104.4837894	103.0661891	101.6790491	100.3215001
110414A00007	4/14/2011	3.95	1/21/2025	4/14/2011	118.57571	115.7739839	113.0650449	110.4450914	107.910509	105.4578566	103.0838572	100.7853883	98.55947407
110824A00006	8/24/2011	2.69	8/24/2026	8/24/2011	118.01032	114.6786011	111.4907442	108.4391867	105.5168222	102.7169719	100.033356	97.46006654	94.99154267
111007A00007	10/7/2011	3.92	10/7/2031	10/7/2011	154.39115	143.2393704	133.1001731	123.8719318	115.4639064	107.7950166	100.7927588	94.39224944	88.53538084
011115A00014	11/15/2001	5.19	11/16/2021	11/15/2001	104.35504	103.8550298	103.3598261	102.8693642	102.3835758	101.9023942	101.425754	100.9535907	100.4858413
020918A00047	9/18/2002	4.72	9/19/2022	9/18/2002	107.29033	106.3850963	105.4958809	104.6222302	103.7637067	102.9198902	102.0903766	101.2747773	100.4727185
030605A00010	6/5/2003	3.97	6/5/2023	6/5/2003	108.62164	107.4232141	106.2531575	105.1105557	103.9945281	102.9042294	101.8388489	100.797608	99.77975901
050812A00050	8/12/2005	4.97	8/12/2025	8/12/2005	119.94704	117.2462576	114.6437836	112.1351427	109.7161041	107.3826625	105.1310238	102.9575924	100.8589593
050823A00085	8/23/2005	4.78	8/25/2025	8/23/2005	131.34014	126.8658858	122.5883323	118.4974749	114.5838826	110.8386649	107.2534367	103.8202862	100.5317448
050823A00088	8/23/2005	4.78	8/25/2025	8/23/2005	131.34024	126.8659656	122.5883983	118.4975279	114.5839232	110.8386938	107.2534547	103.8202938	100.5317427
970806A00018	8/1/1997	6.7	10/23/2026	8/1/1997	129.12286	125.693592	122.4037247	119.2463042	116.2147783	113.3029695	110.5050514	107.815526	105.2292028
970806A00059	8/1/1997	8.25	9/22/2025	8/1/1997	149.25014	143.8797746	138.7501148	133.8488866	129.1645135	124.6860721	120.4032513	116.3063146	112.3860648
210514A00007	5/14/2021	0.95	5/15/2028	5/14/2021	115.62577	111.4542993	107.4984696	103.7450091	100.1815711	96.79665951	93.57956454	90.5203034	87.60956585
210514A00010	5/14/2021	1.34	5/14/2031	5/14/2021	122.73872	116.5099288	110.7206915	105.3348765	100.3196402	95.64510176	91.2840542	87.21170504	83.40544429
200401A00011	4/1/2020	0.68	4/3/2023	4/1/2020	104.30775	103.272886	102.2585995	101.2642826	100.2893543	99.33325619	98.39545156	97.47542413	96.57267713
200402A00050	4/6/2020	0.73	4/5/2024	4/6/2020	106.55282	104.95553	103.3990451	101.8819735	100.4029862	98.96080979	97.55422418	96.1820594	94.84319337
200428A00018	4/28/2020	1.33	4/27/2035	4/28/2020	127.8846	119.0563665	111.0617104	103.810278	97.22241031	91.22779196	85.76427919	80.7768836	76.21688919
200521A00005	5/21/2020	0.75	5/21/2030	5/21/2020	117.75251	112.3545718	107.3049595	102.5773743	98.14772622	93.9939307	90.09572724	86.43451564	82.99320793
210409A00010	4/9/2021	1.05	4/9/2031	4/9/2021	120.77725	114.7142079	109.076683	103.8298988	98.94222706	94.38487654	90.13161718	86.15853362	82.44380382
970806A00017	8/1/1997	7.02	7/23/2026	8/1/1997	128.66852	125.4119438	122.2825096	119.2740945	116.3809186	113.5975228	110.9187488	108.33972	105.8558248
200317A00022	3/17/2020	0.97	3/17/2022	3/17/2020	102.03644	101.5906064	101.1500929	100.7147978	100.2846187	99.85945542	99.43921099	99.02379084	98.61310303
200317A00024	3/17/2020	1.09	3/17/2025	3/17/2020	109.19461	107.0526429	104.9776666	102.9670199	101.018166	99.12868803	97.29628237	95.51875241	93.79400282
200326A00037	3/26/2020	1.78	3/26/2035	3/26/2020	131.33028	122.3892662	114.2845113	106.9260609	100.2345399	94.13982166	88.57987485	83.49976266	78.85077263
200327A00004	3/27/2020	0.63	3/28/2022	3/27/2020	101.90146	101.4530358	101.0100338	100.5723427	100.1398562	99.71247115	99.29008722	98.87260689	98.4599353
200330A00010	3/30/2020	0.61	3/30/2022	3/30/2020	101.895	101.4460426	101.0025222	100.564331	100.1313623	99.70351212	99.28067951	98.86276631	98.44967706
200331A00056	3/31/2020	0.96	3/29/2030	3/31/2020	118.54332	113.2222183	108.238433	103.5669036	99.18464289	95.07054933	91.20523881	87.57089249	84.15111907

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200210A00007	2/10/2020	1.78	2/10/2025	2/10/2023	116.26098	112.8885079	109.6458592	106.5271172	103.5266765	100.6392249	97.85972554	95.18340074	92.60571677
200225A00049	2/25/2020	1.79	2/24/2040	2/25/2020	141.9478	129.0201491	117.6796146	107.7045486	98.90682414	91.12646391	84.22717084	78.09260281	72.62326174
200310A00067	3/10/2020	0.94	3/10/2025	3/10/2020	108.88565	106.7484647	104.6781278	102.6719787	100.7274857	98.84223717	97.01393415	95.2403848	93.51949835
200311A00027	3/11/2020	1.52	3/9/2035	3/11/2020	129.26334	120.4223076	112.4100801	105.1373838	98.52545265	92.50470629	87.01360454	81.9976525	77.40853587
200311A00028	3/11/2020	1.04	3/12/2024	3/11/2020	107.02066	105.4218202	103.8632882	102.343717	100.8618148	99.41634294	98.00611335	96.62998602	95.28686669
200316A00008	3/16/2020	1.31	3/15/2030	3/16/2020	119.44328	114.1256478	109.143469	104.4719146	100.0882025	95.97141365	92.10232604	88.46326504	85.03796757
191115A00029	11/15/2019	2.07	11/15/2029	11/15/2019	122.45857	117.2540205	112.3654931	107.7703832	103.4478926	99.37887104	95.54567437	91.93203484	88.52294404
191216A00013	12/16/2019	1.95	12/16/2024	12/16/2019	110.2825	108.2675122	106.312258	104.4144668	102.5719688	100.7826932	99.04466272	97.35598859	95.71486616
191231A00021	12/31/2019	1.9	2/28/2023	12/31/2019	104.61384	103.7493733	102.9009539	102.0681157	101.2504141	100.4474223	99.65872983	98.883942	98.12267907
191231A00027	12/31/2019	1.9	4/28/2023	12/31/2019	104.61383	103.7493721	102.9009532	102.0681154	101.2504144	100.4474233	99.65873151	98.88394446	98.12268237
200130A00027	1/31/2020	1.79	1/31/2025	1/31/2020	110.19971	108.1373664	106.1373131	104.1971413	102.3145546	100.4873626	98.71347522	96.99089742	95.31772396
200203A00046	2/3/2020	1.98	2/3/2040	2/3/2020	144.06276	130.9975575	119.5327632	109.4451974	100.5453977	92.67222019	85.68834779	79.47654471	73.93652859
190628A00007	6/28/2019	2.28	6/28/2034	6/28/2019	135.03171	126.3434475	118.427762	111.2053954	104.6059978	98.56705757	93.03296585	87.95419793	83.28659819
190813A00019	8/13/2019	2.13	8/13/2021	8/13/2019	100.72777	100.603281	100.479234	100.3556266	100.2324564	100.1097208	99.98741737	99.86554363	99.74409713
190823A00009	8/23/2019	1.8	8/23/2029	8/23/2019	121.45422	116.4058129	111.6572917	107.1876489	102.9775244	99.00906317	95.26578685	91.73247816	88.3950751
191114A00012	11/14/2019	1.89	11/15/2021	11/14/2019	101.45959	101.1960621	100.9344424	100.6747046	100.4168265	100.160786	99.90656148	99.65413165	99.40347558
191114A00013	11/14/2019	1.9	11/14/2022	11/14/2019	104.36473	103.5481266	102.7464044	101.9591348	101.1859081	100.4263307	99.68002422	98.94662471	98.22578208
191114A00014	11/14/2019	1.9	11/14/2023	11/14/2019	107.19522	105.8197028	104.4758883	103.1627705	101.8793831	100.624799	99.39812793	98.19851461	97.02513734
190102A00024	1/2/2019	2.97	1/3/2034	1/2/2019	139.09686	130.508906	122.6589738	115.4736472	108.8875323	102.8423162	97.28594375	92.17189522	87.45855311
190327A00030	3/27/2019	2.9	3/27/2036	3/27/2019	142.74611	132.5670904	123.3904757	115.1025994	107.6038771	100.8069474	94.6350684	89.02073627	83.90449299
190520A00020	5/20/2019	2.39	5/20/2026	5/20/2019	115.59805	112.6683089	109.8518072	107.143161	104.537285	102.0293727	99.61487846	97.28950214	95.0491737
190604A00010	6/4/2019	2.45	6/4/2021	6/4/2019	100.08613	100.0721883	100.0582632	100.0443519	100.0304545	100.0165709	100.0027011	99.98884506	99.97500279
190618A00009	6/18/2019	2.34	6/18/2021	6/18/2019	100.20343	100.1699405	100.1364983	100.1031014	100.0697498	100.0364433	100.0031819	99.96996547	99.93679394
190627A00020	6/27/2019	2.28	6/25/2021	6/27/2019	100.26017	100.2169077	100.1737099	100.1305787	100.0875142	100.0445161	100.0015843	99.95871869	99.91591907
181029A00097	10/29/2018	3.53	10/27/2028	10/29/2018	139.13973	131.5057371	124.4000202	117.7819567	111.6142901	105.8628364	100.4962141	95.48559929	90.80450339
181211A00042	12/11/2018	3.7	12/11/2028	12/11/2023	141.64561	133.5908798	126.1026166	119.1365262	112.6520529	106.612042	100.9824346	95.73199319	90.83205216
181220A00006	12/20/2018	2.93	12/20/2022	12/20/2018	105.45862	104.5906583	103.7387643	102.9024775	102.081354	101.274967	100.4829063	99.70477751	98.94020092
190102A00015	1/2/2019	2.97	1/3/2034	1/2/2019	139.09722	130.5091649	122.6591414	115.473737	108.8875562	102.8422844	97.28586491	92.17177679	87.45840153
190102A00020	1/2/2019	2.97	1/3/2034	1/2/2019	139.09694	130.5089656	122.6590108	115.4736653	108.8875348	102.8423059	97.28592287	92.17186574	87.4585167
190102A00022	1/2/2019	2.97	1/3/2034	1/2/2019	139.09675	130.5088323	122.6589257	115.4736207	108.8875243	102.842324	97.28596486	92.17192757	87.45859494
180126A00018	1/26/2018	2.34	1/26/2023	1/26/2018	105.35148	104.4371446	103.5400748	102.6597659	101.7957357	100.947521	100.1146766	99.29677473	98.4934036
180529A00057	5/29/2018	3.09	5/30/2028	5/29/2018	128.13725	122.7681496	117.7138404	112.9528505	108.4653289	104.2329158	100.2386205	96.46671064	92.90261105
180716A00046	7/16/2018	2.9	7/16/2025	7/16/2018	114.04534	111.6820202	109.3962252	107.1847489	105.0445415	102.9727017	100.9664686	99.02321373	97.14043385

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180725A00034	7/25/2018	2.79	7/25/2022	7/25/2018	104.0456	103.4048231	102.7747636	102.155122	101.5456113	100.9459553	100.3558886	99.77515581	99.20351098
180725A00035	7/25/2018	2.85	7/25/2023	7/25/2018	107.51018	106.3104222	105.1361497	103.9865835	102.8609787	101.7586201	100.6788203	99.62091893	98.58428084
180928A00077	9/28/2018	2.85	9/28/2021	9/28/2018	101.18807	101.0076863	100.8282323	100.6497026	100.4720894	100.2953847	100.119581	99.94467055	99.77064589
170612A00024	6/12/2017	1.72	6/13/2022	6/12/2017	103.13628	102.5486952	101.9701897	101.4005266	100.8394814	100.2868373	99.74238525	99.20592356	98.67725745
170616A00003	6/16/2017	1.91	6/17/2024	6/16/2017	109.08875	107.3651831	105.6874661	104.0539873	102.4632085	100.9136577	99.40392518	97.93266104	96.49857168
170705A00028	7/5/2017	1.86	7/6/2021	7/5/2017	100.39048	100.3205953	100.2508502	100.1812468	100.1117846	100.0424631	99.97328205	99.90424085	99.83533911
170705A00029	7/5/2017	1.98	7/5/2022	7/5/2017	103.44653	102.8139891	102.1918904	101.5799513	100.9778964	100.3854608	99.80238937	99.22843659	98.6633659
170929A00046	9/29/2017	2.49	9/30/2027	9/29/2017	119.03181	115.2447771	111.6357691	108.1947135	104.9121873	101.7793701	98.7880009	95.93033889	93.1991269
171206A00020	12/6/2017	2.62	12/6/2027	12/6/2017	120.14257	116.1791833	112.4081817	108.8183566	105.3992446	102.1410689	99.03468922	96.07155582	93.24366744
170130A00039	1/30/2017	2.74	1/31/2028	1/30/2017	121.31611	117.1430463	113.1802651	109.4150609	105.8355962	102.4308396	99.19050409	96.10499211	93.16534385
170130A00043	1/30/2017	2.64	1/29/2027	1/30/2017	118.2454	114.7547318	111.4180389	108.227058	105.1740401	102.2517101	99.45323448	96.77219118	94.20254175
170130A00046	1/30/2017	2.52	1/30/2026	1/30/2017	115.07635	112.24615	109.5229931	106.9018501	104.377972	101.9468687	99.60429335	97.34622707	95.16886489
170313A00041	3/13/2017	3.21	3/15/2032	3/13/2017	134.50524	127.3933457	120.8118672	114.7146649	109.0600328	103.8102425	98.93113334	94.39174759	90.16400548
170315A00005	3/15/2017	2.1	3/15/2022	3/15/2017	102.52356	102.0765984	101.6349556	101.1985294	100.7672175	100.3409204	99.91954114	99.50298566	99.09116226
170530A00019	5/30/2017	1.58	6/1/2021	5/30/2017	100.05276	100.0430094	100.0332651	100.02353	100.0138041	100.0040873	99.99437973	99.98468128	99.97499195
160928A00041	9/28/2016	3.26	9/29/2036	9/30/2019	148.32132	137.1213387	127.0814764	118.0635033	109.947152	102.6276324	96.01350644	90.02487082	84.59180013
160928A00042	9/28/2016	3.05	9/29/2036	9/28/2021	146.39445	135.3084442	125.3728789	116.4505156	108.4219653	101.183216	94.6435201	88.72358799	83.3540403
160928A00044	9/28/2016	2.89	9/29/2036	9/28/2023	144.92636	133.9271913	124.0710904	115.2215726	107.2599183	100.0827082	93.59972098	87.73213441	82.41098518
160930A00032	9/30/2016	2.15	9/30/2031	9/30/2016	126.93601	120.4294473	114.3917522	108.7835367	103.5690698	98.71591414	94.19459777	89.97832066	86.04269243
160930A00033	9/30/2016	1.8	9/30/2026	9/30/2016	114.35476	111.2618148	108.2949927	105.4480165	102.7149673	100.0902635	97.56863974	95.14512607	92.81502979
170130A00036	1/30/2017	3.11	1/31/2033	1/30/2017	136.6354	128.7262937	121.4569746	114.7672891	108.6033182	102.9166802	97.66391838	92.80596012	88.30763981
150601A01048	6/1/2015	5.27	1/3/2025	6/1/2015	130.86865	126.7731767	122.8374165	119.0541264	115.4164428	111.9178552	108.5521854	105.3135684	102.1964342
150601A01051	6/1/2015	4.91	2/7/2025	6/1/2015	130.28292	126.0944014	122.0728989	118.210662	114.5003549	110.9350295	107.5081014	104.2133289	101.0447924
160928A00029	9/28/2016	2.52	9/29/2036	9/28/2016	141.53139	130.7330439	121.0607043	112.3796419	104.5726845	97.537784	91.18593552	85.439398	80.23017023
160928A00030	9/28/2016	2.52	9/29/2036	9/28/2016	141.53139	130.7330439	121.0607043	112.3796419	104.5726845	97.537784	91.18593552	85.439398	80.23017023
160928A00032	9/28/2016	2.52	9/29/2036	9/28/2016	141.53139	130.7330439	121.0607043	112.3796419	104.5726845	97.537784	91.18593552	85.439398	80.23017023
160928A00033	9/28/2016	2.46	9/29/2036	9/28/2016	140.98086	130.215074	120.5725336	111.9187882	104.1369169	97.12509358	90.79451085	85.0676029	79.87652456
150601A01013	6/1/2015	5.21	9/29/2023	6/1/2015	120.54041	117.9803661	115.4907825	113.0693021	110.7136621	108.4216887	106.191293	104.0204673	101.9072813
150601A01015	6/1/2015	5.61	10/28/2025	6/1/2015	137.68643	132.6376635	127.8196057	123.2202808	118.8284058	114.6333436	110.6250627	106.7940993	103.1315222
150601A01016	6/1/2015	5.73	10/28/2025	6/1/2015	138.19837	133.1382457	128.309215	123.6992928	119.2971797	115.0922235	111.074378	107.2341658	103.5626423
150601A01040	6/1/2015	5.4	10/2/2026	6/1/2015	143.3542	137.1444932	131.2669765	125.701752	120.4302271	115.4350197	110.699873	106.2095768	101.9498945
150601A01041	6/1/2015	5.99	10/2/2036	6/1/2015	183.28028	168.8756365	155.9809154	144.4162263	134.0249359	124.6704707	116.2335842	108.6100146	101.7084762
150601A01047	6/1/2015	5.35	12/30/2024	6/1/2015	131.06971	126.9823083	123.0538815	119.2772457	115.645586	112.1524367	108.7916611	105.5574329	102.4442179

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00994	6/1/2015	5.86	6/24/2022	6/1/2015	110.41517	109.241324	108.0930674	106.969566	105.8700201	104.7936643	103.7397656	102.7076214	101.6965587
150601A00997	6/1/2015	5.46	9/30/2022	6/1/2015	112.29109	110.8664662	109.4678433	108.0945643	106.7459915	105.4215081	104.1205175	102.8424427	101.5867248
150601A01005	6/1/2015	5.82	3/10/2025	6/1/2015	133.64798	129.3767932	125.2774164	121.3418238	117.5624154	113.9319938	110.4437395	107.0911887	103.8682122
150601A01008	6/1/2015	5.08	4/15/2025	6/1/2015	117.43455	115.150505	112.9379227	110.7939557	108.7158926	106.7011502	104.7472667	102.8518945	101.0127948
150601A01011	6/1/2015	5.05	9/8/2025	6/1/2015	119.08646	116.5408371	114.0811599	111.7037814	109.4052359	107.1822308	105.0316361	102.9504756	100.935918
150601A01012	6/1/2015	5.43	9/15/2023	6/1/2015	120.72223	118.1999368	115.7463941	113.3592536	111.0362696	108.7752894	106.5742486	104.4311669	102.3441439
150601A00966	6/1/2015	4.84	2/3/2023	6/1/2015	107.57257	106.6327574	105.7107251	104.8059566	103.9179541	103.0462397	102.1903541	101.3498557	100.5243199
150601A00971	6/1/2015	6.42	6/20/2033	6/1/2015	168.3269	157.7161861	148.0066485	139.1106236	130.9497741	123.454023	116.5606205	110.2133225	104.3616664
150601A00976	6/1/2015	6.8	9/22/2033	6/1/2015	172.22104	161.4255307	151.5527396	142.5119548	134.2222332	126.6112723	119.6144213	113.1738114	107.2375914
150601A00978	6/1/2015	6.32	11/24/2033	6/1/2015	161.98839	152.5205645	143.838587	135.8662996	128.5356892	121.7859507	115.5626645	109.8170733	104.5054455
150601A00988	6/1/2015	4.57	3/22/2024	6/1/2015	111.97782	110.3774715	108.816873	107.2946898	105.8096463	104.3605205	102.9461407	101.5653834	100.2171709
150601A00993	6/1/2015	5.37	6/9/2034	6/1/2015	164.71673	153.5865533	143.4676758	134.2550814	125.8556487	118.1867119	111.1748053	104.7545684	98.86778728
150601A00950	6/1/2015	6.76	12/18/2031	6/1/2015	162.20976	153.3459928	145.1453356	137.5504677	130.5095256	123.9755413	117.905944	112.262116	107.0089966
150601A00952	6/1/2015	6.34	2/13/2032	6/1/2015	161.39519	152.2744718	143.8519819	136.066224	128.8616475	122.1880317	115.9999357	110.2562084	104.9195523
150601A00953	6/1/2015	6.6	6/10/2032	6/1/2015	165.52123	155.8834681	147.0040403	138.8143999	131.2527986	124.2635586	117.796432	111.806031	106.2513216
150601A00955	6/1/2015	5.84	7/15/2032	6/1/2015	152.5397	144.4812468	137.0299662	130.132263	123.739786	117.8088695	112.3000428	107.1775941	102.4091827
150601A00960	6/1/2015	6.49	12/16/2032	6/1/2015	158.63215	150.0196301	142.0746124	134.7364995	127.9507837	121.6683862	115.8450727	110.4409364	105.4199401
150601A00964	6/1/2015	5.25	1/6/2033	6/1/2015	150.80656	142.4701216	134.7872988	127.6982304	121.149117	115.0915564	109.4819588	104.2810308	99.4533169
150601A00935	6/1/2015	6.46	11/21/2030	6/1/2015	154.05401	146.433183	139.331548	132.7080488	126.5252163	120.7488327	115.3476266	110.2929976	105.5587693
150601A00939	6/1/2015	5.79	1/17/2031	6/1/2015	149.99698	142.5123205	135.5435509	129.0493746	122.9921469	117.3375299	112.0541775	107.1134538	102.4891783
150601A00943	6/1/2015	6.44	5/9/2031	6/1/2015	157.28081	149.0481314	141.4043692	134.3008149	127.6932047	121.5412788	115.8083905	110.4611557	105.4691386
150601A00946	6/1/2015	6.28	8/22/2031	6/1/2015	157.83783	149.3429389	141.4705058	134.1679049	127.3874054	121.0856837	115.2233851	109.7647309	104.6771676
150601A00947	6/1/2015	6.19	8/20/2021	6/1/2015	102.31168	102.0747951	101.8390252	101.6043629	101.3708004	101.1383299	100.9069436	100.676634	100.4473934
150601A00948	6/1/2015	6.04	10/22/2031	6/1/2015	149.33512	141.972992	135.1319161	128.7685393	122.8435122	117.3210923	112.1687854	107.357026	102.85889
150601A00918	6/1/2015	5.62	4/28/2025	6/1/2015	119.66238	117.2494768	114.9129805	112.6498291	110.4571067	108.3320357	106.2719696	104.2743851	102.3368765
150601A00919	6/1/2015	7.41	6/7/2030	6/1/2015	157.56735	150.1212786	143.1620585	136.652633	130.5590699	124.8502786	119.4977517	114.4753322	109.7590028
150601A00927	6/1/2015	6.08	8/7/2030	6/1/2015	145.10498	138.7053097	132.7139204	127.100023	121.8354223	116.8942783	112.2528924	107.8895134	103.7841628
150601A00928	6/1/2015	5.94	8/21/2030	6/1/2015	144.56308	138.1545195	132.1565255	126.538023	121.2705613	116.3280743	111.6866634	107.3244007	103.2211518
150601A00929	6/1/2015	5.91	8/30/2030	6/1/2015	149.67401	142.3799061	135.5754143	129.2223673	123.2858886	117.7340871	112.5377811	107.6702479	103.1069996
150601A00931	6/1/2015	7.13	9/20/2030	6/1/2015	157.39179	149.7499573	142.6202089	135.9626556	129.7408511	123.9214677	118.4740072	113.3705403	108.5854716
150601A00897	6/1/2015	6.15	5/28/2029	6/1/2015	143.64984	137.6578116	132.0159256	126.7001677	121.6883671	116.9600374	112.4962374	108.2794435	104.2934336
150601A00899	6/1/2015	7.07	6/14/2029	6/1/2015	143.30884	137.7967655	132.5962245	127.686217	123.0473352	118.6616322	114.5125011	110.5845654	106.8635787
150601A00900	6/1/2015	6.06	6/28/2024	6/1/2015	116.10271	114.2646557	112.475087	110.7323126	109.0347178	107.3807569	105.7689498	104.197878	102.6661824

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00905	6/1/2015	6.14	10/29/2029	6/1/2015	145.96086	139.5495165	133.5303772	127.8753908	122.5587369	117.556635	112.8471697	108.4101307	104.2268687
150601A00906	6/1/2015	6.2	11/1/2029	6/1/2015	146.70648	140.2070418	134.1083359	128.381486	122.9999318	117.9392266	113.1768532	108.6920589	104.4657044
150601A00912	6/1/2015	5.96	11/30/2029	6/1/2015	145.50295	139.0349927	132.966622	127.2690018	121.9156123	116.8820454	112.1458229	107.6862294	103.4841621
150601A00872	6/1/2015	7.42	7/31/2028	6/1/2015	144.83049	139.4427236	134.3398618	129.5040635	124.9187474	120.5684919	116.4389454	112.5167447	108.7894404
150601A00875	6/1/2015	7.14	9/29/2028	6/1/2015	144.9234	139.3676533	134.1127059	129.1393343	124.4296922	119.967205	115.7364695	111.7231634	107.913962
150601A00883	6/1/2015	6.21	11/30/2028	6/1/2015	141.11309	135.6027893	130.396328	125.4739519	120.8173444	116.4095145	112.2346915	108.2782289	104.5265166
150601A00888	6/1/2015	5.92	3/1/2029	6/1/2015	141.3576	135.6052901	130.1821977	125.0661619	120.2366935	115.674834	111.3630311	107.2850239	103.4257394
150601A00889	6/1/2015	6.55	3/2/2029	6/1/2015	145.55685	139.5312889	133.8533318	128.4994714	123.4479743	118.6787363	114.173149	109.9139785	105.8852537
150601A00893	6/1/2015	6.49	4/6/2029	6/1/2015	145.27734	139.2491817	133.5707355	128.2181984	123.1695782	118.4045419	113.9042788	109.6513762	105.6297052
150601A00848	6/1/2015	6.36	2/18/2022	6/1/2015	103.8641	103.4656213	103.0713602	102.6812376	102.2951809	101.9131193	101.5349837	101.1607068	100.7902226
150601A00851	6/1/2015	7.12	4/30/2027	6/1/2015	136.05543	131.8305484	127.7966844	123.943453	120.2611143	116.7405283	113.3731131	110.1508072	107.0660343
150601A00864	6/1/2015	7.37	3/31/2028	6/1/2015	143.16448	138.0077619	133.1156283	128.4719704	124.0617863	119.8710967	115.8868677	112.09694	108.4899648
150601A00865	6/1/2015	6	4/3/2028	6/1/2015	133.92527	129.4460027	125.1890824	121.1412366	117.290091	113.6241035	110.1325023	106.8052289	103.6328861
150601A00868	6/1/2015	7.08	6/5/2028	6/1/2015	143.0328	137.7401753	132.7252983	127.9709131	123.4609747	119.1805509	115.1157378	111.2535818	107.5820079
150601A00871	6/1/2015	6.74	7/31/2028	6/1/2015	142.33445	136.9627147	131.8769264	127.0591141	122.4925728	118.1617687	114.0522488	110.1505582	106.4441646
150601A00732	6/1/2015	1.91	4/29/2022	6/1/2015	102.74351	102.2372098	101.7377084	101.2448551	100.7585023	100.2785072	99.8047312	99.33704008	98.87530367
150601A00736	6/1/2015	2.87	5/1/2030	6/1/2015	127.19484	121.5715598	116.3033777	111.363908	106.7289518	102.376299	98.28554978	94.43795453	90.8162678
150601A00739	6/1/2015	2.35	5/6/2025	6/1/2015	112.01432	109.7724449	107.6019584	105.4999846	103.4637821	101.4907399	99.57837081	97.72430448	95.92628092
150601A00772	6/1/2015	1.84	5/13/2022	6/1/2015	102.78523	102.2640601	101.7500847	101.2431402	100.7430663	100.2497077	99.76291421	99.28254017	98.80844458
150601A00832	6/1/2015	7.17	8/28/2025	6/1/2015	123.72137	121.1236267	118.6126676	116.1848399	113.8366689	111.5648522	109.3662499	107.2378753	105.1768864
150601A00847	6/1/2015	6.59	1/31/2022	6/1/2015	106.86117	106.1606455	105.4696751	104.788058	104.1156033	103.4521253	102.7974435	102.151382	101.5137696
150601A00558	6/1/2015	2.51	8/30/2024	6/1/2015	110.31414	108.4806004	106.6976983	104.963603	103.2765658	101.6349149	100.0370515	98.4814458	96.96663371
150601A00624	6/1/2015	2.48	12/8/2021	6/1/2015	103.39987	102.8412317	102.2886543	101.7420413	101.2012962	100.6663248	100.1370346	99.61333524	99.09513833
150601A00660	6/1/2015	2.26	1/5/2022	6/1/2015	103.76195	103.1196965	102.4854284	101.8589927	101.2402448	100.6290435	100.0252511	99.42873312	98.83935848
150601A00678	6/1/2015	2.12	1/30/2025	6/1/2015	110.84307	108.7611697	106.7423222	104.7840818	102.8841187	101.0402113	99.2502396	97.51218023	95.82410116
150601A00690	6/1/2015	2.34	2/28/2025	6/1/2015	111.42666	109.3059933	107.2502555	105.2569029	103.3235149	101.4477836	99.62750823	97.86058887	96.14502128
150601A00714	6/1/2015	1.67	4/1/2022	6/1/2015	102.40643	101.9444872	101.4882408	101.0375785	100.5923861	100.1525531	99.7179717	99.28853746	98.86414872
150601A00526	6/1/2015	2	7/28/2021	6/1/2015	100.51198	100.4220933	100.3324533	100.2430587	100.1539086	100.0650017	99.97633713	99.88791373	99.79973049
150601A00527	6/1/2015	2.5	7/26/2024	6/1/2015	110.00083	108.2257935	106.4987105	104.8178811	103.1816774	101.5885417	100.0369834	98.52557526	97.05295045
150601A00529	6/1/2015	2.08	7/28/2021	6/1/2015	100.30738	100.2542964	100.2013143	100.1484291	100.0956403	100.0429479	99.99035136	99.93785058	99.88544524
150601A00543	6/1/2015	2.23	8/8/2024	6/1/2015	109.89787	108.1020599	106.3552143	104.6555815	103.001487	101.3913295	99.82357662	98.2967621	96.8094818
150601A00555	6/1/2015	2.13	9/2/2021	6/1/2015	100.90041	100.7452164	100.5907034	100.436866	100.2836994	100.1311987	99.97935924	99.82817634	99.67764533
150601A00557	6/1/2015	2.03	9/2/2021	6/1/2015	100.81307	100.6706449	100.5288116	100.3875683	100.246911	100.1068357	99.96733834	99.828415	99.69006177

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00477	6/1/2015	3.21	6/1/2029	6/1/2015	131.11173	125.1701626	119.5898399	114.3453435	109.413239	104.7719071	100.4013909	96.28325663	92.40046709
150601A00492	6/1/2015	1.92	6/25/2021	6/1/2015	100.24141	100.1985309	100.155717	100.1129682	100.0702843	100.0276653	99.98511099	99.94262123	99.90019587
150601A00496	6/1/2015	2.27	6/27/2024	6/1/2015	109.62302	107.8942859	106.2114781	104.5729905	102.9772828	101.4228805	99.90837225	98.43240588	96.99368596
150601A00505	6/1/2015	2.07	7/8/2021	6/1/2015	100.37759	100.3121541	100.2468537	100.1816855	100.1166489	100.0517436	99.98696922	99.92232526	99.85781134
150601A00508	6/1/2015	1.97	7/8/2021	6/1/2015	100.34124	100.2811014	100.221079	100.1611736	100.1013848	100.0417123	99.9821556	99.92271449	99.86338857
150601A00509	6/1/2015	2.52	7/8/2024	6/1/2015	109.8692	108.1258825	106.429093	104.7771919	103.1686143	101.6018625	100.0755024	98.58816086	97.13852213
150601A00425	6/1/2015	2.64	2/21/2024	6/1/2015	108.87775	107.3552729	105.8699715	104.4206165	103.0060283	101.6250763	100.2766763	98.95978811	97.67341382
150601A00426	6/1/2015	3.37	2/21/2029	6/1/2015	126.12927	121.2989138	116.736982	112.4257501	108.3488126	104.4909722	100.8381427	97.37725898	94.0961965
150601A00448	6/1/2015	2.61	4/26/2024	6/1/2015	109.40842	107.7790085	106.1911388	104.6434015	103.1344429	101.6629664	100.2277294	98.82754039	97.46125691
150601A00459	6/1/2015	2.42	5/16/2024	6/1/2015	109.26635	107.6112934	105.9989332	104.4278088	102.8965182	101.4037185	99.94812305	98.52849869	97.14366288
150601A00473	6/1/2015	2.22	5/31/2024	6/1/2015	109.33374	107.6472938	106.0049444	104.4051617	102.8464837	101.3275106	99.84690172	98.40337239	96.99569127
150601A00475	6/1/2015	3.04	6/1/2029	6/1/2015	125.50061	120.5132489	115.8120439	111.3775442	107.1917829	103.2381525	99.50129168	95.96698321	92.62206039
150601A00270	6/1/2015	3.12	3/21/2031	6/1/2015	150.45854	139.1536555	128.8720389	119.5130115	110.9864017	103.2113961	96.11551818	89.63372463	83.70760306
150601A00390	6/1/2015	2.39	5/20/2022	6/1/2015	103.33403	102.7695057	102.2145932	101.669027	101.1325552	100.6049355	100.0859342	99.57532622	99.07289472
150601A00395	6/1/2015	2.86	1/3/2024	6/1/2015	108.73803	107.2931502	105.8823834	104.5046237	103.1588145	101.8439423	100.5590342	99.30315652	98.07541219
150601A00396	6/1/2015	3.61	1/3/2029	6/1/2015	126.7148	121.9557512	117.4568146	113.2010712	109.1728435	105.357593	101.7418289	98.31302544	95.059546
150601A00410	6/1/2015	2.68	1/24/2024	6/1/2015	108.67486	107.1994402	105.7593438	104.3534154	102.9805506	101.6396899	100.3298172	99.04995695	97.79917274
150601A00411	6/1/2015	3.38	1/24/2029	6/1/2015	125.93036	121.1567247	116.6459467	112.3808153	108.3453911	104.5248993	100.9056365	97.4748854	94.22083656
150601A00030	6/1/2015	5.28	11/26/2027	6/1/2015	150.08692	142.3933835	135.185036	128.4279087	122.0906117	116.1441217	110.5615908	105.3181717	100.3908578
150601A00033	6/1/2015	5.96	12/24/2025	6/1/2015	141.25519	135.8492202	130.6989114	125.7905441	121.1112214	116.6488108	112.391894	108.3297212	104.4521676
150601A00035	6/1/2015	5.73	4/1/2038	6/1/2015	176.78719	163.1274339	150.9407238	140.043484	130.2771533	121.5045497	113.6067911	106.4806831	100.0365002
150601A00038	6/1/2015	5.77	6/2/2023	6/1/2015	119.16458	116.9365814	114.7640745	112.6452991	110.5785607	108.5622313	106.594746	104.6746001	102.8003463
150601A00165	6/1/2015	2.66	6/4/2032	6/1/2015	132.41069	125.2094698	118.5571314	112.4050034	106.7091817	101.4300224	96.53169569	91.98179004	87.75095931
150601A00261	6/1/2015	3.19	2/11/2033	6/1/2015	153.03543	140.9123199	129.9976296	120.1584694	111.2775464	103.2512356	95.98790236	89.40644051	83.43499642
150601A00011	6/1/2015	5.17	8/3/2022	6/1/2015	110.75886	109.4488284	108.1704144	106.9224735	105.7039195	104.5137174	103.3508807	102.2144678	101.1035804
150601A00018	6/1/2015	4.91	9/5/2025	6/1/2015	134.41112	129.4986199	124.8067351	120.3241465	116.0401908	111.9448156	108.0285398	104.2824177	100.6980053
150601A00019	6/1/2015	5.64	10/3/2022	6/1/2015	112.72613	111.2766621	109.8537951	108.4568557	107.0851889	105.7381613	104.4151604	103.1155933	101.8388866
150601A00022	6/1/2015	5.43	10/26/2037	6/1/2015	172.07455	159.035503	147.3745698	136.9234395	127.5362842	119.0865527	111.4642471	104.5736062	98.33112939
150601A00023	6/1/2015	5.46	10/30/2037	6/1/2015	183.72641	168.1616242	154.3397344	142.0399053	131.0715682	121.2700227	112.4927103	104.6160506	97.53275285
150601A00024	6/1/2015	5.58	11/8/2022	6/1/2015	113.55378	111.9912743	110.4593214	108.9570938	107.4837931	106.0386491	104.6209183	103.2298833	101.8648511
140414A00009	4/14/2014	2.32	4/30/2024	4/14/2014	112.18636	109.9971782	107.8701683	105.8031102	103.7938782	101.8404363	99.94083432	98.09320372	96.29575335
140911A00033	9/11/2014	3.02	9/13/2027	9/11/2014	125.77644	120.7721089	116.0427035	111.5706747	107.3397153	103.3346648	99.54142238	95.94686574	92.53877719
141124A00024	11/24/2014	2.27	11/30/2021	11/24/2014	103.21962	102.6730177	102.1321074	101.5968055	101.0670251	100.5426812	100.0236906	99.50997164	99.00144447

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
141126A00006	11/26/2014	2.41	11/30/2021	11/26/2014	103.25083	102.7041476	102.1631549	101.6277645	101.0978899	100.5734465	100.054351	99.54052215	99.03188022
150601A00001	6/1/2015	5.43	6/15/2037	6/1/2015	181.34505	166.3210095	152.9445894	141.0111603	130.3435997	120.7883725	112.2121951	104.4991952	97.5484894
150601A00005	6/1/2015	4.84	6/9/2025	6/1/2015	132.42985	127.8248038	123.4172627	119.1975456	115.1565	111.2854742	107.5762862	104.0211958	100.6128776
130624A00019	6/24/2013	3.4	6/26/2023	6/24/2013	113.6161	111.5104861	109.4586703	107.4588851	105.5094353	103.6086947	101.7551025	99.94716029	98.18342897
130913A00018	9/13/2013	3.72	9/13/2028	9/13/2013	127.74201	122.8376962	118.2050065	113.8260767	109.6843621	105.7645289	102.0523572	98.53465218	95.19916332
130925A00035	9/25/2013	1.53	6/25/2025	9/25/2013	111.22803	108.8243508	106.5071292	104.2725304	102.1169194	100.0368484	98.0290456	96.09040509	94.21797724
140311A00039	3/11/2014	3.06	3/11/2024	3/11/2014	116.86492	114.0542765	111.3305392	108.6904252	106.1308009	103.6486729	101.241181	98.90559085	96.63928769
140314A00026	3/14/2014	2.99	3/14/2024	3/14/2019	118.10726	115.106995	112.2017105	109.3877818	106.6617503	104.0203125	101.4603119	98.97873129	96.57268563
140325A00012	3/25/2014	3.61	3/26/2029	3/25/2019	130.62754	125.036765	119.7745359	114.8181076	110.1464907	105.7403068	101.5816538	97.6539834	93.94198913
121214A00014	12/14/2012	2.16	12/14/2027	12/14/2017	120.56295	116.2320284	112.1231156	108.2226089	104.5178512	100.9970538	97.6492313	94.46414106	91.43222784
121217A00009	12/17/2012	2.02	12/17/2027	12/17/2012	120.13575	115.7749744	111.638007	107.711119	103.9815345	100.4373559	97.06749671	93.86162146	90.81008901
121220A00023	12/20/2012	1.82	12/20/2022	12/20/2012	108.2827	106.7249034	105.1987446	103.7033169	102.2377482	100.8011991	99.39286168	98.01195778	96.65773778
130206A00004	2/6/2013	2.14	2/7/2028	2/6/2013	120.09921	115.8531722	111.8239878	107.9983931	104.3640433	100.9094435	97.62388426	94.49738177	91.52062348
130207A00012	2/7/2013	2.9	2/7/2033	2/7/2013	137.12697	128.7615506	121.0887986	114.0421447	107.5620627	101.5952654	96.09400062	91.01543242	86.32109536
130624A00017	6/24/2013	3.4	6/26/2023	6/24/2013	113.6161	111.5104861	109.4586703	107.4588851	105.5094353	103.6086947	101.7551025	99.94716029	98.18342897
120827A00052	8/27/2012	2.01	8/27/2027	8/27/2012	118.29461	114.3879174	110.6749415	107.1441742	103.7848807	100.587046	97.54132094	94.63897336	91.87184258
120907A00005	9/7/2012	1.76	9/7/2022	9/7/2012	104.58215	103.7016215	102.8387344	101.9929007	101.1635597	100.3501765	99.55223985	98.76926139	98.00077405
120907A00026	9/7/2012	1.71	9/7/2022	9/7/2012	106.57981	105.3213582	104.0914858	102.8892013	101.713557	100.5636491	99.43861506	98.33763097	97.25990966
120907A00032	9/7/2012	1.86	9/9/2024	9/7/2012	114.04549	111.2462792	108.5426704	105.9307055	103.4066203	100.9668313	98.60792664	96.32665609	94.11992228
121120A00010	11/20/2012	1.93	11/22/2027	11/20/2012	119.35185	115.1081998	111.0803991	107.2553379	103.6208062	100.1654241	96.87857957	93.75037175	90.77155581
121120A00011	11/20/2012	2.22	11/22/2027	11/20/2012	126.80439	120.8488551	115.2530285	109.9923323	105.0440213	100.3870378	96.00187643	91.870461	87.97603176
120410A00005	4/10/2012	2.35	4/12/2027	4/10/2012	120.72719	116.5852647	112.6387198	108.8765811	105.2885711	101.8650607	98.5970246	95.4759991	92.49404369
120614A00013	6/14/2012	1.89	6/14/2022	6/14/2012	105.44792	104.4385488	103.4507519	102.4838387	101.5371457	100.6100368	99.70190285	98.81215942	97.94024599
120614A00015	6/14/2012	1.89	6/14/2022	6/14/2012	105.44788	104.4385115	103.4507229	102.4838179	101.5371328	100.6100317	99.70190537	98.81216937	97.94026322
120621A00009	6/21/2012	3.18	6/21/2032	6/21/2012	143.96129	134.1001613	125.1439209	116.9994462	109.583925	102.8236501	96.65295976	91.01330761	85.85244474
120716A00025	7/16/2012	1.83	7/18/2022	7/17/2017	103.78384	103.0643248	102.3599305	101.6701407	100.9944604	100.332417	99.68355917	99.04745573	98.42369432
120827A00048	8/27/2012	2.01	8/27/2027	8/27/2012	118.29461	114.3879146	110.6749399	107.1441736	103.7848811	100.5870472	97.54132285	94.63897593	91.87184573
111128A00006	11/28/2011	3.03	11/28/2031	11/28/2011	134.66616	127.4143088	120.7062307	114.494415	108.7359329	103.3919602	98.42735412	93.81027664	89.51185877
120119A00015	1/19/2012	2.27	1/19/2024	1/19/2012	113.53219	111.0735758	108.6866399	106.3687506	104.1173903	101.930153	99.80473912	97.73894938	95.73067969
120210A00004	2/10/2012	1.98	2/10/2022	2/10/2012	104.27196	103.5054006	102.7499826	102.0054655	101.2716147	100.5482024	99.83500706	99.13181344	98.43841232
120210A00005	2/10/2012	1.64	2/10/2022	2/10/2012	104.01865	103.2546832	102.501818	101.7598169	101.0284461	100.3074785	99.59669331	98.89587605	98.20481819
120217A00007	2/17/2012	2.25	2/20/2024	2/17/2012	113.99156	111.431785	108.9487407	106.5395197	104.201346	101.9315717	99.72767036	97.58722971	95.50794585
120315A00002	3/14/2012	2.56	3/15/2027	3/14/2022	121.04495	116.9881518	113.1198709	109.4296318	105.907623	102.5446471	99.33207852	96.26182406	93.32628632

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
070518A00023	5/18/2007	5.46	5/18/2027	5/18/2007	127.72194	123.9070839	120.2723566	116.8075708	113.5031945	110.3503035	107.3405381	104.4660636	101.7195342
080220A00035	2/20/2008	4.65	2/22/2022	2/20/2008	106.47458	105.6712669	104.8801029	104.1008154	103.3331382	102.5768127	101.8315882	101.0972212	100.3734753
080423A00066	4/23/2008	4.41	4/24/2023	4/23/2008	112.06273	110.4785754	108.9297489	107.4152001	105.9339206	104.4849392	103.0673202	101.6801618	100.3225949
110414A00007	4/14/2011	3.95	1/21/2025	4/14/2011	118.57107	115.7694731	113.0606583	110.4408245	107.9063573	105.4538161	103.0799238	100.7815583	98.55574375
110824A00006	8/24/2011	2.69	8/24/2026	8/24/2011	118.00409	114.6725882	111.4849422	108.433586	105.5114134	102.7117464	100.0283055	97.45518328	94.98681926
111007A00007	10/7/2011	3.92	10/7/2031	10/7/2011	154.38437	143.2330275	133.0942247	123.8663408	115.45864	107.7900452	100.788056	94.38779158	88.53114669
061013A00024	10/13/2006	5.53	10/15/2021	10/13/2006	103.63977	103.2362592	102.8359021	102.4386643	102.0445092	101.653401	101.2653042	100.8801841	100.4980064
081219A00006	12/19/2008	3.88	12/22/2023	12/19/2008	120.41429	117.4421828	114.5603165	111.7653775	109.0541954	106.4237373	103.8711015	101.3935104	98.98830456
110609A00010	6/9/2011	3.83	6/9/2021	6/9/2011	100.25281	100.2193222	100.1858712	100.1524593	100.1190863	100.0857523	100.0524571	100.0192006	99.98598292
110706A00009	7/6/2011	3.93	7/6/2021	7/6/2011	100.83426	100.724922	100.6158351	100.5069954	100.3984019	100.2900539	100.1819505	100.0740908	99.96647399
110706A00010	7/6/2011	3.93	7/6/2021	7/6/2011	100.83426	100.724922	100.6158351	100.5069954	100.3984019	100.2900539	100.1819505	100.0740908	99.96647399
110805A00021	8/5/2011	3.36	8/5/2021	8/5/2011	101.36994	101.1752856	100.9813896	100.7882465	100.5958518	100.4042012	100.2132902	100.0231146	99.83367013
191002A00045	2/14/2020	1.75	2/14/2023	2/14/2020	109.53325	107.6715589	105.8512607	104.071041	102.3296433	100.6258643	98.95855078	97.32659707	95.72894248
191002A00046	2/14/2020	1.75	2/14/2023	2/14/2020	109.53325	107.6715589	105.8512607	104.071041	102.3296433	100.6258643	98.95855078	97.32659707	95.72894248
200131A00029	1/31/2020	1.78	10/31/2024	1/31/2020	118.61158	114.6627703	110.8665755	107.2162868	103.7055252	100.3282257	97.07861982	93.9512198	90.94080311
200131A00031	1/31/2020	1.74	1/31/2024	1/31/2020	114.69511	111.6861601	108.7719972	105.949002	103.2137201	100.5628545	97.99325707	95.50192061	93.08597119
190917A00030	1/10/2020	2.03	1/10/2023	1/10/2020	109.47695	107.7196728	105.9998255	104.3162851	102.6679721	101.0538496	99.47292128	97.92422961	96.40685357
190917A00033	1/10/2020	2.03	1/10/2023	1/10/2020	109.47695	107.7196728	105.9998255	104.3162851	102.6679721	101.0538496	99.47292128	97.92422961	96.40685357
191002A00038	1/13/2020	1.76	1/13/2023	1/13/2020	109.06409	107.3016108	105.5768106	103.8885564	102.2357563	100.6173622	99.03236703	97.47980289	95.95873928
191002A00042	1/13/2020	1.76	1/13/2023	1/13/2020	109.06409	107.3016108	105.5768106	103.8885564	102.2357563	100.6173622	99.03236703	97.47980289	95.95873928
191002A00043	2/3/2020	1.75	2/3/2023	2/3/2020	109.36561	107.5382614	105.750977	104.0025031	102.2916434	100.6172508	98.97822505	97.3735106	95.80209388
191002A00044	2/3/2020	1.75	2/3/2023	2/3/2020	109.36561	107.5382614	105.750977	104.0025031	102.2916434	100.6172508	98.97822505	97.3735106	95.80209388
190904A00034	9/4/2019	1.74	6/1/2022	9/4/2019	105.72119	104.6159078	103.5336252	102.4736272	101.4352314	100.4177827	99.42065259	98.44323728	97.48495675
190904A00036	9/4/2019	1.74	6/8/2022	9/4/2019	105.83275	104.7048036	103.6007866	102.5199459	101.4615575	100.4249275	99.40939033	98.41430717	97.4390649
190904A00037	9/4/2019	1.73	6/15/2022	9/4/2019	105.9335	104.7829224	103.657216	102.5555855	101.477265	100.4215206	99.38764923	98.37497644	97.38285543
190904A00040	9/4/2019	1.73	6/22/2022	9/4/2019	106.04498	104.8716758	103.7242008	102.6017113	101.5033985	100.428488	99.37623825	98.34593867	97.33690817
190904A00043	9/4/2019	1.72	12/15/2022	9/4/2019	108.55683	106.8851132	105.2479965	103.6444798	102.0736051	100.5344506	99.02612856	97.54778415	96.09859362
190904A00044	9/4/2019	1.72	12/30/2022	9/4/2019	108.78523	107.0664494	105.3838249	103.73629	102.1228193	100.5424272	98.99416561	97.47712256	95.99042028
190829A00073	8/29/2019	1.81	3/15/2023	8/29/2019	110.08381	108.1267651	106.2144973	104.3456435	102.5188911	100.7329788	98.98669407	97.2788709	95.60838733
190829A00075	8/29/2019	1.8	6/15/2023	8/29/2019	111.49343	109.2370529	107.0382686	104.8952103	102.8060883	100.7691846	98.78284893	96.84549547	94.95560003
190829A00076	8/29/2019	1.81	6/30/2023	8/29/2019	111.74058	109.4363144	107.1916614	105.0046539	102.8734081	100.7961167	98.77104556	96.79652976	94.8709704
190829A00078	8/29/2019	1.8	12/15/2023	8/29/2019	114.19554	111.3394286	108.5699388	105.8839051	103.278301	100.7502304	98.29692132	95.91571919	93.60408129
190829A00080	8/29/2019	1.8	12/29/2023	8/29/2019	114.39915	111.4961383	108.6821449	105.9538766	103.3081835	100.7420539	98.25260716	95.83708661	93.49285362

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190830A00020	8/31/2020	1.67	8/31/2023	8/31/2020	112.33447	109.8324688	107.399296	105.0325292	102.729852	100.4890499	98.30800478	96.18468956	94.11716365
190826A00046	8/26/2019	1.77	8/26/2024	8/26/2019	117.69477	113.9744829	110.3918312	106.9408384	103.615835	100.4114371	97.32252937	94.34424979	91.47197478
190829A00013	8/29/2019	1.78	8/29/2024	8/29/2019	117.76986	114.0388197	110.4460795	106.9856299	103.6517682	100.4390785	97.34241538	94.35688818	91.47784621
190829A00016	8/29/2019	1.82	8/29/2022	8/29/2019	107.22822	105.8323704	104.4722674	103.1465469	101.8539166	100.5931483	99.36307364	98.16258119	96.99061241
190829A00017	8/29/2019	1.8	8/29/2023	8/29/2019	112.61646	110.1170638	107.6863198	105.3217979	103.0211804	100.7822523	98.602896	96.48108531	94.41488121
190829A00028	8/29/2019	1.78	8/29/2024	8/29/2019	117.76986	114.0388197	110.4460795	106.9856299	103.6517682	100.4390785	97.34241538	94.35688818	91.47784621
190829A00072	8/29/2019	1.81	12/15/2022	8/29/2019	108.70272	107.0297697	105.3914405	103.7867335	102.21469	100.6743876	99.16493795	97.68548569	96.23520652
190722A00054	12/19/2019	2.02	12/20/2021	12/19/2019	103.33697	102.7398656	102.1496502	101.5662045	100.9894127	100.4191614	99.85533956	99.29783899	98.74655374
190722A00056	12/19/2019	2.02	12/20/2021	12/19/2019	103.33697	102.7398656	102.1496502	101.5662045	100.9894127	100.4191614	99.85533956	99.29783899	98.74655374
190726A00014	7/26/2019	2.23	7/24/2024	7/26/2019	118.81064	115.176918	111.6741821	108.2969077	105.0398374	101.8979703	98.86654728	95.94103731	93.11712507
190805A00031	8/5/2020	1.77	8/4/2023	8/5/2020	112.17838	109.7604488	107.4072825	105.1166569	102.8864402	100.7145922	98.59915948	96.53827079	94.53013289
190815A00040	8/15/2019	1.86	8/15/2023	8/15/2019	112.55066	110.0947769	107.705414	105.3802507	103.1170698	100.9137512	98.76826619	96.67867283	94.64311141
190815A00041	8/15/2019	1.86	8/15/2024	8/15/2019	117.85852	114.1703888	110.6175654	107.1942277	103.8948492	100.7141788	97.64722465	94.68923959	91.83570694
190621A00034	6/21/2019	2.17	6/15/2023	6/21/2019	112.29299	110.0278434	107.8204673	105.6689925	103.5716244	101.5266398	99.53238371	97.58726567	95.68975707
190621A00035	6/21/2019	2.19	12/15/2023	6/21/2019	115.25364	112.3832335	109.5997796	106.9001054	104.2811742	101.7400802	99.27404177	96.88039524	94.55658918
190621A00037	6/21/2019	2.21	5/15/2024	6/21/2019	117.67409	114.2838556	111.0097342	107.8470995	104.7915344	101.8388227	98.98493917	96.22603943	93.55845089
190621A00039	6/21/2019	2.21	6/17/2024	6/21/2019	118.17951	114.6755207	111.294613	108.0317397	104.8820943	101.8410968	98.90438059	96.06778201	93.32732888
190722A00047	11/22/2019	2.03	11/22/2021	11/22/2019	102.88724	102.3742981	101.8664672	101.3636675	100.8658244	100.3728649	99.8847173	99.40131142	98.92257836
190722A00051	11/22/2019	2.03	11/22/2021	11/22/2019	102.88724	102.3742981	101.8664672	101.3636675	100.8658244	100.3728649	99.8847173	99.40131142	98.92257836
190530A00048	5/30/2019	2.41	5/31/2022	5/30/2019	106.40445	105.2984454	104.2153571	103.1544828	102.1151444	101.0966912	100.0984986	99.11996656	98.16051855
190530A00049	5/30/2019	2.44	5/30/2023	5/30/2019	112.60639	110.3859294	108.2212672	106.1106366	104.0523365	102.044732	100.0862514	98.1753825	96.31067084
190604A00019	6/4/2019	2.27	6/4/2024	6/4/2019	118.17813	114.7149393	111.3723216	108.1453792	105.029448	102.0200809	99.1130358	96.30426508	93.58990539
190607A00040	6/7/2019	2.12	6/7/2022	6/7/2019	106.22107	105.094026	103.9908128	102.9106814	101.8529132	100.816819	99.80173775	98.80703503	97.83210173
190607A00041	6/7/2019	2.12	6/7/2022	6/7/2019	106.22107	105.094026	103.9908128	102.9106814	101.8529132	100.816819	99.80173775	98.80703503	97.83210173
190614A00007	6/14/2019	2.22	6/15/2021	6/14/2019	100.29902	100.2488247	100.1986935	100.1486291	100.0986316	100.0487007	99.99883633	99.94903835	99.89930664
190501A00014	5/1/2019	2.62	5/1/2024	5/1/2019	118.73956	115.3792024	112.1322928	108.9943711	105.9611793	103.0286506	100.1928994	97.4502125	94.79703985
190501A00024	5/1/2019	2.62	5/1/2024	5/1/2019	118.73956	115.3792024	112.1322928	108.9943711	105.9611793	103.0286506	100.1928994	97.4502125	94.79703985
190515A00030	5/15/2019	2.49	5/15/2024	5/15/2019	118.56394	115.1597911	111.8721202	108.6962837	105.6278525	102.6625991	99.79648753	97.0256629	94.34644266
190515A00032	5/15/2019	2.49	5/15/2024	5/15/2019	118.56394	115.1597911	111.8721202	108.6962837	105.6278525	102.6625991	99.79648753	97.0256629	94.34644266
190520A00048	5/20/2019	2.53	5/20/2024	5/20/2019	118.77454	115.3504803	112.0440974	108.8506805	105.7657347	102.7849709	99.9042951	97.11979818	94.42774643
190523A00035	5/23/2019	2.34	11/23/2021	5/23/2019	103.05947	102.5430877	102.031872	101.5257467	101.0246358	100.5284651	100.0371619	99.55065471	99.06887356
190327A00027	3/27/2019	2.66	1/15/2025	3/27/2019	123.065	118.7855203	114.6793588	110.7384876	106.9552983	103.3225801	99.83349674	96.48156413	93.26063016
190328A00077	3/28/2019	2.46	9/28/2021	3/28/2019	102.13832	101.7877405	101.4395554	101.0937427	100.7502784	100.4091386	100.0703	99.73373937	99.39943386

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190329A00012	3/29/2019	2.61	3/29/2024	3/29/2019	118.16056	114.9147892	111.7754741	108.7385489	105.80013	102.9565025	100.2041121	97.53955683	94.95958017
190405A00040	4/3/2020	3.12	4/5/2030	4/3/2020	153.13354	141.0992498	130.1188391	120.0941729	110.9367277	102.566609	94.91167092	87.90672868	81.49285513
190422A00030	4/22/2019	2.93	12/22/2025	4/22/2019	129.55682	123.986089	118.6894953	113.6520438	108.8596452	104.299054	99.9578132	95.82420308	91.88719314
190426A00023	4/26/2019	2.91	6/24/2026	4/26/2019	132.21477	125.9411779	120.0056441	114.3881142	109.0698344	104.0332577	99.26195997	94.74056169	90.454656
190311A00073	3/14/2019	2.81	3/14/2024	3/14/2019	118.50064	115.2994293	112.2021217	109.2047079	106.3033586	103.4944176	100.7743926	98.1399463	95.58788867
190311A00076	3/14/2019	2.88	9/16/2024	3/14/2019	121.92476	118.0653722	114.3497975	110.771855	107.3256676	104.0056446	100.8064664	97.72306951	94.75063236
190315A00039	3/15/2019	2.64	9/15/2021	3/15/2019	101.96673	101.6539008	101.3430007	101.0340125	100.7269186	100.4217014	100.1183437	99.81682851	99.51713893
190318A00016	3/19/2019	2.7	3/18/2022	3/19/2019	105.34418	104.4734176	103.6170245	102.774651	101.9459547	101.1306043	100.3282792	99.53866909	98.76147319
190318A00017	3/19/2019	2.7	3/18/2022	3/19/2019	105.34418	104.4734176	103.6170245	102.774651	101.9459547	101.1306043	100.3282792	99.53866909	98.76147319
190325A00022	3/25/2019	2.55	11/25/2022	3/25/2019	109.54967	107.9300475	106.3431384	104.7880346	103.2638608	101.7697732	100.3049578	98.86862993	97.460032
190206A00009	2/12/2019	2.84	2/11/2022	2/12/2019	104.80697	104.0452537	103.2946057	102.5547833	101.8255533	101.1066891	100.3979707	99.69918416	99.01012149
190206A00010	2/12/2019	2.84	2/11/2022	2/12/2019	104.80697	104.0452537	103.2946057	102.5547833	101.8255533	101.1066891	100.3979707	99.69918416	99.01012149
190221A00011	2/21/2019	2.81	8/23/2021	2/21/2019	101.59774	101.3515072	101.106471	100.8626238	100.619957	100.378462	100.1381305	99.89895384	99.66092387
190221A00012	2/21/2019	2.83	8/23/2022	2/21/2019	108.43752	107.0504277	105.6987447	104.3811309	103.0963099	101.8430686	100.6202532	99.42676532	98.26155896
190311A00068	3/25/2019	2.76	9/26/2022	3/25/2019	108.8203	107.384291	105.9750723	104.5919391	103.2342143	101.9012437	100.5923954	99.3070588	98.04464353
190311A00072	3/25/2019	2.79	9/25/2023	3/25/2019	115.45121	112.8356414	110.2930001	107.8208332	105.4167834	103.0785865	100.8040679	98.59113784	96.43778783
181206A00018	12/6/2018	3.13	12/6/2023	12/6/2018	117.63647	114.762701	111.9751398	109.2706703	106.6463101	104.0992033	101.626615	99.22592518	96.89462268
181220A00041	12/20/2018	3.36	12/18/2026	12/20/2018	137.51891	130.4784561	123.847432	117.5997921	111.7112844	106.1593191	100.9228461	95.98224126	91.31920301
181227A00001	12/27/2018	2.92	12/27/2021	12/27/2018	103.98529	103.3652717	102.7526316	102.1472383	101.5489641	100.957684	100.3732758	99.79562048	99.22460149
190122A00017	1/22/2019	2.94	5/2/2022	1/22/2019	106.40855	105.3932388	104.397276	103.4201102	102.4612129	101.5200752	100.5962071	99.68913617	98.79840735
190122A00018	1/22/2019	2.98	12/1/2022	1/22/2019	110.33402	108.6898108	107.0790844	105.5008986	103.9543484	102.4385615	100.9526973	99.49594534	98.06752371
190123A00059	1/23/2019	2.95	1/24/2022	1/23/2019	104.54078	103.8346505	103.1380497	102.4507839	101.7726663	101.1035151	100.4431533	99.79140851	99.14811292
181001A00031	10/1/2018	3.23	9/29/2023	10/1/2018	116.6127	113.970333	111.4017863	108.9045884	106.4763618	104.1148217	101.8177728	99.58310437	97.40878714
181003A00023	10/3/2018	3.17	4/4/2022	10/3/2018	106.07184	105.14524	104.2348206	103.340159	102.4608486	101.5964965	100.746723	99.91116146	99.08945716
181016A00019	10/18/2018	3.32	10/16/2023	10/18/2018	117.16746	114.4629071	111.8353114	109.2820451	106.8005836	104.3885035	102.0434776	99.76327079	97.54573564
181029A00051	2/5/2019	3.69	2/5/2029	2/5/2019	151.95293	141.5722742	131.991018	123.1430135	114.9679317	107.4107235	100.4211303	93.9532423	87.96510048
181031A00070	3/1/2019	3.77	3/1/2029	3/1/2019	153.04654	142.5329819	132.8344846	123.8831294	115.6170167	107.9797035	100.9196944	94.38998147	88.34763054
181203A00039	12/3/2018	3.27	12/1/2023	12/3/2018	117.91733	115.0558483	112.2798307	109.5862073	106.9720353	104.4344963	101.9708903	99.57863005	97.2552352
180910A00037	9/10/2018	3.03	9/9/2022	9/10/2018	108.9678	107.5481942	106.1609613	104.8049901	103.4792228	102.1826494	100.9143053	99.67326806	98.45865599
180910A00039	9/10/2018	3.03	9/9/2022	9/10/2018	108.9678	107.5481942	106.1609613	104.8049901	103.4792228	102.1826494	100.9143053	99.67326806	98.45865599
180911A00007	9/11/2018	3.12	9/8/2023	9/11/2018	115.95109	113.3811492	110.8820315	108.4512778	106.0865389	103.7855657	101.5462038	99.36638878	97.2441418
180912A00017	9/12/2018	3.13	9/12/2023	9/12/2018	116.04934	113.4660039	110.9540419	108.5109932	106.1345054	103.8223241	101.5722891	99.38232868	97.25045582
180919A00013	9/19/2018	3.14	9/19/2022	9/19/2018	109.23694	107.8053144	106.4028119	105.0285623	103.6817297	102.3615114	101.0671362	99.797863	98.55297915

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180925A00033	9/25/2018	3.26	9/25/2023	9/25/2018	116.611	113.9810656	111.4243779	108.9384725	106.5209824	104.1696346	101.8822455	99.65671704	97.49103268
180627A00065	6/27/2018	2.9	6/25/2021	6/27/2018	100.51836	100.4401568	100.3620805	100.2841301	100.2063052	100.1286056	100.0510311	99.9735812	99.89625576
180709A00081	7/9/2018	3.05	7/7/2023	7/9/2018	114.60855	112.250139	109.9530011	107.715104	105.5344969	103.4093092	101.3377466	99.31808737	97.34867864
180713A00024	7/13/2018	2.96	7/13/2021	7/13/2018	100.86107	100.7320076	100.6032948	100.4749252	100.3468974	100.2192101	100.0918619	99.96485125	99.83817694
180726A00046	7/26/2018	3.2	12/26/2023	7/26/2018	118.20098	115.2554151	112.3995923	109.630204	106.9440888	104.3382234	101.8097152	99.35579606	96.97381546
180727A00017	7/27/2018	3.16	7/27/2023	7/27/2018	115.23945	112.8106216	110.4461274	108.1437759	105.9014721	103.7172099	101.5890675	99.51520277	97.49384967
180821A00029	8/21/2018	3.01	8/21/2023	8/21/2018	115.35674	112.8491338	110.4096789	108.0359864	105.7257721	103.4768526	101.2871393	99.15463366	97.07742245
180615A00039	6/15/2018	3.49	6/15/2028	6/15/2018	146.55414	137.247883	128.6072851	120.581043	113.1220693	106.1871259	99.7364904	93.73365227	88.14503755
180618A00036	6/18/2018	3.89	6/18/2048	6/18/2018	267.01677	215.5538442	175.5464621	144.3084449	119.8026586	100.4807459	85.16314336	72.9491006	63.14907635
180621A00031	6/21/2018	3.07	6/21/2023	6/21/2018	114.35052	112.0446069	109.7977132	107.6079137	105.4733637	103.3922927	101.3630005	99.38385423	97.45328485
180621A00068	6/21/2018	3.32	6/23/2025	6/21/2018	128.44317	123.5175894	118.8111641	114.3129093	110.0124578	105.9000178	101.9663385	98.20267646	94.60076466
180625A00012	6/25/2018	3.07	6/23/2023	6/25/2018	114.38807	112.0756834	109.8225812	107.6268298	105.4865722	103.4000257	101.3654794	99.38128954	97.44587726
180626A00026	6/26/2018	2.92	6/25/2021	6/26/2018	100.51992	100.4417161	100.3636384	100.2856866	100.2078604	100.1301595	100.0525836	99.97513243	99.89780566
180518A00048	5/25/2018	3.65	5/18/2028	5/25/2018	147.38196	138.1481582	129.567704	121.5907499	114.1715081	107.2678961	100.8412182	94.85587693	89.27910935
180518A00071	5/25/2018	3.56	5/18/2026	5/25/2018	135.22625	129.0018771	123.1058802	117.519157	112.2238178	107.2031017	102.4412994	97.92368127	93.63643161
180529A00072	5/29/2018	3	5/30/2023	5/29/2018	113.78973	111.5565499	109.37943	107.2565933	105.1863314	103.1670023	101.1970272	99.27488762	97.3991226
180612A00031	6/12/2018	3.04	6/13/2022	6/12/2018	107.31805	106.1656397	105.0379606	103.9342206	102.8536626	101.7955616	100.7592223	99.74397786	98.74918858
180613A00046	6/13/2018	3	1/13/2022	6/13/2018	104.36184	103.689464	103.0257479	102.3705294	101.7236459	101.0849388	100.4542537	99.83143977	99.21635026
180613A00047	6/13/2018	3.17	1/12/2024	6/13/2018	118.43107	115.4288664	112.5193944	109.699179	106.9649035	104.3133988	101.7416358	99.24671787	96.82587421
180328A00042	3/28/2018	2.95	3/28/2023	3/28/2018	112.49226	110.4691915	108.4928025	106.5617396	104.6746955	102.8304087	101.027662	99.26528054	97.54212992
180403A00024	4/3/2018	2.96	4/3/2023	4/3/2018	112.62433	110.581604	108.5863935	106.6373094	104.73301	102.8722012	101.0536348	99.27610615	97.53845277
180404A00018	4/4/2018	2.89	4/4/2022	4/4/2018	105.82561	104.9002087	103.9909679	103.0974707	102.2193106	101.356095	100.5074446	99.67299285	98.85238542
180515A00022	5/15/2018	3.19	5/15/2023	5/15/2018	113.89541	111.7087318	109.5758687	107.495148	105.4649624	103.4837652	101.5500683	99.66243904	97.81949775
180518A00042	5/25/2018	3.42	5/19/2025	5/25/2018	128.27917	123.4746212	118.8795526	114.4836814	110.2772905	106.2511902	102.3966865	98.70555175	95.16999691
180518A00046	5/25/2018	3.62	5/18/2027	5/25/2018	141.50766	133.8033264	126.5752979	119.791535	113.4223166	107.4400619	101.8191656	96.53584639	91.56800773
180130A00064	1/30/2018	2.75	1/30/2023	1/30/2018	111.06131	109.2304691	107.4395102	105.6871991	103.9723522	102.2938347	100.6505575	99.04147551	97.46558484
180131A00022	1/31/2018	2.96	1/30/2025	1/31/2018	124.49156	120.1359193	115.9580661	111.9496901	108.102919	104.410297	100.8647595	97.45960977	94.18849759
180201A00022	2/1/2018	2.99	2/3/2025	2/1/2018	124.6765	120.3041329	116.1106719	112.0877294	108.2273636	104.5220538	100.9646752	97.54847556	94.26705269
180312A00014	3/12/2018	3	3/13/2023	3/12/2018	112.28918	110.3173007	108.390398	106.5070884	104.6660445	102.8659919	101.105706	99.38400967	97.69977111
180316A00031	3/16/2018	2.96	12/16/2022	3/16/2018	110.58579	108.8938541	107.2369334	105.6140167	104.0241329	102.4663476	100.9397611	99.44350699	97.97675053
180328A00015	3/28/2018	2.93	3/28/2023	3/28/2018	112.45376	110.4310647	108.4550484	106.5243511	104.6376655	102.7937304	100.9913289	99.22928609	97.50646791
171222A00037	12/22/2017	2.71	12/29/2023	12/22/2017	116.90679	113.9694117	111.1218612	108.3608214	105.6831173	103.085713	100.5657048	98.12031371	95.74687985
171228A00023	12/28/2017	2.69	3/29/2024	12/28/2017	118.40325	115.1538459	112.0109883	108.9706086	106.0288205	103.1819062	100.4263086	97.75862325	95.17559111

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
171228A00024	12/28/2017	2.71	6/28/2024	12/28/2017	120.00205	116.4339561	112.9918762	109.6706071	106.4651937	103.3709162	100.3832772	97.49798998	94.71096675
180104A00016	1/4/2018	2.56	1/4/2023	1/4/2018	110.27155	108.5250597	106.8154889	105.1417436	103.5027686	101.8975499	100.325113	98.78452038	97.27487031
180123A00067	1/23/2018	2.67	1/23/2023	1/23/2018	110.79555	108.9879939	107.2194883	105.4888409	103.7949041	102.136577	100.5128027	98.92256628	97.3648924
180130A00063	1/30/2018	2.63	1/31/2022	1/30/2018	104.45175	103.7248445	103.0080319	102.3011066	101.603865	100.9161093	100.2376469	99.56829021	98.90785701
171016A00016	10/16/2017	2.23	10/17/2022	10/16/2017	108.4237	106.9303942	105.4652098	104.0274167	102.6163112	101.2312131	99.87146499	98.53643092	97.22549574
171110A00007	11/10/2017	2.38	11/10/2022	11/10/2017	109.03175	107.4613172	105.9217706	104.412278	102.9320334	101.4802589	100.0562038	98.65914327	97.28837707
171110A00008	11/10/2017	2.65	11/12/2024	11/10/2017	122.02108	117.9715032	114.079297	110.3374839	106.7394376	103.2788608	99.94976735	96.74646465	93.66353792
171110A00019	5/4/2018	2.46	5/4/2023	5/4/2018	112.21372	110.0792899	107.9966587	105.9642429	103.9805181	102.0440167	100.1533257	98.30708368	96.50397905
171219A00031	12/19/2017	2.42	12/20/2021	12/19/2017	103.56871	102.9708286	102.3798454	101.7956385	101.2180916	100.6470913	100.0825266	99.52428912	98.97227285
171219A00032	12/19/2017	2.42	12/20/2021	12/19/2017	103.56871	102.9708286	102.3798454	101.7956385	101.2180916	100.6470913	100.0825266	99.52428912	98.97227285
170727A00020	7/27/2017	1.94	7/27/2021	7/27/2017	100.9528	100.7842477	100.6162546	100.4488195	100.2819398	100.1156127	99.94983556	99.78460559	99.61992016
170814A00034	8/14/2017	2.1	8/15/2022	8/14/2017	107.36143	106.0075359	104.6876462	103.4004878	102.1448549	100.9196001	99.72363102	98.55590728	97.41543719
170816A00030	8/16/2017	1.95	8/16/2021	8/16/2017	101.27641	101.0506129	100.8258306	100.6020605	100.3792956	100.157529	99.93675416	99.71696425	99.49815267
170822A00023	8/23/2017	3.95	8/23/2028	8/23/2017	151.38961	141.6498734	132.6200878	124.2443818	116.4715839	109.2548013	102.5510392	96.32085579	90.52805018
170908A00021	9/8/2017	1.96	9/8/2022	9/8/2017	107.52696	106.118668	104.7428918	103.3985024	102.0844253	100.7996347	99.54315152	98.31404025	97.11140667
170918A00051	12/18/2017	2.24	12/19/2022	12/18/2017	109.46688	107.7753543	106.1189663	104.4967008	102.9075783	101.3506566	99.82502871	98.32982146	96.8641937
170614A00019	6/14/2017	2.48	6/13/2025	6/14/2017	124.57213	119.7615269	115.1647399	110.7710963	106.5705127	102.5534626	98.71094329	95.03444326	91.51591286
170622A00045	6/22/2017	2.76	6/22/2027	6/22/2017	136.20806	128.545668	121.3666306	114.6378678	108.3287389	102.4108467	96.85786108	91.64535815	86.7506724
170628A00044	10/9/2018	2.12	10/8/2021	10/9/2018	102.18616	101.8064634	101.4295915	101.0555142	100.6842004	100.3156194	99.94974105	99.58653565	99.2259739
170703A00022	7/3/2017	2.86	7/3/2026	7/3/2017	132.06705	125.7662777	119.8065115	114.1674404	108.8300715	103.7766396	98.99052145	94.456156	90.15897047
170703A00024	7/3/2017	2.95	7/6/2027	7/3/2017	137.68065	129.9223969	122.6554585	115.8460583	109.4629199	103.4770688	97.86165062	92.59176471	87.64431197
170726A00025	7/26/2017	2.14	7/26/2022	7/26/2017	107.06918	105.781542	104.5247416	103.2976774	102.0993038	100.9286241	99.78468714	98.66658475	97.57344958
170405A00031	4/5/2017	2.22	4/4/2022	4/5/2017	105.23643	104.3138837	103.4074633	102.5167522	101.6413446	100.7808486	99.93488545	99.10308938	98.28510662
170412A00019	4/12/2017	2.56	4/12/2024	4/12/2017	118.23852	114.9469013	111.7645968	108.6873804	105.7112154	102.8322427	100.0467725	97.35127532	94.74237445
170518A00008	5/18/2018	3.06	5/18/2028	5/18/2018	142.73876	133.6727014	125.2513329	117.42534	110.1494294	103.3819786	97.08472104	91.22245899	85.76280262
170519A00019	5/19/2017	2	11/19/2021	5/19/2017	102.82332	102.319376	101.8203687	101.3262259	100.8368765	100.352251	99.87228107	99.39689986	98.92604168
170531A00055	5/31/2017	2.13	5/31/2022	5/31/2017	106.11225	105.0078996	103.926445	102.8671809	101.8294299	100.8125419	99.81589274	98.83888286	97.88093625
170609A00052	6/11/2018	2.9	6/9/2027	6/11/2018	136.99202	129.3498411	122.1869001	115.4705812	109.1706532	103.259086	97.70987972	92.49890648	87.60376667
170327A00077	3/27/2019	2.74	3/27/2024	3/27/2019	118.52037	115.2757296	112.1372964	109.1010194	106.163025	103.3196079	100.5672234	97.90247923	95.32212794
170327A00078	3/27/2019	3.04	3/27/2026	3/27/2019	131.55706	125.609168	119.9676007	114.6149945	109.5350556	104.712491	100.132942	95.78292231	91.64976097
170327A00079	3/27/2019	3.19	3/29/2027	3/27/2019	137.93474	130.5200794	123.5553555	117.0109158	110.8592057	105.0746129	99.63332056	94.51317323	89.69355279
170327A00080	3/27/2019	3.43	3/27/2029	3/27/2019	150.47493	139.960878	130.2709711	121.3360768	113.093202	105.4849177	98.4588415	91.96717076	85.96626064
170404A00002	4/4/2017	2.42	4/4/2023	4/4/2017	111.5922	109.5567094	107.5686673	105.6266852	103.7294215	101.8755821	100.0639191	98.293228	96.56234659

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170404A00003	4/4/2017	2.74	4/4/2025	4/4/2017	124.63693	120.060017	115.6774192	111.4798731	107.4586079	103.6053143	99.91211732	96.3715516	92.97653803
161115A00021	11/15/2016	2.02	11/15/2021	11/15/2016	102.76771	102.275665	101.788332	101.3056441	100.8275348	100.3539393	99.88479357	99.4200351	98.95960241
161118A00026	12/20/2016	3.03	12/21/2026	12/20/2016	135.52275	128.5293465	121.9440682	115.7408913	109.8955863	104.3855877	99.18987102	94.28883932	89.66421868
161123A00035	11/23/2016	2.16	11/23/2021	11/23/2016	102.96898	102.4528666	101.9419164	101.4360545	100.9352051	100.4392942	99.94824877	99.46199759	98.98047065
161123A00037	11/23/2016	2.16	11/23/2021	11/23/2016	102.96898	102.4528666	101.9419164	101.4360545	100.9352051	100.4392942	99.94824877	99.46199759	98.98047065
161125A00002	11/25/2016	2.62	11/27/2023	11/25/2016	116.11337	113.2886115	110.5480913	107.8887878	105.3078097	102.8023872	100.3698668	98.00770487	95.71346264
161221A00053	12/23/2016	3.05	12/23/2021	12/23/2016	103.98574	103.3776222	102.7766094	102.1825789	101.5954096	101.0149831	100.4411836	99.87389821	99.31301629
160729A00017	7/31/2017	2.47	7/31/2029	7/31/2017	143.47319	132.7838236	122.9733768	113.9648602	105.6884155	98.0806193	91.08385825	84.64576857	78.71873182
160801A00007	8/1/2016	1.47	8/2/2021	8/1/2016	100.96185	100.7762823	100.5914066	100.4072146	100.2237026	100.0408667	99.85870311	99.67720819	99.49637822
160819A00015	10/12/2016	2.3	10/13/2026	10/12/2016	130.18034	123.5806818	117.3561044	111.4833809	105.9408383	100.7082458	95.7667111	91.09858598	86.68737783
160830A00068	11/30/2016	1.95	11/30/2023	11/30/2016	114.37722	111.5660349	108.8390631	106.1932741	103.6257667	101.1337625	98.71459962	96.3657273	94.08470019
161017A00007	10/17/2016	1.99	10/18/2023	10/17/2016	113.83205	111.1633751	108.5710593	106.0524871	103.6051454	101.2266221	98.91460127	96.66685869	94.48125765
161017A00015	10/17/2016	1.68	10/18/2021	10/17/2016	102.17483	101.7661456	101.3607311	100.9585484	100.559559	100.1637249	99.77100875	99.38137367	98.99478346
160711A00016	7/11/2016	1.42	7/12/2021	7/11/2016	100.64773	100.5217351	100.3960716	100.2707364	100.1457283	100.0210459	99.89668788	99.77265302	99.64893999
160711A00020	8/24/2017	1.59	8/24/2022	8/24/2017	106.85674	105.4773565	104.133351	102.8233786	101.5461601	100.3004798	99.08518164	97.89916513	96.74138254
160711A00022	1/10/2018	1.91	1/10/2025	1/10/2018	120.04575	115.8397984	111.8042563	107.9312355	104.2132666	100.6432697	97.21453132	93.92068305	90.75568164
160712A00019	7/12/2017	2.32	7/12/2027	7/12/2017	133.44527	125.8000767	118.6425574	111.9390238	105.6582887	99.77146991	94.25180689	89.07449419	84.21652828
160714A00018	9/6/2016	2.28	9/4/2026	9/6/2016	129.58819	123.1379823	117.048373	111.2972436	105.8639545	100.7292392	95.87510474	91.28474039	86.94243292
160714A00024	9/20/2016	2.5	9/20/2028	9/20/2016	139.85154	130.4463809	121.741503	113.6811169	106.2141494	99.29382323	92.87727566	86.92521172	81.40159052
160307A00029	3/7/2016	3.21	3/7/2031	3/7/2016	159.10925	145.5027208	133.1942553	122.0524282	111.9597856	102.8112945	94.51296886	86.98065485	80.1389548
160520A00017	9/20/2017	2.34	9/20/2024	9/20/2017	120.06136	116.2217085	112.5257586	108.9673358	105.5405701	102.2398763	99.05993837	95.99569458	93.04232405
160520A00018	9/20/2017	2.34	9/20/2024	9/20/2017	120.06136	116.2217085	112.5257586	108.9673358	105.5405701	102.2398763	99.05993837	95.99569458	93.04232405
160524A00015	11/25/2016	2.71	11/25/2026	11/25/2016	133.19954	126.3644946	119.9248673	113.8556884	108.1336947	102.7372032	97.6459956	92.84121182	88.30525189
160601A00021	6/1/2016	1.71	6/1/2021	6/1/2016	100.06073	100.0495979	100.0384723	100.0273571	100.0162525	100.0051584	99.99407481	99.98300166	99.97193897
160627A00068	6/27/2016	1.4	6/28/2021	6/27/2016	100.44436	100.3578709	100.2715245	100.1853244	100.0992704	100.013362	99.92759897	99.84198093	99.75650752
160222A00005	2/22/2016	2.79	2/22/2028	2/22/2016	139.48493	130.8483783	122.8087573	115.3215325	108.3457331	101.8436451	95.78053422	90.12439481	84.84572088
160222A00018	2/22/2016	2.59	2/23/2026	2/22/2016	128.68317	122.9231346	117.4561436	112.265623	107.3360336	102.6528024	98.20225588	93.97155912	89.94865905
160222A00019	2/22/2016	3.09	2/21/2031	2/22/2016	157.5481	144.0753476	131.8852317	120.848181	110.8483746	101.7822152	93.55697973	86.08962435	79.30572746
160223A00012	2/23/2016	1.89	2/23/2023	2/23/2016	110.18062	108.2814225	106.4249982	104.6099656	102.8350082	101.098866	99.40033252	97.73825183	96.1115158
160225A00024	2/25/2016	2.22	2/26/2024	2/25/2016	116.46703	113.3514572	110.3360809	107.4169767	104.5904076	101.852812	99.20079371	96.63111335	94.14067911
160303A00020	3/3/2016	2.97	3/3/2031	3/3/2016	158.3114	144.6606692	132.3166888	121.1468435	111.0326475	101.8681716	93.55865171	86.01925738	79.17400291
160211A00034	2/11/2016	1.82	2/10/2023	2/11/2016	109.59752	107.7471652	105.9377403	104.167952	102.436565	100.7423962	99.08431104	97.46122169	95.87208419
160211A00036	2/11/2016	2.41	2/11/2026	2/11/2016	127.58199	121.889382	116.4849448	111.3524717	106.4767645	101.8435634	97.43948321	93.25195411	89.26916717

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160211A00086	2/16/2016	2.8	2/16/2022	2/16/2016	104.87197	104.0947992	103.3291397	102.5747354	101.8313394	101.0987118	100.3766196	99.66483649	98.96314276
160211A00089	2/16/2016	3.91	2/16/2024	2/16/2016	121.22239	118.0697422	115.0170972	112.0605896	109.1965318	106.4214075	103.7318614	101.1246911	98.5968385
160211A00091	2/16/2016	3.55	2/16/2023	2/16/2016	112.81623	110.9179512	109.0618823	107.2466869	105.4710813	103.7338362	102.0337734	100.3697638	98.74072391
160212A00037	2/12/2016	3.03	2/12/2031	2/12/2016	156.7484	143.3496466	131.2245492	120.2446781	110.2952086	101.2734101	93.08731348	85.65453158	78.90121491
160209A00049	2/9/2016	1.92	2/9/2023	2/9/2016	109.76069	107.9118168	106.1037791	104.3352929	102.6051276	100.9121042	99.25509241	97.63300799	96.04481055
160210A00021	2/10/2016	1.97	2/10/2023	2/10/2016	109.86589	108.0130615	106.2012021	104.4290251	102.6952939	100.9988241	99.33848009	97.71317267	96.1218568
160210A00036	2/10/2016	1.77	2/10/2023	2/10/2016	109.75654	107.9003059	106.0852025	104.3099268	102.5732358	100.8739387	99.21089414	97.58300753	95.98922865
160210A00041	2/10/2016	1.97	2/10/2023	2/10/2016	109.86589	108.0130615	106.2012021	104.4290251	102.6952939	100.9988241	99.33848009	97.71317267	96.1218568
160210A00042	2/10/2016	2.57	2/10/2026	2/10/2016	128.3966	122.6873638	117.2667138	112.118438	107.2273309	102.5791252	98.16042747	93.95865986	89.96200498
160210A00053	2/10/2016	1.99	2/10/2023	2/10/2016	109.90168	108.0485144	106.2363304	104.4638348	102.7297911	101.0330145	99.3723693	97.74676614	96.15515982
151027A00021	10/27/2015	2.02	10/27/2021	10/27/2015	102.45723	102.0216954	101.5898541	101.1616565	100.7370567	100.3160097	99.89847093	99.48439691	99.07374467
151211A00037	12/11/2017	2.69	1/11/2023	12/11/2017	110.61529	108.8449945	107.1124284	105.4164537	103.7559808	102.1299636	100.5373966	98.97731373	97.44878576
151211A00040	12/11/2017	2.7	2/13/2023	12/11/2017	111.22616	109.3517331	107.5188739	105.7262708	103.9726642	102.2568477	100.5776653	98.93400821	97.3248129
151211A00041	12/11/2017	2.71	3/13/2023	12/11/2017	111.74373	109.7771312	107.8554011	105.9771648	104.141098	102.3459289	100.5904357	98.8734437	97.19382366
151214A00051	12/14/2015	2.92	12/15/2025	12/14/2015	129.34023	123.8005011	118.5324319	113.5212148	108.752935	104.2145076	99.89362378	95.77870004	91.85883177
160209A00019	2/9/2016	2.52	2/9/2026	2/9/2016	128.12396	122.4247711	117.0136006	111.874274	106.9916213	102.3514076	97.94026987	93.74565813	89.7557809
150731A00016	7/31/2015	3.04	7/31/2025	7/31/2015	127.81776	122.7760623	117.9638061	113.3692294	108.9812419	104.7893858	100.7837952	96.95515918	93.2946869
150731A00020	7/31/2015	2.47	7/29/2022	7/31/2015	107.52139	106.2211963	104.952343	103.7137039	102.5042098	101.3228415	100.1686267	99.04063745	97.93798777
150812A00040	8/12/2015	2.94	8/12/2025	8/12/2015	127.5489	122.4729364	117.62968	113.007103	108.5938781	104.3793295	100.3533909	96.50656667	92.82989605
150909A00003	9/9/2015	3.11	9/9/2025	9/9/2015	128.78001	123.5835236	118.6285102	113.9023866	109.3933013	105.0900859	100.982211	97.05974625	93.31332216
151002A00038	10/2/2015	2.81	10/2/2025	10/2/2015	127.72118	122.4719057	117.4696395	112.7014849	108.1552827	103.8195671	99.68352227	95.73694255	91.97019474
151008A00025	10/8/2015	2.91	10/8/2025	10/8/2015	128.29172	123.0085622	117.9747692	113.1772725	108.6037585	104.2426181	100.0829029	96.11428429	92.32701499
150601A00625	6/1/2015	3.96	12/9/2044	6/1/2015	245.58202	203.0287592	168.9503266	141.5701086	119.4955709	101.6332787	87.12309164	75.28712947	65.59013387
150601A00656	6/1/2015	2.59	12/17/2021	6/1/2015	103.59271	103.0036607	102.4213082	101.8455375	101.2762373	100.7132989	100.1566159	99.60608451	99.06160291
150601A00677	6/1/2015	2.39	1/30/2025	6/1/2015	122.70938	118.3714211	114.2113077	110.2206965	106.3916901	102.7168096	99.18896963	95.80145502	92.54789873
150601A00682	6/1/2015	2.3	2/9/2022	6/1/2015	104.3549	103.6011	102.858173	102.1258836	101.4040042	100.6923139	99.9905979	99.29864744	98.61625956
150601A00775	6/1/2015	2.28	11/12/2021	6/1/2015	102.82652	102.3431144	101.8642539	101.3898775	100.9199223	100.4543267	99.99302996	99.53597267	99.08309643
150601A00998	6/1/2015	5.37	10/25/2034	6/1/2015	211.29673	189.0039373	169.4346706	152.2347145	137.0979551	123.7596115	111.9904497	101.5918324	92.39148163
141215A00062	12/15/2014	2.65	12/16/2024	12/15/2014	123.16599	118.9670784	114.9354136	111.0633865	107.3437784	103.7697399	100.3347699	97.03269563	93.85765394
150115A00022	1/17/2017	2.56	1/16/2024	1/17/2017	116.79002	113.7981837	110.8992169	108.0896305	105.3660884	102.7254035	100.1645302	97.68055691	95.27069895
150211A00005	2/11/2015	2.35	2/15/2022	2/11/2015	104.5193	103.7466322	102.9853737	102.2352697	101.4960762	100.7675563	100.0494798	99.34162315	98.64376922
150601A00188	6/1/2015	2.06	8/24/2021	6/1/2015	101.42476	101.175965	100.9283961	100.6820408	100.4368903	100.1929355	99.95016796	99.70857888	99.46815975
150601A00356	6/1/2015	3.66	9/22/2023	6/1/2015	117.41439	114.7837122	112.2260961	109.7390745	107.3202763	104.9674256	102.6783376	100.4509136	98.28313766

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00406	6/1/2015	3.71	1/17/2024	6/1/2015	119.89861	116.8602255	113.9159269	111.0621767	108.295597	105.6129612	103.0111859	100.4873231	98.03855356
140625A00021	6/27/2016	3.2	6/25/2021	6/27/2016	100.54177	100.4635455	100.385449	100.3074785	100.2296336	100.151914	100.0743194	99.9968496	99.91950424
140811A00047	8/11/2016	3.13	8/11/2021	8/11/2016	101.44139	101.2295752	101.0186545	100.8086262	100.5994846	100.3912239	100.1838386	99.97732303	99.7716717
140923A00069	9/23/2014	2.63	9/23/2021	9/23/2014	102.10715	101.7710245	101.4371122	101.1053923	100.7758432	100.4484439	100.1231731	99.80001032	99.47893498
140923A00070	9/23/2014	2.88	9/23/2022	9/23/2014	108.94796	107.5140925	106.1080115	104.728942	103.3761385	102.048883	100.7464838	99.46827421	98.21361119
140930A00104	9/30/2016	3.23	9/30/2021	9/30/2016	102.44277	102.0857228	101.7311592	101.3790545	101.0293832	100.6821202	100.3372407	99.99472024	99.65453472
141117A00011	11/17/2014	3.81	11/17/2034	11/17/2014	188.06538	167.270299	149.074882	133.1359056	119.1572878	106.8833892	96.09329776	86.59594689	78.22594109
130211A00016	2/11/2013	2.27	2/15/2023	2/11/2013	110.48656	108.6130116	106.7811382	104.9896213	103.2371945	101.5226446	99.84480926	98.20257397	96.59486976
130211A00026	2/11/2013	2.27	2/15/2023	2/11/2013	110.48656	108.6130116	106.7811382	104.9896213	103.2371945	101.5226446	99.84480926	98.20257397	96.59486976
130211A00035	2/11/2013	2.27	2/15/2023	2/11/2013	110.48656	108.6130116	106.7811382	104.9896213	103.2371945	101.5226446	99.84480926	98.20257397	96.59486976
130501A00021	5/1/2013	2.27	5/1/2023	5/1/2013	111.77568	109.6553155	107.5862023	105.5667844	103.5955599	101.6710825	99.7919592	97.95684801	96.16445555
140314A00003	3/14/2014	3.32	3/14/2024	3/14/2014	120.02436	116.8006521	113.6814043	110.6625907	107.7403641	104.9110512	102.1711431	99.51728667	96.94627687
140605A00058	6/6/2016	3.29	6/7/2021	6/6/2016	100.19562	100.1677273	100.1398678	100.1120394	100.0842418	100.0564752	100.0287393	100.0010343	99.97335992
110927A00009	9/27/2011	3.07	9/27/2021	9/27/2011	102.32923	101.9811219	101.635372	101.2919602	100.9508632	100.6120575	100.2755203	99.94122878	99.60916064
111024A00013	10/24/2011	3.24	10/25/2021	10/24/2011	102.93792	102.5069762	102.0796417	101.6558666	101.2356065	100.818818	100.4054582	99.99548477	99.58885639
111213A00004	12/13/2011	2.96	12/13/2021	12/13/2011	103.74767	103.1699946	102.5987586	102.0338505	101.4751656	100.9226011	100.3760569	99.83543461	99.30063833
120419A00009	4/19/2012	2.76	4/19/2022	4/19/2012	105.9921	105.0193847	104.0644949	103.1269454	102.2062668	101.3020066	100.4137281	99.54101034	98.68344677
120531A00008	5/31/2012	2.27	5/31/2022	5/31/2012	106.25835	105.1531725	104.0709011	103.0108319	101.9722872	100.9546166	99.95719567	98.97942471	98.0207274
120614A00005	6/14/2012	2.22	6/15/2022	6/14/2012	106.60413	105.4474743	104.3158335	103.2084041	102.1244152	101.0631285	100.0238361	99.0058597	98.00854834
061013A00024	10/13/2006	5.53	10/15/2021	10/13/2006	103.63971	103.2361957	102.8358391	102.4386018	102.0444472	101.6533394	101.2652431	100.8801235	100.4979462
081219A00006	12/19/2008	3.88	12/22/2023	12/19/2008	120.42225	117.4499795	114.5679602	111.7728726	109.0615458	106.4309471	103.8781745	101.4004504	98.99511507
110609A00010	6/9/2011	3.83	6/9/2021	6/9/2011	100.25281	100.2193222	100.1858712	100.1524593	100.1190863	100.0857523	100.0524571	100.0192006	99.98598292
110706A00009	7/6/2011	3.93	7/6/2021	7/6/2011	100.83426	100.7249273	100.6158404	100.5070006	100.3984071	100.2900591	100.1819557	100.074096	99.96647918
110706A00010	7/6/2011	3.93	7/6/2021	7/6/2011	100.83426	100.7249273	100.6158404	100.5070006	100.3984071	100.2900591	100.1819557	100.074096	99.96647918
110805A00021	8/5/2011	3.36	8/5/2021	8/5/2011	101.36995	101.1753004	100.9814043	100.7882612	100.5958664	100.4042157	100.2133047	100.0231291	99.8336845
191002A00045	2/14/2020	1.75	2/14/2023	2/14/2020	109.53556	107.673832	105.8534973	104.0732419	102.3318095	100.6279966	98.96064994	97.32866389	95.73097772
191002A00046	2/14/2020	1.75	2/14/2023	2/14/2020	109.53556	107.673832	105.8534973	104.0732419	102.3318095	100.6279966	98.96064994	97.32866389	95.73097772
200131A00029	1/31/2020	1.78	10/31/2024	1/31/2020	118.58857	114.6402792	110.8445869	107.1947852	103.6844955	100.3076535	97.05849137	93.93152171	90.92152254
200131A00031	1/31/2020	1.74	1/31/2024	1/31/2020	114.7052	111.6960432	108.7816769	105.9584842	103.2230105	100.5719587	98.00218039	95.51066814	93.09454787
190917A00030	1/10/2020	2.03	1/10/2023	1/10/2020	109.47807	107.7207762	106.0009118	104.3173547	102.6690253	101.0548869	99.473943	97.9252361	96.40784518
190917A00033	1/10/2020	2.03	1/10/2023	1/10/2020	109.47807	107.7207762	106.0009118	104.3173547	102.6690253	101.0548869	99.473943	97.9252361	96.40784518
191002A00038	1/13/2020	1.76	1/13/2023	1/13/2020	109.06532	107.3028193	105.5780003	103.8897277	102.2369098	100.6184981	99.03348581	97.48090495	95.95982501
191002A00042	1/13/2020	1.76	1/13/2023	1/13/2020	109.06532	107.3028193	105.5780003	103.8897277	102.2369098	100.6184981	99.03348581	97.48090495	95.95982501

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191002A00043	2/3/2020	1.75	2/3/2023	2/3/2020	109.36756	107.5401868	105.7528717	104.0043679	102.293479	100.6190579	98.98000436	97.37526274	95.80381946
191002A00044	2/3/2020	1.75	2/3/2023	2/3/2020	109.36756	107.5401868	105.7528717	104.0043679	102.293479	100.6190579	98.98000436	97.37526274	95.80381946
190904A00034	9/4/2019	1.74	6/1/2022	9/4/2019	105.72119	104.6159072	103.5336246	102.4736266	101.4352307	100.4177821	99.42065198	98.44323668	97.48495616
190904A00036	9/4/2019	1.74	6/8/2022	9/4/2019	105.83275	104.704802	103.6007851	102.5199444	101.461556	100.4249261	99.40938892	98.41430579	97.43906354
190904A00037	9/4/2019	1.73	6/15/2022	9/4/2019	105.9335	104.78292	103.6572136	102.5555832	101.4772627	100.4215184	99.38764702	98.37497427	97.3828533
190904A00040	9/4/2019	1.73	6/22/2022	9/4/2019	106.04498	104.8716724	103.7241975	102.6017081	101.5033954	100.4284849	99.37623524	98.34593572	97.33690528
190904A00043	9/4/2019	1.72	12/15/2022	9/4/2019	108.5572	106.8854793	105.2483571	103.644835	102.0739551	100.5347954	99.02646836	97.54811903	96.09892368
190904A00044	9/4/2019	1.72	12/30/2022	9/4/2019	108.78596	107.0671666	105.384531	103.7369853	102.1235041	100.5431017	98.99483001	97.4777771	95.99106519
190829A00073	8/29/2019	1.81	3/15/2023	8/29/2019	110.08676	108.129662	106.2173469	104.3484468	102.5216492	100.7356929	98.98936512	97.28149991	95.61097526
190829A00075	8/29/2019	1.8	6/15/2023	8/29/2019	111.49211	109.2357563	107.0369932	104.8939553	102.8048534	100.7679693	98.78165267	96.84431786	94.95444063
190829A00076	8/29/2019	1.81	6/30/2023	8/29/2019	111.73827	109.4340454	107.1894297	105.0024586	102.8712484	100.7939917	98.7689544	96.79447166	94.86894459
190829A00078	8/29/2019	1.8	12/15/2023	8/29/2019	114.20286	111.3466079	108.576977	105.8908061	103.2850685	100.7568682	98.30343282	95.92210785	93.61035042
190829A00080	8/29/2019	1.8	12/29/2023	8/29/2019	114.40756	111.5043798	108.6902253	105.9618004	103.3159551	100.7496776	98.26008685	95.8444262	93.50005687
190830A00020	8/31/2020	1.67	8/31/2023	8/31/2020	112.33315	109.8311572	107.3979955	105.0312398	102.7285736	100.4877824	98.30674796	96.1834434	94.11592804
190826A00046	8/26/2019	1.77	8/26/2024	8/26/2019	117.67841	113.9584646	110.376138	106.9254607	103.6007637	100.3966633	97.30804467	94.33004596	91.45804393
190829A00013	8/29/2019	1.78	8/29/2024	8/29/2019	117.7531	114.0224016	110.4299956	106.9698706	103.6363239	100.4239402	97.32757425	94.34233581	91.46357448
190829A00016	8/29/2019	1.82	8/29/2022	8/29/2019	107.22821	105.8323681	104.4722651	103.1465447	101.8539145	100.5931461	99.36307152	98.1625791	96.99061036
190829A00017	8/29/2019	1.8	8/29/2023	8/29/2019	112.615	110.1156178	107.6848874	105.320379	103.0197748	100.78086	98.60151666	96.47971883	94.41352742
190829A00028	8/29/2019	1.78	8/29/2024	8/29/2019	117.7531	114.0224016	110.4299956	106.9698706	103.6363239	100.4239402	97.32757425	94.34233581	91.46357448
190829A00072	8/29/2019	1.81	12/15/2022	8/29/2019	108.70309	107.0301359	105.3918012	103.7870888	102.21504	100.6747324	99.16527776	97.68582057	96.23553659
190722A00054	12/19/2019	2.02	12/20/2021	12/19/2019	103.33697	102.7398616	102.1496462	101.5662006	100.9894089	100.4191575	99.85533578	99.29783526	98.74655005
190722A00056	12/19/2019	2.02	12/20/2021	12/19/2019	103.33697	102.7398616	102.1496462	101.5662006	100.9894089	100.4191575	99.85533578	99.29783526	98.74655005
190726A00014	7/26/2019	2.23	7/24/2024	7/26/2019	118.7993	115.1657977	111.6632784	108.2862143	105.0293485	101.8876802	98.85645041	95.93112839	93.10739899
190805A00031	8/5/2020	1.77	8/4/2023	8/5/2020	112.176	109.7580961	107.4049636	105.114371	102.8841867	100.7123703	98.5969685	96.53611008	94.52800179
190815A00040	8/15/2019	1.86	8/15/2023	8/15/2019	112.54866	110.0928088	107.7034712	105.3783326	103.1151761	100.9118813	98.76641964	96.67684917	94.64131019
190815A00041	8/15/2019	1.86	8/15/2024	8/15/2019	117.84379	114.1559557	110.6034215	107.1803647	103.8812589	100.7008535	97.63415684	94.67642203	91.82313266
190621A00034	6/21/2019	2.17	6/15/2023	6/21/2019	112.29168	110.0265496	107.8191945	105.6677402	103.5703921	101.525427	99.53118995	97.58609051	95.68860009
190621A00035	6/21/2019	2.19	12/15/2023	6/21/2019	115.26097	112.3904187	109.6068235	106.907012	104.2879473	101.7467234	99.28055854	96.88678906	94.56286337
190621A00037	6/21/2019	2.21	5/15/2024	6/21/2019	117.67683	114.2865038	111.0122948	107.8495757	104.7939293	101.8411393	98.98718024	96.22820774	93.56054903
190621A00039	6/21/2019	2.21	6/17/2024	6/21/2019	118.17532	114.6713996	111.2905543	108.0277418	104.878156	101.8372167	98.90055752	96.06401468	93.32361608
190722A00047	11/22/2019	2.03	11/22/2021	11/22/2019	102.88723	102.3742892	101.8664585	101.3636588	100.8658158	100.3728564	99.88470887	99.40130306	98.92257008
190722A00051	11/22/2019	2.03	11/22/2021	11/22/2019	102.88723	102.3742892	101.8664585	101.3636588	100.8658158	100.3728564	99.88470887	99.40130306	98.92257008
190530A00048	5/30/2019	2.41	5/31/2022	5/30/2019	106.40445	105.2984448	104.2153566	103.1544822	102.1151438	101.0966906	100.0984981	99.11996601	98.16051801

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190530A00049	5/30/2019	2.44	5/30/2023	5/30/2019	112.60627	110.3858044	108.2211441	106.1105154	104.0522172	102.0446146	100.0861357	98.17526855	96.3105586
190604A00019	6/4/2019	2.27	6/4/2024	6/4/2019	118.17681	114.7136203	111.3710022	108.14406	105.0281295	102.0187636	99.11172021	96.30295161	93.58859442
190607A00040	6/7/2019	2.12	6/7/2022	6/7/2019	106.22107	105.0940246	103.9908113	102.91068	101.8529118	100.8168176	99.80173642	98.80703373	97.83210045
190607A00041	6/7/2019	2.12	6/7/2022	6/7/2019	106.22107	105.0940246	103.9908113	102.91068	101.8529118	100.8168176	99.80173642	98.80703373	97.83210045
190614A00007	6/14/2019	2.22	6/15/2021	6/14/2019	100.29902	100.2488247	100.1986935	100.1486291	100.0986316	100.0487007	99.99883633	99.94903835	99.89930664
190501A00014	5/1/2019	2.62	5/1/2024	5/1/2019	118.74503	115.3845201	112.1374659	108.9994045	105.9660777	103.0334186	100.1975414	97.45473254	94.80144201
190501A00024	5/1/2019	2.62	5/1/2024	5/1/2019	118.74503	115.3845201	112.1374659	108.9994045	105.9660777	103.0334186	100.1975414	97.45473254	94.80144201
190515A00030	5/15/2019	2.49	5/15/2024	5/15/2019	118.56669	115.1624526	111.8746938	108.6987726	105.6302598	102.6649279	99.7987405	97.02784285	94.34855219
190515A00032	5/15/2019	2.49	5/15/2024	5/15/2019	118.56669	115.1624526	111.8746938	108.6987726	105.6302598	102.6649279	99.7987405	97.02784285	94.34855219
190520A00048	5/20/2019	2.53	5/20/2024	5/20/2019	118.77633	115.3521964	112.0457463	108.8522647	105.7672567	102.7864332	99.90569998	97.12114781	94.42904291
190523A00035	5/23/2019	2.34	11/23/2021	5/23/2019	103.05946	102.5430802	102.0318647	101.5257394	101.0246286	100.528458	100.0371548	99.55064769	99.0688666
190327A00027	3/27/2019	2.66	1/15/2025	3/27/2019	123.03884	118.7600452	114.6545472	110.7143162	106.9317448	103.2996233	99.81111623	96.45974041	93.23934451
190328A00077	3/28/2019	2.46	9/28/2021	3/28/2019	102.13823	101.7876532	101.4394687	101.0936566	100.7501928	100.4090537	100.0702156	99.73365555	99.3993506
190329A00012	3/29/2019	2.61	3/29/2024	3/29/2019	118.16985	114.9238604	111.7843308	108.747198	105.8085779	102.9647555	100.2121761	97.54743771	94.96728346
190405A00040	4/3/2020	3.12	4/5/2030	4/3/2020	153.14606	141.111299	130.1304391	120.1053391	110.9474753	102.5769532	94.92162666	87.91631055	81.50207744
190422A00030	4/22/2019	2.93	12/22/2025	4/22/2019	129.54898	123.9787174	118.682564	113.6455293	108.8535253	104.2933077	99.95242083	95.81914598	91.88245372
190426A00023	4/26/2019	2.91	6/24/2026	4/26/2019	132.21317	125.9398986	120.0046577	114.3873999	109.0693728	104.0330308	99.26195081	94.7407546	90.45503628
190311A00073	3/14/2019	2.81	3/14/2024	3/14/2019	118.5106	115.3091573	112.2116287	109.2140006	106.3124436	103.5033014	100.7830812	98.14844558	95.59620429
190311A00076	3/14/2019	2.88	9/16/2024	3/14/2019	121.90594	118.0469447	114.3317522	110.7541807	107.3083534	103.9886802	100.7898418	97.70677496	94.73465861
190315A00039	3/15/2019	2.64	9/15/2021	3/15/2019	101.96668	101.6538502	101.3429504	101.0339626	100.7268689	100.4216521	100.1182947	99.81677979	99.51709053
190318A00016	3/19/2019	2.7	3/18/2022	3/19/2019	105.34419	104.4734252	103.6170319	102.7746583	101.9459618	101.1306114	100.3282862	99.53867592	98.76147992
190318A00017	3/19/2019	2.7	3/18/2022	3/19/2019	105.34419	104.4734252	103.6170319	102.7746583	101.9459618	101.1306114	100.3282862	99.53867592	98.76147992
190325A00022	3/25/2019	2.55	11/25/2022	3/25/2019	109.54966	107.9300344	106.3431255	104.7880219	103.2638483	101.7697609	100.3049457	98.86861802	97.46002028
190206A00009	2/12/2019	2.84	2/11/2022	2/12/2019	104.80696	104.0452475	103.2945996	102.5547772	101.8255473	101.1066833	100.3979649	99.69917843	99.01011584
190206A00010	2/12/2019	2.84	2/11/2022	2/12/2019	104.80696	104.0452475	103.2945996	102.5547772	101.8255473	101.1066833	100.3979649	99.69917843	99.01011584
190221A00011	2/21/2019	2.81	8/23/2021	2/21/2019	101.59774	101.3515104	101.1064742	100.862627	100.6199602	100.3784652	100.1381336	99.898957	99.66092702
190221A00012	2/21/2019	2.83	8/23/2022	2/21/2019	108.43752	107.0504271	105.6987441	104.3811303	103.0963093	101.8430681	100.6202527	99.42676478	98.26155843
190311A00068	3/25/2019	2.76	9/26/2022	3/25/2019	108.82023	107.3842291	105.9750115	104.5918794	103.2341556	101.901186	100.5923387	99.30700308	98.04458876
190311A00072	3/25/2019	2.79	9/25/2023	3/25/2019	115.45162	112.8360218	110.2933588	107.821171	105.417101	103.0788847	100.8043474	98.59139934	96.438032
181206A00018	12/6/2018	3.13	12/6/2023	12/6/2018	117.6431	114.7692001	111.9815097	109.2769148	106.6524324	104.105207	101.6325033	99.23170111	96.9002893
181220A00041	12/20/2018	3.36	12/18/2026	12/20/2018	137.51781	130.4776538	123.84691	117.5995277	111.7112568	106.159509	100.9232355	95.98281359	91.31994285
181227A00001	12/27/2018	2.92	12/27/2021	12/27/2018	103.98528	103.3652664	102.7526263	102.1472332	101.548959	100.9576789	100.3732708	99.79561554	99.2245966
190122A00017	1/22/2019	2.94	5/2/2022	1/22/2019	106.40856	105.3932465	104.3972835	103.4201176	102.4612201	101.5200823	100.596214	99.689143	98.79841406

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190122A00018	1/22/2019	2.98	12/1/2022	1/22/2019	110.33408	108.6898747	107.0791473	105.5009607	103.9544095	102.4386218	100.9527568	99.49600393	98.06758149
190123A00059	1/23/2019	2.95	1/24/2022	1/23/2019	104.54077	103.8346401	103.1380395	102.4507738	101.7726563	101.1035052	100.4431436	99.79139894	99.14810347
181001A00031	10/1/2018	3.23	9/29/2023	10/1/2018	116.6134	113.971003	111.4024289	108.9052047	106.4769525	104.1153879	101.8183153	99.58362397	97.40928463
181003A00023	10/3/2018	3.17	4/4/2022	10/3/2018	106.07185	105.1452512	104.2348316	103.3401698	102.4608593	101.5965069	100.7467333	99.91117156	99.08946708
181016A00019	10/18/2018	3.32	10/16/2023	10/18/2018	117.16964	114.465025	111.837376	109.284058	106.8025465	104.3904178	102.0453448	99.76509232	97.54751285
181029A00051	2/5/2019	3.69	2/5/2029	2/5/2019	151.95322	141.5728201	131.9917885	123.1439792	114.9690665	107.412004	100.4225355	93.9547535	87.96670087
181031A00070	3/1/2019	3.77	3/1/2029	3/1/2019	153.04747	142.5341277	132.8358176	123.8846232	115.6186476	107.9814504	100.9215384	94.39190591	88.34962041
181203A00039	12/3/2018	3.27	12/1/2023	12/3/2018	117.92357	115.0619603	112.2858203	109.592078	106.9777903	104.4401388	101.9764234	99.58405669	97.26055827
180910A00037	9/10/2018	3.03	9/9/2022	9/10/2018	108.96777	107.5481685	106.1609359	104.8049652	103.4791983	102.1826254	100.9142816	99.67324479	98.4586331
180910A00039	9/10/2018	3.03	9/9/2022	9/10/2018	108.96777	107.5481685	106.1609359	104.8049652	103.4791983	102.1826254	100.9142816	99.67324479	98.4586331
180911A00007	9/11/2018	3.12	9/8/2023	9/11/2018	115.95032	113.3803819	110.881265	108.4505123	106.0857746	103.7848027	101.5454423	99.36562894	97.24338371
180912A00017	9/12/2018	3.13	9/12/2023	9/12/2018	116.04884	113.4655067	110.9535403	108.5104876	106.133996	103.8218113	101.5717731	99.38180974	97.24993421
180919A00013	9/19/2018	3.14	9/19/2022	9/19/2018	109.23689	107.8052674	106.4027656	105.0285168	103.6816851	102.3614675	101.0670931	99.7978206	98.55293747
180925A00033	9/25/2018	3.26	9/25/2023	9/25/2018	116.61141	113.9814477	111.4247382	108.9388118	106.5213015	104.1699343	101.8825265	99.65697997	97.49127824
180627A00065	6/27/2018	2.9	6/25/2021	6/27/2018	100.51836	100.4401568	100.3620805	100.2841301	100.2063052	100.1286056	100.0510311	99.9735812	99.89625576
180709A00081	7/9/2018	3.05	7/7/2023	7/9/2018	114.60617	112.2477954	109.9506951	107.7128347	105.5322634	103.4071107	101.3355823	99.31595639	97.34658025
180713A00024	7/13/2018	2.96	7/13/2021	7/13/2018	100.86107	100.7320175	100.6033046	100.474935	100.3469073	100.2192199	100.0918716	99.96486098	99.83818664
180726A00046	7/26/2018	3.2	12/26/2023	7/26/2018	118.2092	115.2634724	112.4074923	109.637951	106.9516871	104.345677	101.8170282	99.3629721	96.98085824
180727A00017	7/27/2018	3.16	7/27/2023	7/27/2018	115.23683	112.8080424	110.4435872	108.1412737	105.8990071	103.7147812	101.5866742	99.51284419	97.49152501
180821A00029	8/21/2018	3.01	8/21/2023	8/21/2018	115.35497	112.8473793	110.4079449	108.0342725	105.724078	103.4751779	101.2854836	99.15299676	97.07580396
180615A00039	6/15/2018	3.49	6/15/2028	6/15/2018	146.55235	137.2464275	128.6061364	120.58017	113.1214439	106.1867225	99.73628563	93.73362499	88.14516854
180618A00036	6/18/2018	3.89	6/18/2048	6/18/2018	267.05676	215.5868765	175.5738028	144.3311121	119.8214743	100.4963763	85.17613042	72.95988655	63.15802354
180621A00031	6/21/2018	3.07	6/21/2023	6/21/2018	114.34876	112.0428813	109.7960159	107.606244	105.4717209	103.3906762	101.3614096	99.38228844	97.45174352
180621A00068	6/21/2018	3.32	6/23/2025	6/21/2018	128.42184	123.4969844	118.7912524	114.2936624	109.9938484	105.8820201	101.9489278	98.18582913	94.58445838
180625A00012	6/25/2018	3.07	6/23/2023	6/25/2018	114.38617	112.0738116	109.8207402	107.6250189	105.4847905	103.3982727	101.3637542	99.37959164	97.44420598
180626A00026	6/26/2018	2.92	6/25/2021	6/26/2018	100.51992	100.4417161	100.3636384	100.2856866	100.2078604	100.1301595	100.0525836	99.97513243	99.89780566
180518A00048	5/25/2018	3.65	5/18/2028	5/25/2018	147.38054	138.1470489	129.5668735	121.5901698	114.1711529	107.2677424	100.8412449	94.85606456	89.27944043
180518A00071	5/25/2018	3.56	5/18/2026	5/25/2018	135.22447	129.0004022	123.1046857	117.5182239	112.2231285	107.2026396	102.4410489	97.9236279	93.63656181
180529A00072	5/29/2018	3	5/30/2023	5/29/2018	113.78961	111.5564295	109.3793115	107.2564766	105.1862165	103.1668892	101.1969158	99.2747779	97.39901452
180612A00031	6/12/2018	3.04	6/13/2022	6/12/2018	107.31805	106.1656374	105.0379584	103.9342184	102.8536605	101.7955595	100.7592202	99.7439758	98.74918655
180613A00046	6/13/2018	3	1/13/2022	6/13/2018	104.36184	103.6894556	103.0257396	102.3705212	101.7236378	101.0849308	100.4542458	99.83143201	99.2163426
180613A00047	6/13/2018	3.17	1/12/2024	6/13/2018	118.44027	115.437885	112.5282329	109.7078425	106.973397	104.3217271	101.7498034	99.25472929	96.83373371
180328A00042	3/28/2018	2.95	3/28/2023	3/28/2018	112.49538	110.472253	108.4958137	106.5647017	104.6776095	102.8332759	101.0304834	99.26805713	97.54486274

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180403A00024	4/3/2018	2.96	4/3/2023	4/3/2018	112.6273	110.5845251	108.5892663	106.6401351	104.7357897	102.874936	101.0563256	99.27875407	97.54105876
180404A00018	4/4/2018	2.89	4/4/2022	4/4/2018	105.82563	104.9002199	103.9909789	103.0974815	102.2193213	101.3561055	100.5074549	99.67300297	98.85239537
180515A00022	5/15/2018	3.19	5/15/2023	5/15/2018	113.89646	111.7097607	109.5768798	107.4961419	105.4659394	103.4847258	101.5510128	99.66336784	97.82041124
180518A00042	5/25/2018	3.42	5/19/2025	5/25/2018	128.25585	123.4520308	118.8576613	114.462462	110.2567169	106.2312375	102.3773311	98.68677097	95.1517692
180518A00046	5/25/2018	3.62	5/18/2027	5/25/2018	141.50733	133.8032639	126.5754765	119.7919328	113.4229134	107.4408392	101.8201064	96.53693481	91.56922938
180130A00064	1/30/2018	2.75	1/30/2023	1/30/2018	111.06314	109.2322701	107.4412826	105.6889435	103.9740694	102.2955253	100.6522222	99.04311479	97.46719934
180131A00022	1/31/2018	2.96	1/30/2025	1/31/2018	124.46522	120.1102777	115.9331039	111.9253831	108.0792443	104.3872326	100.8422842	97.43770339	94.16714081
180201A00022	2/1/2018	2.99	2/3/2025	2/1/2018	124.65018	120.2785208	116.0857411	112.0634557	108.2037237	104.4990256	100.9422376	97.52660817	94.2457361
180312A00014	3/12/2018	3	3/13/2023	3/12/2018	112.29211	110.3201797	108.39323	106.5098743	104.6687857	102.8686893	101.1083606	99.38662259	97.70234325
180316A00031	3/16/2018	2.96	12/16/2022	3/16/2018	110.58618	108.8942419	107.2373153	105.6143929	104.0245036	102.4667128	100.940121	99.44386162	97.97710006
180328A00015	3/28/2018	2.93	3/28/2023	3/28/2018	112.45687	110.4341261	108.4580595	106.527313	104.6405794	102.7965975	100.9941501	99.23206256	97.50920062
171222A00037	12/22/2017	2.71	12/29/2023	12/22/2017	116.91522	113.9776697	111.1299579	108.3687612	105.6909045	103.093352	100.5731994	98.12766795	95.75409745
171228A00023	12/28/2017	2.69	3/29/2024	12/28/2017	118.41254	115.1629204	112.0198483	108.979261	106.0372716	103.1901623	100.4343757	97.76650714	95.18329734
171228A00024	12/28/2017	2.71	6/28/2024	12/28/2017	119.99546	116.4274847	112.9855212	109.6643653	106.4590622	103.3648921	100.3773577	97.49217234	94.7052484
180104A00016	1/4/2018	2.56	1/4/2023	1/4/2018	110.27246	108.5259528	106.8163682	105.1426094	103.5036212	101.8983897	100.3259402	98.78533534	97.27567327
180123A00067	1/23/2018	2.67	1/23/2023	1/23/2018	110.79714	108.9895552	107.2210251	105.4903537	103.7963935	102.1380435	100.5142468	98.92398854	97.36629331
180130A00063	1/30/2018	2.63	1/31/2022	1/30/2018	104.45174	103.7248345	103.008022	102.3010968	101.6038554	100.9160998	100.2376375	99.56828098	98.9078479
171016A00016	10/16/2017	2.23	10/17/2022	10/16/2017	108.42359	106.9302882	105.4651055	104.0273141	102.6162102	101.2311137	99.87136716	98.53633461	97.22540092
171110A00007	11/10/2017	2.38	11/10/2022	11/10/2017	109.03168	107.4612419	105.9216965	104.4122051	102.9319616	101.4801883	100.0561343	98.65907484	97.28830969
171110A00008	11/10/2017	2.65	11/12/2024	11/10/2017	121.9973	117.948277	114.0566054	110.3153099	106.7177647	103.2576735	99.92905039	96.72620361	93.64371886
171110A00019	5/4/2018	2.46	5/4/2023	5/4/2018	112.21562	110.0811596	107.9984967	105.96605	103.9822951	102.0457643	100.1550445	98.30877439	96.50564235
171219A00031	12/19/2017	2.42	12/20/2021	12/19/2017	103.5687	102.9708245	102.3798415	101.7956346	101.2180877	100.6470874	100.0825228	99.52428535	98.97226912
171219A00032	12/19/2017	2.42	12/20/2021	12/19/2017	103.5687	102.9708245	102.3798415	101.7956346	101.2180877	100.6470874	100.0825228	99.52428535	98.97226912
170727A00020	7/27/2017	1.94	7/27/2021	7/27/2017	100.95282	100.7842669	100.6162737	100.4488386	100.2819588	100.1156316	99.94985439	99.78462436	99.61993887
170814A00034	8/14/2017	2.1	8/15/2022	8/14/2017	107.36142	106.0075348	104.6876451	103.4004868	102.1448539	100.9195991	99.72363007	98.55590636	97.41543628
170816A00030	8/16/2017	1.95	8/16/2021	8/16/2017	101.27642	101.0506206	100.8258383	100.6020681	100.3793032	100.1575366	99.93676171	99.71697178	99.49816016
170822A00023	8/23/2017	3.95	8/23/2028	8/23/2017	151.38742	141.648033	132.6185656	124.2431457	116.4706048	109.254053	102.5504977	96.32049944	90.52785923
170908A00021	9/8/2017	1.96	9/8/2022	9/8/2017	107.52693	106.1186444	104.7428686	103.3984797	102.0844029	100.7996127	99.54312992	98.31401901	97.11138578
170918A00051	12/18/2017	2.24	12/19/2022	12/18/2017	109.46734	107.7758069	106.119412	104.4971398	102.9080107	101.3510826	99.8254485	98.33023512	96.86460136
170614A00019	6/14/2017	2.48	6/13/2025	6/14/2017	124.55036	119.740474	115.1443794	110.7514001	106.5514539	102.5350158	98.69308408	95.01714847	91.4991604
170622A00045	6/22/2017	2.76	6/22/2027	6/22/2017	136.20802	128.5459057	121.3671131	114.6385717	108.3296427	102.4119307	96.85910714	91.64674968	86.75219416
170628A00044	10/9/2018	2.12	10/8/2021	10/9/2018	102.18609	101.8063903	101.4295189	101.0554422	100.6841288	100.3155484	99.94967053	99.58646564	99.22590438
170703A00022	7/3/2017	2.86	7/3/2026	7/3/2017	132.06547	125.7650143	119.8055418	114.1667436	108.829628	103.7764311	98.99053105	94.45636778	90.15936963

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170703A00024	7/3/2017	2.95	7/6/2027	7/3/2017	137.68061	129.9226307	122.6559392	115.8467621	109.463825	103.4781552	97.86289995	92.59316015	87.64583806
170726A00025	7/26/2017	2.14	7/26/2022	7/26/2017	107.06917	105.7815397	104.5247393	103.2976751	102.0993016	100.928622	99.78468504	98.66658269	97.57344757
170405A00031	4/5/2017	2.22	4/4/2022	4/5/2017	105.23645	104.313895	103.4074744	102.5167631	101.6413553	100.7808591	99.93489581	99.10309956	98.28511663
170412A00019	4/12/2017	2.56	4/12/2024	4/12/2017	118.2463	114.9544843	111.7719918	108.6945936	105.7182525	102.8391094	100.0534742	97.35781719	94.74876149
170518A00008	5/18/2018	3.06	5/18/2028	5/18/2018	142.73749	133.6717317	125.2506343	117.4248848	110.1491923	103.3819367	97.0848535	91.22274685	85.76322867
170519A00019	5/19/2017	2	11/19/2021	5/19/2017	102.82331	102.3193628	101.8203557	101.326213	100.8368637	100.3522383	99.87226852	99.39688742	98.92602935
170531A00055	5/31/2017	2.13	5/31/2022	5/31/2017	106.11225	105.007899	103.9264444	102.8671803	101.8294294	100.8125414	99.81589221	98.83888233	97.88093573
170609A00052	6/11/2018	2.9	6/9/2027	6/11/2018	136.99193	129.3500137	122.1873141	115.4712138	109.1714834	103.2600948	97.7110494	92.50022085	87.60521084
170327A00077	3/27/2019	2.74	3/27/2024	3/27/2019	118.52982	115.2849511	112.1463012	109.1098143	106.1716164	103.3280023	100.5754268	97.91049739	95.3299665
170327A00078	3/27/2019	3.04	3/27/2026	3/27/2019	131.55442	125.6068359	119.965562	114.6132308	109.5335497	104.7112268	100.1319044	95.78209704	91.64913469
170327A00079	3/27/2019	3.19	3/29/2027	3/27/2019	137.93431	130.519908	123.5554211	117.0111977	110.8596851	105.0752721	99.63414343	94.51414482	89.6946593
170327A00080	3/27/2019	3.43	3/27/2029	3/27/2019	150.47672	139.9628293	130.2730599	121.3382803	113.0954998	105.4872916	98.46127546	91.96965061	85.96877382
170404A00002	4/4/2017	2.42	4/4/2023	4/4/2017	111.59515	109.5596033	107.5715134	105.6294846	103.7321752	101.8782913	100.0665847	98.2958511	96.5649281
170404A00003	4/4/2017	2.74	4/4/2025	4/4/2017	124.61178	120.0355874	115.6536833	111.4568055	107.4361845	103.5835117	99.89091327	96.35092487	92.95646824
161115A00021	11/15/2016	2.02	11/15/2021	11/15/2016	102.76769	102.2756461	101.7883133	101.3056255	100.8275165	100.3539211	99.88477552	99.4200172	98.95958467
161118A00026	12/20/2016	3.03	12/21/2026	12/20/2016	135.52174	128.528636	121.9436359	115.7407146	109.8956442	104.385861	99.19034176	94.28949088	89.66503569
161123A00035	11/23/2016	2.16	11/23/2021	11/23/2016	102.96898	102.4528592	101.941909	101.4360472	100.9351979	100.439287	99.9482417	99.46199059	98.98046371
161123A00037	11/23/2016	2.16	11/23/2021	11/23/2016	102.96898	102.4528592	101.941909	101.4360472	100.9351979	100.439287	99.9482417	99.46199059	98.98046371
161125A00002	11/25/2016	2.62	11/27/2023	11/25/2016	116.11927	113.2943947	110.5537578	107.8943409	105.3132525	102.8077229	100.3750982	98.01283482	95.7184939
161221A00053	12/23/2016	3.05	12/23/2021	12/23/2016	103.98574	103.3776176	102.7766048	102.1825744	101.5954052	101.0149787	100.4411793	99.8738939	99.31301202
160729A00017	7/31/2017	2.47	7/31/2029	7/31/2017	143.47909	132.7896999	122.9792104	113.970637	105.6941235	98.08624835	91.08940008	84.6512163	78.72407992
160801A00007	8/1/2016	1.47	8/2/2021	8/1/2016	100.96186	100.7762989	100.5914232	100.4072312	100.223719	100.0408831	99.85871944	99.67722446	99.49639443
160819A00015	10/12/2016	2.3	10/13/2026	10/12/2016	130.17929	123.5799082	117.3555842	111.4830947	105.9407683	100.7083753	95.76702474	91.09906933	86.68801749
160830A00068	11/30/2016	1.95	11/30/2023	11/30/2016	114.38336	111.5720538	108.8449613	106.199055	103.6314335	101.1393183	98.72004756	96.37107025	94.08994099
161017A00007	10/17/2016	1.99	10/18/2023	10/17/2016	113.83439	111.1656564	108.5732844	106.0546576	103.607263	101.2286884	98.91661784	96.66882696	94.48317904
161017A00015	10/17/2016	1.68	10/18/2021	10/17/2016	102.17477	101.7660867	101.3606727	100.9584904	100.5595015	100.1636679	99.77095211	99.38131746	98.99472768
160711A00016	7/11/2016	1.42	7/12/2021	7/11/2016	100.64774	100.5217443	100.3960808	100.2707456	100.1457374	100.021055	99.89669697	99.77266208	99.64894903
160711A00020	8/24/2017	1.59	8/24/2022	8/24/2017	106.85674	105.4773561	104.1333506	102.8233782	101.5461597	100.3004795	99.08518126	97.89916476	96.74138217
160711A00022	1/10/2018	1.91	1/10/2025	1/10/2018	120.0197	115.8144356	111.7795502	107.9071632	104.1898062	100.6204002	97.19223266	93.89893596	90.73446765
160712A00019	7/12/2017	2.32	7/12/2027	7/12/2017	133.44542	125.8004848	118.6432036	111.9398846	105.659343	99.77269789	94.25319065	89.07601724	84.21817553
160714A00018	9/6/2016	2.28	9/4/2026	9/6/2016	129.58697	123.1370465	117.0477039	111.2968214	105.8637609	100.7292571	95.87531822	91.28513459	86.94299404
160714A00024	9/20/2016	2.5	9/20/2028	9/20/2016	139.8499	130.445049	121.740453	113.6803196	106.213578	99.29345362	92.87708595	86.92518209	81.40170299
160307A00029	3/7/2016	3.21	3/7/2031	3/7/2016	159.11537	145.5085764	133.1998564	122.0577804	111.9648952	102.8161683	94.51761413	86.98507915	80.14316586

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160520A00017	9/20/2017	2.34	9/20/2024	9/20/2017	120.04207	116.2028271	112.5072705	108.9492294	105.5228344	102.2225006	99.04291227	95.97900818	93.02596777
160520A00018	9/20/2017	2.34	9/20/2024	9/20/2017	120.04207	116.2028271	112.5072705	108.9492294	105.5228344	102.2225006	99.04291227	95.97900818	93.02596777
160524A00015	11/25/2016	2.71	11/25/2026	11/25/2016	133.19853	126.3637738	119.9244111	113.8554759	108.1337065	102.7374213	97.64640317	92.84179339	88.30599306
160601A00021	6/1/2016	1.71	6/1/2021	6/1/2016	100.06073	100.0495979	100.0384723	100.0273571	100.0162525	100.0051584	99.99407481	99.98300166	99.97193897
160627A00068	6/27/2016	1.4	6/28/2021	6/27/2016	100.44436	100.3578709	100.2715245	100.1853244	100.0992704	100.013362	99.92759897	99.84198093	99.75650752
160222A00005	2/22/2016	2.79	2/22/2028	2/22/2016	139.48466	130.8483745	122.8089906	115.3219778	108.3463676	101.8444479	95.78148644	90.12547922	84.84692181
160222A00018	2/22/2016	2.59	2/23/2026	2/22/2016	128.67923	122.9195452	117.4528903	112.2626858	107.3333938	102.6504421	98.20015858	93.96970918	89.9470418
160222A00019	2/22/2016	3.09	2/21/2031	2/22/2016	157.55505	144.0820052	131.8916004	120.8542681	110.8541882	101.7877638	93.56227197	86.09466924	79.31053409
160223A00012	2/23/2016	1.89	2/23/2023	2/23/2016	110.18323	108.2839904	106.4275243	104.612451	102.8374539	101.101273	99.40270174	97.74058413	96.11381207
160225A00024	2/25/2016	2.22	2/26/2024	2/25/2016	116.47752	113.3617166	110.3461167	107.4267958	104.6000165	101.8622169	99.21000088	96.64012858	94.14950805
160303A00020	3/3/2016	2.97	3/3/2031	3/3/2016	158.31789	144.6668799	132.3226271	121.152516	111.0380614	101.8733347	93.56357211	86.02394341	79.17846304
160211A00034	2/11/2016	1.82	2/10/2023	2/11/2016	109.5997	107.749312	105.9398528	104.1700309	102.4386112	100.7444104	99.08629412	97.46317433	95.8740071
160211A00036	2/11/2016	2.41	2/11/2026	2/11/2016	127.57743	121.8852032	116.4811211	111.3489824	106.47359	101.8406855	97.43688447	93.24961835	89.2670791
160211A00086	2/16/2016	2.8	2/16/2022	2/16/2016	104.87196	104.0947948	103.3291353	102.5747311	101.8313351	101.0987075	100.3766154	99.66483237	98.96313869
160211A00089	2/16/2016	3.91	2/16/2024	2/16/2016	121.23279	118.0799155	115.0270535	112.0703354	109.2060734	106.4307509	103.7410124	101.1336554	98.60562147
160211A00091	2/16/2016	3.55	2/16/2023	2/16/2016	112.81862	110.9202934	109.0641867	107.2489546	105.4733131	103.736033	102.035936	100.371893	98.74282052
160212A00037	2/12/2016	3.03	2/12/2031	2/12/2016	156.75584	143.3567789	131.231373	120.2512018	110.3014411	101.2793607	93.09299168	85.65994718	78.90637771
160209A00049	2/9/2016	1.92	2/9/2023	2/9/2016	109.76284	107.9139322	106.1058607	104.3373415	102.607144	100.9140892	99.25704667	97.63493226	96.04670555
160210A00021	2/10/2016	1.97	2/10/2023	2/10/2016	109.86808	108.0152087	106.2033149	104.4311044	102.6973405	101.0008388	99.34046356	97.71512569	96.12378008
160210A00036	2/10/2016	1.77	2/10/2023	2/10/2016	109.75873	107.9024603	106.0873224	104.3120129	102.575289	100.8759598	99.21288391	97.58496669	95.99115791
160210A00041	2/10/2016	1.97	2/10/2023	2/10/2016	109.86808	108.0152087	106.2033149	104.4311044	102.6973405	101.0008388	99.34046356	97.71512569	96.12378008
160210A00042	2/10/2016	2.57	2/10/2026	2/10/2016	128.39195	122.6830936	117.2628017	112.114863	107.2240735	102.5761669	98.1577509	93.95624867	89.95984379
160210A00053	2/10/2016	1.99	2/10/2023	2/10/2016	109.90386	108.0506616	106.2384432	104.4659142	102.7318378	101.0350292	99.37435282	97.7487192	96.15708314
151027A00021	10/27/2015	2.02	10/27/2021	10/27/2015	102.45718	102.0216492	101.5898083	101.1616111	100.7370117	100.3159651	99.8984267	99.48435305	99.07370116
151211A00037	12/11/2017	2.69	1/11/2023	12/11/2017	110.61644	108.8461336	107.1135499	105.4175579	103.7570682	102.1310344	100.5384514	98.97835274	97.4498094
151211A00040	12/11/2017	2.7	2/13/2023	12/11/2017	111.22844	109.3539774	107.5210822	105.7284439	103.974803	102.2589531	100.579738	98.93604903	97.32682255
151211A00041	12/11/2017	2.71	3/13/2023	12/11/2017	111.74666	109.7800087	107.8582316	105.9799493	104.1438377	102.3486249	100.5930889	98.87605526	97.19639445
151214A00051	12/14/2015	2.92	12/15/2025	12/14/2015	129.33192	123.7926638	118.5250424	113.5142495	108.7463717	104.2083254	99.88780274	95.77322156	91.85367819
160209A00019	2/9/2016	2.52	2/9/2026	2/9/2016	128.11927	122.4204602	117.009649	111.8706609	106.988327	102.3484135	97.93755863	93.74321333	89.75358713
150731A00016	7/31/2015	3.04	7/31/2025	7/31/2015	127.79909	122.7580713	117.946467	113.3525142	108.965124	104.7738398	100.768797	96.94068593	93.28071679
150731A00020	7/31/2015	2.47	7/29/2022	7/31/2015	107.52138	106.2211941	104.9523409	103.7137018	102.5042078	101.3228395	100.1686247	99.04063553	97.93798589
150812A00040	8/12/2015	2.94	8/12/2025	8/12/2015	127.53115	122.4558539	117.6132297	112.9912574	108.5786111	104.3646163	100.3392079	96.49289153	92.81670745
150909A00003	9/9/2015	3.11	9/9/2025	9/9/2015	128.76438	123.5685129	118.614085	113.8885209	109.3799704	105.0772662	100.9698803	97.04788329	93.30190687

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
151002A00038	10/2/2015	2.81	10/2/2025	10/2/2015	127.70743	122.4587217	117.4569983	112.6893617	108.1436543	103.8084112	99.67281776	95.72666945	91.96033404
151008A00025	10/8/2015	2.91	10/8/2025	10/8/2015	128.27841	122.9958125	117.9625536	113.1655665	108.5925388	104.2318627	100.072591	96.10439596	92.31753142
150601A00625	6/1/2015	3.96	12/9/2044	6/1/2015	245.65478	203.0930011	169.0072393	141.6206984	119.5406909	101.6736535	87.15933775	75.3197729	65.61962429
150601A00656	6/1/2015	2.59	12/17/2021	6/1/2015	103.59271	103.0036572	102.4213047	101.845534	101.2762339	100.7132955	100.1566126	99.60608121	99.06159965
150601A00677	6/1/2015	2.39	1/30/2025	6/1/2015	122.68291	118.345658	114.186229	110.196278	106.3679084	102.6936425	99.16639591	95.77945426	92.52645139
150601A00682	6/1/2015	2.3	2/9/2022	6/1/2015	104.35489	103.6010931	102.8581663	102.1258769	101.4039977	100.6923074	99.9905915	99.29864113	98.61625333
150601A00775	6/1/2015	2.28	11/12/2021	6/1/2015	102.8265	102.3430912	101.8642309	101.3898547	100.9198997	100.4543043	99.99300775	99.53595065	99.08307461
150601A00998	6/1/2015	5.37	10/25/2034	6/1/2015	211.27991	188.989053	169.4214787	152.2230057	137.0875481	123.7503488	111.9821943	101.5844653	92.38489904
141215A00062	12/15/2014	2.65	12/16/2024	12/15/2014	123.14036	118.9420892	114.911047	111.0396213	107.3205944	103.7471177	100.312691	97.01114218	93.83660882
150115A00022	1/17/2017	2.56	1/16/2024	1/17/2017	116.79944	113.8074031	110.9082512	108.098485	105.3747681	102.7339133	100.172875	97.68874115	95.2787271
150211A00005	2/11/2015	2.35	2/15/2022	2/11/2015	104.51929	103.7466274	102.985369	102.2352651	101.4960716	100.7675518	100.0494753	99.34161875	98.64376489
150601A00188	6/1/2015	2.06	8/24/2021	6/1/2015	101.42476	101.1759676	100.9283987	100.6820434	100.4368928	100.1929381	99.95017049	99.70858141	99.46816227
150601A00356	6/1/2015	3.66	9/22/2023	6/1/2015	117.41459	114.7838925	112.2262588	109.7392201	107.3204055	104.9675391	102.6784359	100.4509974	98.28320751
150601A00406	6/1/2015	3.71	1/17/2024	6/1/2015	119.9081	116.8695243	113.9250386	111.0711067	108.3043505	105.6215432	103.0196011	100.4955761	98.04664899
140625A00021	6/27/2016	3.2	6/25/2021	6/27/2016	100.54177	100.4635455	100.385449	100.3074785	100.2296336	100.151914	100.0743194	99.9968496	99.91950424
140811A00047	8/11/2016	3.13	8/11/2021	8/11/2016	101.4414	101.2295861	101.0186654	100.8086371	100.5994954	100.3912347	100.1838493	99.97733369	99.77168233
140923A00069	9/23/2014	2.63	9/23/2021	9/23/2014	102.10708	101.7709513	101.4370395	101.10532	100.7757715	100.4483726	100.1231023	99.79993998	99.47886511
140923A00070	9/23/2014	2.88	9/23/2022	9/23/2014	108.9479	107.514037	106.107957	104.7288884	103.3760858	102.0488312	100.746433	99.46822419	98.21356203
140930A00104	9/30/2016	3.23	9/30/2021	9/30/2016	102.44269	102.0856383	101.7310753	101.3789711	101.0293004	100.682038	100.337159	99.99463913	99.65445416
141117A00011	11/17/2014	3.81	11/17/2034	11/17/2014	188.05023	167.25697	149.0631398	133.125549	119.1481429	106.8753054	96.08614462	86.58961117	78.22032447
130211A00016	2/11/2013	2.27	2/15/2023	2/11/2013	110.48891	108.6153179	106.7834074	104.9918544	103.2393923	101.524808	99.84693897	98.20467085	96.59693456
130211A00026	2/11/2013	2.27	2/15/2023	2/11/2013	110.48891	108.6153179	106.7834074	104.9918544	103.2393923	101.524808	99.84693897	98.20467085	96.59693456
130211A00035	2/11/2013	2.27	2/15/2023	2/11/2013	110.48891	108.6153179	106.7834074	104.9918544	103.2393923	101.524808	99.84693897	98.20467085	96.59693456
130501A00021	5/1/2013	2.27	5/1/2023	5/1/2013	111.77782	109.6574143	107.5882657	105.5688133	103.5975551	101.6730448	99.79388937	97.95874681	96.1663237
140314A00003	3/14/2014	3.32	3/14/2024	3/14/2014	120.03434	116.8104	113.6909307	110.6719024	107.7494678	104.9199532	102.1798495	99.52580345	96.95460965
140605A00058	6/6/2016	3.29	6/7/2021	6/6/2016	100.19562	100.1677273	100.1398678	100.1120394	100.0842418	100.0564752	100.0287393	100.0010343	99.97335992
110927A00009	9/27/2011	3.07	9/27/2021	9/27/2011	102.32915	101.9810374	101.635288	101.2918769	100.9507804	100.6119753	100.2754386	99.94114762	99.60908003
111024A00013	10/24/2011	3.24	10/25/2021	10/24/2011	102.93787	102.5069271	102.079593	101.6558183	101.2355587	100.8187705	100.4054111	99.99543806	99.58881005
111213A00004	12/13/2011	2.96	12/13/2021	12/13/2011	103.74766	103.1699917	102.5987557	102.0338477	101.4751628	100.9225984	100.3760542	99.83543192	99.30063567
120419A00009	4/19/2012	2.76	4/19/2022	4/19/2012	105.99211	105.0193944	104.0645045	103.1269548	102.2062761	101.3020157	100.413737	99.5410191	98.68345538
120531A00008	5/31/2012	2.27	5/31/2022	5/31/2012	106.25835	105.1531719	104.0709005	103.0108313	101.9722866	100.954616	99.95719513	98.97942417	98.02072687
120614A00005	6/14/2012	2.22	6/15/2022	6/14/2012	106.60413	105.4474718	104.3158311	103.2084017	102.1244129	101.0631262	100.0238339	99.00585748	98.00854616
081028A00036	10/30/2008	4.22	10/30/2023		119.75612	116.9728826	114.2698582	111.6442472	109.093387	106.6147328	104.2057948	101.8641994	99.58769242

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180404A00037	4/6/2018	2.51	4/6/2028	4/6/2022	139.26802	130.4602909	122.4568988	115.5162496	109.8464776	105.4770846	102.3675037	100.3293268	98.96407148
180406A00015	4/10/2018	2.61	4/10/2028	4/10/2023	140.09652	131.2415488	123.1831098	116.1698071	110.4069675	105.9032994	102.4846067	99.82539404	97.6188746
180925A00059	9/25/2018	3.01	9/25/2028	9/25/2023	145.64521	135.9672917	127.1690937	119.4923183	113.128754	108.0520167	104.0506375	100.8121402	98.06042304
181031A00046	11/2/2018	3.05	10/29/2021	8/2/2021	102.93468	102.4920808	102.0532749	101.6182176	101.1868611	100.7591591	100.3350645	99.91453118	99.49751482
181203A00046	12/4/2018	2.8	12/4/2023	6/3/2021	116.71497	113.859921	111.0904611	108.4039133	105.8112575	103.4085423	101.4603459	100.2815594	99.9633694
181210A00035	12/12/2018	2.65	1/16/2024	7/15/2021	117.04296	114.047587	111.1451738	108.3331298	105.6304464	103.1623984	101.2252417	100.1384568	99.79165303
190104A00032	1/4/2019	2.33	1/4/2024	6/4/2021	115.95427	113.0113219	110.1589224	107.3952435	104.7499638	102.389903	100.6800161	99.96132688	99.79236306
190426A00017	4/26/2019	2.31	4/26/2022	7/26/2021	105.69904	104.7061321	103.7318166	102.775574	101.8369484	100.9225043	100.166758	99.8493459	99.68051032
190426A00018	4/26/2019	2.14	4/26/2024	7/26/2021	117.15807	113.8383758	110.6305029	107.5360258	104.6217892	102.1267513	100.4540861	99.84339401	99.64802422
190426A00024	4/26/2019	2.24	4/26/2022	7/26/2021	105.63305	104.6404872	103.6665078	102.710597	101.7723177	100.8597876	100.1250744	99.83528464	99.66909922
190509A00033	5/9/2019	2.41	5/9/2022	8/9/2021	106.01375	104.9787883	103.9639856	102.9687534	101.9925782	101.0418507	100.2389981	99.83445856	99.61258466
190509A00063	5/9/2019	2.11	5/9/2024	8/9/2021	117.26388	113.8998711	110.650572	107.5184307	104.577522	102.0791549	100.432945	99.7958476	99.54875202
190510A00019	5/10/2019	2.39	5/10/2022	8/10/2021	106.01182	104.9737459	103.9559501	102.9578405	101.9789049	101.0259651	100.2259565	99.82668278	99.60393938
190513A00033	5/13/2019	2.35	5/15/2023	5/13/2022	112.15801	109.9896516	107.8747333	105.8116372	103.8049457	101.927864	100.3832642	99.19927345	98.20098759
190513A00065	5/13/2019	2.01	5/13/2022	8/13/2021	105.81347	104.7652317	103.7376894	102.7302327	101.7424736	100.7896746	100.0675798	99.75406241	99.5375802
190516A00018	5/16/2019	2.03	5/16/2024	8/16/2021	117.11719	113.7323568	110.4637506	107.3152056	104.3708696	101.8991589	100.3239379	99.74388318	99.49333131
190516A00028	5/16/2019	2.03	5/16/2024	8/16/2021	117.11719	113.7323568	110.4637506	107.3152056	104.3708696	101.8991589	100.3239379	99.74388318	99.49333131
190522A00029	5/22/2019	2.41	5/22/2024	5/22/2023	118.42398	114.9987815	111.6915656	108.4991413	105.4573167	102.7148352	100.3601046	98.28219387	96.35704803
190523A00048	5/23/2019	2.32	5/23/2024	5/23/2023	118.15207	114.7278367	111.4216955	108.2308337	105.196631	102.4757641	100.1458534	98.08463468	96.16844514
190523A00050	5/23/2019	2.3	5/23/2023	5/23/2022	112.19184	109.9977181	107.8582754	105.7717887	103.7387597	101.8215781	100.2636095	99.09060576	98.09144302
190529A00115	5/29/2019	1.92	5/29/2024	6/1/2021	116.95939	113.5343084	110.2283344	107.0480964	104.0954286	101.6648022	100.1902039	99.6718194	99.40548923
190530A00057	5/30/2019	1.71	5/30/2024	6/1/2021	116.79326	113.3558579	110.0384266	106.8498954	103.9041613	101.5143389	100.127573	99.63245602	99.35516121
190530A00092	5/30/2019	1.69	5/30/2024	6/1/2021	116.72862	113.2922524	109.9758347	106.7888347	103.8480493	101.4710807	100.1074597	99.6252976	99.34980776
190530A00108	5/30/2019	1.88	5/30/2024	6/1/2021	116.84457	113.4181878	110.1110802	106.9308278	103.9850738	101.5789782	100.1547191	99.63573172	99.35522467
190603A00067	6/3/2019	1.72	6/3/2024	6/3/2021	116.38279	112.9512747	109.6397376	106.4605555	103.5475762	101.2451475	100.0369442	99.95437245	99.93799257
190605A00032	6/5/2019	1.92	6/3/2022	6/3/2021	105.94246	104.8296278	103.7400696	102.6730632	101.6285798	100.6387354	100.0121607	99.95930927	99.9429098
190606A00030	6/6/2019	1.48	6/6/2024	6/7/2021	116.14299	112.6940404	109.3663831	106.1770817	103.2813297	101.0501816	100.0215698	99.95745051	99.93818921
190606A00032	6/6/2019	1.75	6/6/2024	6/7/2021	116.52079	113.0777424	109.7552829	106.5650243	103.6366889	101.3079728	100.05846	99.95139376	99.93224588
190606A00054	6/6/2019	1.8	6/6/2024	6/7/2021	116.68308	113.2374443	109.9124242	106.71812	103.7762962	101.4131075	100.1013801	99.9523634	99.93321474
190607A00016	6/7/2019	1.75	6/7/2024	6/7/2021	116.53442	113.0880483	109.7624577	106.5693419	103.638711	101.3082139	100.0568249	99.94094346	99.91348858
190607A00022	6/7/2019	1.5	6/7/2024	6/7/2021	116.22141	112.7680806	109.4362449	106.242211	103.3376316	101.088498	100.0248766	99.94531005	99.91774258
190607A00025	6/7/2019	1.48	6/7/2024	6/7/2021	116.15629	112.7039953	109.373202	106.1810366	103.2829447	101.0499014	100.0176956	99.944756	99.91718901
190610A00069	6/10/2019	2.04	6/10/2022	6/10/2021	106.1864	105.0500905	103.9380138	102.8493942	101.7839186	100.7653697	100.0402383	99.94256039	99.90677925

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190613A00024	6/13/2019	2.18	6/13/2024	6/13/2023	118.02123	114.5323215	111.1656609	107.9196827	104.8513482	102.1274785	99.7920301	97.70700941	95.75575952
190702A00051	7/2/2019	1.46	7/2/2024	7/2/2021	116.42305	112.887764	109.4792089	106.2184536	103.2757238	101.0321285	99.99488263	99.82434594	99.72797682
190703A00023	7/3/2019	1.9	6/30/2022	6/30/2021	106.36468	105.1641495	103.9905846	102.8430834	101.7216928	100.6663351	100.0022443	99.85382121	99.76311046
190712A00038	7/12/2019	1.87	7/12/2021		100.71574	100.5895517	100.4636948	100.3381679	100.2129696	100.0880991	99.96355459	99.83933419	99.71543694
190712A00044	7/12/2019	1.73	7/12/2022	7/12/2021	106.51178	105.2698107	104.0566581	102.8713227	101.7142411	100.6342128	99.9825802	99.81505062	99.69125947
190712A00047	7/12/2019	1.54	7/12/2024	7/12/2021	116.82698	113.252505	109.8069547	106.5086282	103.515191	101.1890571	100.0214735	99.79203358	99.66761961
190725A00018	7/25/2019	1.78	7/25/2024	7/26/2021	117.2973	113.6854642	110.2046672	106.869981	103.8237397	101.4044948	100.0774967	99.76465497	99.60774292
190725A00022	7/25/2019	1.7	7/25/2022	7/26/2021	106.68828	105.4036642	104.149798	102.92559	101.731705	100.6221885	99.96336653	99.77149139	99.61763873
190731A00008	7/31/2019	1.53	7/31/2024	8/2/2021	117.05212	113.4121758	109.9055183	106.5536864	103.5249713	101.1893017	100.0128114	99.708333	99.53092959
190801A00025	8/1/2019	1.68	8/1/2024	8/2/2021	117.05117	113.421029	109.9235375	106.5789569	103.552024	101.2079947	100.012332	99.70121824	99.5236771
190805A00014	8/5/2019	1.49	8/5/2024	8/5/2022	116.98039	113.3257405	109.8055549	106.4441174	103.4175638	101.0333576	99.35228472	98.05869489	96.90398043
190807A00035	8/7/2019	1.45	8/7/2024	8/9/2021	116.33949	112.7023181	109.1994683	105.8654856	102.9162193	100.7701358	99.86972989	99.62632805	99.43437785
190807A00056	8/7/2019	1.49	8/7/2024	8/9/2021	116.47698	112.8374991	109.3322564	105.9930385	103.0263597	100.8416573	99.88876103	99.63431125	99.44210809
190809A00026	8/9/2019	1.52	8/9/2024	8/9/2021	116.60542	112.9574555	109.4441533	106.0956712	103.1123969	100.8963802	99.899269	99.62801947	99.42737937
190812A00020	8/12/2019	1.47	8/12/2024	8/12/2021	116.47076	112.8155879	109.2958825	105.9456735	102.9778283	100.8052116	99.86890677	99.60467406	99.39638182
190812A00026	8/12/2019	1.48	8/12/2024	8/12/2021	116.50528	112.8495329	109.329223	105.977692	103.0054837	100.8232343	99.87384394	99.60683938	99.3984792
190812A00027	8/12/2019	1.71	8/12/2024	8/12/2022	117.29943	113.6302731	110.0962895	106.7177132	103.6558221	101.2121519	99.47220104	98.1411485	96.96347463
190814A00019	8/14/2019	1.46	8/14/2024	8/16/2021	116.46118	112.7998567	109.2745028	105.9202103	102.9528905	100.7875846	99.86244067	99.59823316	99.38729243
190820A00068	8/20/2019	1.39	8/20/2024	8/20/2021	116.29261	112.6152113	109.0754369	105.7148218	102.7685125	100.6658414	99.81817049	99.55165363	99.32210685
190821A00024	8/21/2019	1.65	8/21/2024	8/22/2022	117.20986	113.5136953	109.9548592	106.5577813	103.4977216	101.0790205	99.36119861	98.03267186	96.84595136
190821A00046	8/21/2019	1.44	8/21/2024	8/23/2021	116.47891	112.7951836	109.2491688	105.8787015	102.906888	100.7518629	99.84084277	99.56348017	99.33370296
190823A00023	8/23/2019	1.37	8/23/2024	8/23/2021	116.25966	112.5733603	109.0254926	105.6598701	102.7175809	100.6318268	99.8038292	99.53332193	99.29576786
190828A00011	8/28/2019	1.1	8/28/2024	8/30/2021	115.91153	112.2020058	108.6336622	105.2646482	102.3745286	100.4297887	99.74492353	99.48067907	99.23236819
190828A00021	8/28/2019	1.36	8/28/2024	8/30/2021	116.28566	112.5831384	109.0203322	105.6429952	102.6964233	100.6154157	99.79206282	99.51265196	99.26434938
190830A00028	8/30/2019	1.39	8/30/2024	6/1/2021	116.41473	112.7037954	109.1328906	105.7459581	102.783547	100.677042	99.79350159	99.4839717	99.22663539
190909A00021	9/9/2019	1.2	9/9/2024	6/9/2021	116.40512	112.6496811	109.0377483	105.6217329	102.6618086	100.5990625	99.960122	99.92699167	99.89389929
190911A00012	9/11/2019	1.27	9/11/2024	6/11/2021	116.6777	112.9112933	109.2884963	105.8556052	102.8558475	100.7152169	99.96658031	99.91970164	99.88107706
190917A00040	9/17/2019	1.63	9/17/2024	6/17/2021	117.48576	113.7003426	110.0582268	106.5896477	103.4874158	101.1302818	100.0116292	99.89952556	99.84442778
190924A00014	9/24/2019	1.54	9/24/2024	6/24/2021	117.25212	113.4489635	109.7908896	106.3153885	103.2368034	100.951788	99.97154477	99.86617035	99.79175843
191008A00020	10/8/2019	1.58	10/8/2024	10/11/2022	117.57518	113.7208425	110.0150394	106.4955186	103.3699688	100.9261994	99.14695425	97.70797881	96.39097579
191008A00028	10/11/2019	1.08	10/8/2024	7/8/2021	116.31678	112.4705512	108.7761785	105.3078559	102.3709984	100.4266287	99.8745083	99.75544888	99.64268809
191011A00020	10/11/2019	1.53	10/11/2024	7/12/2021	117.43203	113.5703138	109.8581331	106.3375959	103.2337832	100.9464425	99.95265805	99.77989171	99.66459338
191017A00012	10/17/2019	1.43	10/17/2022	7/19/2021	107.44915	105.9603326	104.4995993	103.066322	101.6705017	100.4504027	99.9076824	99.76020682	99.62552128

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191029A00020	10/29/2019	1.51	10/31/2022	8/2/2021	107.7735	106.2395314	104.7352462	103.2599658	101.8233168	100.5549166	99.9088295	99.70059552	99.52744857
191121A00031	11/21/2019	1.54	11/21/2024	11/21/2022	118.56493	114.5338869	110.6642774	106.9966028	103.736414	101.152098	99.22254923	97.64494351	96.20474859
191209A00045	12/9/2019	1.56	12/9/2024	12/9/2022	118.87314	114.7774684	110.8481748	107.1289458	103.8285566	101.2042574	99.2235921	97.5925654	96.10304004
191211A00013	12/11/2019	1.57	12/11/2024	12/12/2022	118.93744	114.8339964	110.8974135	107.1709622	103.8624398	101.2299234	99.24346388	97.60957287	96.1188211
200128A00045	1/28/2020	1.45	1/28/2025	7/28/2021	118.45023	114.2175785	110.1666868	106.3772797	103.1332372	100.8316419	99.89506352	99.6886734	99.52148352
200130A00029	1/30/2020	1.3	1/30/2023	7/30/2021	108.75705	106.9428783	105.16836	103.4327894	101.7661395	100.4073111	99.85228081	99.66357499	99.4908979
200131A00023	1/31/2020	1.56	1/31/2025	1/31/2023	118.92359	114.6721512	110.601981	106.7816616	103.4578434	100.8450359	98.82415131	97.10010357	95.49776933
200207A00008	2/7/2020	1.35	2/7/2025	2/7/2023	118.78451	114.4966589	110.3946919	106.5588455	103.2514775	100.6699264	98.66456438	96.93681765	95.32130032
200221A00040	2/21/2020	1.28	2/21/2025	8/23/2021	118.03733	113.7361775	109.6280135	105.8245094	102.6577208	100.5454937	99.7794544	99.52582115	99.29662679
200221A00041	2/21/2020	1.53	2/21/2025	2/21/2023	119.05098	114.7297466	110.5968443	106.7301645	103.3866181	100.7644797	98.71948865	96.9562208	95.30865211
200221A00045	2/21/2020	1.03	2/21/2025	8/23/2021	117.64721	113.3369125	109.2241715	105.4404125	102.3470444	100.3805865	99.74383356	99.50138511	99.27197933
200227A00018	2/27/2020	0.99	2/27/2025	2/28/2022	117.548	113.2205209	109.094057	105.3093186	102.2377912	100.2355891	99.15091226	98.37450711	97.64985803
200227A00024	2/27/2020	0.85	2/27/2025	8/27/2021	116.97611	112.6602506	108.5508061	104.8162222	101.8651697	100.1511681	99.67057943	99.41781402	99.16960606
200227A00025	2/27/2020	1.09	2/27/2025	2/27/2023	117.9565	113.6207879	109.4830256	105.6656716	102.4748946	100.0328714	98.09480518	96.36871986	94.72652117
200228A00090	2/28/2020	1	2/28/2025	8/30/2021	116.99904	112.6956743	108.5955293	104.8609268	101.8989767	100.1653844	99.67464569	99.42184973	99.17400223
200228A00095	2/28/2020	1.15	2/28/2023	8/30/2021	108.66549	106.7698302	104.9171025	103.1072494	101.3991073	100.150508	99.71402081	99.46196219	99.21402174
200228A00096	2/28/2020	1.28	2/28/2022	8/30/2021	103.93514	103.1252743	102.3279639	101.5429131	100.7709802	100.0920616	99.75229716	99.5018613	99.25377603
200303A00035	3/3/2020	0.81	3/3/2025	3/3/2023	116.85575	112.5288588	108.4125214	104.6856608	101.6807263	99.4024901	97.539426	95.83439471	94.19494131
200306A00069	3/6/2020	0.58	3/6/2025	3/7/2022	115.94418	111.6259894	107.5332835	103.9053186	101.2175393	99.66654332	98.76530945	98.00513022	97.26794041
081028A00036	10/30/2008	4.22	10/30/2023		119.75869	116.9749593	114.271762	111.6474213	109.0965019	106.6177653	104.208763	101.8671405	99.5906357
180404A00037	4/6/2018	2.51	4/6/2028	4/6/2022	139.33828	130.5586014	122.4799685	115.5579241	109.8860654	105.4998259	102.3579212	100.2766493	98.90045947
180406A00015	4/10/2018	2.61	4/10/2028	4/10/2023	140.16223	131.3339979	123.2042457	116.2062567	110.4366127	105.9023895	102.4350511	99.73842272	97.52398558
180925A00059	9/25/2018	3.01	9/25/2028	9/25/2023	145.70435	136.0520827	127.1835874	119.5073203	113.1098224	107.9715423	103.9052336	100.6282322	97.87530455
181031A00046	11/2/2018	3.05	10/29/2021	8/2/2021	102.93447	102.4887747	102.0469706	101.6181749	101.1868193	100.7591172	100.3350227	99.91449044	99.49747563
181203A00046	12/4/2018	2.8	12/4/2023	6/3/2021	116.7209	113.8654396	111.0957901	108.4100105	105.8201053	103.4373134	101.5033906	100.2659758	99.95258036
181210A00035	12/12/2018	2.65	1/16/2024	7/15/2021	117.05185	114.0560301	111.1533726	108.341999	105.643296	103.1988871	101.2758741	100.1514095	99.78482027
190104A00032	1/4/2019	2.33	1/4/2024	6/4/2021	115.96256	113.0192095	110.166588	107.4034611	104.7635434	102.4362116	100.7429413	99.9712008	99.79079
190426A00017	4/26/2019	2.31	4/26/2022	7/26/2021	105.68255	104.6751304	103.6958651	102.7755823	101.8369631	100.9267481	100.1878684	99.85148401	99.68052681
190426A00018	4/26/2019	2.14	4/26/2024	7/26/2021	117.16389	113.8438273	110.6357389	107.5421018	104.638642	102.1827498	100.5206849	99.85387348	99.64804072
190426A00024	4/26/2019	2.24	4/26/2022	7/26/2021	105.61657	104.609494	103.6305663	102.7106053	101.7723316	100.8646222	100.1469048	99.83678199	99.6691157
190509A00033	5/9/2019	2.41	5/9/2022	8/9/2021	105.99594	104.9461495	103.9265552	102.9687581	101.9925966	101.0462005	100.2610742	99.83996271	99.61237809
190509A00063	5/9/2019	2.11	5/9/2024	8/9/2021	117.26736	113.9030378	110.6535722	107.5225216	104.5941496	102.1380839	100.5034892	99.8107791	99.54866155
190510A00019	5/10/2019	2.39	5/10/2022	8/10/2021	105.99396	104.9410217	103.9184338	102.9578448	101.9789236	101.0304978	100.2483341	99.83203037	99.60377244

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190513A00033	5/13/2019	2.35	5/15/2023	5/13/2022	112.1586	109.9899873	107.8749964	105.8126206	103.8071768	101.9500604	100.417692	99.21391697	98.20192192
190513A00065	5/13/2019	2.01	5/13/2022	8/13/2021	105.79544	104.7322157	103.6998769	102.7302364	101.7424891	100.797063	100.0914667	99.75669081	99.53761345
190516A00018	5/16/2019	2.03	5/16/2024	8/16/2021	117.11933	113.7342206	110.4654713	107.3180237	104.3868512	101.9583922	100.3924838	99.75611843	99.49333946
190516A00028	5/16/2019	2.03	5/16/2024	8/16/2021	117.11933	113.7342206	110.4654713	107.3180237	104.3868512	101.9583922	100.3924838	99.75611843	99.49333946
190522A00029	5/22/2019	2.41	5/22/2024	5/22/2023	118.42489	114.9994005	111.6920752	108.5004087	105.4653893	102.7395023	100.3781221	98.28463203	96.35161601
190523A00048	5/23/2019	2.32	5/23/2024	5/23/2023	118.15281	114.7282882	111.4220438	108.2319057	105.2049584	102.5012191	100.1646101	98.08817865	96.16461178
190523A00050	5/23/2019	2.3	5/23/2023	5/23/2022	112.19181	109.9974519	107.8579483	105.7721776	103.7394929	101.8389975	100.2923713	99.10127117	98.09185197
190529A00115	5/29/2019	1.92	5/29/2024	6/1/2021	116.95899	113.5337142	110.2276442	107.0486545	104.1106856	101.7257905	100.2561084	99.6809464	99.40554331
190530A00057	5/30/2019	1.71	5/30/2024	6/1/2021	116.79267	113.355109	110.0375712	106.8500087	103.9187547	101.5759565	100.1914902	99.64285972	99.35550306
190530A00092	5/30/2019	1.69	5/30/2024	6/1/2021	116.72805	113.2915097	109.9749814	106.7888699	103.8623774	101.5325314	100.1700057	99.63505335	99.35013736
190530A00108	5/30/2019	1.88	5/30/2024	6/1/2021	116.84395	113.4173912	110.1101872	106.9310849	103.9999752	101.6406066	100.220719	99.64735343	99.3555812
190603A00067	6/3/2019	1.72	6/3/2024	6/3/2021	116.38132	112.9496746	109.6380253	106.4593507	103.5597159	101.3054525	100.1134502	99.95437271	99.93799304
190605A00032	6/5/2019	1.92	6/3/2022	6/3/2021	105.92063	104.7928217	103.6991344	102.6730614	101.6285436	100.6503961	100.0347097	99.95930954	99.94291026
190606A00030	6/6/2019	1.48	6/6/2024	6/7/2021	116.1409	112.6918603	109.3640491	106.174459	103.2902532	101.1064447	100.0586227	99.95745078	99.93818969
190606A00032	6/6/2019	1.75	6/6/2024	6/7/2021	116.51866	113.0754881	109.7529398	106.5634426	103.6490827	101.3684635	100.1310963	99.95139405	99.9322464
190606A00054	6/6/2019	1.8	6/6/2024	6/7/2021	116.68094	113.2351741	109.9100774	106.7167975	103.7896423	101.4742773	100.1646597	99.95236369	99.93321526
190607A00016	6/7/2019	1.75	6/7/2024	6/7/2021	116.53208	113.0855791	109.7599048	106.5675755	103.6509979	101.3685195	100.1294933	99.94094381	99.91348921
190607A00022	6/7/2019	1.5	6/7/2024	6/7/2021	116.2191	112.7656774	109.4337034	106.2395906	103.3471135	101.145417	100.0670004	99.94531038	99.91774317
190607A00025	6/7/2019	1.48	6/7/2024	6/7/2021	116.15397	112.7015993	109.3706569	106.178233	103.2917828	101.1059927	100.0556317	99.94475633	99.91718959
190610A00069	6/10/2019	2.04	6/10/2022	6/10/2021	106.16095	105.0102685	103.8948379	102.8493914	101.7839379	100.7756275	100.0776698	99.94256077	99.90677994
190613A00024	6/13/2019	2.18	6/13/2024	6/13/2023	118.01749	114.5284144	111.161752	107.9166021	104.8575434	102.1513805	99.80886487	97.71000248	95.75225494
190702A00051	7/2/2019	1.46	7/2/2024	7/2/2021	116.41536	112.8801438	109.4715368	106.2112264	103.2827546	101.0887153	100.0287362	99.8243262	99.72794808
190703A00023	7/3/2019	1.9	6/30/2022	6/30/2021	106.32958	105.1162626	103.9414083	102.8430786	101.7216796	100.6798039	100.0209268	99.85438662	99.76307737
190712A00038	7/12/2019	1.87	7/12/2021		100.71575	100.5895609	100.463704	100.3381771	100.2129791	100.0881083	99.96356362	99.83934366	99.71544712
190712A00044	7/12/2019	1.73	7/12/2022	7/12/2021	106.47437	105.2196353	104.005509	102.8713184	101.7141039	100.6478778	100.0007873	99.81504706	99.69125131
190712A00047	7/12/2019	1.54	7/12/2024	7/12/2021	116.81745	113.2430703	109.797547	106.5006121	103.5239717	101.2473494	100.0646918	99.79333906	99.66761144
190725A00018	7/25/2019	1.78	7/25/2024	7/26/2021	117.28542	113.673698	110.1930192	106.86072	103.83368	101.4633583	100.131557	99.7659901	99.60775456
190725A00022	7/25/2019	1.7	7/25/2022	7/26/2021	106.64846	105.3511039	104.096606	102.9255866	101.7314852	100.6361323	99.98185913	99.77150405	99.61765028
190731A00008	7/31/2019	1.53	7/31/2024	8/2/2021	117.03922	113.3994791	109.8928943	106.5430786	103.5331876	101.2490214	100.0636473	99.71212213	99.53097555
190801A00025	8/1/2019	1.68	8/1/2024	8/2/2021	117.03818	113.4082147	109.910818	106.5684586	103.5608163	101.268316	100.0644191	99.70520101	99.52372327
190805A00014	8/5/2019	1.49	8/5/2024	8/5/2022	116.96677	113.312352	109.7922218	106.4325805	103.4247268	101.0806577	99.39210748	98.07259443	96.90651821
190807A00035	8/7/2019	1.45	8/7/2024	8/9/2021	116.32567	112.6887707	109.1858147	105.8517909	102.9159671	100.8179542	99.89898271	99.62716313	99.43441413
190807A00056	8/7/2019	1.49	8/7/2024	8/9/2021	116.46315	112.823929	109.3186313	105.979921	103.0281311	100.8922583	99.92152339	99.63563611	99.44214437

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190809A00026	8/9/2019	1.52	8/9/2024	8/9/2021	116.59129	112.9435851	109.4302626	106.0827046	103.1153888	100.9484627	99.93434625	99.62971165	99.42741121
190812A00020	8/12/2019	1.47	8/12/2024	8/12/2021	116.4562	112.8013203	109.2815347	105.9316889	102.9783601	100.8537448	99.8992397	99.60573905	99.39640906
190812A00026	8/12/2019	1.48	8/12/2024	8/12/2021	116.49072	112.8352595	109.3148828	105.9638495	103.0065108	100.8724589	99.90503115	99.60802643	99.39850645
190812A00027	8/12/2019	1.71	8/12/2024	8/12/2022	117.28482	113.6158777	110.0820257	106.7061315	103.6648184	101.2618367	99.51466771	98.15623052	96.96608802
190814A00019	8/14/2019	1.46	8/14/2024	8/16/2021	116.44633	112.7853118	109.2598585	105.9058464	102.9528055	100.8352717	99.89181447	99.59918299	99.38731812
190820A00068	8/20/2019	1.39	8/20/2024	8/20/2021	116.2769	112.5998658	109.0598639	105.6987103	102.7645159	100.7075159	99.84067364	99.55205264	99.32212124
190821A00024	8/21/2019	1.65	8/21/2024	8/22/2022	117.19393	113.4980512	109.9393223	106.5447023	103.5047194	101.1253751	99.39989894	98.04597845	96.84823122
190821A00046	8/21/2019	1.44	8/21/2024	8/23/2021	116.46304	112.7796624	109.2335037	105.8632557	102.9055242	100.797361	99.86763671	99.56419822	99.33371735
190823A00023	8/23/2019	1.37	8/23/2024	8/23/2021	116.24352	112.5576076	109.0094687	105.6430575	102.7123095	100.6714106	99.82430705	99.53366644	99.29577719
190828A00011	8/28/2019	1.1	8/28/2024	8/30/2021	115.89462	112.1856088	108.6166816	105.2443525	102.3602293	100.4581975	99.75550104	99.48090717	99.23237029
190828A00021	8/28/2019	1.36	8/28/2024	8/30/2021	116.26879	112.5666916	109.0035832	105.6254268	102.6904103	100.6538369	99.8114425	99.51298624	99.26435176
190830A00028	8/30/2019	1.39	8/30/2024	6/1/2021	116.39762	112.6871208	109.1159668	105.7288807	102.7798379	100.7210453	99.82131315	99.48544212	99.22668147
190909A00021	9/9/2019	1.2	9/9/2024	6/9/2021	116.38682	112.6319229	109.0195452	105.6024401	102.6542085	100.6382294	99.96012216	99.92699202	99.89389993
190911A00012	9/11/2019	1.27	9/11/2024	6/11/2021	116.65915	112.893251	109.2701589	105.8375032	102.852658	100.7603054	99.95837307	99.91970201	99.88107772
190917A00040	9/17/2019	1.63	9/17/2024	6/17/2021	117.46654	113.6815298	110.039506	106.5741054	103.4939647	101.1880699	100.0573603	99.89952593	99.84442843
190924A00014	9/24/2019	1.54	9/24/2024	6/24/2021	117.23212	113.4294511	109.771311	106.2982945	103.2398587	101.0043413	99.99593893	99.86617055	99.79175879
191008A00020	10/8/2019	1.58	10/8/2024	10/11/2022	117.55386	113.7000697	109.9942439	106.478166	103.3759731	100.9697323	99.18163865	97.72015787	96.39329522
191008A00028	10/11/2019	1.08	10/8/2024	7/8/2021	116.2955	112.4500984	108.7545867	105.283229	102.3544365	100.4545992	99.87901535	99.755439	99.64267199
191011A00020	10/11/2019	1.53	10/11/2024	7/12/2021	117.41047	113.5493429	109.8370311	106.319425	103.2371515	101.0005309	99.98135573	99.77988346	99.66457939
191017A00012	10/17/2019	1.43	10/17/2022	7/19/2021	107.44877	105.9598088	104.4990432	103.0661671	101.6688758	100.4677259	99.91739175	99.76020935	99.62552063
191029A00020	10/29/2019	1.51	10/31/2022	8/2/2021	107.77309	106.2389691	104.7346498	103.2598043	101.8222757	100.5762751	99.92985772	99.70117314	99.52749453
191121A00031	11/21/2019	1.54	11/21/2024	11/21/2022	118.54028	114.5100059	110.6403517	106.9781129	103.7455934	101.1978418	99.25871528	97.65793835	96.20696299
191209A00045	12/9/2019	1.56	12/9/2024	12/9/2022	118.84766	114.7528828	110.8234802	107.1104842	103.8396217	101.2516608	99.2610372	97.60655986	96.10566808
191211A00013	12/11/2019	1.57	12/11/2024	12/12/2022	118.91189	114.809334	110.8726522	107.1525184	103.8736819	101.2776036	99.28116697	97.62365469	96.12142297
200128A00045	1/28/2020	1.45	1/28/2025	7/28/2021	118.42407	114.1928538	110.1402301	106.35497	103.13543	100.8816029	99.91947719	99.68869291	99.52150312
200130A00029	1/30/2020	1.3	1/30/2023	7/30/2021	108.75863	106.944299	105.1697211	103.4342711	101.7636256	100.4290049	99.86491482	99.66384081	99.49094385
200131A00023	1/31/2020	1.56	1/31/2025	1/31/2023	118.8974	114.6473209	110.5760596	106.7621013	103.4680958	100.8863755	98.85527361	97.11241803	95.50134895
200207A00008	2/7/2020	1.35	2/7/2025	2/7/2023	118.75836	114.4720507	110.3682855	106.5376115	103.2585688	100.707292	98.6924755	96.94793658	95.32483092
200221A00040	2/21/2020	1.28	2/21/2025	8/23/2021	118.01169	113.7124666	109.6005079	105.7976885	102.6489558	100.5822333	99.79539003	99.52616802	99.29664118
200221A00041	2/21/2020	1.53	2/21/2025	2/21/2023	119.02507	114.7053727	110.5707304	106.7100679	103.3957613	100.8028503	98.74773507	96.96751225	95.31235787
200221A00045	2/21/2020	1.03	2/21/2025	8/23/2021	117.6216	113.3134876	109.1954895	105.409095	102.3281143	100.4067576	99.75191479	99.50146612	99.27199346
200227A00018	2/27/2020	0.99	2/27/2025	2/28/2022	117.52255	113.1973685	109.0649076	105.2763832	102.2155924	100.2555715	99.16604832	98.3771245	97.65005896
200227A00024	2/27/2020	0.85	2/27/2025	8/27/2021	116.95088	112.6376499	108.5200344	104.7769212	101.8284381	100.1610215	99.67332157	99.41781552	99.16960817

	Parallel-Shift Sensitivity Analysis												
5/28/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200227A00025	2/27/2020	1.09	2/27/2025	2/27/2023	117.9309	113.5972959	109.4547993	105.636964	102.4677343	100.05334	98.11079782	96.37529358	94.72949972
200228A00090	2/28/2020	1	2/28/2025	8/30/2021	116.97383	112.6729669	108.5655942	104.8234489	101.8646828	100.1766963	99.67762689	99.42185134	99.1740046
200228A00095	2/28/2020	1.15	2/28/2023	8/30/2021	108.66803	106.7722059	104.9194068	103.1092219	101.3898678	100.1614279	99.71694001	99.4619638	99.2140241
200228A00096	2/28/2020	1.28	2/28/2022	8/30/2021	103.90309	103.0857005	102.2877565	101.5429109	100.7704005	100.097883	99.75391924	99.50186289	99.25377833
200303A00035	3/3/2020	0.81	3/3/2025	3/3/2023	116.83083	112.5068035	108.3809274	104.6444661	101.6545668	99.40724906	97.54685245	95.83831169	94.1974717
200306A00069	3/6/2020	0.58	3/6/2025	3/7/2022	115.91989	111.6052725	107.4978149	103.8502901	101.1531742	99.65699988	98.76729786	98.00542507	97.26799092