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												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200720A00010	7/20/2020	0.28	7/20/2021	7/20/2020	100.22685	100.1711063	100.1154405	100.0598526	100.0043424	99.94890992	99.89355486	99.83827709	99.78307644
200720A00022	7/22/2020	1.94	7/22/2021	7/22/2020	100.34577	100.2844115	100.2231464	100.1619699	100.1008818	100.0398819	99.97896994	99.91814586	99.85740942
200824A00005	8/24/2020	0.25	8/24/2021	8/24/2020	100.62027	100.4660664	100.3123506	100.1591153	100.0063584	99.85407739	99.7022702	99.55093456	99.40006825
200825A00005	8/25/2020	0.43	8/25/2021	8/25/2020	100.64394	100.4870654	100.3306876	100.1748039	100.0194118	99.86450902	99.71009333	99.5561624	99.40271394
200908A00006	9/8/2020	0.42	9/8/2021	9/8/2020	100.80342	100.6068126	100.4109765	100.2159107	100.0216109	99.82807239	99.63529073	99.44326143	99.25198008
200914A00001	9/14/2020	0.25	9/14/2021	9/14/2020	100.85796	100.6440278	100.43102	100.2189266	100.0077418	99.79745971	99.58807439	99.37958009	99.17197106
201026A00001	10/26/2020	0.26	10/26/2021	10/26/2020	101.33918	101.0044048	100.6718437	100.3414722	100.0132687	99.68721194	99.36328088	99.04145475	98.72171306
201116A00006	11/16/2020	0.42	11/16/2021	11/16/2020	101.61038	101.2147253	100.8221491	100.4326193	100.0461003	99.66255734	99.28195602	98.90426251	98.5294435
201117A00004	11/17/2020	0.42	11/17/2021	11/17/2020	101.62208	101.2234989	100.8280461	100.4356838	100.0463756	99.66008594	99.27677973	98.89642242	98.51898001
201210A00008	12/10/2020	0.37	8/10/2021	12/10/2020	100.46543	100.3508669	100.2365805	100.1225676	100.0088275	99.89535895	99.78216108	99.66923285	99.55657327
201230A00011	12/30/2020	0.38	9/30/2021	12/30/2020	101.04918	100.78974	100.5316276	100.2748291	100.0193345	99.76513387	99.51221758	99.26057593	99.01019938
210223A00013	2/23/2021	0.32	11/23/2021	2/23/2021	101.65134	101.2353245	100.8227063	100.4134457	100.0075015	99.60483379	99.20540283	98.80916974	98.41609621
210226A00016	2/26/2021	0.26	2/25/2022	2/26/2021	102.7515	102.0545117	101.3669215	100.688541	100.0191863	99.35867849	98.70684312	98.06351049	97.42851524
210301A00006	3/1/2021	0.33	9/15/2021	3/1/2021	100.86682	100.6502582	100.4346328	100.2199426	100.0061813	99.79334303	99.58142167	99.37041125	99.16030588
210301A00007	3/1/2021	0.34	10/14/2021	3/1/2021	101.19839	100.8986265	100.6006517	100.3044453	100.0099914	99.71727441	99.42627899	99.13698987	98.84939198
210301A00008	3/1/2021	0.34	11/15/2021	3/1/2021	101.56775	101.1750882	100.7854616	100.398837	100.0151797	99.63445566	99.25663118	98.88167316	98.50954899
210301A00011	3/1/2021	0.35	12/15/2021	3/1/2021	101.91782	101.4370487	100.9608082	100.4890332	100.0216609	99.5586297	99.09987937	98.64535059	98.19498521
210304A00003	3/4/2021	0.34	3/4/2022	3/4/2021	102.8168	102.099531	101.3922108	100.6946321	100.0065951	99.32790511	98.65837291	97.99781426	97.34604983
210324A00001	3/24/2021	0.37	3/24/2022	3/24/2021	103.07315	102.2947224	101.5279794	100.7726618	100.0285156	99.29529474	98.57276008	97.86067946	97.15882743
210330A00009	3/30/2021	0.32	11/30/2021	3/30/2021	101.73131	101.2948127	100.8620427	100.4329497	100.0074873	99.58560953	99.16727151	98.75242888	98.34103811
210413A00007	4/13/2021	0.25	4/13/2022	4/13/2021	103.29634	102.4552521	101.6277759	100.8135812	100.0123504	99.22377591	98.44755976	97.68341335	96.93105697
210524A00009	5/24/2021	0.29	12/1/2021	5/24/2021	101.72983	101.2904277	100.8547981	100.4228967	99.99467595	99.5700891	99.1490901	98.73163371	98.31767546
210624A00001	6/24/2021	0.39	6/24/2022	6/24/2021	104.16191	103.0969908	102.0536592	101.0312674	100.0291907	99.04682903	98.08360584	97.13896675	96.21237863
210604A00004	6/4/2021	0.23	6/3/2022	6/4/2021	103.88027	102.8800619	101.898952	100.9363947	99.99186847	99.06487111	98.15491889	97.26154577	96.38430249
210623A00008	6/23/2021	0.38	6/23/2022	6/23/2021	104.13993	103.0782295	102.0379924	101.0185761	100.0193613	99.03975261	98.07917825	97.13708826	96.21295372
150601A00342	6/1/2015	3.97	8/26/2033	6/1/2015	143.20657	134.8551939	127.1887751	120.1419756	113.6563248	107.6794432	102.164359	97.06890665	92.35519632
150601A00439	6/1/2015	2.57	3/18/2024	6/1/2015	108.53433	107.0323992	105.5669435	104.1367574	102.7406891	101.377634	100.0465332	98.74637028	97.47617005
150601A00440	6/1/2015	3.27	3/16/2029	6/1/2015	125.33016	120.5487121	116.0322062	111.7631993	107.7255395	103.9042611	100.2854897	96.85635425	93.60490773
150601A00450	6/1/2015	3.28	4/27/2029	6/1/2015	125.7109	120.8478748	116.2577084	111.9222234	107.8246058	103.9492903	100.2818584	96.80894576	93.51815759
150601A00460	6/1/2015	3.05	5/16/2029	6/1/2015	124.87132	120.000893	115.4055072	111.0667372	106.9675466	103.0921705	99.42601105	95.9555432	92.66822782
150601A00506	6/1/2015	3.14	7/6/2029	6/1/2015	125.68066	120.6961212	115.9974386	111.5651845	107.3814146	103.429542	99.69422445	96.16126208	92.81750428
150601A00528	6/1/2015	3.08	7/27/2029	6/1/2015	125.57375	120.5582539	115.8321451	111.3756518	107.1705141	103.1998598	99.44808963	95.90077177	92.54454629
150601A00559	6/1/2015	3.06	8/31/2029	6/1/2015	125.76428	120.6820487	115.8961478	111.3861272	107.1331205	103.1197085	99.32979798	95.7485113	92.36208565

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00684	6/1/2015	2.25	2/7/2025	6/1/2015	110.58999	108.5634461	106.5972184	104.6890036	102.8366037	101.0379212	99.29095352	97.59378838	95.94459859
160603A00015	6/3/2016	1.95	6/5/2023	6/3/2016	110.59209	108.5392601	106.5359138	104.5805463	102.6717052	100.8079922	98.98806058	97.21061325	95.47440018
160608A00026	6/8/2016	2.36	6/8/2026	6/8/2016	125.21117	119.859038	114.7806199	109.960303	105.3834499	101.0363329	96.90607276	92.98058156	89.24851009
160608A00031	6/8/2016	2.36	6/8/2026	6/8/2016	125.21117	119.859038	114.7806199	109.960303	105.3834499	101.0363329	96.90607276	92.98058156	89.24851009
160608A00032	6/8/2016	2.36	6/8/2026	6/8/2016	125.21117	119.859038	114.7806199	109.960303	105.3834499	101.0363329	96.90607276	92.98058156	89.24851009
160609A00075	6/9/2016	1.94	6/9/2026	6/9/2016	113.95695	110.9950277	108.1479407	105.4102287	102.7767348	100.2425843	97.80316677	95.45412021	93.19131574
160628A00006	6/28/2016	1.44	6/28/2023	6/28/2016	105.43248	104.3010736	103.1927029	102.1066824	101.0423553	99.99909039	98.97628099	97.97334353	96.98971656
160707A00017	7/7/2016	1.22	7/7/2021	7/7/2016	100.09768	100.0781801	100.058698	100.0392361	100.0197944	100.0003729	99.98097159	99.96159036	99.94222922
161222A00035	12/22/2016	2.29	12/22/2023	12/22/2016	107.79417	106.3778442	104.9941021	103.6419092	102.3202735	101.0282433	99.76490441	98.52937887	97.32082302
161222A00036	12/22/2016	2.69	12/22/2026	12/22/2016	117.22996	113.9557412	110.8177714	107.8091366	104.9233297	102.1542211	99.49603356	96.94331975	94.490941
161222A00037	12/22/2016	3.08	12/22/2031	12/22/2016	133.09355	126.2207799	119.846628	113.9288468	108.4291528	103.3128229	98.54833619	94.10705476	89.96293764
170406A00031	4/6/2017	3.01	4/6/2027	4/6/2017	132.40256	125.9571161	119.8864544	114.1664073	108.7745051	103.6898492	98.89299344	94.36583442	90.09151122
170417A00059	4/17/2017	2.14	4/18/2022	4/17/2017	104.72698	103.8818445	103.05047	102.2325257	101.427687	100.6356396	99.85607911	99.08871089	98.33324944
170518A00028	5/18/2017	2.45	5/20/2024	5/18/2017	116.55186	113.4415962	110.4336233	107.5239984	104.7089499	101.9848731	99.34832104	96.79599733	94.32474834
170830A00040	8/30/2017	1.84	8/30/2022	8/30/2017	103.57233	102.8976752	102.2342632	101.5817792	100.9399227	100.308405	99.68694828	99.07528538	98.47315899
170921A00056	9/21/2017	2.82	9/21/2027	9/21/2017	133.17238	126.2356583	119.7295429	113.6245164	107.8932609	102.5104789	97.45273245	92.69829556	88.22701943
180302A00014	3/2/2018	2.69	3/2/2023	3/2/2018	105.75988	104.8018656	103.8619317	102.9395532	102.0342251	101.1454625	100.2727994	99.41578774	98.57399661
180321A00015	3/21/2018	3.02	3/21/2025	3/21/2018	114.46646	111.9768554	109.5695935	107.2412664	104.98863	102.8085986	100.6982363	98.65474802	96.67547209
180322A00030	3/22/2018	2.79	3/24/2025	3/22/2018	112.88956	110.6697036	108.518291	106.4326299	104.4101582	102.4484338	100.545128	98.69801937	96.90498794
180329A00011	3/29/2018	2.77	3/29/2023	3/29/2018	106.10555	105.1003673	104.1144934	103.1473608	102.1984243	101.2671605	100.3530665	99.45565918	98.57447391
180508A00038	5/8/2018	3.57	5/9/2033	5/8/2018	143.04975	134.3072606	126.290895	118.9312701	112.1662662	105.9402148	100.2031793	94.91032103	90.0213397
180612A00012	6/12/2018	2.94	6/12/2023	6/12/2018	107.09052	105.9435763	104.8199175	103.7188578	102.6397348	101.5819121	100.5447775	99.52774247	98.53024045
150601A00571	6/1/2015	2.5	9/23/2022	6/1/2015	104.72428	103.9051358	103.1041432	102.3206399	101.5539939	100.8036037	100.0688972	99.3493294	98.64438094
200108A00015	12/18/2020	1.98	12/18/2023	12/18/2020	113.82634	111.0742023	108.4032179	105.8105166	103.2933466	100.8490707	98.47516026	96.16919019	93.92883405
200108A00016	12/18/2020	1.98	12/18/2023	12/18/2020	113.82634	111.0742023	108.4032179	105.8105166	103.2933466	100.8490707	98.47516026	96.16919019	93.92883405
200114A00017	1/11/2021	1.93	1/11/2024	1/11/2021	114.02953	111.2007791	108.4573419	105.796122	103.2141571	100.7086114	98.27676958	95.91603064	93.6239022
200114A00021	1/11/2021	1.93	1/11/2024	1/11/2021	114.02953	111.2007791	108.4573419	105.796122	103.2141571	100.7086114	98.27676958	95.91603064	93.6239022
200207A00007	2/7/2020	1.74	2/7/2023	2/7/2020	108.77135	107.0369776	105.3393404	103.6773417	102.0499302	100.4560961	98.89486833	97.36531349	95.86653337
200207A00013	2/12/2020	1.73	2/10/2023	2/12/2020	108.80099	107.0566389	105.3493678	103.6780679	102.0416727	100.4391579	98.86953892	97.33186947	95.82523923
210611A00006	6/11/2021	1.85	6/11/2031	6/11/2021	145.79407	132.6146101	120.7305837	110.0079383	100.3271222	91.58144831	83.67565183	76.52461636	70.05224753
210623A00028	6/23/2021	1.22	6/23/2026	6/23/2021	121.80726	115.9406783	110.3885375	105.1323927	100.1549727	95.44010216	90.97262639	86.73834144	82.72392974
210629A00012	6/29/2021	1.14	12/29/2025	6/29/2021	119.66548	114.4343175	109.4597675	104.7279153	100.2256778	95.94074582	91.86153419	87.97713527	84.27727569
210624A00003	6/24/2021	0.78	6/24/2024	6/24/2021	112.65813	109.331489	106.1200961	103.0193125	100.024718	97.13209508	94.3374189	91.63684676	89.02670898

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210629A00014	6/29/2021	1.78	12/28/2029	6/29/2021	139.02699	128.1215721	118.1488013	109.0241618	100.6711977	93.02070745	86.01002218	79.58235862	73.68623943
210609A00003	6/9/2021	0.47	6/9/2023	6/9/2021	107.94059	105.8439721	103.7986129	101.8029386	99.85543417	97.95464093	96.0991546	94.28762263	92.51874194
210624A00005	6/24/2021	1.22	6/24/2026	6/24/2021	121.81761	115.9473457	110.3918928	105.1327727	100.152685	95.43542779	90.96582171	86.7296405	82.7135461
210624A00004	6/24/2021	1.01	6/24/2025	6/24/2021	117.20221	112.6326185	108.265033	104.0894705	100.096492	96.27717347	92.62307473	89.12621065	85.77902404
210624A00002	6/24/2021	0.57	6/23/2023	6/24/2021	108.30013	106.1561911	104.0657026	102.026986	100.0384303	98.09848622	96.20566315	94.35852671	92.55569612
210610A00014	6/11/2021	2.03	6/10/2026	6/11/2021	126.07634	120.144353	114.5263895	109.2042048	104.1607113	99.37989522	94.84674417	90.54717915	86.46799184
210623A00026	6/23/2021	0.78	6/24/2024	6/23/2021	112.65813	109.331489	106.1200961	103.0193125	100.024718	97.13209508	94.3374189	91.63684676	89.02670898
210624A00026	6/24/2021	1.6	6/23/2028	6/24/2021	131.42817	122.7824329	114.759255	107.3106903	100.3927179	93.96490099	87.99007814	82.43408241	77.26548576
210629A00015	6/29/2021	1.89	6/27/2031	6/29/2021	146.43314	133.1597512	121.1958505	110.4053964	100.6671186	91.87284992	83.92605135	76.74050947	70.2391857
210629A00005	6/29/2021	1.25	6/29/2026	6/29/2021	122.03427	116.1413151	110.5651839	105.2872305	100.2900007	95.55715128	91.07337367	86.82432307	82.79655273
210526A00014	5/26/2021	1.01	12/19/2025	5/26/2021	118.877	113.6984843	108.7726745	104.0859501	99.62549644	95.37925189	91.33586004	87.48462457	83.81546745
210526A00017	5/26/2021	2.13	5/26/2033	5/26/2021	156.7864	140.2929888	125.6924142	112.7570136	101.2875743	91.10965382	82.07039068	74.03573973	66.88807325
210526A00018	5/26/2021	1.11	5/26/2026	5/26/2021	120.92682	115.1776108	109.7321188	104.5727951	99.68319168	95.04788783	90.65242036	86.48321954	82.52754941
210629A00009	6/29/2021	1.14	12/31/2025	6/29/2021	119.68537	114.4472177	109.4663188	104.72871	100.2212604	95.93161731	91.8481551	87.95992907	84.2566317
210610A00012	6/11/2021	1.9	6/10/2026	6/11/2021	125.36959	119.4557795	113.8552893	108.5499126	103.5225927	98.75734547	94.23918636	89.95406272	85.8887912
210624A00025	6/24/2021	1.43	6/24/2027	6/24/2021	126.62711	119.3940755	112.6160263	106.2620639	100.303539	94.71387921	89.46842761	84.54429547	79.92022676
210407A00012	4/7/2021	0.94	4/7/2025	4/7/2021	116.12885	111.8334089	107.7188094	103.7764055	99.9980175	96.37590572	92.90274375	89.57159357	86.37588236
210407A00013	4/7/2021	1.23	4/7/2026	4/7/2021	121.07778	115.4859997	110.1824479	105.1507211	100.3754422	95.84219131	91.53744004	87.44849112	83.5634224
210420A00009	4/20/2021	1.08	12/5/2025	4/20/2021	119.08298	113.9452156	109.055992	104.402026	99.97081704	95.75059295	91.73026339	87.89937703	84.24808133
210420A00010	4/20/2021	1.08	12/12/2025	4/20/2021	119.20451	114.0395285	109.1254698	104.4488702	99.99705665	95.75809818	91.72075801	87.87444972	84.20919618
210518A00023	5/18/2021	1.17	5/18/2026	5/18/2021	121.23118	115.4985207	110.0673547	104.9203399	100.0412134	95.41472337	91.02656136	86.86329888	82.91232917
210525A00004	5/25/2021	1.02	12/19/2025	5/25/2021	118.92586	113.7462046	108.819297	104.1315134	99.67003726	95.42280548	91.37846011	87.52630339	83.85625593
210324A00002	3/24/2021	2.06	3/24/2031	3/24/2021	147.1655	134.2179888	122.5151648	111.930679	102.3516305	93.67706916	85.81667275	78.68957778	72.2233441
210324A00003	3/24/2021	1.18	3/24/2026	3/24/2021	120.67675	115.1406887	109.8881855	104.9031638	100.1705521	95.67621635	91.40689576	87.35014332	83.49427089
210330A00015	3/30/2021	0.47	3/30/2023	3/30/2021	107.20185	105.3254946	103.49153	101.6985902	99.94536604	98.23060503	96.55310792	94.91172591	93.30535794
210330A00021	3/30/2021	2.16	3/28/2031	3/30/2021	148.33717	135.3162274	123.5467404	112.9016341	103.2673635	94.54240909	86.63594531	79.4666631	72.96172733
210330A00022	3/30/2021	1.27	3/30/2026	3/30/2021	121.20429	115.6357877	110.3532035	105.3402823	100.581787	96.06343129	91.77181452	87.69436095	83.81926396
210330A00024	3/30/2021	0.68	3/29/2024	3/30/2021	111.46264	108.4264639	105.4883145	102.6443531	99.89091928	97.22452477	94.64184344	92.13970242	89.71507368
210310A00015	3/11/2021	0.51	5/15/2023	3/11/2021	107.75403	105.7350266	103.7637319	101.8387268	99.95864815	98.12218199	96.32806123	94.57506379	92.86201067
210311A00007	3/11/2021	1.06	3/11/2026	3/11/2021	119.93152	114.455738	109.2587937	104.3249834	99.6395749	95.18874566	90.95952096	86.93971665	83.11788627
210312A00008	3/12/2021	1.13	3/12/2026	3/12/2021	120.30142	114.8133612	109.6047897	104.6599538	99.96408338	95.50332054	91.26465781	87.23588062	83.40551422
210315A00003	3/15/2021	1.13	3/13/2026	3/15/2021	120.31108	114.8195553	109.6078357	104.6601442	99.9616864	95.49858245	91.25780457	87.22711965	83.39503594
210318A00007	3/22/2021	1.41	3/21/2024	3/22/2021	113.50309	110.4618935	107.5179995	104.6676285	101.9071769	99.2332089	96.64244679	94.13176257	91.6981697

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210319A00003	3/19/2021	0.95	3/19/2025	3/19/2021	115.98199	111.7496185	107.6934317	103.8050563	100.0765753	96.50049713	93.06972931	89.77755471	86.61760886
210305A00006	3/8/2021	1.02	8/11/2025	3/8/2021	117.71278	112.9802517	108.4626036	104.1489051	100.028849	96.09270881	92.3313022	88.73595726	85.29848106
210308A00009	3/8/2021	0.62	3/8/2024	3/8/2021	111.08256	108.1156957	105.2429613	102.4607435	99.76559259	97.15421715	94.62347537	92.17036686	89.79202514
210309A00002	3/11/2021	0.77	7/25/2024	3/11/2021	112.93704	109.5104626	106.2053016	103.0165453	99.93942482	96.96939685	94.10213141	91.33350044	88.65956703
210309A00004	3/11/2021	0.87	11/25/2024	3/11/2021	114.52012	110.681525	106.9909075	103.4417955	100.0280324	96.74376267	93.5834156	90.54168966	87.61353808
210310A00003	3/15/2021	0.79	8/26/2024	3/15/2021	113.31964	109.7888953	106.3860114	103.1055869	99.94248226	96.89180872	93.94891382	91.10936837	88.36895412
210310A00014	3/11/2021	0.41	5/16/2022	3/11/2021	103.72724	102.7847392	101.8592428	100.9502978	100.0574635	99.18031487	98.31844154	97.47144745	96.63895008
210302A00005	3/5/2021	0.92	9/10/2025	3/5/2021	117.54817	112.7231795	108.1210726	103.7303087	99.54001793	95.53995497	91.72045932	88.07241803	84.58723114
210302A00019	3/4/2021	1.06	3/4/2024	3/4/2021	112.2986	109.3266663	106.448574	103.6607333	100.9597199	98.34226609	95.8052518	93.34569668	90.96075279
210303A00006	3/4/2021	0.97	10/10/2025	3/4/2021	118.06663	113.1329459	108.4308511	103.9482144	99.67361422	95.59628984	91.70609901	87.99347845	84.44940733
210304A00002	3/5/2021	0.93	7/10/2025	3/5/2021	117.00995	112.3930704	107.9823268	103.7674274	99.73864807	95.88680103	92.20320242	88.67964153	85.30835245
210304A00006	3/4/2021	1.02	3/4/2026	3/4/2021	119.66051	114.2139012	109.0437263	104.1344728	99.47158431	95.04139951	90.83109156	86.82861216	83.02263967
210305A00005	3/9/2021	0.54	8/11/2023	3/9/2021	108.74641	106.4520715	104.2177513	102.0414476	99.92124244	97.8552968	95.84184708	93.87920117	91.9657349
210225A00012	3/1/2021	0.91	8/25/2025	3/1/2021	117.35038	112.5814664	108.0308641	103.6873757	99.54044876	95.58013087	91.79703147	88.1822867	84.72752659
210225A00013	3/1/2021	0.93	10/6/2025	3/1/2021	117.84317	112.9270672	108.2413415	103.7739289	99.51346559	95.44924728	91.57118645	87.86977292	84.33603714
210225A00015	3/1/2021	0.7	8/26/2024	3/1/2021	113.01479	109.4890984	106.0911361	102.8155011	99.65705872	96.61092451	93.67245029	90.83721095	88.1009921
210225A00016	3/1/2021	0.88	7/15/2025	3/1/2021	116.8373	112.2083662	107.7867289	103.5619991	99.52437123	95.66458223	91.97387873	88.44398588	85.06707851
210226A00002	2/26/2021	0.86	2/26/2025	2/26/2021	115.41781	111.2628666	107.2786499	103.4571615	99.79083166	96.27249025	92.89534322	89.65295016	86.53920357
210226A00004	3/1/2021	1.04	12/5/2025	3/1/2021	118.88932	113.7560288	108.8711207	104.22132	99.79413255	95.57779242	91.56121514	87.73395493	84.08616457
210224A00004	2/26/2021	0.91	12/18/2025	2/26/2021	118.37924	113.2155588	108.3038663	103.6305818	99.18293057	94.94888865	90.9171345	87.07700445	83.41845094
210224A00006	2/26/2021	0.88	10/21/2025	2/26/2021	117.74629	112.785165	108.0582326	103.5532358	99.25862181	95.16350087	91.25760474	87.53124765	83.97529007
210224A00007	2/26/2021	0.68	10/21/2024	2/26/2021	113.48635	109.777563	106.2083113	102.7725849	99.46466605	96.27911553	93.21075725	90.25466386	87.40614325
210225A00003	3/1/2021	0.93	9/24/2025	3/1/2021	117.72971	112.8547249	108.2067584	103.7739608	99.54517128	95.50987661	91.65816946	87.98070933	84.46868637
210225A00006	2/25/2021	0.98	2/25/2026	2/25/2021	119.3877	113.9711936	108.8286606	103.944781	99.30517709	94.89635144	90.70562783	86.72109636	82.9315626
210225A00007	2/25/2021	1.79	8/23/2030	2/25/2021	141.79644	129.9000511	119.0896071	109.2603533	100.3181495	92.17834029	84.76475443	78.00881457	71.84874479
210219A00002	2/19/2021	0.32	2/22/2022	2/19/2021	102.68731	102.0004307	101.3226932	100.6539119	99.99391033	99.34251667	98.69956345	98.06488758	97.43833012
210219A00004	2/19/2021	0.91	2/19/2026	2/19/2021	119.02548	113.6371752	108.5206916	103.6608707	99.04348725	94.65518396	90.48341351	86.5163846	82.74301201
210219A00008	2/22/2021	0.86	12/1/2025	2/22/2021	117.98178	112.8824082	108.0294468	103.4097576	99.0109681	94.82142462	90.83014727	87.02678734	83.40158779
210223A00014	2/23/2021	0.31	2/23/2022	2/23/2021	102.69212	102.0022437	101.321585	100.649958	99.98718398	99.33308904	98.68750365	98.05026275	97.42120551
210224A00002	2/25/2021	0.88	11/3/2025	2/25/2021	117.86536	112.8601088	108.092676	103.5505921	99.22210404	95.09613024	91.16221852	87.41050733	83.83168942
210224A00003	2/26/2021	0.9	12/3/2025	2/26/2021	118.19322	113.0824928	108.2189634	103.5894351	99.18148286	94.98340463	90.98417564	87.17340566	83.54129923
210217A00009	2/18/2021	0.68	11/15/2024	2/18/2021	113.72573	109.933684	106.286811	102.7788099	99.40368346	96.1557255	93.02950502	90.01985146	87.12184077
210218A00005	2/18/2021	0.32	2/18/2022	2/18/2021	102.64126	101.9664723	101.3005166	100.6432162	99.99440316	99.35391397	98.7215893	98.09727384	97.48081621

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210218A00006	2/18/2021	0.5	2/20/2024	2/18/2021	110.57268	107.6662115	104.8506807	102.1226494	99.47883611	96.91610708	94.43146795	92.02205664	89.68513639
210218A00009	2/19/2021	0.62	7/15/2024	2/19/2021	112.34917	108.9624942	105.6950737	102.5420287	99.4987075	96.56067653	93.72370853	90.98377163	88.33701904
210218A00010	2/18/2021	1.72	2/18/2031	2/18/2021	143.11264	130.4877126	119.0712216	108.7412618	99.3888079	90.91629318	83.23635126	76.2707026	69.94916749
210218A00011	2/22/2021	0.85	10/24/2025	2/22/2021	117.63216	112.6641678	107.9310626	103.4205509	99.12104463	95.02161927	91.1119727	87.38238617	83.82368819
210208A00008	2/11/2021	0.78	11/17/2025	2/11/2021	117.51991	112.4759873	107.6739025	103.1008632	98.74481821	94.59441109	90.63893619	86.86829824	83.27297439
210208A00015	2/10/2021	0.46	8/25/2023	2/10/2021	108.70711	106.3718253	104.0984399	101.8848538	99.72905809	97.62912851	95.58322115	93.58956836	91.64647486
210211A00005	2/11/2021	0.45	6/15/2023	2/11/2021	107.96409	105.8485881	103.7852487	101.7724573	99.80865891	97.89235706	96.02211153	94.1965357	92.41429411
210211A00007	2/11/2021	0.47	9/15/2023	2/11/2021	108.94317	106.5411529	104.204166	101.9299511	99.71634614	97.56128294	95.46278254	93.41895028	91.42797138
210216A00011	2/17/2021	0.83	12/15/2025	2/17/2021	118.01519	112.868074	107.9718393	103.3129869	98.87881575	94.65736954	90.63738963	86.80827042	83.16001812
210217A00008	2/18/2021	0.63	8/15/2024	2/18/2021	112.67433	109.1879053	105.8268716	102.5859734	99.46020826	96.44481563	93.53526277	90.72723241	88.01661097
210201A00001	2/1/2021	0.77	12/16/2025	2/1/2021	117.67819	112.5373006	107.6471993	102.9943852	98.56615377	94.35054602	90.33630114	86.5128119	82.87008335
210201A00003	2/2/2021	0.74	10/15/2025	2/2/2021	117.03658	112.110215	107.4159391	102.9415971	98.67573532	94.60756102	90.72689969	87.02415622	83.49027852
210201A00007	2/3/2021	0.57	8/15/2024	2/3/2021	112.47312	108.9900057	105.6321912	102.3944263	99.27171191	96.25929012	93.35263098	90.54741986	87.8395457
210208A00002	2/10/2021	0.45	6/15/2023	2/10/2021	107.96409	105.8485881	103.7852487	101.7724573	99.80865891	97.89235706	96.02211153	94.1965357	92.41429411
210208A00004	2/11/2021	0.76	10/15/2025	2/11/2021	117.13021	112.2017465	107.5054463	103.0291486	98.76139702	94.69139588	90.8089681	87.10451606	83.56898528
210208A00006	2/9/2021	0.46	8/15/2023	2/9/2021	108.60768	106.3030914	104.0590247	101.8734515	99.74442882	97.67009439	95.64866266	93.67842087	91.75772544
210122A00005	1/26/2021	0.6	7/15/2024	1/26/2021	112.28401	108.8983724	105.6319676	102.4799118	99.43755423	96.50046214	93.66440913	90.92536412	88.2794811
210122A00006	1/25/2021	0.61	8/15/2024	1/25/2021	112.60726	109.1219387	105.7619782	102.5221243	99.39737614	96.38297379	93.47438551	90.6672949	87.95758921
210127A00008	1/27/2021	0.93	1/27/2027	1/27/2021	122.08382	115.4917227	109.2904232	103.4547898	97.96143468	92.78858527	87.91596446	83.32467989	78.99712225
210127A00009	1/27/2021	1.3	7/27/2029	1/27/2021	132.887	122.7904599	113.5235785	105.0140951	97.19638549	90.01082296	83.40320139	77.32421705	71.72900234
210127A00010	1/27/2021	1.41	7/26/2030	1/27/2021	137.53262	125.9357248	115.3946119	105.8079183	97.0844866	89.14229214	81.90748603	75.31354273	69.30050032
210129A00002	2/3/2021	0.59	7/25/2024	2/3/2021	112.34503	108.9280134	105.6321583	102.4524634	99.38416821	96.4227375	93.56384908	90.80338233	88.13740748
210119A00005	1/20/2021	0.52	9/25/2023	1/20/2021	109.16387	106.7283604	104.3594705	102.0548545	99.81227215	97.62958255	95.5047381	93.43577968	91.42083194
210119A00007	1/20/2021	0.51	8/25/2023	1/20/2021	108.82075	106.4841651	104.2095012	101.9946634	99.83764198	97.73651193	95.68942859	93.69462359	91.75040097
210121A00012	1/22/2021	0.64	10/15/2024	1/22/2021	113.28873	109.601681	106.0529074	102.6364349	99.34658518	96.17795929	93.12542193	90.1840868	87.34930285
210121A00014	1/22/2021	0.64	10/25/2024	1/22/2021	113.38078	109.6616167	106.0827178	102.6380522	99.32187968	96.12873771	93.05342634	90.09099408	87.23672453
210121A00017	1/25/2021	0.48	5/25/2023	1/25/2021	107.80042	105.7511051	103.7508626	101.7982155	99.89174317	98.03007675	96.21189713	94.43593271	92.70095735
210121A00018	1/25/2021	0.5	8/25/2023	1/25/2021	108.79803	106.4616972	104.1872889	101.9727015	99.8159252	97.71503525	95.6681871	93.67361254	91.72961575
201221A00015	12/21/2020	0.88	12/4/2026	12/21/2020	121.34502	114.9507178	108.9266103	103.249462	97.89760611	92.85083481	88.09029357	83.59838397	79.35867388
201223A00012	12/23/2020	0.91	12/18/2026	12/23/2020	121.63986	115.1909036	109.1177673	103.3966939	98.00554888	92.92369895	88.13190234	83.61220812	79.34786319
201223A00013	12/23/2020	0.9	12/11/2026	12/23/2020	121.52223	115.0997751	109.0503544	103.3504734	97.97823075	92.91320481	88.13634655	83.62988039	79.37721282
210108A00008	1/11/2021	0.51	8/15/2023	1/11/2021	108.71983	106.4139677	104.1686541	101.9818601	99.85164167	97.77613597	95.75355669	93.78219038	91.8603928
210112A00003	1/12/2021	0.53	9/15/2023	1/12/2021	109.08333	106.679653	104.3410498	102.065253	99.85009944	97.69351999	95.59353471	93.54824801	91.55584424

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210114A00004	1/14/2021	0.4	1/14/2022	1/14/2021	102.28855	101.7186809	101.1551424	100.5978295	100.0466394	99.50147143	98.96222734	98.42881086	97.90112781
201216A00001	12/16/2020	0.49	7/14/2023	12/16/2020	108.35164	106.14421	103.9930662	101.8963949	99.85245401	97.85957038	95.9161365	94.0206074	92.17149773
201216A00003	12/16/2020	0.59	7/1/2024	12/16/2020	112.12047	108.7799605	105.5559772	102.4438021	99.43893682	96.53709086	93.73417087	91.02627024	88.40965943
201216A00004	12/16/2020	0.74	9/8/2025	12/16/2020	116.70719	111.9071655	107.3288332	102.9607267	98.79204119	94.81259211	91.01277558	87.38353147	83.9163092
201216A00013	12/16/2020	0.59	12/16/2025	12/16/2020	117.5998	112.4362338	107.5252625	102.8532524	98.40737965	94.1755747	90.14647419	86.3093758	82.6541963
201218A00014	12/18/2020	0.57	12/18/2025	12/18/2020	117.51918	112.3509841	107.4359348	102.7603575	98.3113843	94.07690567	90.0455213	86.20649497	82.5497123
201221A00014	12/21/2020	0.76	12/19/2025	12/21/2020	117.65554	112.5054775	107.6071113	102.9468684	98.5119759	94.29041207	90.27085826	86.44265402	82.79575541
201203A00005	12/3/2020	0.78	12/3/2026	12/3/2020	121.7339	115.2971347	109.2337386	103.520233	98.13473289	93.05682905	88.26748132	83.74891995	79.48455462
201204A00015	12/8/2020	1.07	12/8/2025	12/8/2020	119.11698	113.9670549	109.0667397	104.4026755	99.96228388	95.7337212	91.70583113	87.86810143	84.21062339
201210A00011	12/10/2020	0.41	12/10/2021	12/10/2020	101.88735	101.4212685	100.9594416	100.5018138	100.0483278	99.59892758	99.15355805	98.71216504	98.27469542
201210A00021	12/10/2020	0.89	12/10/2027	12/10/2020	125.52809	117.7133821	110.4267251	103.6298949	97.28762103	91.36734039	85.83897676	80.67473892	75.84893622
201214A00002	12/14/2020	0.45	12/14/2022	12/14/2020	106.00605	104.4577672	102.9400248	101.4519928	99.99287401	98.5618989	97.15832485	95.78143476	94.43053601
201215A00001	12/15/2020	0.76	12/15/2025	12/15/2020	117.67399	112.5348007	107.6462156	102.9947452	98.5676998	94.35313444	90.33980087	86.51710348	82.87505794
201119A00021	11/23/2020	2.22	11/21/2030	11/23/2020	147.44074	134.9427394	123.6065983	113.3181474	103.974976	95.4851686	87.76618136	80.74384457	74.35147524
201119A00023	11/23/2020	2.23	11/21/2030	11/23/2020	147.54897	135.0457359	123.7047092	113.4116965	104.0642621	95.57046758	87.84774809	80.82191473	74.42626693
201123A00009	11/25/2020	1.02	11/25/2024	11/25/2020	115.07034	111.2219168	107.5217529	103.9633651	100.5405869	97.24755342	94.07868471	91.02867061	88.09245608
201123A00010	11/25/2020	1.48	11/24/2025	11/25/2020	120.89643	115.753381	110.856915	106.1939612	101.7522083	97.52005653	93.48657313	89.6414505	85.97496726
201123A00011	11/25/2020	1.41	11/24/2025	11/25/2020	120.55996	115.4246322	110.5356159	105.8798539	101.4450459	97.21960269	93.19260168	89.35374475	85.69331956
201201A00002	12/1/2020	0.54	12/1/2023	12/1/2020	109.88803	107.2393964	104.6677387	102.1703801	99.74475545	97.38840356	95.09896281	92.87416631	90.71183748
201117A00016	11/17/2020	0.52	11/18/2024	11/17/2020	113.72274	109.9068588	106.2377509	102.7090094	99.31454562	96.0485678	92.90556479	89.88029094	86.96775182
201117A00017	11/17/2020	0.39	11/17/2023	11/17/2020	109.74254	107.1316807	104.5957088	102.1320527	99.73824922	97.41193384	95.15083613	92.95277551	90.81565705
201118A00009	11/18/2020	0.61	11/18/2025	11/18/2020	117.44753	112.3797571	107.5557404	102.9625476	98.58800042	94.42062439	90.44960453	86.66474412	83.05642619
201118A00021	11/20/2020	0.97	11/20/2023	11/20/2020	110.86515	108.23856	105.6873065	103.2088068	100.8005804	98.46024614	96.18551788	93.97419998	91.82418317
201119A00002	11/19/2020	0.5	11/18/2022	11/19/2020	105.79155	104.3225565	102.881176	101.4666987	100.0784358	98.7157218	97.37791296	96.0643867	94.77454065
201119A00003	11/19/2020	0.56	11/17/2023	11/19/2020	109.79506	107.1914736	104.6623983	102.2052895	99.81770081	97.49728369	95.24178277	93.04903169	90.91694902
201116A00009	11/16/2020	0.51	11/14/2022	11/16/2020	105.76035	104.3036882	102.8742074	101.4712113	100.0940271	98.74200411	97.41451303	96.11094493	94.83071056
201116A00021	11/16/2020	0.53	11/15/2024	11/16/2020	113.72998	109.9237422	106.2635524	102.7430562	99.35620869	96.09725881	92.96073345	89.94142253	87.03436489
201116A00024	11/18/2020	2.36	11/15/2034	11/18/2020	165.96788	146.779079	130.0220252	115.3742734	102.5576768	91.33210317	81.49007253	72.85217366	65.26314319
201116A00025	11/18/2020	1.96	11/15/2032	11/18/2020	152.458	136.9616392	123.1776803	110.907767	99.97743583	90.23313631	81.539632	73.77773623	66.84233717
201117A00005	11/17/2020	0.5	11/17/2022	11/17/2020	105.78017	104.3142839	102.8759055	101.4643249	100.0788574	98.71884123	97.38363624	96.07262332	94.78520339
201117A00006	11/17/2020	0.57	11/17/2023	11/17/2020	109.82032	107.2164068	104.687019	102.2296047	99.8417172	97.52100778	95.26522087	93.07218994	90.93983337
201030A00016	10/30/2020	1.14	10/8/2027	10/30/2020	125.58667	118.0310702	110.9718097	104.3737789	98.20453037	92.43406528	87.03463607	81.98056546	77.24808124
201030A00017	10/30/2020	1.14	10/15/2027	10/30/2020	125.64411	118.0636119	110.9822977	104.3648128	98.17848702	92.39311413	86.98075343	81.91554835	77.17356049

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
201030A00018	10/30/2020	1.15	10/22/2027	10/30/2020	125.77206	118.1643624	111.0587987	104.4197743	98.21438933	92.41222328	86.98513618	81.9070864	77.15396407
201030A00019	10/30/2020	1.15	10/29/2027	10/30/2020	125.82974	118.1971167	111.0694887	104.4110158	98.18857264	92.37152855	86.93154815	81.84240847	77.07983167
201105A00003	11/6/2020	2.24	11/4/2030	11/6/2020	147.44102	135.0078982	123.7249856	113.479793	104.1713651	95.70904347	88.01136991	81.00511169	74.624394
201105A00016	11/9/2020	2.18	11/8/2027	11/9/2020	133.23621	125.3253565	117.9354572	111.0295708	104.5735528	98.53583167	92.88720256	87.60063882	82.65111929
201021A00012	10/21/2020	1.85	10/19/2035	10/21/2020	160.87189	140.7194407	123.2983044	108.2232005	95.16496574	83.84214204	74.01385798	65.47380201	58.04511565
201028A00011	10/28/2020	0.91	4/28/2026	10/28/2020	119.65586	114.0284254	108.6944114	103.6370833	98.84074395	94.29066395	89.97301712	85.87482065	81.98387951
201028A00012	10/28/2020	0.8	7/28/2025	10/28/2020	116.6027	111.9380046	107.4837548	103.2293321	99.16471075	95.28042499	91.567534	88.01758979	84.62260717
201028A00013	10/28/2020	0.68	10/28/2024	10/28/2020	113.55167	109.8203588	106.2299871	102.7744992	99.44813369	96.24540624	93.161095	90.19022646	87.3280623
201029A00002	10/29/2020	0.59	10/29/2025	10/29/2020	117.17036	112.1753937	107.4178749	102.8853455	98.56606396	94.4489603	90.52359454	86.78011754	83.20923455
201030A00012	10/30/2020	0.63	10/30/2025	10/30/2020	117.36876	112.3661395	107.601386	103.062021	98.73628298	94.61308316	90.68196317	86.93305616	83.35705035
201015A00030	10/19/2020	2.39	10/18/2027	10/19/2020	134.46645	126.588166	119.2238353	112.3372346	105.8948804	99.86580518	94.22135608	88.9350097	83.98220334
201015A00032	10/19/2020	2.33	10/19/2026	10/19/2020	129.45025	122.9863959	116.8851002	111.1241268	105.6827162	100.5414835	95.68231983	91.088302	86.74360815
201019A00005	10/19/2020	0.79	10/20/2025	10/19/2020	117.31449	112.3662083	107.651525	103.1582116	98.87474154	94.7902508	90.89449565	87.17781396	83.63108885
201019A00006	10/19/2020	0.57	10/19/2023	10/19/2020	109.52439	107.0129561	104.5714731	102.197545	99.88887709	97.64326938	95.45861172	93.33287946	91.26412931
201019A00007	10/19/2020	0.64	10/21/2024	10/19/2020	113.34396	109.6376405	106.0707934	102.637405	99.33175969	96.14842073	93.08221418	90.12821479	87.28173249
201021A00011	10/21/2020	1.11	10/21/2027	10/21/2020	125.4819	117.8869754	110.7933411	104.1654624	97.97049462	92.17806874	86.76009283	81.69057007	76.94543227
201001A00012	10/1/2020	0.74	9/16/2025	10/1/2020	116.78	111.9521927	107.3484056	102.9569961	98.76699525	94.7680675	90.95046969	87.3050134	83.82302967
201014A00002	10/14/2020	0.61	10/15/2024	10/14/2020	113.18249	109.4972763	105.9502884	102.5355522	99.24739123	96.08040816	93.02946933	90.08969002	87.25642066
201015A00002	10/15/2020	0.61	10/15/2024	10/15/2020	113.18249	109.4972763	105.9502884	102.5355522	99.24739123	96.08040816	93.02946933	90.08969002	87.25642066
201015A00003	10/15/2020	0.75	10/15/2025	10/15/2020	117.0834	112.1559808	107.4606927	102.9853728	98.71856617	94.64947845	90.76793389	87.06433614	83.5296319
201015A00024	10/19/2020	1.53	10/18/2027	10/19/2020	128.41361	120.7328682	113.5567502	106.8495667	100.5783278	94.71252817	89.22394786	84.08646914	79.27590965
201015A00025	10/19/2020	1.54	10/18/2027	10/19/2020	128.484	120.800953	113.6226466	106.9133768	100.6401481	94.77245	89.28205726	84.14284752	79.330634
200916A00023	9/16/2020	0.42	9/16/2024	9/16/2020	112.77497	109.1740729	105.7060247	102.3651014	99.14586386	96.04314424	93.05203038	90.16785105	87.38616227
200922A00015	9/24/2020	1.09	9/24/2025	9/24/2020	118.46813	113.5768282	108.9130996	104.4650693	100.2215539	96.17201924	92.30653778	88.6157499	85.09082756
200923A00001	9/23/2020	2.27	9/22/2025	9/23/2020	123.8861	118.8818412	114.1086238	109.5544473	105.208007	101.0586516	97.09634148	93.31160913	89.69552298
200923A00002	9/23/2020	2.17	9/22/2025	9/23/2020	123.42522	118.4311306	113.6677389	109.1230586	104.7857988	100.6453214	96.69159923	92.91517668	89.30713352
200928A00009	9/28/2020	1.51	9/28/2032	9/28/2020	146.04303	131.0979633	117.7983985	105.954745	95.40014332	85.98763512	77.5876993	70.08610386	63.3820323
201001A00011	10/1/2020	0.71	6/17/2025	10/1/2020	115.83936	111.321236	107.0022089	102.8724724	98.92276044	95.14430994	91.52883079	88.0684777	84.75582389
200826A00040	8/28/2020	0.92	10/27/2023	8/28/2020	110.46596	107.9192297	105.4437631	103.0371527	100.6970895	98.42135636	96.20782392	94.05444636	91.95925759
200909A00001	9/9/2020	0.98	9/8/2028	9/9/2020	128.56193	119.700582	111.4989279	103.9046047	96.86966377	90.35017955	84.30589162	78.69988026	73.49827262
200916A00015	9/16/2020	0.72	9/16/2025	9/16/2020	116.68821	111.8624129	107.2605756	102.8710508	98.68287222	94.68570683	90.869814	87.22600763	83.74562102
200916A00016	9/16/2020	0.6	9/16/2024	9/16/2020	112.87632	109.286674	105.8291553	102.4980778	99.28804284	96.19392037	93.21083359	90.3341444	87.55943988
200916A00017	9/16/2020	0.54	9/15/2023	9/16/2020	109.10668	106.7027364	104.3638638	102.0878034	99.87239166	97.71555949	95.61532673	93.56979763	91.57715638

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200916A00019	9/16/2020	0.42	9/16/2024	9/16/2020	112.77497	109.1740729	105.7060247	102.3651014	99.14586386	96.04314424	93.05203038	90.16785105	87.38616227
200826A00028	8/28/2020	1.08	8/28/2024	8/28/2020	114.32352	110.7699565	107.3451093	104.0435319	100.860046	97.78972637	94.82788613	91.97006371	89.21201024
200826A00029	8/28/2020	1.16	11/27/2024	8/28/2020	115.60635	111.7418224	108.0263185	104.4533075	101.0165837	97.7102455	94.52867862	91.46654041	88.51874537
200826A00035	8/28/2020	0.78	8/28/2023	8/28/2020	109.46716	107.114236	104.8238072	102.5937458	100.4220177	98.30667475	96.24585057	94.23775627	92.28067645
200826A00036	8/28/2020	0.88	7/28/2023	8/28/2020	109.34785	107.0881805	104.8868225	102.7418598	100.6514588	98.61386004	96.62737467	94.69038081	92.80132047
200826A00038	8/28/2020	1.11	8/28/2024	8/28/2020	114.42532	110.8700675	107.4435741	104.1403947	100.9553496	97.88351178	94.92019312	92.06093066	89.30147421
200826A00039	8/28/2020	1.03	7/29/2024	8/28/2020	113.83501	110.3816965	107.0509454	103.8376925	100.7371118	97.74460645	94.8557963	92.06650602	89.37275425
200806A00006	8/6/2020	0.76	8/6/2025	8/6/2020	116.50482	111.8139606	107.335808	103.0595738	98.9750752	95.07270093	91.34337614	87.77852908	84.37006018
200818A00016	3/31/2021	0.57	4/1/2024	3/31/2021	111.16952	108.1284127	105.1857562	102.3376895	99.58053258	96.91077814	94.32508212	91.82025447	89.39325073
200818A00018	3/31/2021	0.57	4/1/2024	3/31/2021	111.16952	108.1284127	105.1857562	102.3376895	99.58053258	96.91077814	94.32508212	91.82025447	89.39325073
200824A00020	8/26/2020	1.57	8/26/2025	8/26/2020	120.34532	115.5083034	110.8920227	106.4851773	102.2771101	98.25776972	94.417672	90.74786443	87.23989304
200826A00019	8/26/2020	0.98	8/26/2026	8/26/2020	121.06583	115.0108457	109.2905669	103.8847463	98.77447386	93.94207945	89.37104417	85.04591891	80.95224907
200826A00021	8/26/2020	0.83	8/26/2025	8/26/2020	116.99777	112.2333508	107.6872504	103.3482642	99.20583158	95.24999269	91.47135056	87.86103563	84.41067291
200701A00007	7/1/2020	0.47	7/1/2021	7/1/2020	100.01161	100.0088293	100.0060515	100.0032761	100.0005031	99.99773251	99.9949643	99.99219847	99.98943502
200708A00011	7/10/2020	2.87	7/10/2031	7/10/2020	157.96435	144.0480966	131.4926499	120.1571043	109.9158451	100.6568154	92.2799895	84.69602485	77.82507142
200729A00015	7/30/2020	0.47	9/21/2021	7/30/2020	100.96706	100.7333197	100.5006652	100.2690932	100.0385961	99.80916643	99.58079672	99.35347963	99.12720786
200729A00016	7/30/2020	0.5	4/1/2022	7/30/2020	103.26837	102.4649889	101.6740243	100.8951875	100.1282016	99.37279804	98.62871649	97.89570423	97.173516
200730A00011	7/30/2020	1.15	7/28/2028	7/30/2020	128.19778	119.5504377	111.5358617	104.1046406	97.2114596	90.81474374	84.87633047	79.3611732	74.23707175
200730A00013	7/30/2020	0.74	1/30/2025	7/30/2020	114.66444	110.6162514	106.7315168	103.0027315	99.42277628	95.98489976	92.68269658	89.51008765	86.46130144
200611A00020	6/11/2020	0.81	6/11/2025	6/11/2020	116.21204	111.7060434	107.397679	103.2772578	99.33562141	95.56410586	91.95451281	88.49908176	85.19046436
200611A00021	6/11/2020	0.72	6/11/2024	6/11/2020	112.33175	109.0520623	105.8846542	102.8250682	99.86904815	97.01253091	94.25163609	91.58265683	89.00205096
200611A00023	6/11/2020	0.64	6/12/2023	6/11/2020	108.32179	106.2118599	104.1537204	102.1457722	100.1864779	98.27435802	96.4079883	94.58599722	92.8070637
200629A00020	6/29/2020	1.4	6/28/2030	6/29/2020	137.16108	125.6797156	115.2361945	105.7315712	97.07679463	89.19167235	82.00394924	75.44848586	69.46652564
200629A00021	6/29/2020	1.21	6/29/2028	6/29/2020	128.41992	119.8616253	111.9232848	104.5569515	97.71861686	91.36786874	85.46757985	79.9836253	74.88462559
200629A00023	6/29/2020	0.95	6/29/2026	6/29/2020	120.38508	114.5349681	109.0000169	103.7616616	98.80252241	94.10632667	89.65783255	85.44275835	81.44771704
200527A00015	5/27/2020	0.99	11/26/2025	5/27/2020	118.56081	113.4646717	108.6138692	103.9953597	99.59686385	95.40681386	91.41430832	87.6090705	83.98140927
200527A00016	5/27/2020	0.92	5/27/2025	5/27/2020	116.53535	112.0718638	107.8020288	103.7164565	99.80626361	96.0630417	92.47882888	89.04608387	85.75766149
200528A00021	5/28/2020	0.63	5/26/2023	5/28/2020	108.11118	106.0557044	104.0494962	102.0910753	100.1790135	98.31193475	96.48851297	94.70747	92.96757346
200529A00022	6/1/2020	0.98	6/1/2026	6/1/2020	120.28185	114.5293743	109.0820108	103.9220666	99.03296266	94.39915877	90.00608314	85.84006724	81.88828527
200605A00005	6/5/2020	0.99	6/5/2025	6/5/2020	116.92226	112.4215245	108.1171746	103.9996356	100.0598471	96.28923575	92.67968684	89.22351683	85.91344839
200611A00019	6/11/2020	0.88	12/11/2025	6/11/2020	118.22243	113.0834718	108.1943264	103.5415876	99.11263886	94.89560186	90.87928935	87.05316138	83.40728446
200521A00015	5/21/2020	2.14	5/21/2036	5/21/2020	167.96918	146.4450099	127.9281716	111.9807945	98.23082371	86.36184369	76.10451816	67.22938187	59.54076571
200521A00016	5/21/2020	2.18	5/21/2037	5/21/2020	172.21298	148.9036408	129.0388383	112.088659	97.60722513	85.21900766	74.60742471	65.50533428	57.68709912

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200521A00017	5/21/2020	2.22	5/21/2038	5/21/2020	176.31983	151.2057982	130.0027672	112.0771936	96.90119189	84.03446174	73.10938008	63.8186914	55.90533251
200527A00012	5/27/2020	1.2	5/27/2027	5/27/2020	124.84365	117.7625564	111.1221174	104.8927588	99.04703562	93.55946699	88.40638625	83.56580305	79.01727661
200527A00013	5/27/2020	1.13	11/25/2026	5/27/2020	122.76388	116.3599585	110.3244885	104.6344647	99.26842948	94.20636293	89.42957899	84.92063027	80.66321985
200527A00014	5/27/2020	1.06	5/27/2026	5/27/2020	120.66684	114.9209939	109.4789423	104.3231233	99.43707428	94.80536094	90.41350817	86.24793558	82.29589773
200511A00006	5/11/2020	1.65	5/13/2030	5/11/2020	139.24516	127.8357608	117.4410725	107.9657905	99.324003	91.43822213	84.23851958	77.66175563	71.65088987
200515A00019	5/15/2020	0.59	5/15/2023	5/15/2020	107.91153	105.89094	103.9180885	101.991557	100.1099815	98.27204715	96.4764861	94.72207546	93.00763547
200515A00020	5/15/2020	0.82	5/15/2025	5/15/2020	115.99981	111.58542	107.3611464	103.3178446	99.44685673	95.7399836	92.18945808	88.78792	85.52839278
200515A00021	5/15/2020	1.12	5/17/2027	5/15/2020	124.23391	117.20483	110.6115573	104.4249613	98.61799853	93.16555268	88.04428832	83.23251608	78.71006874
200518A00019	5/19/2020	0.9	5/19/2025	5/19/2020	116.37408	111.9393749	107.6960816	103.6349742	99.74731534	96.02483187	92.4596877	89.04445844	85.77210761
200521A00013	5/21/2020	2.09	5/21/2035	5/21/2020	163.52013	143.7619738	126.6033441	111.6874024	98.70796197	87.40207917	77.54375904	68.93860362	61.4192574
200429A00065	4/29/2020	0.74	10/28/2022	4/29/2020	105.90163	104.4892885	103.1036379	101.7439677	100.4095902	99.09984167	97.81408149	96.55169104	95.31207282
200429A00066	4/29/2020	0.8	4/28/2023	4/29/2020	108.12907	106.157123	104.2307365	102.3485791	100.5093671	98.71186264	96.95487194	95.23724309	93.55786449
200430A00030	4/30/2020	0.96	4/30/2025	4/30/2020	116.4417	112.0661535	107.8770499	103.865518	100.02315	96.34197878	92.81445266	89.43341145	86.19206424
200504A00005	5/4/2020	0.6	5/4/2022	5/4/2020	103.74901	102.8431906	101.9530745	101.0782611	100.2183587	99.37298919	98.5417868	97.7243981	96.92048129
200504A00006	5/4/2020	0.94	5/5/2025	5/4/2020	116.40703	112.01625	107.8132062	103.788933	99.9349371	96.24317181	92.70601155	89.31622747	86.06696482
200504A00007	5/4/2020	1.47	5/4/2028	5/4/2020	129.91219	121.4954328	113.6741779	106.4033979	99.64168032	93.35092149	87.49604701	82.044757	76.96729389
200429A00049	4/29/2020	1.25	4/29/2026	4/29/2020	121.46839	115.792124	110.4112976	105.3090807	100.469683	95.87828669	91.5209816	87.38470521	83.45718686
200429A00054	4/29/2020	1.04	4/29/2025	4/29/2020	116.76368	112.3848959	108.1925221	104.1776866	100.3319837	96.64744882	93.11653305	89.73207913	86.48729921
200429A00057	4/29/2020	1.4	4/29/2027	4/29/2020	125.89577	118.8765116	112.2881198	106.1020468	100.2917697	94.8326407	89.70174544	84.87777322	80.34089698
200429A00061	4/29/2020	1.66	10/29/2029	4/29/2020	137.2069	126.5979797	116.88111	107.9768547	99.81322304	92.32493535	85.4527669	79.14295906	73.34669023
200429A00062	4/29/2020	0.65	10/29/2021	4/29/2020	101.47798	101.134618	100.7935713	100.454817	100.118332	99.78409372	99.45207967	99.12226778	98.79463626
200429A00064	4/29/2020	0.69	4/29/2022	4/29/2020	103.76358	102.8729882	101.9975777	101.1369624	100.2907702	99.45864146	98.64022831	97.83519425	97.04321375
200427A00017	4/27/2020	1.02	4/25/2025	4/27/2020	116.6397	112.2762659	108.0982199	104.0967284	100.2634279	96.59039557	93.07012377	89.69549598	86.45976424
200427A00018	4/27/2020	1.51	4/27/2028	4/27/2020	130.15073	121.7496296	113.9412428	106.6808487	99.92731376	93.64278622	87.79241873	82.34411594	77.2683044
200428A00002	4/28/2020	1.47	4/26/2030	4/28/2020	139.02212	127.5973174	117.1876024	107.6977962	99.0420821	91.14304399	83.93080614	77.34226486	71.32040192
200428A00003	4/29/2020	1.01	4/29/2025	4/29/2020	116.63917	112.2628787	108.0729201	104.0604249	100.2169903	96.53465464	93.00587161	89.62348653	86.380714
200429A00004	5/1/2020	0.74	5/1/2023	5/1/2020	108.04853	106.0683728	104.1341061	102.2443946	100.3979521	98.59353715	96.82995217	95.10604097	93.42068729
200429A00021	5/4/2020	0.97	4/29/2025	5/4/2020	116.47316	112.1001892	107.9134508	103.9040759	100.0636658	96.3842624	92.85832303	89.4786964	86.23860038
200423A00017	4/23/2020	1.82	4/23/2035	4/23/2020	161.88285	142.141584	125.0012553	110.1050546	97.14675533	85.86332481	76.02864608	67.448179	59.95441532
200423A00020	4/28/2020	0.68	4/15/2022	4/28/2020	103.57739	102.7302475	101.8968877	101.0769735	100.2701814	99.47619866	98.69472202	97.92545791	97.16812185
200423A00022	4/28/2020	0.76	2/15/2023	4/28/2020	107.22393	105.477345	103.768155	102.0952324	100.4574927	98.85389435	97.28343713	95.7451597	94.23813784
200423A00026	4/28/2020	0.85	12/15/2023	4/28/2020	110.83473	108.130954	105.5069041	102.9597629	100.486833	98.08552851	95.75336997	93.48797901	91.28707365
200423A00027	4/28/2020	0.88	4/15/2024	4/28/2020	112.2306	109.1304413	106.1314463	103.2297031	100.421475	97.70319444	95.07145391	92.52299761	90.0547136

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200424A00014	4/28/2020	1.01	4/23/2025	4/28/2020	116.5779	112.2221308	108.0512415	104.0564163	100.2293123	96.56202761	93.04707516	89.67735862	86.44614988
200421A00028	4/21/2020	0.56	4/21/2023	4/21/2020	107.87268	105.9191453	104.0105889	102.1456654	100.3230761	98.54157132	96.79994817	95.09704843	93.4317564
200421A00029	4/24/2020	0.72	12/15/2022	4/24/2020	106.42825	104.8736334	103.3497325	101.8557115	100.390767	98.95412381	97.54503367	96.16277419	94.80664768
200421A00031	4/21/2020	0.84	4/19/2024	4/21/2020	112.15394	109.0424511	106.03277	103.1209748	100.3033166	97.57621424	94.93624558	92.3801394	89.90476766
200421A00032	4/21/2020	1.31	4/21/2027	4/21/2020	125.23797	118.2656615	111.7203445	105.5737466	99.79960741	94.37352625	89.27282102	84.47639856	79.96463545
200422A00015	4/27/2020	0.73	12/22/2022	4/27/2020	106.52519	104.9490891	103.4045202	101.8906184	100.406549	98.95150673	97.524715	96.12542418	94.75291066
200423A00006	4/23/2020	0.82	4/23/2025	4/23/2020	116.42441	112.054245	107.8700405	103.8629121	100.0244509	96.34669333	92.82209487	89.44350555	86.20414716
200417A00018	4/21/2020	0.67	7/25/2022	4/21/2020	104.83189	103.6664997	102.5268046	101.4119624	100.3211681	99.25365089	98.20867289	97.18552691	96.1835351
200417A00019	4/17/2020	0.77	4/17/2025	4/17/2020	116.15745	111.8120189	107.6509531	103.6654372	99.84712727	96.18812392	92.68094612	89.31850642	86.09408783
200421A00020	4/24/2020	0.83	3/15/2024	4/24/2020	111.75664	108.7588624	105.8566997	103.0464531	100.3245976	97.687771	95.13276513	92.65651737	90.25610281
200421A00021	4/21/2020	0.56	4/21/2023	4/21/2020	107.87268	105.9191453	104.0105889	102.1456654	100.3230761	98.54157132	96.79994817	95.09704843	93.4317564
200421A00022	4/21/2020	0.74	4/21/2023	4/21/2020	107.95271	106.003178	104.0984551	102.2371957	100.4181087	98.63995117	96.90152693	95.2016839	93.53931227
200421A00024	4/24/2020	0.8	10/16/2023	4/24/2020	110.05311	107.5440898	105.1047659	102.7327419	100.4257215	98.18150397	95.99797971	93.87312552	91.80500044
200417A00006	4/17/2020	0.74	4/17/2023	4/17/2020	107.90609	105.9690406	104.0763731	102.2267374	100.4188375	98.65142794	96.92331067	95.23333338	93.58038706
200417A00008	4/17/2020	0.96	4/17/2025	4/17/2020	116.31099	111.9798264	107.8319593	103.8586412	100.0515934	96.40297757	92.90536954	89.55173489	86.33540616
200417A00011	4/22/2020	0.68	7/15/2022	4/22/2020	104.7189	103.5854311	102.4763053	101.3907487	100.3280168	99.28739633	98.26820331	97.26978173	96.29150213
200417A00012	4/22/2020	0.71	12/15/2022	4/22/2020	106.41301	104.8585202	103.3347392	101.8408359	100.376007	98.93947741	97.53049887	96.14834906	94.79233036
200417A00013	4/17/2020	0.74	4/17/2023	4/17/2020	107.90609	105.9690406	104.0763731	102.2267374	100.4188375	98.65142794	96.92331067	95.23333338	93.58038706
200417A00014	4/17/2020	0.96	4/17/2025	4/17/2020	116.31099	111.9798264	107.8319593	103.8586412	100.0515934	96.40297757	92.90536954	89.55173489	86.33540616
200415A00033	4/15/2020	0.82	10/13/2023	4/15/2020	110.0695	107.5691733	105.1381515	102.7740424	100.4745517	98.23748208	96.06072806	93.94227146	91.88017702
200415A00036	4/15/2020	0.91	10/15/2024	4/15/2020	114.2449	110.5413231	106.9764782	103.5443788	100.2393307	97.05591948	93.9889953	91.03365782	88.18524263
200415A00037	4/15/2020	0.97	4/15/2025	4/15/2020	116.33195	112.0067981	107.8644845	103.8962818	100.0939298	96.44960868	92.95591293	89.60582634	86.3926994
200415A00038	4/15/2020	1.37	4/15/2027	4/15/2020	125.5678	118.6058904	112.0691642	105.9294988	100.1607749	94.73872479	89.64079135	84.84599838	80.33483175
200417A00002	4/17/2020	0.96	4/17/2025	4/17/2020	116.31099	111.9798264	107.8319593	103.8586412	100.0515934	96.40297757	92.90536954	89.55173489	86.33540616
200417A00004	4/17/2020	0.86	4/17/2024	4/17/2020	112.19239	109.0865642	106.0822232	103.1754508	100.3625043	97.63980925	95.00395092	92.45166582	89.97983396
200415A00021	4/15/2020	1.37	4/15/2027	4/15/2020	125.5678	118.6058904	112.0691642	105.9294988	100.1607749	94.73872479	89.64079135	84.84599838	80.33483175
200415A00023	4/15/2020	1.71	4/15/2030	4/15/2020	139.54918	128.2269982	117.9034785	108.4854527	99.88889243	92.03796659	84.86420301	78.30574015	72.30665814
200415A00024	4/15/2020	2.2	4/16/2035	4/15/2020	164.99056	145.2652267	128.1148262	113.188254	100.1839556	88.84271248	78.94151176	70.28832946	62.71768765
200415A00026	4/15/2020	0.77	4/14/2023	4/15/2020	107.90755	105.9798658	104.0962396	102.2553159	100.4557957	98.69643135	96.976024	95.29342128	93.64751499
200415A00027	4/15/2020	0.86	4/15/2024	4/15/2020	112.171	109.0717204	106.0735822	103.1726747	100.365262	97.64777702	95.01681304	92.46911483	90.00157104
200415A00031	4/15/2020	0.97	4/15/2025	4/15/2020	116.33195	112.0067981	107.8644845	103.8962818	100.0939298	96.44960868	92.95591293	89.60582634	86.39269941
200413A00027	4/13/2020	0.94	4/12/2024	4/13/2020	112.37659	109.283629	106.2913865	103.3959527	100.5935991	97.88076703	95.25405897	92.71022964	90.24617814
200414A00013	4/14/2020	0.55	4/14/2022	4/14/2020	103.55222	102.7069364	101.8753733	101.0571991	100.2520925	99.45974242	98.67984769	97.91211642	97.15626585

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200414A00014	4/14/2020	0.76	4/12/2024	4/14/2020	112.28963	109.18769	106.1869895	103.2835893	100.4737343	97.75384111	95.12048859	92.57040947	90.10048209
200414A00015	4/14/2020	0.64	4/14/2023	4/14/2020	107.94222	106.0091231	104.1202941	102.2743679	100.470037	98.70604565	96.98118751	95.29430301	93.64427719
200415A00003	4/15/2020	0.77	4/14/2023	4/15/2020	107.90755	105.9798658	104.0962396	102.2553159	100.4557957	98.69643135	96.976024	95.29342128	93.64751499
200415A00020	4/15/2020	0.86	4/15/2024	4/15/2020	112.171	109.0717204	106.0735822	103.1726747	100.365262	97.64777702	95.01681304	92.46911483	90.00157104
200409A00019	4/9/2020	0.58	4/8/2022	4/9/2020	103.50026	102.6734777	101.8598233	101.0589907	100.2706788	99.49459585	98.73045911	97.9779945	97.23693629
200413A00003	4/13/2020	0.64	4/13/2023	4/13/2020	107.93044	106.0004743	104.1146703	102.2716615	100.4701392	98.70884682	96.98657763	95.30217191	93.65451486
200413A00004	4/13/2020	0.89	4/11/2025	4/13/2020	116.59039	112.2557666	108.1043606	104.1274002	100.3165888	96.66407522	93.16242659	89.80460318	86.58393515
200413A00011	4/13/2020	0.94	4/12/2024	4/13/2020	112.37659	109.283629	106.2913865	103.3959527	100.5935991	97.88076703	95.25405897	92.71022964	90.24617814
200413A00012	4/13/2020	0.64	4/13/2023	4/13/2020	107.93044	106.0004743	104.1146703	102.2716615	100.4701392	98.70884682	96.98657763	95.30217191	93.65451486
200413A00026	4/13/2020	0.82	4/13/2023	4/13/2020	107.98954	106.0640687	104.182569	102.3436819	100.5461065	98.78859397	97.06994454	95.38900527	93.74466768
200407A00016	4/7/2020	0.8	4/7/2022	4/7/2020	103.57943	102.7564781	101.946531	101.1492823	100.3644351	99.59170209	98.83080452	98.0814722	97.34344314
200407A00019	4/7/2020	1.06	4/8/2024	4/7/2020	112.68788	109.6028365	106.6179511	103.729326	100.9332418	98.22615062	95.6046666	93.06555717	90.60573486
200408A00004	4/8/2020	0.76	4/8/2022	4/8/2020	103.56063	102.734725	101.9219181	101.1219018	100.3343763	99.5590508	98.79564368	98.04388186	97.30350053
200408A00011	4/8/2020	0.82	9/26/2022	4/8/2020	105.78997	104.4193949	103.0840047	101.7824577	100.5134817	99.27586789	98.06846631	96.89018269	95.73997499
200408A00013	4/13/2020	0.87	4/14/2023	4/13/2020	108.09523	106.1657384	104.2803349	102.4376681	100.6364378	98.87539547	97.15334136	95.46912222	93.82162899
200409A00011	4/9/2020	0.7	4/7/2023	4/9/2020	107.9713	106.0590414	104.1903339	102.3637994	100.5781214	98.83203775	97.12433831	95.45386194	93.81949399
200406A00018	4/6/2020	0.65	4/18/2022	4/6/2020	103.68532	102.827249	101.9832959	101.1531184	100.3363813	99.5327605	98.74194196	97.96362178	97.19750555
200406A00049	4/6/2020	0.92	4/6/2023	4/6/2020	108.11156	106.2056115	104.3429503	102.5222068	100.7420703	99.0012842	97.29864395	95.63299389	94.00322487
200406A00053	4/6/2020	1.13	4/7/2025	4/6/2020	116.90436	112.5936249	108.4642072	104.507439	100.7151229	97.07950218	93.59323446	90.24936635	87.04131037
200406A00059	4/6/2020	0.92	4/6/2023	4/6/2020	108.11156	106.2056115	104.3429503	102.5222068	100.7420703	99.0012842	97.29864395	95.63299389	94.00322487
200406A00060	4/6/2020	1.03	4/5/2024	4/6/2020	112.5655	109.4916077	106.5173312	103.6387804	100.8522471	98.15419501	95.5412508	93.01019488	90.55795322
200407A00004	4/7/2020	0.99	4/7/2025	4/7/2020	116.95838	112.6294321	108.4829872	104.5102991	100.7031012	97.05357235	93.55430964	90.19830346	86.97891368
200403A00010	4/6/2020	0.8	4/6/2023	4/6/2020	107.88916	105.9853341	104.1247548	102.3060537	100.5279208	98.78910098	97.08839058	95.42463501	93.7967261
200403A00012	4/3/2020	0.55	4/15/2022	4/3/2020	103.56487	102.7164796	101.8819129	101.0608305	100.2529076	99.45782986	98.67529299	97.90500212	97.1466716
200403A00015	4/3/2020	0.73	4/4/2022	4/3/2020	103.48537	102.6719484	101.8712341	101.0829348	100.3067638	99.54244299	98.78970294	98.04828215	97.31792701
200403A00017	4/3/2020	0.81	4/3/2023	4/3/2020	107.87214	105.9774942	104.1257819	102.3156343	100.5457377	98.81483388	97.12171768	95.46523368	93.84427376
200403A00018	4/3/2020	0.91	4/3/2024	4/3/2020	112.18988	109.1277024	106.1646727	103.2969116	100.5207211	97.83257615	95.22911464	92.70712859	90.26355566
200403A00025	4/3/2020	0.91	4/3/2024	4/3/2020	112.18988	109.1277024	106.1646727	103.2969116	100.5207211	97.83257615	95.22911464	92.70712859	90.26355566
200402A00035	4/2/2020	0.62	4/3/2023	4/2/2020	107.77575	105.8774269	104.0222013	102.2086974	100.4355942	98.70162707	97.00558439	95.34630484	93.7226747
200402A00036	4/2/2020	0.71	4/2/2024	4/2/2020	112.03363	108.9667569	105.9993483	103.1275018	100.3474973	97.65578942	95.04899739	92.52389618	90.07740785
200402A00038	4/2/2020	0.84	4/2/2025	4/2/2020	116.29351	111.9938756	107.8751559	103.9286759	100.1462314	96.52006309	93.04282878	89.70757833	86.50772975
200402A00041	4/2/2020	1.03	4/2/2025	4/2/2020	116.44487	112.1592676	108.0535378	104.1190706	100.3477258	96.73180347	93.26401712	89.93746825	86.74562309
200402A00044	4/2/2020	1.65	4/2/2030	4/2/2020	138.80368	127.5623681	117.3098916	107.9541881	99.41221587	91.60902757	84.47694236	77.95480597	71.98732993

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200402A00048	4/2/2020	0.71	4/2/2024	4/2/2020	112.03363	108.9667569	105.9993483	103.1275018	100.3474973	97.65578942	95.04899739	92.52389618	90.07740785
200402A00018	4/2/2020	0.85	4/3/2023	4/2/2020	107.94592	106.0505711	104.1981712	102.3873491	100.6167907	98.88523744	97.1914838	95.53437401	93.91279964
200402A00022	4/2/2020	0.96	4/2/2024	4/2/2020	112.32606	109.2650126	106.3029982	103.4361364	100.660731	97.97325877	95.3703598	92.8488286	90.40560555
200402A00023	4/2/2020	1.11	4/2/2025	4/2/2020	116.77015	112.4781567	108.3662334	104.4257618	100.6485945	97.02702439	93.55375835	90.22189149	87.02488395
200402A00026	4/2/2020	1.28	4/2/2026	4/2/2020	121.28732	115.7069009	110.4133917	105.3904722	100.6228435	96.096161	91.79696879	87.71263925	83.83131685
200402A00028	4/2/2020	0.71	4/4/2022	4/2/2020	103.46968	102.6563243	101.8556778	101.0674455	100.2913408	99.52708559	98.77441042	98.03305382	97.30276219
200402A00030	4/2/2020	0.8	4/3/2023	4/2/2020	107.8537	105.9592249	104.1076846	102.2977056	100.5279744	98.79723299	97.10427615	95.4479486	93.82714229
200402A00003	4/2/2020	0.8	4/3/2023	4/2/2020	107.8537	105.9592249	104.1076846	102.2977056	100.5279744	98.79723299	97.10427615	95.4479486	93.82714229
200402A00009	4/2/2020	1.03	4/2/2025	4/2/2020	116.44487	112.1592676	108.0535378	104.1190706	100.3477258	96.73180347	93.26401712	89.93746825	86.74562309
200402A00010	4/2/2020	0.89	4/2/2024	4/2/2020	112.12024	109.0621848	106.1030931	103.2390828	100.4664599	97.78170338	95.18145565	92.66251323	90.22181849
200402A00013	4/2/2020	0.89	4/2/2024	4/2/2020	112.12024	109.0621848	106.1030931	103.2390828	100.4664599	97.78170338	95.18145565	92.66251323	90.22181849
200402A00014	4/2/2020	0.84	4/2/2025	4/2/2020	116.29351	111.9938756	107.8751559	103.9286759	100.1462314	96.52006309	93.04282878	89.70757833	86.50772975
200402A00017	4/2/2020	0.76	4/1/2022	4/2/2020	103.47013	102.6658852	101.8740586	101.0943692	100.3265398	99.57030178	98.82539456	98.09156527	97.36856853
200331A00024	3/31/2020	0.64	3/31/2023	3/31/2020	107.77738	105.8880802	104.0415739	102.2364791	100.4714708	98.74528142	97.05669738	95.40455651	93.78774499
200401A00001	4/1/2020	1.01	4/1/2025	4/1/2020	116.35335	112.0727571	107.9717507	104.0417307	100.2745682	96.66257449	93.19847419	89.87537973	86.686768
200401A00012	4/2/2020	1	4/2/2025	4/2/2020	116.32289	112.0396842	107.9362769	104.0040613	100.2349	96.62109562	93.15536416	89.83080953	86.64090027
200401A00013	4/1/2020	1.01	4/1/2025	4/1/2020	116.35335	112.0727571	107.9717507	104.0417307	100.2745682	96.66257449	93.19847419	89.87537973	86.686768
200401A00023	4/1/2020	0.82	4/1/2025	4/1/2020	116.20185	111.9072509	107.7932781	103.8512667	100.0730241	96.45080219	92.9772701	89.64548867	86.44888668
200402A00002	4/2/2020	0.71	4/4/2022	4/2/2020	103.46968	102.6563243	101.8556778	101.0674455	100.2913408	99.52708559	98.77441042	98.03305382	97.30276219
200331A00014	3/31/2020	0.72	3/29/2024	3/31/2020	112.0206	108.9663044	106.0107748	103.1501313	100.3806806	97.698903	95.10144293	92.5850997	90.14681895
200331A00015	3/31/2020	0.64	3/31/2023	3/31/2020	107.77738	105.8880802	104.0415739	102.2364791	100.4714708	98.74528142	97.05669738	95.40455651	93.78774499
200331A00016	3/31/2020	1.11	3/31/2026	3/31/2020	121.24806	115.647658	110.3357371	105.2958448	100.5125677	95.97145665	91.65896085	87.56236581	83.66973669
200331A00017	3/31/2020	0.9	3/31/2025	3/31/2020	116.51744	112.2198679	108.1028792	104.1578111	100.3764732	96.75112003	93.27442345	89.93944728	86.7396234
200331A00018	3/31/2020	0.82	3/31/2023	3/31/2020	107.85496	105.9694833	104.1266388	102.3250469	100.5633899	98.84040691	97.15489085	95.50568545	93.89168257
200331A00022	4/1/2020	1.07	4/1/2025	4/1/2020	116.59712	112.3117437	108.206099	104.2715823	100.5000591	96.88383565	93.41563137	90.08855395	86.89607575
200330A00054	3/30/2021	1.19	3/30/2026	3/30/2021	120.78776	115.2295441	109.9568671	104.9534881	100.2041868	95.69469251	91.41161954	87.34240624	83.47525936
200330A00064	3/30/2020	0.83	3/30/2023	3/30/2020	107.86159	105.9790007	104.1389239	102.3399882	100.580881	98.8603465	97.17718244	95.53023698	93.91840616
200330A00066	3/30/2020	1.08	3/31/2025	3/30/2020	116.62733	112.3445764	108.2413416	104.3090292	100.5395135	96.92510905	93.45854409	90.13293476	86.94176182
200331A00007	3/31/2020	0.72	3/29/2024	3/31/2020	112.0206	108.9663044	106.0107748	103.1501313	100.3806806	97.698903	95.10144293	92.5850997	90.14681895
200331A00008	3/31/2020	0.64	3/31/2023	3/31/2020	107.77738	105.8880802	104.0415739	102.2364791	100.4714708	98.74528142	97.05669738	95.40455651	93.78774499
200331A00011	3/31/2020	1.09	3/31/2025	3/31/2020	116.66793	112.3843775	108.2803708	104.34731	100.5770685	96.96196015	93.49471216	90.16843993	86.97662347
200330A00036	3/30/2020	0.86	3/30/2023	3/30/2020	107.91657	106.0334596	104.1928734	102.393438	100.6338405	98.91282495	97.22918865	95.58177957	93.96949351
200330A00037	3/30/2020	1.09	3/28/2025	3/30/2020	116.63722	112.3637334	108.2690272	104.344562	100.5822604	96.97448241	93.51399756	90.19396064	87.00788809

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200330A00038	3/30/2020	1.79	3/29/2030	3/30/2020	140.16285	128.8745794	118.5766354	109.1769756	100.5925672	92.74846137	85.57696634	79.01690928	73.01297697
200330A00043	3/30/2020	0.86	3/30/2023	3/30/2020	107.91657	106.0334596	104.1928734	102.393438	100.6338405	98.91282495	97.22918865	95.58177957	93.96949351
200330A00044	3/30/2020	1.09	3/28/2025	3/30/2020	116.63722	112.3637334	108.2690272	104.344562	100.5822604	96.97448241	93.51399756	90.19396064	87.00788809
200330A00046	3/30/2020	0.86	3/30/2023	3/30/2020	107.91657	106.0334596	104.1928734	102.393438	100.6338405	98.91282495	97.22918865	95.58177957	93.96949351
200330A00006	3/30/2020	0.9	3/28/2025	3/30/2020	116.48705	112.199588	108.091945	104.1555125	100.3821502	96.76415858	93.29425255	89.96553556	86.77147626
200330A00007	3/30/2020	0.93	4/1/2024	3/30/2020	112.22695	109.1704606	106.2128031	103.3501011	100.5786625	97.8949685	95.29566392	92.77754812	90.33756644
200330A00008	3/30/2020	1.09	3/28/2025	3/30/2020	116.63722	112.3637334	108.2690272	104.344562	100.5822604	96.97448241	93.51399756	90.19396064	87.00788809
200330A00011	3/30/2020	0.93	4/1/2024	3/30/2020	112.22695	109.1704606	106.2128031	103.3501011	100.5786625	97.8949685	95.29566392	92.77754812	90.33756644
200330A00017	3/30/2020	0.86	3/30/2023	3/30/2020	107.91657	106.0334596	104.1928734	102.393438	100.6338405	98.91282495	97.22918865	95.58177957	93.96949351
200330A00028	3/30/2020	1.09	3/28/2025	3/30/2020	116.63722	112.3637334	108.2690272	104.344562	100.5822604	96.97448241	93.51399756	90.19396064	87.00788809
200327A00068	6/25/2020	0.93	6/26/2023	6/25/2020	109.08714	106.9254733	104.8178809	102.7626617	100.7581793	98.8028603	96.89519139	95.03371641	93.21703388
200327A00073	3/27/2020	0.99	3/27/2025	3/27/2020	116.84221	112.5509494	108.43948	104.4991963	100.7219664	97.10009837	93.62631387	90.29372239	87.09579801
200327A00076	3/27/2020	1.18	3/27/2026	3/27/2020	121.57267	115.977317	110.669479	105.6327943	100.8519339	96.3125262	92.00109037	87.90497588	84.01230608
200327A00077	3/27/2020	0.83	3/27/2024	3/27/2020	112.32168	109.2691554	106.3151355	103.4557621	100.6873586	98.00642073	95.40960747	92.89373153	90.45575102
200327A00079	3/27/2020	0.99	3/27/2025	3/27/2020	116.84221	112.5509494	108.43948	104.4991963	100.7219664	97.10009837	93.62631387	90.29372239	87.09579801
200327A00088	3/27/2020	1.22	3/27/2025	3/27/2020	117.15313	112.8727039	108.7711214	104.8398487	101.0708134	97.45637908	93.98931897	90.66279064	87.4703129
200327A00056	3/27/2020	1.18	3/27/2025	3/27/2020	116.99124	112.7139797	108.6154671	104.6871707	100.9210219	97.30938773	93.84504472	90.52115356	87.33123608
200327A00058	3/27/2020	0.9	3/27/2023	3/27/2020	107.9541	106.0794793	104.2470342	102.4554078	100.7033034	98.98948006	97.3127492	95.67197209	94.06605705
200327A00059	3/27/2020	1.01	3/27/2024	3/27/2020	112.40709	109.363328	106.4175683	103.5659802	100.8049127	98.13088577	95.540581	93.0308324	90.59861814
200327A00060	3/27/2020	1.18	3/27/2025	3/27/2020	116.99124	112.7139797	108.6154671	104.6871707	100.9210219	97.30938773	93.84504472	90.52115356	87.33123608
200327A00061	3/31/2020	1.18	3/31/2025	3/31/2020	117.0333	112.7425869	108.6316331	104.6918371	100.9150641	97.2936201	93.8202248	90.48798647	87.29037826
200327A00066	6/25/2020	0.93	6/26/2023	6/25/2020	109.08714	106.9254733	104.8178809	102.7626617	100.7581793	98.8028603	96.89519139	95.03371641	93.21703388
200327A00047	3/27/2020	0.99	3/27/2025	3/27/2020	116.84221	112.5509494	108.43948	104.4991963	100.7219664	97.10009837	93.62631387	90.29372239	87.09579801
200327A00048	3/27/2020	1.18	3/24/2025	3/27/2020	116.95969	112.6925211	108.6033395	104.6836694	100.9254913	97.32121827	93.86366902	90.54604353	87.36190001
200327A00051	3/27/2020	0.99	3/27/2025	3/27/2020	116.84221	112.5509494	108.43948	104.4991963	100.7219664	97.10009837	93.62631387	90.29372239	87.09579801
200327A00053	3/27/2020	0.84	3/25/2022	3/27/2020	103.44026	102.6572728	101.886075	101.126404	100.3780031	99.64062303	98.91402187	98.19796471	97.49222346
200327A00054	3/27/2020	0.9	3/27/2023	3/27/2020	107.9541	106.0794793	104.2470342	102.4554078	100.7033034	98.98948006	97.3127492	95.67197209	94.06605705
200327A00055	3/27/2020	1.01	3/27/2024	3/27/2020	112.40709	109.363328	106.4175683	103.5659802	100.8049127	98.13088577	95.540581	93.0308324	90.59861814
200327A00040	3/27/2020	0.72	3/27/2023	3/27/2020	107.87719	105.998768	104.1626893	102.3675862	100.6121549	98.89514768	97.21536972	95.57167642	93.96297057
200327A00041	3/27/2020	0.9	3/27/2023	3/27/2020	107.9541	106.0794793	104.2470342	102.4554078	100.7033034	98.98948006	97.3127492	95.67197209	94.06605705
200327A00042	3/27/2020	0.83	3/27/2024	3/27/2020	112.32168	109.2691554	106.3151355	103.4557621	100.6873586	98.00642073	95.40960747	92.89373153	90.45575102
200327A00043	3/27/2020	1.48	3/27/2028	3/27/2020	130.91292	122.5401724	114.7531654	107.507889	100.7638721	94.48387705	88.63362418	83.18154091	78.09853378
200327A00045	3/27/2020	2.24	3/27/2034	3/27/2020	164.48387	146.1328954	130.0185745	115.8554319	103.3958145	92.4247088	82.75529003	74.22509806	66.69274886

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200327A00046	3/27/2020	1.23	3/27/2025	3/27/2020	117.19361	112.9123849	108.810035	104.8780182	101.1082613	97.49312691	94.02538753	90.69819991	87.5050821
200327A00030	3/27/2020	1.01	3/27/2024	3/27/2020	112.40709	109.363328	106.4175683	103.5659802	100.8049127	98.13088577	95.540581	93.0308324	90.59861814
200327A00031	3/27/2020	1.18	3/27/2025	3/27/2020	116.99124	112.7139797	108.6154671	104.6871707	100.9210219	97.30938773	93.84504472	90.52115356	87.33123608
200327A00032	3/27/2020	0.66	3/28/2022	3/27/2020	103.42163	102.6285877	101.8476332	101.0784938	100.3209033	99.57460318	98.83934288	98.114879	97.40097531
200327A00035	3/27/2020	0.83	3/27/2024	3/27/2020	112.32168	109.2691554	106.3151355	103.4557621	100.6873586	98.00642073	95.40960747	92.89373153	90.45575102
200327A00037	3/27/2020	1.18	3/27/2026	3/27/2020	121.57267	115.977317	110.669479	105.6327943	100.8519339	96.3125262	92.00109037	87.90497588	84.01230608
200327A00039	3/27/2020	0.84	3/28/2022	3/27/2020	103.47965	102.687451	101.9073077	101.1389507	100.3821147	99.63654225	98.90198367	98.1781965	97.46494539
200326A00016	3/26/2020	1.54	3/25/2025	3/26/2020	118.42499	114.1260301	110.0061906	106.056935	102.270195	98.63833728	95.15413697	91.8107528	88.60170394
200326A00025	3/26/2020	0.99	3/28/2022	3/26/2020	103.59434	102.8016496	102.0210229	101.2521876	100.4948783	99.74883763	99.01381566	98.2895699	97.5758649
200327A00019	3/30/2020	0.85	3/15/2022	3/30/2020	103.3163	102.5639613	101.8225288	101.09177	100.3714558	99.66136339	98.96127629	98.27098415	97.59028246
200327A00022	3/27/2020	0.9	3/27/2023	3/27/2020	107.9541	106.0794793	104.2470342	102.4554078	100.7033034	98.98948006	97.3127492	95.67197209	94.06605705
200327A00025	3/30/2020	0.86	3/30/2022	3/30/2020	103.52133	102.7229124	101.9367384	101.1625253	100.4000019	99.64890539	98.90898076	98.17998046	97.46166425
200327A00027	3/27/2020	0.9	3/27/2023	3/27/2020	107.9541	106.0794793	104.2470342	102.4554078	100.7033034	98.98948006	97.3127492	95.67197209	94.06605705
200325A00046	3/25/2020	1.76	3/25/2025	3/25/2020	119.31402	114.9976922	110.8610181	106.8954397	103.092869	99.44565359	95.9465507	92.58870177	89.36560953
200325A00047	3/25/2020	1.68	9/25/2024	3/25/2020	116.72091	113.0371904	109.4893674	106.0715628	102.7781972	99.60397082	96.54384738	93.59303884	90.74699118
200325A00048	3/25/2020	1.34	12/27/2022	3/25/2020	107.53438	105.9352303	104.3683464	102.8328333	101.3278296	99.85250481	98.40605784	96.987716	95.59673357
200326A00009	3/27/2020	1.54	3/27/2025	3/27/2020	118.44826	114.1424971	110.0163563	106.0612729	102.2691453	98.6323098	95.14351298	91.79588727	88.58292745
200326A00011	3/30/2020	1.54	3/31/2025	3/30/2020	118.49481	114.1754247	110.0366823	106.0699455	102.2670466	98.62025989	95.12227536	91.7661726	88.54539746
200326A00012	3/26/2020	0.99	3/25/2022	3/26/2020	103.55366	102.7701956	101.9985241	101.2383845	100.4895199	99.7516809	99.02462555	98.30811887	97.60193266
200325A00016	3/30/2020	1.67	3/31/2025	3/30/2020	119.02258	114.6928384	110.5440612	106.5675958	102.7552624	99.09932425	95.59246028	92.22773981	88.99859883
200325A00032	3/25/2020	1.29	9/26/2022	3/25/2020	106.39629	105.0215186	103.6820054	102.3764076	101.1034511	99.86192488	98.65067709	97.46861161	96.31468459
200325A00038	3/25/2020	1.48	9/25/2023	3/25/2020	111.4351	108.9725087	106.5771249	104.2465825	101.9786242	99.77109239	97.62192343	95.52914293	93.49086078
200325A00042	3/25/2020	1.58	3/25/2024	3/25/2020	114.04737	110.9860166	108.0228894	105.1541539	102.3761607	99.68543059	97.07864573	94.55264014	92.10439167
200325A00043	3/25/2020	1.62	6/25/2024	3/25/2020	115.3541	111.981837	108.7261376	105.5823181	102.5459094	99.61264785	96.77846406	94.03947317	91.39196521
200325A00044	3/25/2020	1.7	12/23/2024	3/25/2020	117.91609	113.9265527	110.0935856	106.4101936	102.869735	99.4659002	96.19269369	93.04441614	90.01564828
200324A00029	3/24/2020	1.86	3/24/2025	3/24/2020	119.70548	115.3847085	111.2435684	107.2735189	103.4664792	99.81480388	96.31125611	92.94898272	89.7214912
200324A00031	3/24/2020	1.64	3/22/2024	3/24/2020	114.18381	111.1297338	108.1733815	105.3109544	102.5388312	99.85355966	97.25184634	94.73054844	92.28666541
200324A00051	3/24/2020	1.73	11/1/2024	3/24/2020	117.36297	113.5524715	109.8856175	106.3562531	102.9585183	99.68683355	96.53588525	93.50061122	90.57618771
200324A00066	3/26/2020	1.81	3/26/2025	3/26/2020	119.52855	115.2048411	111.0611601	107.0889292	103.280039	99.62681769	96.12200396	92.75872219	89.53045914
200325A00009	3/27/2020	1.67	3/27/2025	3/27/2020	118.97441	114.6583506	110.5222329	106.5574764	102.7559677	99.11003166	95.61240429	92.25620777	89.03492711
200325A00013	3/25/2020	1.03	8/16/2021	3/25/2020	100.61889	100.4873352	100.3561348	100.2252922	100.0948058	99.96467405	99.83489558	99.70546887	99.57639249
200320A00049	3/25/2020	1.47	3/25/2025	3/25/2020	118.14211	113.848683	109.7342	105.7901381	102.0084351	98.3814639	94.90200533	91.56322358	88.35864307
200320A00052	3/25/2020	1.47	3/25/2025	3/25/2020	118.14211	113.848683	109.7342	105.7901381	102.0084351	98.3814639	94.90200533	91.56322358	88.35864307

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200323A00011	3/23/2020	1.37	3/23/2023	3/23/2020	108.75801	106.8876672	105.0591665	103.2711749	101.5224131	99.81165633	98.13773123	96.49951334	94.89592437
200323A00018	3/23/2020	1.37	3/23/2023	3/23/2020	108.75801	106.8876672	105.0591665	103.2711749	101.5224131	99.81165633	98.13773123	96.49951334	94.89592437
200324A00012	3/25/2020	1.78	3/25/2025	3/25/2020	119.39484	115.0769342	110.9387296	106.9716674	103.1676575	99.51904598	96.01858831	92.6594244	89.43505549
200324A00013	3/25/2020	1.78	3/25/2025	3/25/2020	119.39484	115.0769342	110.9387296	106.9716674	103.1676575	99.51904598	96.01858831	92.6594244	89.43505549
200319A00009	3/19/2020	0.94	3/18/2022	3/19/2020	103.4987	102.7355354	101.9835782	101.2425844	100.5123153	99.7925394	99.08303165	98.38357348	97.69395247
200319A00025	3/19/2020	1.39	3/21/2024	3/19/2020	113.44502	110.4046527	107.4615742	104.6119989	101.8523241	99.17911429	96.58909252	94.07913133	91.64624474
200319A00038	3/19/2020	1.18	9/17/2021	3/19/2020	101.07702	100.8544548	100.6328785	100.4122868	100.1926731	99.97403089	99.7563536	99.53963485	99.32386826
200319A00039	3/19/2020	1.12	3/18/2022	3/19/2020	103.55447	102.7921098	102.0409306	101.3006877	100.5711437	99.85206765	99.14323556	98.44442962	97.7554382
200320A00013	3/20/2020	1.25	3/20/2024	3/20/2020	113.46665	110.4191208	107.4692321	104.6131817	101.8473502	99.16828675	96.57269951	94.0574472	91.6195307
200320A00026	3/20/2020	2.11	3/20/2029	3/20/2020	138.73447	128.8570947	119.7531986	111.35811	103.6128941	96.46381489	89.86185016	83.76225399	78.1241623
200318A00037	3/18/2020	1.35	3/18/2024	3/18/2020	113.293	110.2640321	107.3317526	104.4924149	101.7424473	99.07844389	96.4971552	93.9954795	91.57045496
200318A00038	3/18/2020	1.48	3/18/2025	3/18/2020	118.10238	113.8319346	109.7386899	105.8142397	102.0506361	98.44035775	94.97628351	91.65166835	88.46012086
200318A00039	3/18/2020	1.08	3/18/2022	3/18/2020	103.52503	102.7627908	102.0117319	101.271608	100.5421817	99.82322222	99.11450551	98.41581381	97.72693549
200318A00044	3/18/2020	1.17	3/18/2024	3/18/2020	113.21035	110.1726838	107.232201	104.3851273	101.6278661	98.95698774	96.36922063	93.86144223	91.43067108
200318A00047	3/18/2020	1.29	3/18/2025	3/18/2020	117.95766	113.6732554	109.5670737	105.6306459	101.8559618	98.23544216	94.76191177	91.42857519	88.228994
200318A00054	3/18/2020	1.56	3/18/2025	3/18/2020	118.42391	114.1472218	110.047918	106.1175921	102.3482894	98.73248145	95.26304083	91.93321631	88.73661061
200317A00033	3/19/2020	1.1	2/15/2022	3/19/2020	103.11183	102.4442455	101.7852778	101.1347583	100.4925251	99.85842069	99.23229146	98.61398762	98.00336312
200317A00039	3/19/2020	1.11	4/15/2022	3/19/2020	103.92832	103.07959	102.2446587	101.4231907	100.6148624	99.81936051	99.03638158	98.2656317	97.50682609
200317A00045	3/19/2020	1.43	3/19/2025	3/19/2020	117.91271	113.6427824	109.5501873	105.6265068	101.8637814	98.25447863	94.79146727	91.46799317	88.2776565
200317A00064	3/19/2020	1.12	5/16/2022	3/19/2020	104.36988	103.4241738	102.4955187	101.5834546	100.6875398	99.80734848	98.94246958	98.09250624	97.25707524
200318A00013	3/18/2020	1.5	3/18/2025	3/18/2020	118.18276	113.9107564	109.815997	105.8900778	102.1250494	98.51338868	95.04797284	91.72205534	88.5292433
200318A00026	3/20/2020	1.08	3/16/2022	3/20/2020	103.49742	102.7413223	101.9962305	101.2619041	100.5381108	99.82462534	99.12122854	98.42770753	97.74385538
200316A00070	3/16/2020	1.05	3/16/2022	3/16/2020	103.47551	102.7195032	101.9745003	101.2402618	100.5165556	99.80315627	99.09984478	98.40640823	97.72263971
200316A00071	3/16/2020	1.18	3/16/2023	3/16/2020	108.32453	106.4789042	104.6742263	102.9092011	101.1825884	99.49320053	97.83989902	96.22159231	94.63723316
200316A00072	3/16/2020	1.18	3/16/2023	3/16/2020	108.32453	106.4789042	104.6742263	102.9092011	101.1825884	99.49320053	97.83989902	96.22159231	94.63723316
200317A00011	3/17/2020	1.04	3/17/2022	3/17/2020	103.4819	102.7228508	101.9748949	101.2377879	100.5112951	99.79518828	99.08924596	98.39325282	97.70699962
200317A00023	3/17/2020	1.1	3/17/2025	3/17/2020	117.18111	112.9150156	108.8264331	104.9069297	101.148529	97.54368308	94.08524626	90.766451	87.5808851
200317A00027	3/17/2020	1.29	3/17/2025	3/17/2020	117.32787	113.0756456	108.9999129	105.0923047	101.3449064	97.75022778	94.30117704	90.99103677	87.81344156
200316A00048	3/16/2020	1.11	3/16/2023	3/16/2020	108.19914	106.3546776	104.5511385	102.7872305	101.0617142	99.37340251	97.72115751	96.1038882	94.52054786
200316A00049	3/16/2020	1.25	3/14/2025	3/16/2020	117.13504	112.8960372	108.8326803	104.9366554	101.2001004	97.61557371	94.17602865	90.87478973	87.70553054
200316A00050	3/16/2020	1.54	3/16/2027	3/16/2020	126.36204	119.47724	113.0073481	106.925168	101.2054351	95.82466797	90.76103204	85.99421499	81.50531215
200316A00055	3/16/2020	1.06	3/14/2025	3/16/2020	116.98814	112.7353306	108.6591834	104.7513173	101.0038087	97.4091588	93.96026748	90.65040945	87.4732118
200316A00067	3/18/2020	1.1	9/15/2022	3/18/2020	106.00401	104.6669869	103.3634317	102.0920981	100.8518039	99.64142402	98.45988731	97.30617307	96.1793083

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200316A00068	3/16/2020	1.05	3/16/2022	3/16/2020	103.47551	102.7195032	101.9745003	101.2402618	100.5165556	99.80315627	99.09984478	98.40640823	97.72263971
200316A00037	3/16/2020	1.06	3/14/2025	3/16/2020	116.98814	112.7353306	108.6591834	104.7513173	101.0038087	97.4091588	93.96026748	90.65040945	87.4732118
200316A00040	3/16/2020	1.04	3/16/2022	3/16/2020	103.46821	102.7122302	101.9672569	101.2330477	100.5093705	99.79599991	99.09271686	98.39930847	97.71556782
200316A00041	3/16/2020	1.16	3/16/2023	3/16/2020	108.28871	106.4434109	104.6390584	102.8743523	101.1480529	99.45897252	97.80597288	96.18796257	94.60389451
200316A00042	3/16/2020	1.23	3/15/2024	3/16/2020	112.91087	109.8965799	106.9783014	104.1523276	101.4151205	98.76330584	96.19366384	93.70312066	91.28874063
200316A00043	3/16/2020	1.3	3/14/2025	3/16/2020	117.33537	113.0924914	109.0253699	105.1256941	101.3855977	97.79763465	94.35475445	91.05027776	87.87787452
200316A00046	3/16/2020	1.18	3/18/2024	3/16/2020	112.8009	109.7789938	106.8536048	104.0209911	101.2775866	98.61999064	96.04495857	93.54939356	91.13033837
200312A00036	3/12/2020	1.04	3/11/2022	3/12/2020	103.39977	102.6591359	101.92907	101.2093468	100.4997477	99.80006011	99.11007748	98.42959888	97.75842894
200312A00037	3/12/2020	1.3	3/12/2025	3/12/2020	117.3136	113.0774688	109.0165915	105.1226932	101.3879398	97.80491551	94.36659769	91.06633285	87.89781492
200313A00019	3/13/2020	1.55	3/13/2026	3/13/2020	122.47515	116.9306781	111.6679634	106.6711395	101.9253279	97.41656889	93.13175929	89.05859438	85.1855145
200316A00009	3/16/2020	1.25	3/14/2025	3/16/2020	117.13504	112.8960372	108.8326803	104.9366554	101.2001004	97.61557371	94.17602865	90.87478973	87.70553054
200316A00015	3/16/2020	0.99	3/14/2022	3/16/2020	103.4046	102.6549091	101.9160457	101.1877759	100.469873	99.76211679	99.06429323	98.3761943	97.69761774
200316A00019	3/16/2020	1.11	3/16/2023	3/16/2020	108.19914	106.3546776	104.5511385	102.7872305	101.0617142	99.37340251	97.72115751	96.1038882	94.52054786
200311A00055	3/11/2020	1.66	12/17/2027	3/11/2020	129.94105	122.0026549	114.5977022	107.6876668	101.2369951	95.21286027	89.58494002	84.32521326	79.40777448
200312A00006	3/12/2020	1.23	3/12/2025	3/12/2020	117.03357	112.8028531	108.7472306	104.8584285	101.1286188	97.55039164	94.11672982	90.82098521	87.6568568
200312A00009	3/12/2020	1.46	3/12/2027	3/12/2020	125.81686	118.9615056	112.518836	106.4618432	100.7654302	95.40626809	90.36266157	85.61442549	81.14277133
200312A00014	3/12/2020	1.04	3/12/2025	3/12/2020	116.88665	112.6421696	108.5737938	104.6731839	100.9324507	97.34412734	93.90114353	90.59680153	87.42475405
200312A00015	3/12/2020	1.23	3/10/2025	3/12/2020	117.01224	112.7882512	108.7388569	104.8558173	101.131337	97.55803611	94.12892517	90.83738185	87.67712903
200312A00019	3/17/2020	1.06	5/16/2022	3/17/2020	104.31557	103.3701371	102.4417489	101.5299484	100.6342939	99.75435972	98.88973482	98.0400224	97.20483931
200311A00031	3/11/2020	1.41	12/24/2027	3/11/2020	128.19722	120.2933161	112.9231895	106.0481382	99.6324554	93.64318299	88.04988629	82.8244487	77.94088406
200311A00032	3/11/2020	1.11	3/11/2025	3/11/2020	117.15669	112.9101486	108.8396284	104.9367989	101.1937811	97.60311761	94.15774638	90.85097738	87.67647029
200311A00043	3/11/2020	1.3	3/11/2025	3/11/2020	117.30272	113.0699576	109.0122024	105.1211928	101.3891111	97.80855675	94.37252076	91.07436264	87.90778827
200311A00044	3/11/2020	1.73	3/11/2030	3/11/2020	139.36693	128.1785152	117.9674677	108.6433693	100.1246073	92.33747632	85.21537357	78.69808009	72.73111845
200311A00050	3/2/2021	1.46	3/2/2026	3/2/2021	121.89361	116.3991536	111.1825081	106.22812	101.5213944	97.04863194	92.79696863	88.75431952	84.90932706
200311A00052	3/2/2021	1.43	2/28/2025	3/2/2021	117.69823	113.4926629	109.4596558	105.5911276	101.8794266	98.31730572	94.89789828	91.61469519	88.46152405
200310A00040	3/10/2020	1.36	3/10/2028	3/10/2020	128.55268	120.3718419	112.7595073	105.6732705	99.07411094	92.92610113	87.19614531	81.85374145	76.87076459
200310A00041	3/10/2020	1.39	3/12/2029	3/10/2020	132.35399	122.7585999	113.9182084	105.76961	98.25520206	91.32246247	84.92347589	79.0145068	73.55561433
200310A00051	3/10/2020	1.41	3/8/2030	3/10/2020	136.15271	125.1189413	115.0517559	105.8616343	97.46778031	89.79722858	82.78404791	76.36862958	70.49705113
200310A00054	3/10/2020	1.1	3/10/2025	3/10/2020	116.49298	112.279031	108.2393665	104.3657635	100.6504378	97.0860202	93.66553159	90.38235945	87.23023602
200310A00062	3/10/2020	1.05	3/8/2024	3/10/2020	112.31421	109.3298395	106.4400246	103.6411358	100.9297103	98.30244396	95.75618256	93.287914	90.89476048
200311A00012	3/11/2020	0.87	3/11/2022	3/11/2020	103.27805	102.5379042	101.8083233	101.0890803	100.3799565	99.68073954	98.99122292	98.31120579	97.64049286
200310A00020	3/10/2020	1.1	3/10/2025	3/10/2020	116.49298	112.279031	108.2393665	104.3657635	100.6504378	97.0860202	93.66553159	90.38235945	87.23023602
200310A00021	3/10/2020	1.1	3/10/2025	3/10/2020	116.49298	112.279031	108.2393665	104.3657635	100.6504378	97.0860202	93.66553159	90.38235945	87.23023602

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200310A00028	3/10/2020	1.1	3/10/2025	3/10/2020	116.49298	112.279031	108.2393665	104.3657635	100.6504378	97.0860202	93.66553159	90.38235945	87.23023602
200310A00033	3/10/2020	0.91	3/10/2025	3/10/2020	116.34482	112.1171882	108.0648484	104.1795103	100.4533288	96.87887821	93.44912655	90.15741201	86.99742083
200310A00034	3/10/2020	1.41	3/11/2030	3/10/2020	136.18195	125.1363447	115.0591619	105.8606411	97.45977185	89.78340221	82.76543829	76.34612959	70.47143003
200310A00038	3/10/2020	1.41	3/11/2030	3/10/2020	136.18195	125.1363447	115.0591619	105.8606411	97.45977185	89.78340221	82.76543829	76.34612959	70.47143003
200309A00045	3/9/2020	0.97	3/7/2025	3/9/2020	115.94417	111.75025	107.7295696	103.8739638	100.1757081	96.62748881	93.22237846	89.95381276	86.81556894
200309A00054	3/9/2020	0.98	3/9/2028	3/9/2020	126.9572	118.7838547	111.1811872	104.1064998	97.52050899	91.38705335	85.67282851	80.34714676	75.38171802
200310A00003	3/10/2020	1.1	3/10/2025	3/10/2020	116.49298	112.279031	108.2393665	104.3657635	100.6504378	97.0860202	93.66553159	90.38235945	87.23023602
200310A00005	3/10/2020	1.41	3/8/2030	3/10/2020	136.15271	125.1189413	115.0517559	105.8616343	97.46778031	89.79722858	82.78404791	76.36862958	70.49705113
200310A00014	3/10/2020	0.91	3/10/2025	3/10/2020	116.34482	112.1171882	108.0648484	104.1795103	100.4533288	96.87887821	93.44912655	90.15741201	86.99742083
200310A00015	3/10/2020	1.37	3/11/2030	3/10/2020	135.78383	124.7560734	114.6956237	105.5128001	97.12666743	89.46414294	82.45919638	76.05213578	70.18896897
200309A00029	3/9/2020	1.02	3/7/2025	3/9/2020	116.14341	111.9456537	107.9212478	104.0620287	100.3602673	96.80864613	93.40023365	90.12846183	86.98710436
200309A00030	3/9/2020	1.11	3/9/2027	3/9/2020	123.5788	116.799468	110.4288357	104.440146	98.80854169	93.51091593	88.52577914	83.83313687	79.41437753
200309A00038	3/9/2020	1.26	3/11/2030	3/9/2020	134.689	123.7103273	113.6958936	104.5562373	96.21063025	88.58617997	81.61703113	75.24365279	69.41220108
200309A00040	3/9/2020	0.91	3/8/2024	3/9/2020	111.91321	108.9345369	106.0502831	103.256822	100.5506953	97.92860268	95.38739417	92.92406144	90.53573037
200309A00043	3/9/2020	0.92	6/7/2024	3/9/2020	112.91868	109.6427675	106.4785078	103.4214831	100.4674784	97.61246868	94.85260923	92.18422661	89.60380985
200309A00044	3/9/2020	0.94	9/9/2024	3/9/2020	113.97538	110.3895762	106.9348856	103.6057	100.3966949	97.30280861	94.31922779	91.4413729	88.66488524
200306A00064	3/6/2020	1.2	3/8/2027	3/6/2020	124.13815	117.3456102	110.9621061	104.9608809	99.31707518	94.00757888	89.01089831	84.30703415	79.87736935
200306A00066	3/6/2020	1.2	3/8/2027	3/6/2020	124.13815	117.3456102	110.9621061	104.9608809	99.31707518	94.00757888	89.01089831	84.30703415	79.87736935
200306A00077	3/6/2020	1.06	3/6/2025	3/6/2020	116.29268	112.0951866	108.0708948	104.2116482	100.5097305	96.95783554	93.54904266	90.27679357	87.13487093
200306A00080	11/6/2020	1.12	11/6/2023	11/6/2020	111.07701	108.491888	105.9797552	103.5381443	101.1646888	98.85711558	96.61324048	94.43096441	92.30826944
200306A00087	3/8/2021	1.26	3/7/2025	3/8/2021	117.09979	112.8835916	108.8413032	104.9647398	101.2461516	97.67820125	94.25393854	90.9667774	87.81047435
200309A00007	3/9/2020	1.11	3/9/2027	3/9/2020	123.5788	116.799468	110.4288357	104.440146	98.80854169	93.51091593	88.52577914	83.83313687	79.41437753
200306A00031	3/6/2020	1.01	3/6/2025	3/6/2020	116.09359	111.8999329	107.879361	104.0237225	100.3253053	96.77680731	93.37131185	90.10226433	86.96345102
200306A00036	3/6/2020	1.01	3/6/2025	3/6/2020	116.09359	111.8999329	107.879361	104.0237225	100.3253053	96.77680731	93.37131185	90.10226433	86.96345102
200306A00040	3/6/2020	1.01	3/6/2025	3/6/2020	116.09359	111.8999329	107.879361	104.0237225	100.3253053	96.77680731	93.37131185	90.10226433	86.96345102
200306A00049	3/6/2020	1.01	3/6/2025	3/6/2020	116.09359	111.8999329	107.879361	104.0237225	100.3253053	96.77680731	93.37131185	90.10226433	86.96345102
200306A00054	3/6/2020	1.01	3/6/2025	3/6/2020	116.09359	111.8999329	107.879361	104.0237225	100.3253053	96.77680731	93.37131185	90.10226433	86.96345102
200306A00055	3/6/2020	0.82	3/6/2025	3/6/2020	115.94485	111.7376157	107.7044599	103.8371697	100.127973	96.5695116	93.15481648	89.87728428	86.7306557
200305A00045	3/5/2020	0.99	3/6/2023	3/5/2020	107.86242	106.0505264	104.2783405	102.5446267	100.8481992	99.18792159	97.56270372	95.97149956	94.41330488
200306A00003	3/6/2020	0.7	3/6/2023	3/6/2020	107.59421	105.7804549	104.0065338	102.2711984	100.5732577	98.91156978	97.28503977	95.69261708	94.13329322
200306A00010	3/6/2020	0.88	3/6/2023	3/6/2020	107.66863	105.8585055	104.0880532	102.3560404	100.6612825	99.00264383	97.37903512	95.78941118	94.23276857
200306A00013	3/6/2020	1.01	3/6/2025	3/6/2020	116.09359	111.8999329	107.879361	104.0237225	100.3253053	96.77680731	93.37131185	90.10226433	86.96345102
200306A00022	3/6/2020	1.2	3/8/2027	3/6/2020	124.13815	117.3456102	110.9621061	104.9608809	99.31707518	94.00757888	89.01089831	84.30703415	79.87736935

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200306A00028	3/6/2020	1.01	3/6/2025	3/6/2020	116.09359	111.8999329	107.879361	104.0237225	100.3253053	96.77680731	93.37131185	90.10226433	86.96345102
200305A00019	3/5/2020	0.81	3/6/2023	3/5/2020	107.78823	105.9727036	104.197044	102.4600027	100.7603878	99.09705639	97.46891282	95.87490564	94.31402553
200305A00030	3/5/2020	1.58	3/5/2030	3/5/2020	137.81202	126.7145242	116.5864911	107.3383036	98.88906157	91.16569405	84.10216369	77.63875623	71.72144496
200305A00032	3/5/2020	1.58	3/5/2030	3/5/2020	137.81202	126.7145242	116.5864911	107.3383036	98.88906157	91.16569405	84.10216369	77.63875623	71.72144496
200305A00037	3/5/2020	1.43	3/6/2028	3/5/2020	129.04101	120.8567822	113.2401077	106.1487332	99.54376673	93.38939369	87.65261742	82.30302287	77.31256125
200305A00038	3/5/2020	1.51	3/5/2029	3/5/2020	133.33037	123.7203439	114.8638833	106.6980777	99.16558274	92.21409822	85.79589892	79.86741184	74.3888346
200305A00039	3/5/2020	1.58	3/5/2030	3/5/2020	137.81202	126.7145242	116.5864911	107.3383036	98.88906157	91.16569405	84.10216369	77.63875623	71.72144496
200305A00001	3/5/2020	1.14	3/5/2025	3/5/2020	116.60084	112.4005623	108.373422	104.5112744	100.8064124	97.25153827	93.83973881	90.56446255	87.41949835
200305A00006	3/5/2020	0.99	3/6/2023	3/5/2020	107.86242	106.0505264	104.2783405	102.5446267	100.8481992	99.18792159	97.56270372	95.97149956	94.41330488
200305A00014	3/10/2020	1	2/15/2023	3/10/2020	107.6333	105.8830843	104.170335	102.4939192	100.8527503	99.24578508	97.6720215	96.13049655	94.6202844
200305A00015	3/5/2020	0.99	3/6/2023	3/5/2020	107.86242	106.0505264	104.2783405	102.5446267	100.8481992	99.18792159	97.56270372	95.97149956	94.41330488
200305A00016	3/5/2020	0.99	3/6/2023	3/5/2020	107.86242	106.0505264	104.2783405	102.5446267	100.8481992	99.18792159	97.56270372	95.97149956	94.41330488
200305A00017	3/5/2020	1.19	3/5/2025	3/5/2020	116.79977	112.5956659	108.5648112	104.6990609	100.9907036	97.43243741	94.01734526	90.73887195	87.59080277
200304A00025	3/4/2020	1.04	3/6/2023	3/4/2020	107.95051	106.1378086	104.3648347	102.6303477	100.9331613	99.27213875	97.64618945	96.05426701	94.49536684
200304A00029	3/4/2020	1.17	3/4/2025	3/4/2020	116.70972	112.5105045	108.4842421	104.6228079	100.9185085	97.3640584	93.95255586	90.67745998	87.53256934
200304A00030	3/4/2020	1.6	12/22/2028	3/4/2020	133.32258	123.9738505	115.3404764	107.3641416	99.99156603	93.17404396	86.86702967	81.02976252	75.62492777
200304A00032	3/4/2020	1.6	12/15/2028	3/4/2020	133.24932	123.9279103	115.3180387	107.3618467	100.0064558	93.20351587	86.90879619	81.08181517	75.68550518
200304A00033	3/4/2020	1.17	3/4/2025	3/4/2020	116.70972	112.5105045	108.4842421	104.6228079	100.9185085	97.3640584	93.95255586	90.67745998	87.53256934
200304A00035	3/4/2020	1.17	3/4/2025	3/4/2020	116.70972	112.5105045	108.4842421	104.6228079	100.9185085	97.3640584	93.95255586	90.67745998	87.53256934
200304A00013	3/4/2020	1.01	3/4/2022	3/4/2020	103.28312	102.5640298	101.8549002	101.1555298	100.4657184	99.78527108	99.11399835	98.45171567	97.79824347
200304A00015	3/4/2020	0.83	3/4/2022	3/4/2020	103.23036	102.5105108	101.8006495	101.1005717	100.4100764	99.72896782	99.05705581	98.39415509	97.74008541
200304A00018	3/4/2020	0.98	3/4/2025	3/4/2020	116.56297	112.3501411	108.3112643	104.4381473	100.7230365	97.15859066	93.73785582	90.45424239	87.30150351
200304A00019	3/4/2020	1.04	3/6/2023	3/4/2020	107.95051	106.1378086	104.3648347	102.6303477	100.9331613	99.27213875	97.64618945	96.05426701	94.49536684
200304A00020	3/4/2020	0.98	3/4/2025	3/4/2020	116.56297	112.3501411	108.3112643	104.4381473	100.7230365	97.15859066	93.73785582	90.45424239	87.30150351
200304A00022	3/4/2020	0.86	3/6/2023	3/4/2020	107.87642	106.0600894	104.2836395	102.5458229	100.8454469	99.18136848	97.55249148	95.95776407	94.39617659
200302A00056	3/2/2020	1.2	3/2/2023	3/2/2020	108.18121	106.3782082	104.6145083	102.8888971	101.2002079	99.54732208	97.9291664	96.34471065	94.79296551
200302A00060	3/2/2021	1.44	3/3/2025	3/2/2021	117.77181	113.5553233	109.5121701	105.6342143	101.9137554	98.34350084	94.91654167	91.62632975	88.46665638
200304A00002	3/4/2020	0.98	3/4/2025	3/4/2020	116.56297	112.3501411	108.3112643	104.4381473	100.7230365	97.15859066	93.73785582	90.45424239	87.30150351
200304A00005	3/4/2020	0.98	3/4/2025	3/4/2020	116.56297	112.3501411	108.3112643	104.4381473	100.7230365	97.15859066	93.73785582	90.45424239	87.30150351
200304A00011	3/4/2020	0.83	3/4/2022	3/4/2020	103.23036	102.5105108	101.8006495	101.1005717	100.4100764	99.72896782	99.05705581	98.39415509	97.74008541
200304A00012	3/4/2020	0.98	3/4/2025	3/4/2020	116.56297	112.3501411	108.3112643	104.4381473	100.7230365	97.15859066	93.73785582	90.45424239	87.30150351
200302A00013	3/2/2020	1.25	3/4/2024	3/2/2020	112.8405	109.8609007	106.9753227	104.1801753	101.4720285	98.847609	96.30379132	93.83759003	91.44615223
200302A00014	3/2/2020	1.2	3/2/2022	3/2/2020	103.3871	102.6736206	101.9699402	101.2758591	100.5911819	99.91571885	99.24928494	98.59170025	97.94278957

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200302A00016	3/2/2020	1.36	3/3/2025	3/2/2020	117.45401	113.2436378	109.2064097	105.3342011	101.6193183	98.05447528	94.63276933	91.3476582	88.19293887
200302A00017	3/2/2020	1.3	3/4/2024	3/2/2020	112.98311	110.0014887	107.1139408	104.3168705	101.6068466	98.98059397	96.43498594	93.96703565	91.57388893
200302A00018	3/2/2020	1.25	3/2/2023	3/2/2020	108.26871	106.46491	104.7004323	102.9740577	101.2846194	99.6309981	98.01212028	96.42695535	94.87451363
200302A00025	3/2/2020	1.02	3/2/2022	3/2/2020	103.33483	102.6205941	101.9161875	101.2214041	100.5360479	99.85992805	99.19285907	98.53466026	97.88515573
200228A00071	2/28/2020	1.74	12/14/2029	2/28/2020	138.48449	127.6530463	117.744424	108.6753383	100.3704111	92.76138649	85.78642505	79.38947138	73.51968671
200228A00091	2/28/2020	1.72	12/7/2029	2/28/2020	138.21469	127.4200893	117.5434315	108.5020348	100.2210561	92.63270889	85.67556582	79.29393311	73.43728936
200302A00002	3/2/2020	1.12	3/3/2025	3/2/2020	117.11029	112.890083	108.8439064	104.9635703	101.2413251	97.66983301	94.24214309	90.95166814	87.79216323
200302A00003	3/2/2020	1.2	3/2/2023	3/2/2020	108.18121	106.3782082	104.6145083	102.8888971	101.2002079	99.54732208	97.9291664	96.34471065	94.79296551
200302A00005	3/2/2020	1.31	3/3/2025	3/2/2020	117.25539	113.0488343	109.0153094	105.1466928	101.4352951	97.87383431	94.45541161	91.17348848	88.02186542
200302A00006	3/2/2020	1.2	3/2/2023	3/2/2020	108.18121	106.3782082	104.6145083	102.8888971	101.2002079	99.54732208	97.9291664	96.34471065	94.79296551
200225A00041	10/30/2020	1.48	10/30/2023	10/30/2020	111.88286	109.3096427	106.8084793	104.3769476	102.0127243	99.71357708	97.47736118	95.3020148	93.18555568
200226A00004	2/26/2020	1.58	2/26/2025	2/26/2020	118.26677	114.0572445	110.0200948	106.1472585	102.431105	98.8644065	95.44031355	92.15233303	88.99430705
200227A00055	2/27/2020	1.41	2/27/2023	2/27/2020	108.50734	106.7105124	104.9527046	103.2327097	101.549375	99.90159503	98.2883087	96.70849738	95.16118261
200228A00045	2/28/2020	1.45	2/28/2025	2/28/2020	117.77749	113.5704042	109.5359225	105.6659639	101.952875	98.38940721	94.96869213	91.68421928	88.52981486
200228A00047	5/18/2020	1.35	5/18/2023	5/18/2020	109.44717	107.402078	105.4054343	103.4557967	101.5517755	99.692031	97.87527205	96.10025331	94.36577362
200228A00070	5/18/2020	1.35	5/18/2023	5/18/2020	109.44717	107.402078	105.4054343	103.4557967	101.5517755	99.692031	97.87527205	96.10025331	94.36577362
200225A00023	2/25/2020	1.62	2/25/2025	2/25/2020	118.41194	114.203119	110.1664974	106.2940284	102.578095	99.0114816	95.58735036	92.29921867	89.14093836
200225A00028	2/25/2020	1.89	12/21/2029	2/25/2020	140.01391	129.0904921	119.0981674	109.9527965	101.5782412	93.90556901	86.87233801	80.42195568	74.50310409
200225A00029	2/25/2020	1.89	12/28/2029	2/25/2020	140.09461	129.142406	119.1257203	109.9598294	101.5680874	93.881118	86.83609139	80.37607591	74.44945736
200225A00034	10/5/2020	1.5	10/5/2023	10/5/2020	111.61291	109.1176656	106.6910998	104.3308019	102.0344712	99.79990728	97.62500468	95.50774774	93.44620597
200225A00035	10/5/2020	1.5	10/5/2023	10/5/2020	111.61291	109.1176656	106.6910998	104.3308019	102.0344712	99.79990728	97.62500468	95.50774774	93.44620597
200225A00040	10/30/2020	1.48	10/30/2023	10/30/2020	111.88286	109.3096427	106.8084793	104.3769476	102.0127243	99.71357708	97.47736118	95.3020148	93.18555568
200220A00014	2/20/2020	2.09	12/21/2029	2/20/2020	141.9503	130.9422124	120.8704035	111.6503594	103.2055995	95.46687625	88.37145737	81.86248268	75.8883874
200220A00034	2/25/2020	1.71	3/27/2023	2/25/2020	109.43133	107.5428172	105.6967426	103.8917454	102.1265215	100.3998225	98.71045298	97.05726755	95.43916811
200221A00011	2/21/2020	1.69	8/21/2024	2/21/2020	116.30492	112.7401648	109.3036107	105.9898654	102.7938027	99.71054506	96.73544932	93.86409401	91.09226712
200221A00023	2/21/2020	2.05	12/7/2029	2/21/2020	141.3941	130.4611024	120.4544862	111.2909659	102.8951427	95.19871869	88.13979523	81.66224394	75.71514238
200221A00024	2/21/2020	2.05	12/28/2029	2/21/2020	141.64751	130.6272553	120.5466935	111.3208004	102.8726542	95.13262426	88.03764661	81.53057379	75.55959254
200224A00006	2/24/2020	1.58	11/15/2024	2/24/2020	116.9992	113.14914	109.4459028	105.8831255	102.4547531	99.1550239	95.978454	92.91982217	89.97415591
200211A00014	2/11/2020	1.75	8/11/2023	2/11/2020	111.44596	109.1211113	106.8569238	104.6513728	102.5025219	100.4085143	98.36756923	96.37797826	94.43810137
200214A00018	2/18/2020	1.77	1/12/2022	2/18/2020	103.01972	102.453407	101.8933161	101.339342	100.7913847	100.2493466	99.71313185	99.18264695	98.6578003
200218A00025	2/21/2020	1.71	2/24/2023	2/21/2020	108.98331	107.19193	105.4392912	103.7242063	102.0455362	100.4021878	98.79311196	97.21730119	95.67378749
200218A00026	2/21/2020	1.73	3/25/2024	2/21/2020	114.48477	111.4170972	108.447805	105.5730542	102.7891903	100.0927296	97.48034951	94.94887988	92.49529435
200218A00030	2/21/2020	1.71	2/24/2023	2/21/2020	108.98331	107.19193	105.4392912	103.7242063	102.0455362	100.4021878	98.79311196	97.21730119	95.67378749

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200220A00013	2/20/2020	2.09	12/14/2029	2/20/2020	141.86488	130.8859599	120.8388717	111.6396844	103.2124257	95.48829269	88.40494211	81.90585387	75.9397605
201105A00002	11/5/2020	0.49	11/7/2022	11/5/2020	105.65226	104.2175648	102.8092941	101.4267757	100.0693638	98.73643396	97.42738168	96.14162187	94.87858801
200605A00014	6/5/2020	1.02	6/5/2025	6/5/2020	116.11608	111.8813043	107.8281653	103.9478738	100.2321163	96.67302466	93.26314922	89.99543455	86.86319637
200605A00016	6/5/2020	1.02	6/5/2025	6/5/2020	116.11608	111.8813043	107.8281653	103.9478738	100.2321163	96.67302466	93.26314922	89.99543455	86.86319637
200605A00017	6/5/2020	1.02	6/5/2025	6/5/2020	116.11608	111.8813043	107.8281653	103.9478738	100.2321163	96.67302466	93.26314922	89.99543455	86.86319637
200709A00021	7/9/2020	0.83	7/9/2025	7/9/2020	115.62281	111.3044538	107.1754754	103.2265018	99.44867759	95.83363295	92.3734545	89.06065762	85.88816075
200709A00024	7/9/2020	0.83	7/9/2025	7/9/2020	115.62281	111.3044538	107.1754754	103.2265018	99.44867759	95.83363295	92.3734545	89.06065762	85.88816075
200709A00025	7/9/2020	1.37	7/9/2030	7/9/2020	132.55774	122.6243486	113.5529595	105.2630814	97.6821748	90.7448277	84.39201949	78.57046451	73.23202623
201109A00012	11/9/2020	1.39	11/8/2030	11/9/2020	133.63229	123.3185251	113.9268012	105.3685628	97.56423615	90.44227178	83.93829652	77.99435868	72.55825615
201211A00001	12/11/2020	0.95	12/11/2030	12/11/2020	128.39871	119.1802344	110.7641458	103.0742303	96.04197179	89.605737	83.7100472	78.30493071	73.34534674
210107A00007	1/7/2021	0.84	1/7/2026	1/7/2021	117.12998	112.2635303	107.6324954	103.2241749	99.02661936	95.02858625	91.21949393	87.58937922	84.12885783
210201A00002	2/1/2021	1.19	2/1/2036	2/1/2021	129.2029	119.5211876	110.8099053	102.958223	95.86907026	89.45731893	83.64821788	78.37604324	73.58293374
210622A00004	6/22/2021	2.42	6/20/2036	6/22/2026	156.76545	140.6035371	126.4859237	114.1315037	103.2999125	93.78537839	85.41153696	78.02704884	71.50189397
200911A00013	9/11/2020	0.69	9/11/2025	9/11/2020	115.51455	111.0268836	106.7429457	102.6522739	98.7450135	95.01187306	91.44408894	88.03339164	84.77197478
201007A00008	10/7/2020	1.22	10/7/2030	10/7/2020	130.63975	120.9438663	112.0967077	104.017886	96.63509152	89.88323824	83.70370386	78.04365387	72.8554396
201007A00010	10/7/2020	1.22	10/7/2030	10/7/2020	130.63975	120.9438663	112.0967077	104.017886	96.63509152	89.88323824	83.70370386	78.04365387	72.8554396
201007A00011	10/7/2020	0.62	10/6/2023	10/7/2020	109.12878	106.7605075	104.4569591	102.215877	100.0351035	97.91257435	95.84631389	93.83443029	91.8751112
201007A00014	10/7/2020	0.8	10/7/2025	10/7/2020	115.97186	111.4652053	107.1649485	103.0604074	99.14151662	95.3987898	91.82328307	88.40656026	85.14066089
201015A00020	10/15/2020	0.94	10/15/2027	10/15/2020	122.17539	115.3766897	109.0130975	103.0542564	97.47208705	92.24060852	87.33577008	82.73529771	78.41855352
200813A00019	8/13/2020	1.44	8/13/2030	8/13/2020	133.45799	123.3867715	114.1964443	105.8040833	98.1350229	91.12199546	84.70436044	78.82741789	73.44179633
200813A00020	8/13/2020	1.44	8/13/2030	8/13/2020	133.45799	123.3867715	114.1964443	105.8040833	98.1350229	91.12199546	84.70436044	78.82741789	73.44179633
200813A00021	8/13/2020	0.84	8/13/2025	8/13/2020	115.94076	111.5199328	107.2965643	103.2606897	99.40290655	95.71433985	92.18660923	88.81179822	85.58242576
200813A00023	8/13/2020	0.86	10/14/2025	8/13/2020	116.52868	111.9205388	107.5251026	103.3313332	99.32883378	95.50780432	91.85900317	88.37371206	85.04370332
200911A00011	9/11/2020	1.18	9/11/2030	9/11/2020	131.16845	121.1636589	112.0415981	103.7184897	96.11897205	89.1752101	82.82610464	77.01658874	71.69700122
200911A00012	9/11/2020	1.18	9/11/2030	9/11/2020	131.16296	121.1602222	112.0399825	103.7184847	96.12038962	89.17788217	82.82988098	77.02133508	71.70259755
210603A00008	6/3/2021	1.74	6/3/2036	6/3/2021	135.34206	125.2958072	116.26222	108.1243669	100.7800317	94.13973873	88.12505906	82.66715288	77.70551537
020619A00062	6/19/2002	5.86	6/20/2022	6/19/2002	109.74663	108.6615259	107.5980211	106.5554724	105.5332631	104.5308007	103.5475154	102.5828594	101.6363053
020627A00001	6/27/2002	6.07	6/27/2022	6/27/2002	110.02555	108.9185933	107.8340627	106.7712791	105.7295918	104.7083757	103.7070301	102.7249777	101.7616635
020916A00006	9/16/2002	5.38	9/16/2022	9/16/2002	111.41421	110.0373273	108.6947054	107.3850725	106.1072204	104.8599995	103.6423151	102.4531241	101.2914322
020920A00012	9/20/2002	5.4	9/20/2022	9/20/2002	111.54299	110.1521783	108.7962815	107.4739964	106.1840813	104.9253553	103.696694	102.4970267	101.3253333
050902A00032	9/2/2005	4.69	8/22/2025	9/2/2005	135.12072	129.9558081	125.0227153	120.3096718	115.805578	111.4999615	107.3829375	103.4451723	99.67784867
050923A00096	9/23/2005	4.86	9/22/2025	9/23/2005	136.58953	131.2830901	126.2187677	121.3840496	116.7671486	112.3569573	108.1430045	104.115414	100.2648673
190603A00047	6/3/2019	2.22	6/2/2023	6/3/2019	111.40403	109.2933796	107.2336575	105.22332	103.2608772	101.3448947	99.47399066	97.64683361	95.86214035

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190606A00027	6/6/2019	2.51	6/5/2026	6/6/2019	128.61351	122.6338372	116.9688796	111.6004358	106.5114497	101.6859334	97.10889486	92.76627058	88.64486347
190607A00003	6/7/2019	1.92	6/7/2022	6/7/2019	105.5648	104.5432769	103.5414458	102.5587426	101.5946235	100.6485651	99.72006348	98.80863353	97.91380766
190523A00014	5/23/2019	2.5	11/15/2023	5/23/2019	114.66176	112.0029787	109.4197407	106.909475	104.4697106	102.0980749	99.79228949	97.5501654	95.36959941
190523A00018	5/23/2019	2.51	3/15/2024	5/23/2019	116.60443	113.5372757	110.567427	107.6911258	104.9047936	102.2050173	99.58853974	97.05225119	94.59318166
190524A00026	5/28/2019	2.45	6/15/2023	5/28/2019	112.08597	109.9271371	107.8213402	105.7669387	103.7623528	101.8060621	99.8966035	98.03256838	96.21260005
190524A00031	5/24/2019	2.43	5/24/2022	5/24/2019	105.6979	104.720825	103.7617696	102.8202391	101.8957563	100.9878614	100.0961107	99.2200764	98.35934568
190529A00013	5/29/2019	2.38	5/29/2024	5/29/2019	117.36751	114.0520765	110.8481252	107.7512968	104.7574259	101.8625328	99.06281454	96.35463562	93.73451981
190603A00009	6/3/2019	2.17	7/6/2022	6/3/2019	106.17495	105.0612578	103.9708418	102.9029817	101.8569831	100.83218	99.82793303	98.84362842	97.87867663
190430A00001	4/30/2019	2.47	5/2/2024	4/30/2019	117.70211	114.4563221	111.3172728	108.2808793	105.3432379	102.5006151	99.74943914	97.08629213	94.50790239
190501A00017	5/1/2019	2.61	5/1/2024	5/1/2019	117.64221	114.41124	111.2862055	108.2630635	105.3379509	102.5071721	99.76719121	97.114624	94.54623071
190510A00018	5/10/2019	2.54	5/10/2023	5/10/2019	111.66735	109.6240743	107.6286058	105.6795326	103.7754981	101.9151941	100.097359	98.32077563	96.58426953
190515A00057	5/15/2019	2.25	5/16/2022	5/15/2019	105.49746	104.5446377	103.608983	102.6900371	101.7873552	100.9005082	100.029082	99.17267667	98.33090623
190521A00068	5/21/2019	2.47	9/15/2021	5/21/2019	101.32716	101.1098874	100.8935542	100.6781585	100.4636943	100.2501555	100.037536	99.82582986	99.61503113
190522A00003	5/22/2019	2.55	5/22/2024	5/22/2019	117.78778	114.4880765	111.2985904	108.2150408	105.2333347	102.3495604	99.55997841	96.86101317	94.24924464
190328A00027	3/28/2019	2.51	9/21/2021	3/28/2019	101.44022	101.2057063	100.9722893	100.7399576	100.5087036	100.2785197	100.0493986	99.82133283	99.5943151
190328A00031	4/25/2019	2.56	4/25/2024	4/25/2019	117.39576	114.1875727	111.0841636	108.0815208	105.1758125	102.3633754	99.64070624	97.00445388	94.45141167
190328A00083	3/28/2019	2.37	3/28/2024	3/28/2019	116.84661	113.7253127	110.7043211	107.7797091	104.9477385	102.2048465	99.54763585	96.97286581	94.47744327
190403A00006	4/3/2019	2.48	4/3/2024	4/3/2019	117.26507	114.1186737	111.0737958	108.126466	105.272901	102.5094943	99.83280608	97.23955448	94.72660655
190409A00033	4/9/2019	2.62	6/9/2023	4/9/2019	112.3332	110.1907772	108.1005292	106.0608582	104.070223	102.12714	100.2301807	98.37796937	96.56918071
190424A00021	4/24/2019	2.6	4/22/2022	4/24/2019	105.27165	104.3953871	103.5336865	102.6861869	101.8525392	101.0324059	100.22546	99.43138542	98.64987577
190301A00012	3/1/2019	3.41	3/1/2029	3/1/2019	149.80129	139.5526441	130.0920525	121.3544405	113.2804483	105.8158988	98.91131805	92.52150327	86.60513254
190305A00010	3/5/2019	2.84	3/7/2022	3/5/2019	104.61328	103.8798873	103.1567625	102.4436955	101.7404775	101.0469051	100.3627809	99.68791263	99.02211321
190315A00014	3/15/2019	2.74	3/15/2024	3/15/2019	117.26811	114.1914632	111.212348	108.3270036	105.5318443	102.8234499	100.1985565	97.65404808	95.1869484
190318A00008	3/18/2019	2.76	3/18/2024	3/18/2019	117.37454	114.286997	111.2975669	108.4024588	105.598056	102.8809091	100.2477272	97.69536879	95.2208337
190321A00003	3/21/2019	2.67	3/21/2024	3/21/2019	117.16192	114.0680635	111.0727924	108.1722877	105.3629051	102.6411695	100.003766	97.4475306	94.96944221
190326A00024	3/26/2019	2.59	3/26/2024	3/26/2019	117.00826	113.901008	110.8932123	107.9809941	105.1606605	102.4286912	99.78172879	97.21656986	94.73015637
190114A00061	1/14/2019	2.98	1/31/2024	1/14/2019	117.19487	114.2619371	111.418556	108.6614212	105.9873716	103.3933845	100.8765682	98.43415556	96.06349756
190131A00018	1/31/2019	2.83	3/25/2022	1/31/2019	104.94472	104.1553816	103.3779004	102.6120122	101.8574591	101.1139908	100.3813641	99.65934322	98.94769886
190131A00036	1/31/2019	2.69	7/31/2023	1/31/2019	113.69538	111.3718663	109.1083443	106.9028399	104.7534595	102.6583866	100.6158776	98.62425901	96.68192328
190215A00005	2/15/2019	2.89	2/15/2024	2/15/2019	117.20798	114.2252965	111.334859	108.5332124	105.817054	103.1832283	100.6287193	98.15064299	95.74624098
190222A00028	2/22/2019	2.62	2/22/2022	2/22/2019	104.2924	103.5985353	102.913891	102.2382839	101.5715358	100.9134732	100.2639272	99.62273306	98.98973049
190226A00006	2/26/2019	2.64	2/26/2024	2/26/2019	117.12846	114.1008804	111.168025	108.3262993	105.5722709	102.9026627	100.3143448	97.80432624	95.36974826
190109A00010	1/9/2019	2.98	1/9/2023	1/9/2019	110.32601	108.6655479	107.0390998	105.4457056	103.8844366	102.3543982	100.8547287	99.38459751	97.94320381

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190110A00003	1/10/2019	2.97	1/10/2024	1/10/2019	116.81167	113.9486592	111.1716726	108.4775931	105.8634398	103.3263594	100.8636191	98.47260119	96.15079715
190110A00015	1/10/2019	2.88	1/18/2022	1/10/2019	103.7441	103.1576416	102.5778203	102.0045191	101.4376283	100.8770406	100.3226511	99.77435724	99.23205882
190110A00016	1/10/2019	2.88	1/25/2022	1/10/2019	103.86978	103.2621786	102.6616838	102.0681674	101.4815082	100.9015878	100.3282906	99.76150342	99.20111589
190111A00010	1/11/2019	2.87	1/7/2022	1/11/2019	103.53733	102.9841342	102.4368472	101.8953752	101.3596258	100.8295085	100.3049348	99.78581797	99.27207303
190114A00042	1/14/2019	2.92	1/13/2023	1/14/2019	110.30165	108.6296257	106.9920087	105.3878128	103.8160924	102.2759372	100.7664703	99.28684706	97.83625317
181204A00023	12/4/2018	3.16	12/3/2021	12/4/2018	103.00839	102.5598007	102.1151128	101.6742772	101.237244	100.8039642	100.3743894	99.94847248	99.5261667
181212A00027	12/12/2018	2.99	12/12/2023	12/12/2018	116.76891	113.9886987	111.2898538	108.6695139	106.124936	103.6534899	101.2526538	98.92000814	96.65323162
181212A00033	12/12/2018	2.99	12/12/2023	12/12/2018	116.76891	113.9886987	111.2898538	108.6695139	106.124936	103.6534899	101.2526538	98.92000814	96.65323162
181219A00006	12/19/2018	3.06	12/19/2023	12/19/2018	116.67214	113.879604	111.1692573	108.5381914	105.9836198	103.5028716	101.0933864	98.75270838	96.47848187
181231A00007	12/31/2018	2.86	12/31/2021	12/31/2018	103.40053	102.8685263	102.3419822	101.8208139	101.3049396	100.794279	100.2887534	99.78828582	99.29280069
190107A00035	1/7/2019	2.82	10/15/2021	1/7/2019	101.95222	101.6481277	101.3458602	101.0454012	100.7467346	100.4498441	100.1547139	99.86132826	99.5696717
181114A00024	11/14/2018	3.27	12/14/2021	11/14/2018	103.2748	102.7931616	102.3160274	101.8433305	101.3750092	100.9110027	100.4512515	99.99569698	99.54428177
181115A00055	11/15/2018	3.01	11/15/2021	11/15/2018	102.63218	102.2366097	101.8440939	101.4546021	101.0680991	100.6845506	100.3039226	99.92618175	99.55129513
181120A00024	11/20/2018	3.25	11/20/2023	11/20/2018	116.64343	113.9434579	111.3204715	108.7718356	106.2950199	103.8875959	101.5472317	99.27168788	97.05881293
181123A00016	11/23/2018	3.19	11/23/2022	11/23/2018	109.77353	108.2586999	106.772577	105.3144166	103.8834951	102.4791131	101.1005948	99.7472867	98.41855686
181127A00027	11/27/2018	3.25	11/28/2022	11/27/2018	109.95822	108.4265586	106.9241865	105.4503334	104.0042548	102.5852314	101.1925683	99.82559385	98.48365879
181130A00025	11/30/2018	3	6/1/2022	11/30/2018	106.493	105.4853737	104.496786	103.5266994	102.5745981	101.6399855	100.7223829	99.8213291	98.93637937
181016A00087	10/16/2018	3.31	10/16/2023	10/16/2018	116.14979	113.5663022	111.0541437	108.6108676	106.234129	103.9216805	101.6713678	99.48112464	97.34896878
181018A00014	10/18/2018	3.21	10/18/2021	10/18/2018	102.13056	101.8174563	101.506283	101.1970225	100.8896572	100.5841696	100.2805424	99.97875858	99.67880134
181023A00020	10/23/2018	3.15	10/22/2021	10/23/2018	102.18945	101.8647214	101.5420632	101.2214568	100.9028825	100.586321	100.2717533	99.95916037	99.64852377
181106A00003	11/6/2018	3.31	11/5/2021	11/6/2018	102.51788	102.1520098	101.7887507	101.4280765	101.0699596	100.714373	100.3612897	100.0106835	99.66252829
181108A00025	11/8/2018	3.44	7/31/2023	11/8/2018	115.00906	112.6774402	110.4058247	108.1922465	106.0348157	103.9317192	101.8812168	99.8816376	97.93137674
181114A00012	11/14/2018	3.13	11/14/2022	11/14/2018	109.71352	108.2236373	106.7615825	105.3266408	103.9181202	102.535352	101.1776893	99.84450676	98.53519902
180918A00037	9/18/2018	3.06	9/17/2021	9/18/2018	101.49198	101.2687579	101.0465329	100.8252947	100.6050368	100.3857526	100.1674356	99.95007936	99.73367753
180919A00018	9/19/2018	3.12	6/20/2022	9/19/2018	106.86066	105.7933168	104.7472844	103.7219256	102.7166316	101.7308171	100.7639198	99.81539842	98.88473255
180924A00052	9/24/2018	3.22	9/22/2023	9/24/2018	115.49622	112.9947382	110.5610378	108.1927491	105.887607	103.643446	101.4581947	99.32987044	97.25657498
180928A00011	9/28/2018	3.12	7/15/2022	9/28/2018	107.34952	106.200656	105.0763652	103.9758676	102.8984133	101.8432834	100.8097889	99.79726881	98.80508885
181005A00005	10/5/2018	3.31	10/5/2023	10/5/2018	115.94946	113.4019178	110.9241895	108.5138324	106.1685119	103.8859954	101.6641462	99.50091862	97.39435361
181005A00016	10/5/2018	3.26	1/10/2023	10/5/2018	110.79199	109.1246857	107.4915677	105.8916658	104.324045	102.7878048	101.2820779	99.80602845	98.35885053
180910A00007	9/10/2018	2.96	9/8/2023	9/10/2018	114.99001	112.5318374	110.1394695	107.810642	105.5431864	103.3350278	101.1841796	99.08873919	97.04688356
180910A00013	9/10/2018	3.08	9/11/2023	9/10/2018	114.96753	112.5071788	110.112773	107.7820319	105.5127788	103.3029314	101.1504963	99.05356416	97.01030592
180910A00028	9/10/2018	3.56	9/9/2033	9/10/2018	181.37546	162.7675162	146.3026307	131.7199295	118.7916681	107.3188622	97.12751778	88.0653722	79.99907557
180911A00042	9/11/2018	2.99	9/11/2023	9/11/2018	115.11442	112.645236	110.242352	107.9034786	105.6264235	103.4090893	101.2494684	99.14563857	97.09575792

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180917A00032	9/17/2018	3.17	9/15/2023	9/17/2018	115.25001	112.7736586	110.3639379	108.0185363	105.7352447	103.51195	101.3466299	99.23734805	97.18224981
180918A00023	9/18/2018	3.17	9/18/2023	9/18/2018	115.30502	112.8185008	110.3990919	108.0444565	105.7523623	103.5206741	101.3473488	99.23043092	97.16804729
180820A00002	8/20/2018	2.91	8/20/2021	8/20/2018	100.93919	100.7960167	100.653261	100.510923	100.3690008	100.2274926	100.0863964	99.94571055	99.80543318
180821A00016	8/21/2018	2.76	8/20/2021	8/21/2018	100.93224	100.7889188	100.6460221	100.5035452	100.3614862	100.2198432	100.0786143	99.93779775	99.79739166
180827A00031	8/27/2018	2.9	8/27/2021	8/27/2018	101.06678	100.9037593	100.7412638	100.5792959	100.4178528	100.256932	100.0965311	99.93664759	99.77727889
180828A00032	8/28/2018	3.49	8/29/2033	8/28/2018	180.18045	161.6946122	145.3350726	130.8434277	117.9940281	106.5896681	96.45786399	87.44763726	79.42673007
180830A00039	8/30/2018	3.03	8/30/2023	8/30/2018	114.63669	112.2180765	109.8634954	107.5707729	105.3378242	103.1626533	101.0433479	98.9780751	96.96507758
180831A00019	8/31/2018	3.21	9/2/2025	8/31/2018	127.88062	122.8568117	118.0611522	113.481959	109.1082224	104.9295598	100.9361754	97.11882335	93.46877374
180730A00002	7/30/2018	3.03	7/30/2021	7/30/2018	100.56274	100.4789404	100.3952803	100.3117597	100.2283783	100.1451357	100.0620317	99.97906577	99.89623775
180730A00033	7/30/2018	3.11	7/29/2022	7/30/2018	107.61087	106.4161566	105.2479423	104.1053483	102.9875386	101.8937131	100.8231057	99.77498294	98.74864167
180731A00022	7/31/2018	3.47	7/31/2028	7/31/2018	146.74224	137.4053671	128.738159	120.6888363	113.2098952	106.2577291	99.79228868	93.77677426	88.17735559
180810A00028	8/10/2018	2.91	8/10/2023	8/10/2018	114.35708	111.9957029	109.6958297	107.4554162	105.2724993	103.1451969	101.071704	99.05028875	97.07928879
180813A00037	8/13/2018	2.95	2/14/2022	8/13/2018	104.29082	103.6218911	102.9615428	102.3096076	101.6659253	101.0303397	100.4026985	99.78285339	99.17065959
180814A00010	8/14/2018	3.1	8/14/2025	8/14/2018	127.79184	122.8124369	118.0573497	113.5151994	109.1752487	105.0273651	101.0619837	97.27007098	93.6430928
180615A00063	6/15/2018	3.2	6/15/2026	6/15/2018	133.47591	127.3052135	121.460206	115.921951	110.6727131	105.6958753	100.9758617	96.49806734	92.2487927
180620A00014	6/20/2018	3.4	6/20/2028	6/20/2018	145.52034	136.377009	127.8809277	119.9827195	112.6370222	105.8021442	99.43974866	93.5145678	87.99414186
180620A00015	6/20/2018	3.04	6/20/2023	6/20/2018	113.39414	111.2056438	109.0712266	106.9892049	104.957957	102.975923	101.0416019	99.15354917	97.31037386
180627A00027	6/27/2018	2.87	6/27/2023	6/27/2018	113.48636	111.2685057	109.1060944	106.9973799	104.9406804	102.9343795	100.9769224	99.06681353	97.20261375
180629A00008	6/29/2018	3.02	6/29/2023	6/29/2018	113.51813	111.2996645	109.1367001	107.027484	104.9703319	102.9636244	101.0058041	99.09537273	97.23088877
180719A00065	7/19/2018	3.36	7/20/2026	7/19/2018	133.982	127.7071033	121.7680961	116.1451548	110.8197345	105.7744785	100.993135	96.46048168	92.16225402
180530A00025	5/30/2018	3.49	5/30/2030	5/30/2018	158.23908	145.8959532	134.6339346	124.3520801	114.9593746	106.3737091	98.52096702	91.33420867	84.75294276
180530A00044	5/30/2018	2.87	5/31/2022	5/30/2018	106.23975	105.238184	104.2554665	103.2910649	102.3444708	101.4151946	100.5027643	99.60672501	98.72663811
180530A00069	5/30/2018	2.87	5/31/2022	5/30/2018	106.23975	105.238184	104.2554665	103.2910649	102.3444708	101.4151946	100.5027643	99.60672501	98.72663811
180531A00014	5/31/2018	2.8	5/31/2023	5/31/2018	112.84776	110.7228151	108.649036	106.6248728	104.6488307	102.7194702	100.8354044	98.99529745	97.1978615
180614A00038	6/14/2018	3.08	6/14/2023	6/14/2018	113.3658	111.1966976	109.0807471	107.0163095	105.0018037	103.0357087	101.1165601	99.24294829	97.41351538
180615A00061	6/15/2018	3.28	6/15/2028	6/15/2018	145.92293	136.7269016	128.1824152	120.2397453	112.8532147	105.9808424	99.58402633	93.62725488	88.07784454
180403A00009	4/3/2018	2.91	4/3/2025	4/3/2018	124.7507	120.2811757	115.9979559	111.8921457	107.9553387	104.179582	100.5573489	97.08151263	93.74532259
180412A00036	4/12/2018	3.54	4/15/2038	4/12/2018	207.32876	179.3866728	155.685061	135.5479089	118.410686	103.8014346	91.32515033	80.65086591	71.50095958
180514A00034	5/14/2018	3.07	5/14/2024	5/14/2018	119.73716	116.4222661	113.217321	110.1180765	107.1204731	104.2206299	101.4148364	98.69954329	96.07135515
180518A00012	5/18/2018	3.1	5/18/2022	5/18/2018	106.20144	105.2404108	104.2967702	103.3700455	102.4597844	101.5655508	100.6869236	99.82349649	98.97487727
180522A00038	5/22/2018	3.23	5/22/2025	5/22/2018	126.91649	122.2391565	117.7621042	113.4756877	109.3707814	105.4387453	101.6713959	98.06098049	94.60015141
180530A00007	5/30/2018	2.66	11/30/2021	5/30/2018	102.77076	102.3311681	101.8953259	101.4631861	101.0347019	100.6098271	100.1885162	99.77072463	99.35640849
180207A00012	2/7/2018	2.53	2/7/2022	2/7/2018	103.96034	103.3127673	102.6732512	102.0416432	101.4177971	100.8015706	100.1928245	99.591423	98.99723382

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180222A00026	2/22/2018	2.98	2/21/2025	2/22/2018	124.34434	120.019683	115.87068	111.8891555	108.0673707	104.3979937	100.8740749	97.48902452	94.23659182
180223A00026	2/23/2018	2.92	12/15/2022	2/23/2018	109.78	108.1985297	106.6482589	105.1283423	103.6379628	102.1763322	100.7426898	99.33630128	97.9564573
180308A00014	3/8/2018	2.79	9/15/2021	3/8/2018	101.396	101.178617	100.9621779	100.7466768	100.5321075	100.3184639	100.10574	99.89392984	99.68302743
180328A00008	3/28/2018	2.85	3/25/2022	3/28/2018	104.95984	104.170438	103.3928936	102.6269429	101.872328	101.1287985	100.3961113	99.67403044	98.96232676
180329A00003	3/29/2018	3.08	3/29/2028	3/29/2018	143.11579	134.3088055	126.1099292	118.4737683	111.3585643	104.7258824	98.54032866	92.76929299	87.38271523
171206A00010	12/6/2017	2.45	12/6/2022	12/6/2017	108.9136	107.3659869	105.848419	104.3600927	102.9002337	101.4680946	100.0629535	98.68411313	97.33089976
171208A00007	12/8/2017	2.47	12/9/2024	12/8/2017	121.17953	117.1611186	113.298467	109.5846914	106.0132519	102.5779328	99.27282416	96.09230512	93.03102815
180116A00045	1/16/2018	2.49	1/11/2022	1/16/2018	103.39865	102.8340906	102.2756971	101.7233663	101.1769997	100.636501	100.1017758	99.57273175	99.04927865
180118A00039	1/18/2018	3.09	1/19/2027	1/18/2018	135.31183	128.3642625	121.8208226	115.6558099	109.8452951	104.3669876	99.20011502	94.32531164	89.72451564
180125A00023	1/25/2018	2.57	1/25/2022	1/25/2018	103.68756	103.080582	102.4806976	101.8877865	101.3017277	100.7224027	100.149696	99.58349453	99.02368795
180206A00013	2/6/2018	2.72	2/6/2024	2/6/2018	117.00749	114.0479769	111.179509	108.398694	105.7022933	103.0872115	100.550489	98.08929457	95.70091899
170929A00057	9/29/2017	2.16	9/29/2023	9/29/2017	113.46666	110.9599252	108.5218844	106.1501088	103.8422787	101.5961777	99.40968676	97.28077884	95.20751418
171002A00013	10/2/2017	2.23	11/30/2022	10/2/2017	108.4879	106.9615566	105.4645157	103.9960052	102.5552781	101.1416131	99.75431308	98.39270462	97.05613655
171006A00034	10/6/2017	2.27	10/6/2022	10/6/2017	107.77902	106.3757867	105.006664	103.6704052	102.3658283	101.0918081	99.84727224	98.63119827	97.44261092
171016A00045	10/16/2017	2.2	10/17/2022	10/16/2017	107.80386	106.3889776	105.0046203	103.6498066	102.3235962	101.0250892	99.75342354	98.50777324	97.28734647
171018A00003	10/18/2017	2.23	10/18/2023	10/18/2017	113.92722	111.357241	108.8586221	106.4289144	104.0657729	101.7669496	99.53028902	97.35372349	95.23526885
171122A00009	11/22/2017	2.2	11/22/2022	11/22/2017	108.51389	107.0085582	105.531769	104.0827741	102.6608546	101.2653158	99.89548641	98.55071724	97.2303806
170831A00053	8/31/2017	1.81	3/1/2022	8/31/2017	103.8642	103.1509313	102.4474234	101.7534763	101.0688963	100.3934949	99.72708834	99.06949814	98.42055027
170831A00054	8/31/2017	1.85	6/30/2022	8/31/2017	105.87462	104.7795021	103.7069245	102.6561982	101.6266612	100.6176781	99.62863831	98.65895563	97.70806638
170913A00003	9/13/2017	2.08	9/13/2022	9/13/2017	107.20443	105.8656903	104.5602434	103.2868562	102.0443591	100.8316383	99.6476334	98.49133358	97.36177506
170918A00007	9/18/2017	2.8	9/20/2027	9/18/2017	136.966	129.1041218	121.7483206	114.8632355	108.4161651	102.3768567	96.71730948	91.41159414	86.43568859
170919A00076	9/19/2017	1.97	9/19/2022	9/19/2017	107.32355	105.9621559	104.6351257	103.3411739	102.0790759	100.8476668	99.64583796	98.47253347	97.32674725
170920A00028	9/21/2017	2.16	9/21/2022	9/21/2017	107.43629	106.0703493	104.7389935	103.4409224	102.1748997	100.93975	99.73435441	98.55764776	97.40861508
170721A00017	7/21/2017	1.8	7/21/2021	7/21/2017	100.32715	100.2685415	100.2100146	100.1515713	100.0932113	100.0349346	99.97674096	99.91863014	99.86060201
170728A00040	7/28/2017	2.44	1/27/2025	7/28/2017	121.80961	117.6209324	113.600038	109.7392481	106.031283	102.4692383	99.04656222	95.75703629	92.59475563
170803A00019	8/3/2017	2.14	8/3/2022	8/3/2017	106.60816	105.4036974	104.2263413	103.0751816	101.9493516	100.8480226	99.77040165	98.71572964	97.6832796
170803A00021	8/3/2017	2.5	8/5/2024	8/3/2017	118.79391	115.2382869	111.8087505	108.5000755	105.3072845	102.2256379	99.25062022	96.3779285	93.60346051
170808A00037	8/8/2017	2.19	12/15/2022	8/8/2017	108.66783	107.0952686	105.5537479	104.0424239	102.5604842	101.1071449	99.68164938	98.28326729	96.9112932
170818A00025	8/18/2017	1.77	8/18/2021	8/18/2017	100.76025	100.6227647	100.4856693	100.3489633	100.2126448	100.0767123	99.94116406	99.8059984	99.67121367
170616A00018	6/16/2017	2.4	6/16/2025	6/16/2017	123.77679	119.0787222	114.5860524	110.2887034	106.1771451	102.2423643	98.47583359	94.86948245	91.41567038
170619A00067	6/19/2017	1.84	9/20/2021	6/19/2017	101.29033	101.0586761	100.8280911	100.5985693	100.3701032	100.1426857	99.91630941	99.69096714	99.46665177
170619A00084	6/19/2017	1.95	6/20/2022	6/19/2017	105.811	104.747522	103.7053376	102.683814	101.6823414	100.700334	99.73722839	98.79248278	97.86557598
170622A00039	6/22/2017	3.36	6/22/2035	6/22/2017	185.05647	163.6311636	144.9858997	128.7409852	114.5705618	102.1947265	91.37283693	81.8978211	73.59133684

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170622A00040	6/22/2017	3.41	6/23/2036	6/22/2017	191.19346	167.7595244	147.5507797	130.1004033	115.0116147	101.946843	90.61861511	80.78188551	72.2275736
170629A00067	6/29/2017	2.19	6/29/2022	6/29/2017	106.07843	104.9872618	103.9184571	102.8713311	101.8452296	100.8395246	99.85361273	98.88691433	97.9388721
170515A00010	5/15/2017	2.58	5/15/2024	5/15/2017	117.7708	114.4935329	111.3250623	108.2611839	105.2978819	102.4313167	99.65781738	96.97387227	94.37612173
170518A00034	5/18/2017	2.15	5/18/2023	5/18/2017	111.32767	109.2579921	107.2373692	105.2643364	103.3374839	101.4554533	99.61693512	97.82066672	96.06543037
170601A00018	6/1/2017	1.96	6/1/2022	6/1/2017	105.50324	104.5007748	103.5172754	102.5522104	101.6050654	100.6753451	99.76257246	98.86628742	97.98604659
170609A00026	6/9/2017	2.3	6/9/2023	6/9/2017	111.67942	109.5438108	107.460244	105.4271214	103.4429056	101.5061169	99.61533028	97.76917357	95.96632471
170612A00039	6/12/2017	2.29	6/12/2024	6/12/2017	117.7865	114.4073216	111.1434722	107.990367	104.9436334	101.9990973	99.1527728	96.40085264	93.73969899
170615A00015	6/15/2017	2.25	6/14/2024	6/15/2017	117.69104	114.3067302	111.0381545	107.8807026	104.8299785	101.8817857	99.0321176	96.2771475	93.61321929
170404A00007	4/4/2017	2.22	4/4/2022	4/4/2017	104.65447	103.8359403	103.030178	102.2368858	101.455776	100.6865696	99.928996	99.18279292	98.44770578
170412A00045	4/12/2017	2.01	4/12/2022	4/12/2017	104.7065	103.8621223	103.0313266	102.2137885	101.4091926	100.617233	99.83761373	99.07004791	98.31425747
170417A00014	4/17/2017	1.95	4/18/2022	4/17/2017	104.758	103.8950166	103.0462089	102.2112324	101.389751	100.5814394	99.78598265	99.0030758	98.23242351
170417A00094	4/17/2017	1.95	4/19/2022	4/17/2017	104.77467	103.9085441	103.0566972	102.2187782	101.3944473	100.5833761	99.7852463	98.99975005	98.22658902
170419A00025	4/19/2017	2.72	4/19/2027	4/19/2017	135.43989	128.1269548	121.2575238	114.8023496	108.734262	103.0280125	97.66012887	92.6087807	87.85365616
170502A00028	5/2/2017	2.84	5/3/2027	5/2/2017	136.42518	129.0325927	122.0903858	115.5687837	109.4401256	103.6787059	98.26062626	93.16365995	88.36712683
170203A00013	2/3/2017	3.67	2/1/2036	2/3/2017	193.6638	170.6620766	150.7423795	133.4694639	118.4719016	105.4324197	94.07974674	84.18172309	75.53947344
170215A00036	2/15/2017	2.61	7/30/2021	2/15/2017	100.52763	100.4438614	100.3602305	100.2767391	100.1933867	100.1101732	100.0270982	99.94416123	99.86136213
170215A00043	2/15/2017	2.7	8/28/2024	2/15/2017	119.82088	116.1759482	112.6622086	109.2741257	106.0064375	102.854138	99.81246362	96.87687896	94.04306462
170216A00044	2/16/2017	3.52	2/17/2032	2/16/2017	168.96072	153.5931348	139.7946831	127.3954103	116.2446468	106.2087278	97.16899217	89.0200262	81.66812107
170228A00015	2/28/2017	2.87	5/28/2025	2/28/2017	124.8151	120.1792824	115.7427537	111.4958958	107.4296018	103.5352508	99.80467882	96.23015218	92.80434274
170322A00011	3/22/2017	2.48	3/22/2024	3/22/2017	117.07376	113.9679833	110.961485	108.0504004	105.2310497	102.4999244	99.85367802	97.28911731	94.80319355
161006A00012	10/6/2016	1.98	10/7/2024	10/6/2016	118.47121	114.7059746	111.0807581	107.5894944	104.2264221	100.9860672	97.86322671	94.85295276	91.95053852
161013A00037	10/13/2016	1.52	10/13/2021	10/13/2016	101.56065	101.2627537	100.9666159	100.6722214	100.3795549	100.088601	99.79934463	99.51177088	99.22586499
161031A00006	10/31/2016	1.76	11/1/2021	10/31/2016	101.90036	101.5474483	101.1969754	100.8489131	100.5032366	100.1599214	99.81894343	99.48027906	99.14390478
170117A00037	1/17/2017	2	1/18/2022	1/17/2017	103.2971	102.7114486	102.1324308	101.5599375	100.9938588	100.4340872	99.8805174	99.3330467	98.79157453
170119A00006	1/19/2017	2.85	1/21/2025	1/19/2017	122.69405	118.5238624	114.5195577	110.6735894	106.9788043	103.4284149	100.0159785	96.73537756	93.58080124
170130A00010	1/30/2017	2.92	1/30/2025	1/30/2017	123.10726	118.900517	114.8619456	110.9838589	107.2589664	103.6803529	100.2414568	96.93604984	93.75821781
160727A00002	7/27/2016	1.87	7/27/2023	7/27/2016	111.50082	109.2202325	106.9983163	104.8331532	102.7229016	100.6657942	98.66013419	96.70429231	94.79670317
160830A00035	8/30/2016	2.06	8/30/2024	8/30/2016	117.67667	114.0611275	110.5762185	107.2164158	103.9764663	100.8513734	97.8363827	94.92696856	92.11882107
160916A00014	9/16/2016	1.66	9/16/2021	9/16/2016	101.16795	100.9480747	100.7291712	100.5112286	100.2942405	100.0782005	99.86310245	99.64894007	99.43570725
160923A00033	9/23/2016	2.04	9/23/2026	9/23/2016	128.42662	122.0450249	116.0188387	110.3263118	104.9471517	99.86241564	95.05441242	90.50661234	86.20356408
160926A00022	9/26/2016	1.6	9/24/2021	9/26/2016	101.27374	101.0309705	100.7893733	100.548936	100.3096502	100.0715078	99.83450048	99.59862015	99.36385879
160928A00014	9/28/2016	1.37	9/28/2021	9/28/2016	101.29849	101.0440545	100.7908993	100.5390115	100.2883815	100.0389999	99.79085754	99.5439451	99.2982535
160122A00029	1/22/2016	2.48	1/22/2025	1/22/2016	121.88881	117.7146923	113.7072486	109.8588771	106.1623688	102.6108842	99.19793258	95.9173517	92.76328918

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160329A00006	3/29/2016	2.12	3/29/2023	3/29/2016	110.21012	108.3083264	106.4493498	104.6318141	102.8544005	101.1158465	99.41494346	97.75053351	96.12150666
160616A00028	6/16/2016	1.81	6/16/2023	6/16/2016	110.78175	108.6334791	106.5381219	104.4940368	102.4996451	100.5534276	98.65392251	96.79972227	94.98947154
160628A00031	6/28/2016	1.77	6/28/2023	6/28/2016	110.87518	108.6881526	106.5558931	104.4766761	102.4488404	100.4707891	98.54098622	96.65795401	94.82027044
160701A00026	7/1/2016	1.43	7/1/2021	7/1/2016	100.01428	100.011502	100.008722	100.0059444	100.0031691	100.0003963	99.99762589	99.99485785	99.99209219
160707A00032	7/7/2016	1.52	7/7/2023	7/7/2016	110.79058	108.5711748	106.4079863	104.2992111	102.243122	100.2380593	98.28242817	96.37469506	94.51338523
150824A00095	8/24/2015	2.34	8/24/2023	8/24/2015	113.30952	110.9175308	108.5887252	106.3209673	104.1122085	101.9604865	99.86392099	97.82070946	95.82912311
150826A00039	8/26/2015	3.22	8/27/2029	8/26/2015	152.74408	141.627689	131.4164777	122.0315985	113.4014811	105.4611224	98.15145053	91.41875404	85.21416905
150827A00029	8/27/2015	2.74	8/27/2024	8/27/2015	120.4699	116.8044701	113.271074	109.8641378	106.5783608	103.4087011	100.3503604	97.39877119	94.54958326
150909A00018	9/9/2015	2.28	9/9/2021	9/9/2015	101.18374	100.9837415	100.7845437	100.586141	100.3885288	100.1917022	99.99565649	99.80038703	99.60588916
151223A00074	12/23/2015	3.01	12/23/2027	12/23/2015	141.09317	132.7101986	124.8865463	117.5818863	110.7590028	104.3835364	98.42375059	92.8503185	87.63612811
160119A00025	1/19/2016	3.05	1/19/2028	1/19/2016	140.4779	132.0700299	124.2274678	116.9091373	110.0771541	103.6965655	97.73510864	92.16298993	86.95268361
150601A01024	6/1/2015	5.33	2/27/2026	6/1/2015	141.23924	135.2854224	129.625652	124.2436771	119.1242381	114.2530034	109.6165077	105.2020937	100.9978592
150610A00008	6/10/2015	3.58	6/10/2030	6/10/2015	161.31496	148.6937076	137.1824012	126.6769416	117.0835174	108.3175401	100.3026928	92.97008273	86.25748346
150610A00037	6/10/2015	2.48	6/10/2022	6/10/2015	106.16213	105.1280416	104.1140534	103.1195824	102.144069	101.1869748	100.2477816	99.3259904	98.42112081
150722A00014	7/22/2015	2.32	7/22/2021	7/22/2015	100.36906	100.3076862	100.2464017	100.1852059	100.1240984	100.0630792	100.002148	99.94130472	99.88054908
150819A00013	8/19/2015	3.51	8/19/2030	8/19/2015	159.8155	147.0851215	135.4937321	124.9326871	115.3042646	106.5205138	98.50223011	91.17804281	84.48360183
150821A00017	8/21/2015	2.22	8/23/2022	8/21/2015	107.18205	105.9081031	104.6643245	103.4496506	102.263069	101.1036137	99.97036274	98.86243535	97.77898992
150601A00548	6/1/2015	2.55	8/13/2021	6/1/2015	100.7628	100.6394966	100.5165056	100.3938301	100.271469	100.149421	100.0276849	99.90625947	99.78514347
150601A00594	6/1/2015	3.2	10/20/2026	6/1/2015	134.29482	127.6941529	121.4618244	115.5753027	110.0135516	104.7569247	99.78706648	95.08682076	90.64014572
150601A00609	6/1/2015	2.52	9/30/2021	6/1/2015	101.59065	101.3302908	101.0712555	100.8135378	100.5571275	100.3020149	100.0481901	99.79564357	99.54436564
150601A00642	6/1/2015	2.6	3/31/2022	6/1/2015	104.85229	104.0451328	103.2503643	102.467704	101.6968771	100.9376168	100.1896644	99.45276894	98.7266866
150601A00650	6/1/2015	2.75	3/31/2023	6/1/2015	111.32845	109.4101151	107.535044	105.7018381	103.9091621	102.1557378	100.4403417	98.76180177	97.11899469
150601A00689	6/1/2015	2.81	2/28/2025	6/1/2015	123.00625	118.698953	114.5672875	110.6030567	106.7984958	103.1462496	99.63934842	96.27118465	93.03549194
150413A00034	4/13/2015	2.25	4/13/2022	4/13/2015	104.83284	103.9860124	103.1528347	102.3329802	101.5261313	100.7319799	99.95022807	99.18058687	98.42277634
150506A00014	5/6/2015	2.21	5/6/2022	5/6/2015	105.28641	104.3655888	103.4608277	102.5717103	101.6978336	100.8388081	99.99425765	99.1638186	98.34713943
150601A00485	6/1/2015	3.09	6/21/2024	6/1/2015	120.34163	116.8925739	113.5618895	110.3448355	107.2368923	104.2337472	101.3312836	98.52557109	95.81285552
150601A00490	6/1/2015	3.19	7/2/2024	6/1/2015	120.35215	116.8783967	113.524752	110.2863741	107.1586414	104.1371459	101.2176817	98.39623482	95.66897276
150601A00495	6/1/2015	2.99	6/27/2024	6/1/2015	120.13308	116.6672403	113.32104	110.0896583	106.968502	103.9531894	101.0395393	98.22356068	95.50144265
150601A00523	6/1/2015	4.55	7/25/2031	6/1/2015	177.03434	162.0730796	148.5537112	136.3279014	125.2633656	115.2420528	106.1585442	97.91863985	90.43810956
140131A00025	1/31/2014	3.28	1/30/2023	1/31/2014	111.20251	109.4727456	107.7792122	106.120843	104.4966153	102.9055457	101.3466883	99.81913306	98.32200369
140908A00063	9/8/2014	2.5	8/31/2021	9/8/2014	101.07134	100.8970406	100.7233392	100.5502312	100.3777136	100.2057835	100.0344379	99.86367385	99.69348849
141028A00012	10/28/2014	2.73	10/28/2022	10/28/2014	108.65415	107.2215547	105.8160164	104.4368112	103.0832413	101.754633	100.4503364	99.1697237	97.91218878
150105A00027	1/5/2015	2.23	1/5/2022	1/5/2015	103.20374	102.6569673	102.1159781	101.5806835	101.0509939	100.5268216	100.0080806	99.49468679	98.98655771

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150213A00025	2/13/2015	2.37	2/14/2022	2/13/2015	103.91688	103.2493308	102.590343	101.9397559	101.2974094	100.6631476	100.0368185	99.41827374	98.80736887
150316A00043	3/16/2015	2.37	3/16/2023	3/16/2015	110.70656	108.8344271	107.003839	105.213477	103.462082	101.7484481	100.0714197	98.42988865	96.82279202
120517A00007	5/17/2012	2.42	5/31/2023	5/17/2012	112.08045	109.9634209	107.8974017	105.8808449	103.9122602	101.9902122	100.1133185	98.28024695	96.48971366
121031A00004	10/31/2012	2.07	10/31/2022	10/31/2012	107.96383	106.5301275	105.1225151	103.7403393	102.3829687	101.0497922	99.74021828	98.45367432	97.18960564
121227A00024	12/27/2012	2.2	12/30/2021	12/27/2012	103.04257	102.5145888	101.9920014	101.4747257	100.9626809	100.4557883	99.95397042	99.45715139	98.96525691
130712A00005	7/12/2013	3.25	7/17/2023	7/12/2013	114.66386	112.372083	110.1386796	107.961759	105.8395083	103.7701866	101.7521219	99.78370778	97.86340005
131024A00019	10/24/2013	3.23	10/30/2023	10/24/2013	116.588	113.9485896	111.3828894	108.8884262	106.4628217	104.103791	101.8091387	99.57675498	97.40461142
131217A00023	12/17/2013	3.74	1/2/2024	12/17/2013	118.72765	115.8638209	113.0853233	110.3890941	107.7722003	105.231833	102.7653009	100.3700251	98.04353276
111216A00001	12/16/2011	3.95	12/30/2031	12/16/2011	173.58703	158.1585824	144.2810525	131.7886682	120.534242	110.3869943	101.2306462	92.96174241	85.48817558
111223A00006	12/23/2011	2.98	12/30/2021	12/23/2011	103.44347	102.9142913	102.3905108	101.8720507	101.3588304	100.8507706	100.3477941	99.84982472	99.35678819
120113A00012	1/13/2012	3.62	1/15/2027	1/13/2012	138.50654	131.4807416	124.8614851	118.6230094	112.7413209	107.1940642	101.9604022	97.02090469	92.3574461
120127A00018	1/27/2012	3.64	2/1/2027	1/27/2012	138.91519	131.8182497	125.1347301	118.8382556	112.904273	107.3099181	102.0338908	97.0563393	92.35875409
120202A00020	2/2/2012	2.7	2/15/2022	2/2/2012	104.14793	103.4765245	102.8137728	102.1595038	101.5135552	100.8757689	100.2459908	99.62407057	99.00986174
120320A00005	3/20/2012	3.18	3/30/2022	3/20/2012	105.30841	104.5023382	103.7085864	102.9268766	102.1569363	101.3985013	100.6513152	99.91512895	99.18970116
210514A00033	5/18/2021	2.8	5/18/2028	5/18/2021	140.33867	131.5026596	123.2876645	115.6467726	108.5368428	101.9181863	95.7542734	90.0114676	84.65878248
210528A00003	5/28/2021	0.63	5/28/2024	5/28/2021	111.9078	108.6792637	105.5598736	102.5453486	99.63160388	96.81473712	94.09101899	91.45688458	88.90892516
210623A00011	6/23/2021	0.56	6/23/2023	6/23/2021	108.27928	106.135565	104.0452934	102.0067894	100.0184421	98.07870229	96.1860795	94.33913948	92.53650154
051003A00009	10/3/2005	5.15	10/15/2025	10/3/2005	137.68147	132.2929132	127.1522725	122.2467135	117.56414	113.0931483	108.8229838	104.7434996	100.845119
100809A00029	8/9/2010	4.23	8/15/2025	8/9/2010	132.16133	127.1050158	122.2749471	117.659692	113.2484621	109.0310753	104.9979173	101.1399074	97.44846452
111024A00027	10/24/2011	3.11	10/30/2023	10/24/2011	116.29095	113.6552289	111.0931389	108.6022066	106.180056	103.8244046	101.5330594	99.30391265	97.13493797
201028A00005	10/30/2020	1.85	10/31/2025	10/30/2020	122.42679	117.3283863	112.4704456	107.8404158	103.4264645	99.21743216	95.20279152	91.37260793	87.71750328
210128A00010	1/28/2021	0.57	7/9/2024	1/28/2021	112.13049	108.7655343	105.5186092	102.3849066	99.35984254	96.43904675	93.61835118	90.89377937	88.26153644
210209A00029	2/12/2021	0.8	12/15/2025	2/12/2021	117.86896	112.7252426	107.8322863	103.1765976	98.74548034	94.52698307	90.50985159	86.68348459	83.03789233
210212A00014	2/17/2021	1.38	2/17/2026	2/17/2021	121.39149	115.9531483	110.7880468	105.8809923	101.2177198	96.784833	92.56974602	88.56062979	84.74636206
210428A00008	4/28/2021	1.93	4/26/2030	4/28/2021	141.89498	130.4261842	119.9693512	110.4300128	101.7229617	93.77130322	86.50560594	79.86314399	73.78721899
210507A00008	5/7/2021	1.94	5/7/2031	5/7/2021	146.30693	133.2390437	121.4426246	110.7873663	101.1569247	92.44735735	84.56574575	77.42897765	70.96266871
200818A00008	8/18/2020	1.5	8/18/2031	8/18/2020	142.39508	129.142546	117.2200571	106.4874083	96.8198329	88.1062294	80.24760213	73.15568721	66.75174062
200911A00019	9/15/2020	1.84	9/14/2027	9/15/2020	130.23156	122.6078181	115.477429	108.805865	102.5611972	96.71388732	91.23659573	86.10400581	81.29266341
200922A00040	9/24/2020	2	9/23/2024	9/24/2020	117.80655	114.1108673	110.5511485	107.1215225	103.8164193	100.6305471	97.55887705	94.5966272	91.73924903
200928A00003	9/28/2020	0.55	9/26/2025	9/28/2020	116.69819	111.8185336	107.1672365	102.7323255	98.50253218	94.46724453	90.61646438	86.94076776	83.43126808
201006A00007	10/8/2020	1.47	10/10/2023	10/8/2020	111.60442	109.0943594	106.653623	104.2798032	101.9705959	99.72379536	97.53728919	95.40905357	93.33714866
201015A00017	10/15/2020	0.29	10/17/2022	10/15/2020	105.4072	104.0066187	102.6363667	101.295466	99.98298023	98.69801335	97.43970715	96.20723941	94.99982196
200720A00014	7/20/2020	0.35	7/20/2022	7/20/2020	104.55756	103.4073072	102.2821373	101.1812349	100.1038224	99.04915515	98.01651978	97.0052323	96.01463685

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200720A00034	7/20/2020	0.77	7/21/2025	7/20/2020	116.40752	111.7688829	107.3387691	103.1066941	99.06275967	95.19761794	91.50243718	87.96887041	84.58902601
200720A00042	7/22/2020	2.04	7/21/2026	7/22/2020	126.64911	120.5635635	114.8066961	109.3590148	104.2022902	99.3194644	94.69456942	90.3126513	86.15970053
200730A00002	7/30/2020	0.67	11/6/2024	7/30/2020	113.60199	109.8412307	106.2234482	102.7424733	99.39244007	96.16776487	93.06313131	90.07347601	87.19397527
200814A00011	8/18/2020	1.58	8/16/2030	8/18/2020	139.5171	127.7530052	117.0635202	107.345035	98.50442337	90.45793305	83.13019783	76.45335887	70.3662821
200818A00007	8/18/2020	1.31	8/20/2029	8/18/2020	133.20649	123.013964	113.6647021	105.0847626	97.20704165	89.97060982	83.32011484	77.20524416	71.58024221
200527A00021	5/27/2020	0.53	11/26/2021	5/27/2020	101.77334	101.3483251	100.9268523	100.5088742	100.0943477	99.68323009	99.27547951	98.87105476	98.46991529
200601A00009	6/1/2020	0.84	6/2/2025	6/1/2020	116.25323	111.7761512	107.494178	103.397807	99.47805248	95.72641078	92.13483195	88.69569312	85.40177352
200604A00014	6/4/2020	2.42	6/4/2040	6/4/2020	187.66361	158.4958382	134.3198619	114.2469577	97.55105936	83.63828332	72.02228813	62.30432712	54.15708142
200605A00007	6/5/2020	0.52	6/5/2023	6/5/2020	108.30084	106.207196	104.164533	102.1712883	100.2259607	98.3271052	96.47333019	94.66329525	92.89570878
200709A00003	7/10/2020	1.63	7/10/2026	7/10/2020	124.24507	118.2586134	112.5947894	107.2345387	102.1600251	97.35455323	92.80248942	88.48918887	84.40092765
200709A00008	7/10/2020	1.88	7/10/2026	7/10/2020	125.6282	119.6056007	113.9070414	108.5133965	103.4067662	98.57039496	93.98859255	89.6466604	85.5308238
200415A00035	4/17/2020	2.16	4/16/2025	4/17/2020	121.23261	116.8070004	112.5674818	108.5051997	104.6117709	100.8792579	97.30014238	93.86730035	90.57397918
200420A00011	4/20/2020	0.7	4/19/2024	4/20/2020	112.18582	109.063492	106.0435425	103.1220202	100.295148	97.5593182	94.91108361	92.34714944	89.86436541
200430A00017	4/30/2020	0.94	4/30/2025	4/30/2020	116.35864	111.9847487	107.7972575	103.7872879	99.94643417	96.26673107	92.74062867	89.36096851	86.1209613
200504A00013	5/4/2020	1.26	5/4/2027	5/4/2020	125.03357	118.0236135	111.4453438	105.2700874	99.47120975	94.02396305	88.90534353	84.0939604	79.56991517
200505A00005	5/5/2020	0.77	5/5/2025	5/5/2020	116.33516	111.9281156	107.7099646	103.6716668	99.8046595	96.10083103	92.55249519	89.15236654	85.89353744
200515A00001	5/15/2020	0.59	5/15/2023	5/15/2020	107.91153	105.89094	103.9180885	101.991557	100.1099815	98.27204715	96.4764861	94.72207546	93.00763547
200318A00043	3/18/2020	1.06	3/20/2023	3/18/2020	108.40837	106.5456972	104.7246304	102.9438429	101.2020658	99.49808419	97.83073411	96.19889989	94.60151157
200323A00010	3/23/2020	1.19	3/23/2022	3/23/2020	103.67661	102.8986588	102.1323329	101.3773733	100.6335284	99.90055426	99.17821395	98.46627736	97.76452098
200326A00026	3/26/2020	1.32	3/26/2024	3/26/2020	113.30107	110.2474358	107.2919399	104.4307512	101.6602188	98.97686233	96.37736277	93.85855343	91.41741162
200327A00036	3/27/2020	0.77	9/27/2023	3/27/2020	110.13253	107.6720411	105.2790626	102.951212	100.6862109	98.48188225	96.33614454	94.24700647	92.21256229
200327A00074	3/31/2020	1.76	3/29/2024	3/31/2020	114.62506	111.5430204	108.5601335	105.6725233	102.8764936	100.1685218	97.54524887	95.00347027	92.54012771
200403A00016	4/3/2020	0.63	4/17/2023	4/3/2020	107.95868	106.0163724	104.1186463	102.2641436	100.4515601	98.67964271	96.94718628	95.25303168	93.59606348
200309A00004	3/9/2020	0.71	3/8/2024	3/9/2020	111.77135	108.7850109	105.893547	103.0933111	100.3808211	97.75275458	95.20594076	92.73735168	90.34409479
200309A00019	3/9/2020	0.89	3/11/2024	3/9/2020	111.88757	108.9001159	106.0076059	103.2063833	100.4929605	97.86401061	95.31635825	92.84697149	90.45295412
200309A00020	3/9/2020	0.96	3/10/2025	3/9/2020	115.93379	111.73064	107.7014539	103.8380133	100.1325463	96.57769537	93.16649236	89.89233533	86.74896662
200309A00033	3/9/2020	1.06	3/9/2026	3/9/2020	119.91265	114.4437749	109.2531064	104.3249889	99.64473822	95.1985759	90.97356752	86.95756593	83.13915857
200309A00041	3/9/2020	0.73	3/9/2022	3/9/2020	103.15221	102.4185905	101.695356	100.9822881	100.2791737	99.58580557	98.90198209	98.22750724	97.56219032
200316A00013	3/16/2020	1	4/15/2022	3/16/2020	103.83855	102.9902233	102.155694	101.3346235	100.5266882	99.73157492	98.9489803	98.1786105	97.42018082
200304A00034	3/4/2020	1.12	3/4/2024	3/4/2020	112.46973	109.4953719	106.6149157	103.8247676	101.1215016	98.50184806	95.96268533	93.50103142	91.11403682
200305A00008	3/10/2020	1.01	6/19/2023	3/10/2020	109.16781	107.0271587	104.9395297	102.9032738	100.9168017	98.97858462	97.08715145	95.2410862	93.43902546
200305A00029	3/5/2020	1.14	3/5/2025	3/5/2020	116.60084	112.4005623	108.373422	104.5112744	100.8064124	97.25153827	93.83973881	90.56446255	87.41949835
200306A00039	3/6/2020	0.88	3/6/2023	3/6/2020	107.66863	105.8585055	104.0880532	102.3560404	100.6612825	99.00264383	97.37903512	95.78941118	94.23276857

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200306A00063	3/6/2020	0.64	3/16/2022	3/6/2020	103.25212	102.4960004	101.7509088	101.0166012	100.2928447	99.57941303	98.8760865	98.18265149	97.49890043
200306A00099	3/10/2020	1.92	3/10/2031	3/10/2020	145.57221	132.7486635	121.1558718	110.6692077	101.1772672	92.58040524	84.78943884	77.72449918	71.31401538
200303A00001	3/3/2020	1.15	3/3/2025	3/3/2020	117.22979	113.0072846	108.958875	105.076373	101.3520266	97.77849546	94.34882624	91.05642951	87.89505822
200303A00012	3/3/2020	1.71	3/1/2030	3/3/2020	139.06021	127.9210547	117.7524938	108.464972	99.97763332	92.21743371	85.11834891	78.62066607	72.67035049
200303A00018	3/3/2020	1.27	3/3/2025	3/3/2020	117.09649	112.8929916	108.8624292	104.9966862	101.2880765	97.72932153	94.31352544	91.0341527	87.88500666
200304A00008	3/4/2020	1.03	11/15/2021	3/4/2020	101.83459	101.4412905	101.0510314	100.663778	100.2794955	99.89814968	99.51970697	99.14413419	98.7713987
200304A00010	3/4/2020	1.2	3/4/2027	3/4/2020	125.16395	118.3163819	111.8811397	105.8312554	100.1416698	94.78908687	89.75183985	85.00976829	80.54410508
200304A00021	3/4/2020	0.94	3/4/2024	3/4/2020	112.38683	109.4040012	106.5155525	103.7178632	101.0074834	98.38112107	95.83563311	93.36801766	90.97540643
200228A00012	3/3/2020	1.4	3/3/2025	3/3/2020	117.61291	113.3994806	109.3592899	105.4842077	101.7665369	98.19898806	94.7746555	91.48699398	88.32979762
200228A00014	2/28/2020	1.4	2/28/2025	2/28/2020	117.57934	113.3760509	109.3452557	105.478873	101.7692538	98.20915349	94.7917075	91.51040905	88.35908785
200228A00059	2/28/2020	1.79	2/28/2030	2/28/2020	139.8427	128.6721327	118.4737511	109.1579213	100.6437103	92.85800021	85.73469543	79.21401505	73.24185929
200228A00063	2/28/2020	1.32	2/28/2023	2/28/2020	108.36491	106.5661465	104.8064882	103.0847314	101.3997188	99.75034074	98.13553208	96.55427045	95.00557385
200228A00067	2/28/2020	1.4	2/28/2025	2/28/2020	117.57934	113.3760509	109.3452557	105.478873	101.7692538	98.20915349	94.7917075	91.51040905	88.35908785
200302A00045	3/4/2020	1.31	3/4/2025	3/4/2020	117.2663	113.0563744	109.0197274	105.1482207	101.4341487	97.87021456	94.44950569	91.16547074	88.01189835
200225A00017	2/25/2020	1.94	2/25/2030	2/25/2020	141.29172	130.068153	119.8188873	110.454248	101.8932563	94.0627411	86.89654908	80.33483758	74.32344262
200225A00046	2/25/2020	1.54	2/23/2024	2/25/2020	113.53775	110.5800771	107.7148746	104.9386405	102.2480336	99.63986358	97.11108244	94.65877717	92.28016263
200226A00002	2/26/2020	1.53	2/27/2023	2/26/2020	108.71626	106.9175542	105.1578968	103.4360869	101.7509708	100.1014419	98.48643835	96.90494061	95.35596937
200226A00008	2/26/2020	1.38	2/26/2025	2/26/2020	118.08534	113.8629243	109.8138452	105.9299849	102.2036542	98.62757064	95.19483387	91.89890322	88.73357644
200226A00012	2/26/2020	1.54	2/28/2022	2/26/2020	103.5916	102.8833504	102.1847423	101.4955776	100.8156661	100.1448226	99.48286677	98.82962321	98.18492094
200227A00012	2/27/2020	1.41	2/27/2023	2/27/2020	108.50734	106.7105124	104.9527046	103.2327097	101.549375	99.90159503	98.2883087	96.70849738	95.16118261
200220A00029	2/20/2020	1.72	2/21/2023	2/20/2020	108.95421	107.1728272	105.429827	103.72404	102.0543428	100.4196571	98.81894771	97.2512204	95.71551961
200221A00006	2/21/2020	1.5	2/21/2025	2/21/2020	118.49509	114.2823471	110.2418763	106.3656373	102.6460157	99.07579794	95.64814757	92.35658292	89.1949563
200221A00016	2/21/2020	1.69	2/21/2025	2/21/2020	118.63542	114.4362725	110.4084163	106.5438719	102.8350836	99.27489274	95.85651392	92.57351326	89.4197877
200221A00031	2/21/2020	1.69	2/21/2025	2/21/2020	118.63542	114.4362725	110.4084163	106.5438719	102.8350836	99.27489274	95.85651392	92.57351326	89.4197877
200225A00005	2/25/2020	1.57	2/25/2025	2/25/2020	118.21425	114.009215	109.9762638	106.1073554	102.3948769	98.83161678	95.41074106	92.12577073	88.97056112
200225A00015	2/25/2020	1.54	2/26/2024	2/25/2020	113.57765	110.6096576	107.734688	104.9492106	102.2498553	99.6334043	97.09678392	94.6370571	92.25141616
200130A00016	1/30/2020	1.58	1/30/2025	1/30/2020	118.515	114.3787116	110.4090514	106.5983649	102.9393967	99.42526586	96.04944488	92.80573882	89.68826642
200131A00007	1/31/2020	1.68	1/31/2023	1/31/2020	108.56307	106.8531825	105.179199	103.5400625	101.9347578	100.3623088	98.82177661	97.31225787	95.83288297
200203A00051	2/3/2020	1.58	11/3/2021	2/3/2020	101.89667	101.537647	101.1811465	100.827146	100.4756194	100.1265408	99.77988471	99.4356259	99.09373958
200207A00004	2/7/2020	1.53	2/7/2023	2/7/2020	108.65041	106.9130852	105.21262	103.5479185	101.917924	100.3216213	98.75803485	97.2262264	95.72529351
200207A00009	2/7/2020	1.58	2/7/2025	2/7/2020	118.62195	114.4559196	110.4586047	106.622211	102.9393524	99.40302716	96.00659505	92.74375664	89.60853347
200220A00002	2/20/2020	1.76	2/20/2025	2/20/2020	118.89777	114.6971111	110.6676302	106.8013651	103.0907711	99.52869947	96.10837409	92.82336937	89.66758989
191223A00056	12/23/2019	2.46	12/14/2029	12/23/2019	145.43844	134.3036114	124.110145	114.7734216	106.216841	98.3710221	91.17308872	84.56602964	78.49812423

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200108A00021	1/13/2020	1.97	1/13/2025	1/13/2020	119.2061	115.1262081	111.2084692	107.4455325	103.8304269	100.3565358	97.01757725	93.80758463	90.72088914
200109A00012	1/14/2020	1.94	12/15/2022	1/14/2020	108.28695	106.7174395	105.1789153	103.670534	102.1914847	100.7409848	99.31827936	97.92263921	96.55336029
200116A00005	1/16/2020	1.92	7/16/2021	1/16/2020	100.25052	100.2059266	100.1613873	100.116905	100.0724796	100.0281109	99.98379891	99.93954345	99.89534444
200121A00008	1/24/2020	1.84	1/20/2022	1/24/2020	103.18519	102.5946474	102.0108539	101.4336951	100.8630584	100.2988334	99.74091261	99.18919057	98.64356432
200127A00030	1/27/2020	1.8	1/27/2025	1/27/2020	118.73208	114.6169333	110.6668374	106.8742408	103.2319844	99.73327761	96.37167656	93.14106452	90.03563311
191108A00014	11/8/2019	2.25	11/8/2029	11/8/2019	144.65997	133.6141281	123.495575	114.2216419	105.7174199	97.91499909	90.75278218	84.17486902	78.13050372
191212A00026	12/13/2019	1.92	6/16/2022	12/13/2019	105.58862	104.5407298	103.5135565	102.506494	101.5189561	100.5503791	99.60022084	98.66795967	97.75309347
191212A00027	12/13/2019	1.93	10/17/2022	12/13/2019	107.43906	106.0268053	104.6450323	103.2927571	101.969041	100.672985	99.40372852	98.1604467	96.94234882
191218A00013	12/18/2019	1.94	12/19/2022	12/18/2019	108.34781	106.7658855	105.2154113	103.695532	102.2054187	100.7442717	99.31131966	97.90581798	96.52704772
191219A00047	12/19/2019	1.76	12/17/2021	12/19/2019	102.65317	102.1639952	101.679485	101.1995724	100.7241923	100.2532803	99.78677355	99.32461033	98.86673003
191223A00008	12/23/2019	1.93	12/23/2021	12/23/2019	102.79131	102.284619	101.7829223	101.2861426	100.7942078	100.3070472	99.82459155	99.34677283	98.87352437
191015A00001	10/15/2019	1.87	10/15/2021	10/15/2019	101.66782	101.3642823	101.062567	100.7626578	100.4645383	100.1681926	99.87360466	99.5807589	99.28963977
191018A00005	10/18/2019	1.89	5/2/2022	10/18/2019	104.83967	103.9347792	103.0454407	102.1712605	101.3118536	100.4668481	99.63588459	98.81861541	98.01470431
191021A00021	10/21/2019	2.22	12/21/2027	10/21/2019	134.0401	125.9505182	118.4028342	111.3579401	104.7797488	98.63494127	92.89274084	87.5247066	82.504545
191101A00002	11/1/2019	1.85	11/1/2022	11/1/2019	107.48119	106.0510656	104.6469746	103.2682625	101.9142995	100.584476	99.27820191	97.99490596	96.73403468
191104A00018	11/5/2019	1.96	11/5/2024	11/5/2019	118.24434	114.4052019	110.7111013	107.1558079	103.7333891	100.4381973	97.26485495	94.20823964	91.26347104
191104A00025	11/4/2019	2.33	8/2/2030	11/4/2019	147.2074	135.1327938	124.147711	114.1479505	105.0397892	96.73887663	89.16925346	82.26247691	75.95684181
190926A00007	9/26/2019	1.88	9/26/2022	9/26/2019	107.15742	105.777376	104.4326871	103.1220044	101.844051	100.5976134	99.38153744	98.19472451	97.03612855
190926A00034	9/26/2019	1.88	9/26/2022	9/26/2019	107.15742	105.777376	104.4326871	103.1220044	101.844051	100.5976134	99.38153744	98.19472451	97.03612855
190930A00077	9/30/2019	2.23	9/28/2029	9/30/2019	142.23397	131.5193229	121.6927362	112.6758297	104.3975411	96.79340405	89.8049027	83.37889248	77.46708044
191001A00023	10/1/2019	1.85	9/27/2024	10/1/2019	117.33939	113.6386595	110.0745551	106.641165	103.3328728	100.1443444	97.07051104	94.10655434	91.24789177
191003A00013	10/3/2019	1.66	10/3/2022	10/3/2019	106.961	105.5664169	104.206828	102.8809195	101.5874468	100.3252261	99.09313086	97.89008804	96.71507526
191007A00024	10/7/2019	1.7	7/14/2022	10/7/2019	105.80324	104.6665591	103.554188	102.4653516	101.399309	100.3553504	99.33279499	98.33098977	97.34930807
190904A00001	9/4/2019	1.5	9/4/2024	9/4/2019	116.35755	112.7350479	109.2444195	105.880044	102.6365838	99.50896406	96.49235784	93.58217185	90.77403353
190905A00002	9/5/2019	1.78	9/6/2022	9/5/2019	106.72133	105.4082101	104.1272234	102.8772046	101.6570416	100.4656752	99.30209548	98.16533949	97.0544882
190910A00004	9/11/2019	1.86	9/11/2024	9/11/2019	117.15831	113.5125826	109.9998622	106.6144636	103.3509862	100.2042965	97.16951253	94.24199007	91.41730883
190917A00029	9/17/2019	2.02	12/6/2022	9/17/2019	108.26982	106.7272885	105.214707	103.7312778	102.2762292	100.8488161	99.44831918	98.07404331	96.7253169
190923A00081	9/23/2019	1.96	9/20/2024	9/23/2019	117.62619	113.9433263	110.3956753	106.9774132	103.6830125	100.507222	97.44504962	94.4917486	91.64280285
190924A00035	9/24/2019	1.88	9/13/2024	9/24/2019	117.25415	113.6003167	110.0799755	106.6874103	103.4171926	100.2641628	97.22341485	94.29028195	91.46032271
190816A00015	8/16/2019	2.2	8/16/2029	8/16/2019	141.40407	130.8813953	121.220131	112.3451949	104.1884247	96.68790388	89.78735822	83.43561469	77.58611427
190816A00020	8/16/2019	1.79	8/16/2024	8/16/2019	116.5773	113.0236001	109.5972126	106.292811	103.1053232	100.029922	97.06201134	94.19721349	91.43135714
190816A00033	8/16/2019	1.77	8/16/2024	8/16/2019	116.51017	112.957574	109.5322615	106.2289061	103.0424369	99.9680277	97.00108325	94.13722671	91.37228763
190820A00038	8/20/2019	1.76	8/20/2024	8/20/2019	116.52808	112.9627503	109.5255163	106.2109987	103.0140798	99.92988945	96.95379177	94.0813718	91.30842353

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190827A00002	8/27/2019	1.74	8/27/2024	8/27/2019	116.55037	112.9629079	109.5049598	106.171059	102.9560051	99.85485115	96.86288949	93.97563822	91.18882881
190829A00021	8/30/2019	2.18	8/30/2021	8/30/2019	100.99952	100.8281336	100.657328	100.4870989	100.3174434	100.1483585	99.97984155	99.8118896	99.64449988
190809A00010	8/9/2019	1.88	8/8/2024	8/9/2019	116.77352	113.2414901	109.8352651	106.5496123	103.3795495	100.3203328	97.36744422	94.51657847	91.76363204
190813A00008	8/13/2019	1.88	8/13/2024	8/13/2019	116.83969	113.2910057	109.8691573	106.5688438	103.3850243	100.3129003	97.34790248	94.48567785	91.72207826
190814A00006	8/14/2019	1.84	8/14/2023	8/14/2019	111.68895	109.3523661	107.0769044	104.8605207	102.701257	100.5972368	98.54666067	96.54780224	94.59900488
190815A00008	8/15/2019	1.82	8/15/2022	8/15/2019	106.43073	105.189355	103.9768014	102.7920718	101.6342171	100.5023309	99.39554713	98.31303783	97.25401118
190815A00015	8/15/2019	1.82	8/15/2022	8/15/2019	106.43073	105.189355	103.9768014	102.7920718	101.6342171	100.5023309	99.39554713	98.31303783	97.25401118
190815A00025	8/15/2019	1.97	8/15/2029	8/15/2019	140.90606	130.3330878	120.6289228	111.7176414	103.5303283	96.00439701	89.08297742	82.71436598	76.85153154
190807A00017	8/7/2019	1.76	3/12/2024	8/7/2019	114.40064	111.3742826	108.4439151	105.6058445	102.856546	100.1926573	97.6109693	95.10841781	92.68207593
190807A00022	8/7/2019	1.76	1/17/2023	8/7/2019	108.49349	106.8250169	105.1910541	103.5906113	102.0227337	100.4865024	98.98103264	97.50547223	96.05899998
190807A00027	8/7/2019	1.77	8/7/2024	8/7/2019	116.39412	112.8713916	109.4741101	106.1970545	103.0352597	99.98399802	97.03876633	94.19527375	91.44943014
190808A00012	8/8/2019	1.89	8/8/2024	8/8/2019	116.80684	113.274265	109.86751	106.5813413	103.4107761	100.3510702	97.39770497	94.54637482	91.79297579
190808A00024	8/8/2019	1.69	2/8/2024	8/8/2019	114.17706	111.2500741	108.4135642	105.6641467	102.9985931	100.4138179	97.90687146	95.47493248	93.11530171
190808A00045	8/8/2019	1.86	8/8/2023	8/8/2019	111.649	109.3308473	107.0729988	104.8734494	102.7302807	100.6416528	98.60580082	96.6210312	94.68571796
190802A00015	8/2/2019	2	2/15/2023	8/2/2019	109.33899	107.5736644	105.8460851	104.1551141	102.4996571	100.8786631	99.29112305	97.73606677	96.21256173
190802A00032	8/2/2019	2.01	8/2/2024	8/2/2019	117.1249	113.6058289	110.21153	106.9368334	103.7768207	100.7268074	97.7823305	94.93913633	92.19316924
190805A00021	8/5/2019	1.89	1/16/2024	8/5/2019	113.99019	111.1467604	108.389431	105.7150611	103.1206474	100.6033159	98.16031514	95.7890102	93.48687692
190805A00037	8/5/2019	2.17	8/6/2029	8/5/2019	142.65076	132.036987	122.2913392	113.3382243	105.1090081	97.54133815	90.57853862	84.16906586	78.26601907
190806A00007	8/6/2019	1.88	8/5/2022	8/6/2019	106.34474	105.1355686	103.9537576	102.7983906	101.668588	100.5635088	99.48234858	98.42433733	97.38873792
190807A00005	8/7/2019	1.77	8/7/2024	8/7/2019	116.39412	112.8713916	109.4741101	106.1970545	103.0352597	99.98399802	97.03876633	94.19527375	91.44943014
190701A00028	7/1/2019	2.11	7/1/2021	7/1/2019	100.01618	100.0133951	100.0106136	100.0078344	100.0050576	100.0022832	99.99951119	99.99674158	99.99397436
190702A00002	7/2/2019	2.16	7/2/2024	7/2/2019	117.18266	113.7590046	110.454153	107.2633057	104.1818842	101.2055221	98.33005304	95.55150103	92.86607005
190711A00019	7/11/2019	2.19	7/11/2023	7/11/2019	111.95646	109.718659	107.5375688	105.4113707	103.3383175	101.3167307	99.34499767	97.42156788	95.54495048
190712A00018	7/12/2019	2.25	7/12/2024	7/12/2019	117.61678	114.1551106	110.8143453	107.5895566	104.4760519	101.4693575	98.56520704	95.75953051	93.04844396
190724A00023	7/24/2019	2.13	7/24/2025	7/24/2019	123.14026	118.3295236	113.7341666	109.3433597	105.1468823	101.1350825	97.29884262	93.62954607	90.11904695
190729A00007	7/29/2019	2.17	7/28/2023	7/29/2019	112.17187	109.8808437	107.6487768	105.4737368	103.3538716	101.2874037	99.27262675	97.30790238	95.39165649
190620A00044	6/20/2019	2.04	6/20/2022	6/20/2019	105.7743	104.712917	103.6727615	102.6531984	101.6536206	100.6734448	99.71211041	98.76907793	97.84382845
190620A00056	6/25/2019	2.07	1/17/2023	6/25/2019	108.9958	107.3230756	105.6849404	104.0804013	102.5085014	100.9683198	99.45896967	97.97959686	96.52937836
190625A00008	6/25/2019	2.04	6/27/2022	6/25/2019	105.89045	104.8065862	103.744816	102.7044724	101.6849121	100.6855172	99.70569417	98.74487255	97.80250387
190625A00016	6/25/2019	2.13	6/25/2024	6/25/2019	116.98454	113.5866268	110.3059482	107.1377935	104.0776717	101.1212979	98.26458254	95.50362151	92.83468627
190625A00027	6/25/2019	2.04	6/24/2022	6/25/2019	105.84066	104.7664388	103.7139343	102.6824977	101.6715014	100.6803424	99.70844138	98.75524123	97.8202062
190626A00004	6/26/2019	2.15	6/26/2024	6/26/2019	117.06323	113.6607937	110.3758492	107.2036682	104.1397463	101.1797857	98.31968481	95.55552824	92.8835768
190731A00029	7/31/2019	1.93	7/29/2022	7/31/2019	106.43265	105.2428698	104.0795565	102.9418385	101.8288784	100.7398755	99.67406285	98.63070624	97.60910199

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190802A00004	8/2/2019	2	8/2/2022	8/2/2019	106.43357	105.2333496	104.0600696	102.9128337	101.7907826	100.6930943	99.61898222	98.56769341	97.53850659
190805A00048	8/5/2019	1.88	8/5/2022	8/5/2019	106.34474	105.1355686	103.9537576	102.7983906	101.668588	100.5635088	99.48234858	98.42433733	97.38873792
190806A00027	8/6/2019	1.71	8/7/2023	8/6/2019	111.63672	109.3151243	107.0539895	104.8513027	102.7051389	100.6136524	98.5750727	96.58770069	94.64990538
190807A00053	8/7/2019	1.66	8/6/2021	8/7/2019	100.56239	100.4588525	100.3555422	100.2524542	100.1495878	100.0469424	99.94451703	99.84231111	99.74032387
190613A00011	6/13/2019	2.26	6/13/2024	6/13/2019	117.21917	113.8569816	110.6094739	107.4720904	104.4404863	101.5105141	98.67821263	95.93979847	93.29165619
190701A00008	7/3/2019	2.1	7/3/2023	7/3/2019	111.64425	109.4337326	107.2788366	105.1777992	103.128923	101.1305765	99.18119107	97.27925823	95.42332661
190712A00001	7/12/2019	2.05	7/12/2024	7/12/2019	117.46793	113.9966709	110.6469333	107.4137594	104.2924229	101.2784186	98.36745034	95.55542046	92.83841879
190717A00007	7/17/2019	2.18	10/14/2022	7/17/2019	107.75928	106.3476173	104.9674575	103.6177503	102.2974889	101.0057112	99.74149716	98.50396662	97.29227701
190724A00025	7/24/2019	1.96	7/24/2023	7/24/2019	111.983	109.6996243	107.474928	105.3069909	103.1939742	101.1341133	99.12571424	97.16714983	95.25685683
190726A00017	7/26/2019	2.44	7/24/2026	7/26/2019	128.91708	122.7619367	116.9387959	111.4279681	106.2110404	101.2707839	96.59107083	92.15679859	87.95381871
190729A00009	7/29/2019	2.19	7/29/2024	7/29/2019	117.66442	114.1490545	110.7579085	107.4858523	104.3280047	101.2797158	98.33655498	95.49429833	92.74891805
190607A00023	6/7/2019	1.92	6/7/2022	6/7/2019	105.5648	104.5432769	103.5414458	102.5587426	101.5946235	100.6485651	99.72006348	98.80863353	97.91380766
190614A00005	6/14/2019	1.99	6/14/2022	6/14/2019	105.75033	104.705943	103.6821101	102.6782304	101.6937249	100.7280367	99.78063013	98.85098973	97.93861919
190617A00027	6/17/2019	2.21	6/16/2023	6/17/2019	111.60732	109.4503559	107.3464838	105.294054	103.2914825	101.3372457	99.42987682	97.56796413	95.75014796
190619A00007	6/19/2019	2.21	6/20/2022	6/19/2019	105.9453	104.8829799	103.8418994	102.8214239	101.8209464	100.8398831	99.87767299	98.93377652	98.00767447
190620A00055	6/25/2019	2.08	4/17/2023	6/25/2019	110.43322	108.4716633	106.5549608	104.6817518	102.8507269	101.0606277	99.31024364	97.59841064	95.9240082
190701A00006	7/1/2019	2.11	7/1/2021	7/1/2019	100.01618	100.0133951	100.0106136	100.0078344	100.0050576	100.0022832	99.99951119	99.99674158	99.99397436
190603A00040	6/3/2019	2.11	6/3/2022	6/3/2019	105.56948	104.5620452	103.5737685	102.6041052	101.6525336	100.7185509	99.80167312	98.90143371	98.017383
190604A00030	6/4/2019	2.2	6/3/2022	6/4/2019	105.6556	104.6477162	103.6589947	102.6888925	101.7368876	100.8024774	99.88517745	98.98452128	98.10005906
190605A00012	6/5/2019	1.92	6/6/2022	6/5/2019	105.54819	104.5298801	103.5311379	102.5514071	101.5901488	100.6468445	99.7209947	98.81211848	97.91975236
190605A00020	6/5/2019	2.19	2/5/2024	6/5/2019	115.09711	112.1765271	109.3457093	106.6013183	103.9401675	101.3592107	98.85553463	96.42635226	94.06899635
190606A00026	6/6/2019	2.23	6/6/2023	6/6/2019	111.48834	109.3641872	107.2915887	105.2689643	103.2947976	101.3676286	99.48605147	97.64871188	95.85430483
190607A00009	6/7/2019	2.14	6/7/2022	6/7/2019	105.66576	104.6453497	103.6445849	102.6628991	101.6997508	100.7546187	99.82700062	98.91641329	98.02239086
190530A00008	5/30/2019	2.38	5/30/2025	5/30/2019	123.43466	118.8019035	114.3693657	110.1273394	106.0666392	102.1785716	98.45490586	94.88784682	91.47000947
190530A00029	5/30/2019	2.25	5/30/2024	5/30/2019	117.45817	114.1269661	110.908107	107.7971862	104.7899946	101.8825113	99.07089443	96.35147212	93.72073366
190530A00031	5/30/2019	2.21	5/31/2022	5/30/2019	105.72373	104.7232355	103.7416081	102.7783154	101.8328479	100.9047145	99.99344207	99.09857455	98.21967219
190531A00003	5/31/2019	2.31	10/29/2021	5/31/2019	102.04032	101.6957615	101.3535279	101.0135925	100.6759325	100.3405251	100.0073477	99.67637828	99.34759498
190531A00013	5/31/2019	2.31	12/6/2022	5/31/2019	108.704	107.1580386	105.6420942	104.1553623	102.6970694	101.266469	99.86283997	98.48548575	97.13373325
190531A00038	5/31/2019	2.82	5/31/2034	5/31/2019	174.20059	154.9431172	138.0412238	123.192276	110.1340149	98.63899116	88.50978688	79.57491477	71.68529438
190522A00021	5/23/2019	2.47	10/15/2021	5/23/2019	101.84744	101.5435531	101.241489	100.9412326	100.6427675	100.3460777	100.0511473	99.7579606	99.46650204
190523A00022	5/23/2019	2.47	10/12/2022	5/23/2019	108.12566	106.7134642	105.3334702	103.9845786	102.6657372	101.3759415	100.1142319	98.87969115	97.67144207
190528A00007	5/28/2019	2.44	11/15/2023	5/28/2019	114.51061	111.8537321	109.2723605	106.7639198	104.3259403	101.9560507	99.65197358	97.41152125	95.23259155
190528A00028	5/28/2019	2.42	5/30/2023	5/28/2019	111.75899	109.6540315	107.5996382	105.5942828	103.6364925	101.7248486	99.85798444	98.03458296	96.25337458

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190529A00031	5/29/2019	2.36	5/30/2023	5/29/2019	111.63819	109.5344756	107.4813001	105.4771385	103.5205185	101.6100224	99.74428389	97.9219867	96.14186181
190529A00089	5/29/2019	2.38	5/29/2024	5/29/2019	117.36751	114.0520765	110.8481252	107.7512968	104.7574259	101.8625328	99.06281454	96.35463562	93.73451981
190329A00016	3/29/2019	2.56	3/29/2022	3/29/2019	104.81278	104.0118642	103.223158	102.4463844	101.6812743	100.9275666	100.1850078	99.45335203	98.73236049
190329A00018	3/29/2019	2.6	3/29/2024	3/29/2019	117.08472	113.9670087	110.949326	108.0277667	105.198607	102.4582973	99.80345309	97.23084527	94.73739195
190424A00023	4/24/2019	2.43	4/24/2023	4/24/2019	111.4774	109.4794427	107.5274738	105.6201287	103.7560927	101.9340997	100.1529299	98.41140808	96.70840129
190426A00011	5/1/2019	2.56	3/15/2022	5/1/2019	104.56022	103.8028006	103.0563411	102.3206065	101.5953667	100.880398	100.1754832	99.48041115	98.7949765
190506A00027	5/6/2019	2.38	5/6/2022	5/6/2019	105.43547	104.5139299	103.6084567	102.718636	101.8440644	100.9843524	100.1391235	99.30801392	98.49067208
190507A00006	5/7/2019	2.57	5/8/2023	5/7/2019	111.69248	109.6550311	107.6651208	105.7213516	103.8223779	101.9669024	100.1536733	98.38148323	96.64916677
190227A00002	2/27/2019	2.61	2/28/2022	2/27/2019	104.39591	103.6836084	102.981007	102.287904	101.604108	100.9294324	100.2636959	99.60672172	98.95833786
190227A00005	2/27/2019	2.87	2/27/2024	2/27/2019	117.36006	114.3355796	111.4055868	108.5664951	105.8148847	103.1474902	100.5611927	98.05301168	95.62009813
190313A00017	3/13/2019	2.73	7/15/2022	3/13/2019	106.92906	105.7826487	104.6607819	103.5626724	102.4875712	101.4347605	100.4035519	99.39328522	98.40332704
190319A00008	3/19/2019	2.72	3/21/2022	3/19/2019	104.78757	104.0110221	103.2459741	102.4921696	101.7493618	101.0173112	100.2957852	99.58455779	98.88340951
190320A00005	3/20/2019	2.75	3/20/2024	3/20/2019	117.37802	114.2841727	111.2888092	108.3881132	105.5784479	102.8563454	100.2184971	97.6617452	95.18307426
190322A00022	3/22/2019	2.56	7/22/2021	3/22/2019	100.38377	100.3223859	100.2610893	100.1998812	100.1387616	100.0777302	100.0167868	99.95593137	99.89516361
190115A00063	1/15/2019	2.96	1/16/2024	1/15/2019	116.8862	114.0037007	111.2082153	108.4965729	105.8657423	103.3128224	100.835036	98.42972328	96.09433635
190122A00008	1/22/2019	2.98	1/20/2023	1/22/2019	110.52445	108.8299651	107.1706011	105.5453469	103.953226	102.393299	100.8646615	99.36644262	97.89780339
190122A00043	1/22/2019	2.96	1/22/2025	1/22/2019	123.74083	119.5320616	115.4909913	111.6099818	107.8817867	104.2995311	100.85669	97.54706886	94.36478422
190130A00019	1/30/2019	3.01	1/30/2024	1/30/2019	117.26036	114.3296149	111.488281	108.7330598	106.0607982	103.4684806	100.9532223	98.51226247	96.14295819
190204A00036	2/4/2019	2.86	11/4/2021	2/4/2019	102.33799	101.9754214	101.6154223	101.2579639	100.9030194	100.5505623	100.2005666	99.85300634	99.50785634
190215A00004	2/15/2019	2.84	2/15/2023	2/15/2019	110.77177	108.9937517	107.2537152	105.5505178	103.8830587	102.2502807	100.6511684	99.08474576	97.55007469
181226A00024	12/26/2018	2.9	12/27/2021	12/26/2018	103.3459	102.8258352	102.3109974	101.8013098	101.2966954	100.7970788	100.3023859	99.81254418	99.32748261
190104A00003	1/4/2019	2.81	1/4/2022	1/4/2019	103.44922	102.9051995	102.3668946	101.8342149	101.3070725	100.7853812	100.2690569	99.75801702	99.25218069
190108A00039	1/8/2019	3.04	4/30/2024	1/8/2019	118.92749	115.6804819	112.5396863	109.5010605	106.5607362	103.7150131	100.9603506	98.29335971	95.71079588
190110A00009	1/10/2019	2.97	1/16/2024	1/10/2019	116.91326	114.0304011	111.234559	108.5225683	105.8913974	103.3381449	100.8600333	98.45440284	96.11870513
190110A00012	1/10/2019	2.97	1/18/2024	1/10/2019	116.94713	114.0576504	111.2555216	108.5375602	105.9007175	103.3420764	100.8588443	98.44834707	96.10802318
190111A00037	1/11/2019	2.68	1/11/2022	1/11/2019	103.5538	102.9881098	102.4285995	101.875171	101.3277254	100.7861658	100.2503974	99.72032768	99.19586576
181210A00015	12/10/2018	3.12	12/11/2023	12/10/2018	116.6884	113.9208646	111.2340757	108.6252011	106.0915265	103.6304494	101.2394737	98.91620458	96.65834374
181211A00009	12/11/2018	3.14	12/11/2023	12/11/2018	116.74035	113.9721435	111.2846951	108.6751759	106.1408711	103.6791778	101.2875994	98.96374073	96.7053031
181214A00012	12/14/2018	3.07	12/14/2021	12/14/2018	103.18106	102.6996861	102.2228115	101.7503727	101.2823076	100.8185556	100.3590572	99.90375379	99.45258805
181217A00052	12/17/2018	3.04	12/17/2021	12/17/2018	103.2246	102.7342857	102.2486378	101.767588	101.2910711	100.8190232	100.3513814	99.88808403	99.4290707
181219A00005	12/19/2018	3.06	12/19/2023	12/19/2018	116.67214	113.879604	111.1692573	108.5381914	105.9836198	103.5028716	101.0933864	98.75270838	96.47848187
181221A00018	12/21/2018	2.98	12/21/2021	12/21/2018	103.2721	102.7698964	102.2725776	101.7800757	101.292321	100.8092448	100.3307801	99.85686081	99.38742238
181010A00023	10/10/2018	3.41	4/1/2024	10/10/2018	119.51145	116.3490128	113.2880152	110.3244922	107.4546687	104.6749465	101.9818941	99.37223769	96.84285243

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181015A00024	10/15/2018	3.29	10/16/2023	10/15/2018	116.10121	113.5183165	111.0067383	108.56403	106.1878468	103.875942	101.6261615	99.43643938	97.30479373
181023A00021	10/23/2018	3.28	10/23/2023	10/23/2018	116.20382	113.5983337	111.0651355	108.6017728	106.2058936	103.8752414	101.6076503	99.40104072	97.25341534
181023A00025	10/23/2018	3.27	10/23/2023	10/23/2018	116.17932	113.5741353	111.0412321	108.5781578	106.1825609	103.852185	101.5848643	99.37851932	97.23115308
181114A00014	11/14/2018	3.17	11/14/2023	11/14/2018	116.71949	114.0298863	111.4166265	108.8771039	106.4088209	104.0093797	101.6764775	99.40790255	97.20152936
181123A00013	11/23/2018	3.14	11/23/2021	11/23/2018	102.80556	102.3866743	101.9712002	101.5591007	101.1503346	100.7448618	100.3426423	99.9436372	99.54780792
180910A00032	9/10/2018	3.22	9/10/2024	9/10/2018	121.81433	118.0936127	114.5078207	111.0512047	107.7183042	104.503928	101.4031389	98.41123928	95.52375749
180914A00046	9/14/2018	2.93	9/14/2021	9/14/2018	101.42702	101.2122202	100.9983442	100.7853857	100.5733386	100.3621972	100.1519556	99.94260781	99.73414822
180921A00024	9/21/2018	2.99	9/21/2021	9/21/2018	101.5729	101.3379381	101.1040778	100.8713074	100.6396191	100.4090055	100.1794589	99.95097199	99.72353734
181002A00055	10/2/2018	3.14	10/3/2022	10/2/2018	108.90043	107.4922341	106.1192712	104.7802252	103.4738444	102.1989384	100.9543742	99.73907264	98.55200548
181004A00028	10/4/2018	3.31	10/4/2023	10/4/2018	115.93125	113.3869755	110.9123758	108.505011	106.1625474	103.8827534	101.6634939	99.50272536	97.39849043
181010A00019	10/10/2018	3.21	9/15/2021	10/10/2018	101.48635	101.2688246	101.0522466	100.836607	100.6218998	100.4081187	100.1952578	99.98331107	99.77227257
180730A00078	7/30/2018	3.14	7/28/2023	7/30/2018	114.29536	111.9807532	109.725595	107.5279389	105.3859184	103.2977427	101.2616923	99.27611627	97.33942855
180731A00009	7/31/2018	2.97	7/31/2023	7/31/2018	114.31184	111.9814371	109.7111751	107.4990699	105.3432237	103.2418159	101.1930993	99.19539653	97.24709664
180820A00054	8/20/2018	3	8/18/2023	8/20/2018	114.35752	111.9785279	109.6618457	107.4053787	105.2071243	103.0651634	100.9776563	98.94283844	96.95901683
180827A00010	8/27/2018	2.99	8/25/2023	8/27/2018	114.45759	112.0562197	109.7181414	107.441219	105.2234029	103.0627295	100.9573174	98.90536286	96.90513573
180906A00004	9/6/2018	2.92	9/7/2021	9/6/2018	101.27361	101.0791584	100.8854648	100.6925209	100.5003224	100.3088649	100.1181442	99.92815586	99.73889577
180906A00047	9/6/2018	2.81	9/7/2021	9/6/2018	101.27199	101.0773363	100.8834373	100.6902913	100.4978938	100.3062405	100.115327	99.92514891	99.73570205
180716A00037	7/16/2018	3.01	7/18/2022	7/16/2018	107.28836	106.1303654	104.997348	103.8885022	102.8030601	101.7402859	100.6994746	99.67995003	98.68106365
180719A00004	7/19/2018	3.07	7/19/2023	7/19/2018	113.98123	111.6972724	109.4715112	107.3020637	105.1871212	103.1249471	101.1138731	99.15229682	97.23867767
180719A00061	7/19/2018	3.07	7/19/2023	7/19/2018	113.98123	111.6972724	109.4715112	107.3020637	105.1871212	103.1249471	101.1138731	99.15229682	97.23867767
180723A00024	10/23/2018	3.1	10/22/2021	10/23/2018	102.1735	101.8488007	101.5261749	101.2056007	100.8870585	100.570529	100.255993	99.9434318	99.63282669
180724A00075	7/24/2018	2.98	7/24/2023	7/24/2018	114.20727	111.8992752	109.650463	107.4589054	105.3227491	103.2402153	101.2095965	99.2292523	97.29760704
180727A00038	7/27/2018	3.36	7/25/2025	7/27/2018	127.89881	123.0035644	118.3258721	113.8548416	109.5801909	105.4922087	101.5817194	97.84004995	94.25899975
180612A00005	6/12/2018	3.09	6/12/2023	6/12/2018	113.34921	111.1866391	109.0769183	107.018416	105.0095648	103.0488564	101.1348387	99.26611343	97.4413339
180612A00018	6/12/2018	2.88	6/10/2022	6/12/2018	106.5532	105.5170207	104.5009694	103.5044631	102.5269415	101.5678657	100.6267168	99.70299542	98.79622043
180618A00011	6/18/2018	3.02	6/20/2022	6/18/2018	106.76007	105.6932798	104.6477916	103.6229694	102.6182046	101.6329123	100.66653	99.7185169	98.78835254
180620A00044	6/20/2018	2.89	6/20/2023	6/20/2018	113.39896	111.2044047	109.0641917	106.9766205	104.9400584	102.9529354	101.0137408	99.12102079	97.27337583
180622A00006	6/22/2018	3.53	12/21/2029	6/22/2018	155.89229	144.2745989	133.6305034	123.872812	114.9225792	106.7082884	99.1651167	92.23427709	85.86242723
180625A00009	6/25/2018	3	6/27/2022	6/25/2018	106.87549	105.7861214	104.7189294	103.6732403	102.648409	101.643816	100.658866	99.69298692	98.74562874
180518A00020	5/21/2018	3.08	3/15/2022	5/21/2018	104.93849	104.1795237	103.4315355	102.6942878	101.9675501	101.2510986	100.5447157	99.84819012	99.1613162
180521A00072	5/21/2018	2.96	5/23/2022	5/21/2018	106.27801	105.2995285	104.3390444	103.3960662	102.4701182	101.5607418	100.6674949	99.78995084	98.92769803
180522A00037	5/22/2018	3.01	5/22/2023	5/22/2018	113.10503	111.0050432	108.9550264	106.9534763	104.9989497	103.0900564	101.2254562	99.40385765	97.62401511
180529A00043	5/29/2018	2.99	5/30/2023	5/29/2018	112.90658	110.7898126	108.7238502	106.7071542	104.7382451	102.8156978	100.9381396	99.10424738	97.31274591

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180531A00015	5/31/2018	2.95	5/31/2023	5/31/2018	112.84394	110.724768	108.6565208	106.6376599	104.6667003	102.7422117	100.8628163	99.0271863	97.23404205
180611A00030	6/11/2018	2.91	6/12/2023	6/11/2018	113.29223	111.1243603	109.0095782	106.9462418	104.9327734	102.9676553	101.0494263	99.17667975	97.34806077
180427A00011	4/27/2018	3.03	4/27/2022	4/27/2018	105.72834	104.8346127	103.9559726	103.0920418	102.242453	101.4068513	100.5848933	99.77624686	98.9805904
180430A00012	4/30/2018	2.95	7/15/2021	4/30/2018	100.27791	100.2360655	100.1942767	100.1525402	100.1108559	100.0692237	100.0276436	99.9861153	99.94463886
180430A00078	10/30/2018	3.24	10/30/2023	10/30/2018	116.2319	113.6047357	111.0508176	108.5676888	106.1529903	103.8044559	101.5199075	99.29725197	97.13447659
180503A00040	5/3/2018	3.3	5/5/2025	5/3/2018	126.24612	121.6574975	117.2628202	113.0528748	109.0189327	105.1527229	101.446406	97.89254939	94.48410388
180514A00032	5/14/2018	3.27	5/14/2026	5/14/2018	133.30537	127.2522286	121.5131106	116.0700692	110.9062788	106.0059558	101.3542882	96.93737139	92.74214767
180514A00035	5/14/2018	3.07	5/14/2024	5/14/2018	119.73716	116.4222661	113.217321	110.1180765	107.1204731	104.2206299	101.4148364	98.69954329	96.07135515
180226A00034	2/26/2018	2.82	6/27/2022	2/26/2018	106.69079	105.6024585	104.5362831	103.4915963	102.4677533	101.464135	100.4801463	99.51521548	98.56879282
180226A00043	2/26/2018	2.73	9/27/2021	2/26/2018	101.59943	101.3475901	101.0969984	100.8476458	100.5995231	100.3526212	100.1069312	99.86244419	99.61915134
180308A00016	3/8/2018	2.88	6/1/2022	3/8/2018	106.26825	105.2634138	104.2775427	103.3101037	102.3605834	101.4284876	100.51334	99.6146814	98.73206921
180323A00013	3/23/2018	3.18	3/23/2028	3/23/2018	143.78267	134.9740557	126.7718773	119.1309803	112.0098195	105.3701482	99.17673799	93.39712446	88.0013755
180410A00017	4/10/2018	3.02	10/10/2023	4/10/2018	115.34134	112.785949	110.3008704	107.8836678	105.5320077	103.2436562	101.0164737	98.84841055	96.73750175
180411A00001	4/11/2018	2.84	1/25/2022	4/11/2018	103.84626	103.2387468	102.6383307	102.0448924	101.4583107	100.8784671	100.3052461	99.73853454	99.17822196
180104A00018	1/4/2018	2.97	1/4/2027	1/4/2018	134.35471	127.4859009	121.0145621	114.9155585	109.1654768	103.7424973	98.62627722	93.79784294	89.23949095
180117A00016	1/17/2018	2.46	7/19/2021	1/17/2018	100.32611	100.2731184	100.2201945	100.1673427	100.1145628	100.0618548	100.0092185	99.95665371	99.90416031
180129A00004	1/29/2018	2.63	1/31/2022	1/29/2018	103.8314	103.2060964	102.5883	101.9778788	101.3747016	100.77864	100.1895688	99.60736567	99.03191124
180130A00091	1/30/2018	2.74	1/25/2023	1/30/2018	110.22016	108.5135715	106.8425528	105.2060694	103.6031246	102.0327599	100.4940528	98.98611554	97.50809295
180207A00002	2/7/2018	3.13	2/6/2026	2/7/2018	130.08726	124.4795859	119.1490983	114.0805516	109.2596295	104.6728784	100.3076508	96.15205226	92.19489202
180207A00022	2/7/2018	2.79	2/7/2023	2/7/2018	110.53757	108.7877498	107.0749486	105.3980657	103.7560419	102.1478596	100.5725404	99.02914377	97.51676466
171130A00005	11/30/2017	2.45	11/30/2022	11/30/2017	108.81341	107.2845235	105.7849886	104.3140286	102.8708953	101.4548661	100.0652428	98.70135085	97.36253794
171208A00008	12/8/2017	2.25	12/8/2022	12/8/2017	108.85443	107.2978767	105.7717086	104.2751079	102.8072875	101.3674877	99.95497503	98.56904121	97.2090019
171211A00033	12/11/2017	2.26	12/12/2022	12/11/2017	108.93572	107.3665236	105.8281805	104.3198579	102.8407508	101.3900824	99.96710319	98.57108924	97.20134151
171212A00027	12/12/2017	2.21	12/13/2021	12/12/2017	102.79961	102.3217697	101.8483743	101.3793642	100.9146783	100.4542569	99.99804138	99.54597408	99.09799846
171213A00019	12/13/2017	2.17	12/13/2021	12/13/2017	102.78097	102.3031831	101.8298392	101.3608801	100.896245	100.435874	99.9797085	99.52769092	99.07976471
171227A00018	12/27/2017	2.83	12/27/2024	12/27/2017	122.22305	118.1418264	114.220464	110.4518116	106.8290832	103.345833	99.99593644	96.77357227	93.6732058
171012A00027	10/12/2017	2.21	10/12/2022	10/12/2017	107.77813	106.368418	104.9908632	103.6443677	102.3278805	101.0403983	99.7809627	98.54865757	97.34260679
171018A00001	10/18/2017	1.96	10/18/2021	10/18/2017	101.77101	101.4583358	101.1475946	100.8387681	100.5318385	100.2267882	99.92360008	99.62225685	99.32274165
171026A00006	10/26/2017	2.32	10/26/2022	10/26/2017	108.06504	106.638864	105.2403211	103.868639	102.5230769	101.2029216	99.9074854	98.63610582	97.38814389
171026A00011	10/26/2017	2.94	10/26/2027	10/26/2017	138.45019	130.4141659	122.9015081	115.875374	109.3016943	103.1489546	97.38799125	91.99180435	86.935387
171030A00023	10/30/2017	2.9	11/1/2027	10/30/2017	138.25186	130.2013767	122.6764721	115.6400938	109.0579821	102.8984464	97.13216061	91.73197553	86.6727468
171103A00017	11/3/2017	2.09	11/3/2022	11/3/2017	108.04101	106.597544	105.1804985	103.7892063	102.4230243	101.0813303	99.76352225	98.46901721	97.19725082
170822A00019	8/22/2017	2.44	8/22/2024	8/22/2017	118.84881	115.2388801	111.7584855	108.4021832	105.1647966	102.0414005	99.02730633	96.11804952	93.30937683

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170822A00020	8/22/2017	2.59	8/22/2025	8/22/2017	124.90122	119.978425	115.2785868	110.7903404	106.5029725	102.406376	98.49101181	94.74787333	91.16845351
170830A00030	8/30/2017	2	3/30/2022	8/30/2017	104.39946	103.5972854	102.8073879	102.029491	101.2633231	100.5086206	99.76512783	99.03259653	98.31078584
170830A00044	8/30/2017	1.94	8/30/2021	8/30/2017	100.95866	100.7873273	100.6165737	100.4463964	100.2767924	100.107759	99.93929332	99.77139253	99.60405384
170831A00022	8/31/2017	2.27	2/29/2024	8/31/2017	115.69072	112.6831762	109.7699201	106.9473619	104.2120799	101.5608077	98.9904256	96.497953	94.08054087
170906A00006	9/6/2017	1.81	9/6/2022	9/6/2017	106.91453	105.5976095	104.3129477	103.0593755	101.8357754	100.6410829	99.47428337	98.33440907	97.22053664
170530A00064	5/30/2017	2.32	3/27/2023	5/30/2017	110.54382	108.6448371	106.7884983	104.9734318	103.1983277	101.4619322	99.76304471	98.10051475	96.47323941
170602A00026	6/2/2017	2.25	6/3/2024	6/2/2017	117.51998	114.1747206	110.9426945	107.8194426	104.8007072	101.8824216	99.0607011	96.33183328	93.69226956
170608A00020	6/8/2017	2.27	6/10/2024	6/8/2017	117.69199	114.3209012	111.0646625	107.9187152	104.8787127	101.9405054	99.10013052	96.35380229	93.69790324
170622A00036	6/22/2017	3.23	6/22/2032	6/22/2017	167.25768	151.4765047	137.3582682	124.717607	113.3907526	103.2329151	94.11599593	85.92658543	78.56421055
170731A00027	7/31/2017	2	7/30/2021	7/31/2017	100.47664	100.3929132	100.3093248	100.2258757	100.1425656	100.0593943	99.9763614	99.89346655	99.81070944
170801A00020	8/1/2017	2.02	8/2/2021	8/1/2017	100.52624	100.4340673	100.3420635	100.2502305	100.1585678	100.0670748	99.97575111	99.88459628	99.79360984
170130A00008	1/30/2017	2.58	1/30/2023	1/30/2017	110.04152	108.3217866	106.6380921	104.9893807	103.374635	101.7928764	100.243164	98.72459221	97.23628916
170203A00031	2/3/2017	2.09	2/3/2022	2/3/2017	103.61788	102.9835188	102.3569017	101.7378906	101.1263478	100.5221387	99.92513193	99.33519937	98.75221585
170216A00041	2/16/2017	2.37	2/16/2022	2/16/2017	103.95158	103.2779037	102.6129487	101.9565443	101.3085261	100.6687342	100.0370126	99.41320901	98.79717531
170313A00033	3/13/2017	3.31	3/15/2027	3/13/2017	137.55929	130.3463771	123.5623644	117.1793349	111.171349	105.5142891	100.1857213	95.16476789	90.43199123
170405A00013	4/5/2017	2.07	4/5/2022	4/5/2017	104.63598	103.8133424	103.0035996	102.2064526	101.4216094	100.6487866	99.88770967	99.13811236	98.39973637
170524A00047	5/24/2017	2.22	5/24/2023	5/24/2017	111.56335	109.4729905	107.4325645	105.4405668	103.4955514	101.5961252	99.74094576	97.92871931	96.15819832
161115A00010	11/15/2016	2.09	11/15/2021	11/15/2016	102.24452	101.850239	101.4590083	101.0707888	100.6855458	100.3032448	99.92385238	99.54733519	99.17366058
161123A00008	11/23/2016	2.2	11/23/2021	11/23/2016	102.42082	102.002891	101.5883689	101.1772157	100.7693903	100.3648525	99.96356249	99.56548138	99.17057068
161208A00007	12/8/2016	2.6	12/8/2023	12/8/2016	115.28943	112.5494641	109.8892942	107.306128	104.7972906	102.360217	99.99244638	97.69161772	95.45546472
161213A00017	12/13/2016	2.24	12/13/2022	12/13/2016	108.9219	107.3498128	105.8086932	104.2977028	102.8160325	101.3629012	99.93755547	98.53926767	97.16733513
170111A00020	1/11/2017	2.27	1/11/2022	1/11/2017	103.27808	102.7139053	102.1558929	101.6039403	101.0579489	100.5178225	99.98346665	99.45478924	98.93169995
170120A00008	1/20/2017	3.63	1/20/2034	1/20/2017	181.55174	162.5475695	145.7821985	130.976928	117.8892114	106.3077964	96.04853951	86.95079861	78.87432166
160830A00031	8/30/2016	1.65	8/31/2021	8/30/2016	100.92425	100.7501411	100.5766296	100.4037109	100.2313821	100.0596402	99.88848228	99.71790542	99.5479067
160830A00037	8/30/2016	2.16	8/29/2025	8/30/2016	123.05399	118.1485209	113.4665643	108.9966699	104.7280465	100.6505169	96.75447868	93.03086818	89.47112684
160830A00038	8/30/2016	2.24	8/28/2026	8/30/2016	128.25245	121.9982832	116.0871586	110.498399	105.2126885	100.2119752	95.47938158	90.99912071	86.75642016
160830A00061	8/30/2018	1.89	8/30/2023	8/30/2018	112.02851	109.6400468	107.3149762	105.051143	102.8464813	100.699013	98.6068429	96.56815484	94.58120737
160922A00049	9/22/2016	1.79	9/22/2022	9/22/2016	106.97975	105.6137346	104.2824122	102.9844715	101.7186697	100.4838249	99.27881246	98.10256181	96.95405294
160926A00074	9/26/2016	1.38	9/27/2021	9/26/2016	101.28649	101.034922	100.7846068	100.5355327	100.2876906	100.0410714	99.79566595	99.55146543	99.30846093
160615A00031	6/15/2016	2.51	6/17/2030	6/15/2016	150.35692	138.2152548	127.1556548	117.0758072	107.8835721	99.49592217	91.83799905	84.8422714	78.44778397
160701A00019	7/1/2016	1.73	7/3/2023	7/1/2016	110.86187	108.6597668	106.5131163	104.4201578	102.3791988	100.3886124	98.44683468	96.55236139	94.70374538
160706A00010	7/6/2016	1.99	7/7/2025	7/6/2016	121.61032	116.9062907	112.4107783	108.1134138	104.0044023	100.0744877	96.31491919	92.71742155	89.27416605
160725A00010	7/25/2016	1.61	7/26/2021	7/25/2016	100.38478	100.312265	100.239863	100.1675736	100.0953967	100.0233319	99.95137916	99.87953808	99.80780845

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160815A00005	8/15/2016	2.23	8/17/2026	8/15/2016	128.05444	121.8422013	115.9690779	110.4147301	105.1601489	100.1875631	95.48035073	91.02295917	86.80082978
160825A00055	8/29/2016	2.32	8/30/2021	8/29/2016	101.02335	100.8519372	100.6811014	100.5108421	100.3411565	100.1720416	100.0034947	99.83551288	99.66809341
151002A00081	10/2/2015	2.29	10/2/2023	10/2/2015	113.82371	111.3034713	108.8524377	106.4681699	104.1483364	101.8907087	99.69315536	97.55363738	95.47020278
151005A00053	10/5/2015	1.99	10/5/2021	10/5/2015	101.54337	101.2687537	100.995622	100.7239662	100.4537741	100.1850342	99.91773451	99.65186359	99.38740996
160307A00026	3/7/2016	2.2	3/7/2023	3/7/2016	110.00984	108.1753851	106.3811298	104.6258165	102.908244	101.2272611	99.58176327	97.97069108	96.39302732
160330A00056	3/30/2016	2.26	3/31/2025	3/30/2016	122.05435	117.64791	113.4254109	109.3780578	105.4975344	101.7759755	98.20593856	94.78037858	91.49262338
160331A00024	3/31/2016	1.91	3/31/2022	3/31/2016	104.34635	103.5413647	102.7487496	101.9682196	101.1995002	100.442325	99.69643588	98.96158204	98.23752017
160401A00016	4/1/2016	2.42	4/1/2025	4/1/2016	122.082	117.6889416	113.4789355	109.443243	105.5736058	101.8622118	98.30166782	94.88497404	91.60550019
150817A00016	8/17/2015	2.24	8/17/2021	8/17/2015	100.79412	100.6595447	100.5253483	100.3915246	100.2580721	100.124989	99.99227395	99.85992532	99.72794156
150819A00011	8/19/2015	2.53	8/19/2022	8/19/2015	107.32996	106.0701965	104.8399268	103.6381252	102.4638121	101.316052	100.1939517	99.09665775	98.02335394
150821A00018	8/21/2015	2.6	8/21/2024	8/21/2015	119.89839	116.2615049	112.7551704	109.3738932	106.1124532	102.9658836	99.92945656	96.99867026	94.16923625
150824A00040	8/24/2015	2.36	8/24/2022	8/24/2015	107.21449	105.9395668	104.6948621	103.4793115	102.2918996	101.131658	99.99766216	98.88902901	97.80491477
150904A00021	9/4/2015	2.52	9/5/2023	9/4/2015	113.91917	111.4830384	109.1119853	106.8037754	104.5562711	102.3674261	100.2352815	98.15796028	96.13366386
150923A00045	9/23/2015	1.97	9/23/2021	9/23/2015	101.36861	101.1282937	100.8891222	100.6510898	100.4141882	100.1784095	99.94374549	99.71018838	99.47773028
150601A00646	6/1/2015	2.68	9/30/2022	6/1/2015	108.21361	106.8133883	105.4492943	104.1199406	102.8240131	101.5602633	100.327504	99.1246059	97.95049398
150601A00666	6/1/2015	3.88	1/16/2035	6/1/2015	190.28122	169.1618491	150.6919412	134.5204086	120.3445745	107.9032642	96.97091662	87.35255763	78.87950527
150601A00688	6/1/2015	2.61	2/21/2025	6/1/2015	122.7328	118.4390659	114.320051	110.3676162	106.5740573	102.9320749	99.43475095	96.07552556	92.84817648
150601A00694	6/1/2015	3.56	3/6/2030	6/1/2015	156.98886	145.0294552	134.0937828	124.0882117	114.9281616	106.5371826	98.84613258	91.79244227	85.31945784
150601A00717	6/1/2015	2.13	4/1/2022	6/1/2015	104.51065	103.7019084	102.905637	102.1215507	101.3493715	100.58883	99.83966478	99.10162212	98.37445588
150710A00040	7/10/2015	2.63	7/11/2022	7/10/2015	106.74909	105.6163437	104.5075919	103.4220741	102.3590652	101.3178704	100.297823	99.29828324	98.31863709
140911A00027	9/11/2014	3.18	9/16/2024	9/11/2014	121.78235	118.0423125	114.4385229	110.9651484	107.6166491	104.3877599	101.2734746	98.2690315	95.36989923
141202A00012	12/2/2014	2.32	12/2/2021	12/2/2014	102.65961	102.2144357	101.7731144	101.3355968	100.9018341	100.4717781	100.0453813	99.62259736	99.20338038
150220A00022	2/20/2015	2.8	2/20/2025	2/20/2015	122.99351	118.7147226	114.609466	110.6696863	106.8877524	103.2564334	99.76887426	96.41857453	93.19936705
150317A00013	3/17/2015	2.58	3/17/2025	3/17/2015	123.14162	118.759483	114.5584103	110.5298281	106.6656278	102.9581356	99.40008573	95.98459611	92.70514509
150601A00147	6/1/2015	3.45	7/30/2021	6/1/2015	100.6015	100.5175857	100.4338163	100.3501874	100.2666987	100.1833498	100.1001405	100.0170703	99.93413895
150601A00615	6/1/2015	2.67	6/30/2022	6/1/2015	106.55429	105.457321	104.3828781	103.3302704	102.2988374	101.2879453	100.2969852	99.32537205	98.3725436
130702A00018	7/2/2013	3.17	7/17/2023	7/2/2013	114.49108	112.2012027	109.9696565	107.7945553	105.6740869	103.6065119	101.5901591	99.62342319	97.70476089
130821A00019	8/21/2013	3.81	8/29/2025	8/21/2013	131.27124	126.1662159	121.2921734	116.6373183	112.190527	107.9413085	103.8797636	99.99654815	96.28283802
140113A00012	1/13/2014	3.48	1/17/2023	1/13/2014	111.2805	109.5884397	107.9313264	106.3081558	104.7179612	103.159812	101.6328123	100.1360992	98.66884129
140307A00011	3/7/2014	3.19	3/15/2023	3/7/2014	112.15807	110.2754909	108.4345956	106.6340626	104.8726311	103.1490932	101.4622913	99.81111533	98.19450048
140702A00034	7/2/2014	2.7	7/1/2022	7/2/2014	106.77334	105.6699981	104.5894022	103.5308538	102.4936835	101.4772486	100.4809322	99.50414128	98.54630622
140710A00026	7/10/2014	2.36	7/15/2021	7/10/2014	100.25704	100.2151759	100.1733675	100.1316118	100.0899088	100.0482583	100.0066603	99.96511454	99.92362105
120718A00011	7/18/2012	2.29	7/30/2021	7/18/2012	100.50088	100.4171345	100.3335258	100.2500566	100.1667265	100.0835351	100.0004822	99.9175673	99.83479023

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
120907A00022	9/7/2012	1.88	9/15/2021	9/7/2012	101.21997	101.0026428	100.7862638	100.5708253	100.3563209	100.1427447	99.93009043	99.71835214	99.50752384
130212A00017	2/12/2013	2.29	2/15/2023	2/12/2013	109.83364	108.0639327	106.3320526	104.6368606	102.97726	101.3521978	99.7606625	98.20168214	96.67432216
130405A00006	4/5/2013	2.41	4/7/2025	4/5/2013	122.77078	118.3269758	114.0692225	109.9886418	106.0768334	102.325849	98.7281644	95.27665423	91.96456793
130424A00005	4/24/2013	3.07	4/24/2030	4/24/2013	155.27946	143.120422	132.0223989	121.8868552	112.6248935	104.1562662	96.40849299	89.31607256	82.81977805
130528A00028	5/28/2013	2.63	5/30/2023	5/28/2013	112.18179	110.0724771	108.0138216	106.0042881	104.0424014	102.1267404	100.2559363	98.42866985	96.64366928
091112A00011	11/12/2009	4.77	11/15/2024	11/12/2009	129.1911	125.1102542	121.183277	117.403525	113.7646777	110.2607209	106.8859299	103.6348539	100.5023018
110802A00008	8/2/2011	3.34	8/16/2021	8/2/2011	100.93502	100.8029586	100.6712601	100.5399222	100.4089431	100.2783216	100.1480559	100.0181447	99.8885865
110805A00014	8/5/2011	4.06	8/17/2026	8/5/2011	138.40193	131.9137889	125.7756991	119.9667905	114.4675539	109.2597455	104.326297	99.65123381	95.21959833
111006A00023	10/6/2011	3.81	10/15/2026	10/6/2011	138.04798	131.3611029	125.0450639	119.0772381	113.4365038	108.1031355	103.0587033	98.28598091	93.76886038
111024A00010	10/24/2011	3.11	10/30/2023	10/24/2011	116.29095	113.6552289	111.0931389	108.6022066	106.180056	103.8244046	101.5330594	99.30391265	97.13493797
120312A00009	3/12/2012	2.72	3/15/2024	3/12/2012	117.65659	114.5644145	111.5704337	108.6708522	105.8620541	103.1405903	100.5031703	97.94665226	95.46803611
011107A00022	11/7/2001	5.56	11/5/2021	11/7/2001	103.32451	102.9568376	102.5917862	102.2293293	101.8694391	101.5120886	101.1572508	100.8048991	100.4550076
011107A00031	11/7/2001	5.56	11/5/2021	11/7/2001	103.32451	102.9568376	102.5917862	102.2293293	101.8694391	101.5120886	101.1572508	100.8048991	100.4550076
051107A00075	11/7/2005	5.29	11/17/2025	11/7/2005	139.90945	134.3305504	129.0130458	123.9432474	119.1082593	114.4959254	110.0947826	105.8940181	101.8834288
060808A00022	8/8/2006	5.57	6/15/2026	8/8/2006	145.44286	138.9942045	132.8806037	127.0827516	121.5825574	116.3630637	111.4083691	106.7035573	102.2346305
081217A00076	12/17/2008	3.86	12/22/2023	12/17/2008	119.23938	116.3949607	113.634479	110.9549556	108.3535327	105.8274718	103.3741484	100.9910459	98.67575066
090226A00006	2/26/2009	4.55	3/1/2024	2/26/2009	122.63742	119.5188521	116.4976205	113.5700279	110.7325437	107.9817974	105.3145707	102.7277882	100.218511
210106A00006	1/8/2021	0.48	7/17/2023	1/8/2021	108.36059	106.1442371	103.9845578	101.8797148	99.82794786	97.82756686	95.87694822	93.97453185	92.11881809
210201A00012	2/3/2021	0.75	11/17/2025	2/3/2021	117.37634	112.3356973	107.5367787	102.9667963	98.61370377	94.46614894	90.51343047	86.74545711	83.15270985
210226A00012	2/26/2021	2.31	2/26/2036	2/26/2021	170.12587	148.7750756	130.3585704	114.4553065	100.7066967	88.80706971	78.49562629	69.54965203	61.7787858
210304A00004	3/4/2021	0.58	3/4/2024	3/4/2021	110.92958	107.9770214	105.1178405	102.3484587	99.66546651	97.06561033	94.54578352	92.10301875	89.73448052
210604A00005	6/4/2021	0.3	12/2/2022	6/4/2021	105.85569	104.340659	102.8548993	101.3976358	99.96811913	98.56562574	97.18945664	95.83893648	94.5134125
010824A00019	8/24/2001	6.24	8/24/2021	8/24/2001	101.52408	101.3689364	101.2142765	101.0600977	100.9063977	100.7531743	100.6004253	100.4481485	100.2963417
200925A00003	9/25/2020	0.59	9/25/2024	9/25/2020	112.92805	109.3088574	105.8237771	102.4670009	99.2330106	96.11656492	93.11268359	90.21663217	87.42390793
201006A00003	10/6/2020	0.29	10/6/2022	10/6/2020	105.34703	103.9580228	102.6029386	101.2805374	99.98964022	98.72912475	97.49792163	96.29501148	95.11942193
201030A00001	11/2/2020	2.54	10/29/2040	11/2/2020	192.00592	161.8141074	136.8689576	116.2212498	99.09830981	84.87040847	73.02368848	63.13832826	54.87090929
201030A00003	11/2/2020	2.58	10/29/2040	11/2/2020	192.95785	162.6727685	137.6463519	116.9276361	99.74247902	85.45991072	73.56502279	63.63710161	55.3319701
201116A00010	11/16/2020	0.57	11/15/2023	11/16/2020	109.79959	107.2022123	104.6790107	102.2274499	99.84510011	97.5296284	95.27879424	93.0904453	90.96251342
201130A00005	11/30/2020	0.28	11/30/2022	11/30/2020	105.80447	104.2957513	102.816072	101.3646657	99.94079178	98.54373497	97.17280424	95.82733178	94.50667207
200710A00006	7/10/2020	0.4	7/10/2023	7/10/2020	108.43626	106.2335128	104.0868339	101.9944219	99.95454657	97.96554584	96.02582264	94.13384179	92.28812712
200716A00015	7/20/2020	1.54	7/19/2024	7/20/2020	115.39586	111.9480778	108.6216051	105.4114681	102.3129287	99.3214716	96.43279215	93.64278526	90.94753475
200720A00035	7/20/2020	1.81	7/20/2035	7/20/2020	159.39959	139.7022387	122.6361785	107.8354648	94.98672989	83.82140369	74.10911653	65.65210115	58.28043839
200818A00004	8/18/2020	0.92	8/18/2026	8/18/2020	120.65584	114.637652	108.9510865	103.5761566	98.49418472	93.68771314	89.14041736	84.83702622	80.76324808

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200922A00025	9/24/2020	2.61	9/26/2022	9/24/2020	108.09915	106.7125894	105.3614967	104.0445224	102.7603864	101.5078722	100.2858223	99.09313539	97.92876261
200922A00038	9/24/2020	2.33	9/25/2023	9/24/2020	113.44608	110.9595149	108.540673	106.1871751	103.8967485	101.6672209	99.49651462	97.38264164	95.32369882
200511A00021	5/11/2020	1.53	2/1/2029	5/11/2020	133.14622	123.6631151	114.9155698	106.8428288	99.38945447	92.50483232	86.14272785	80.26088642	74.82067163
200511A00023	5/11/2020	1.7	2/3/2031	5/11/2020	142.717	130.1711847	118.8216998	108.5483216	99.24348006	90.81086636	83.16420198	76.22614802	69.92733801
200513A00003	5/13/2020	0.68	5/13/2025	5/13/2020	116.03369	111.6071092	107.371359	103.3172518	99.4360913	95.71964228	92.1601038	88.750084	85.48257648
200604A00005	6/4/2020	0.89	6/4/2025	6/4/2020	116.48579	111.9973234	107.7046803	103.5983104	99.66918382	95.90875553	92.30893725	88.86207038	85.56090088
200604A00013	6/4/2020	2.21	6/4/2035	6/4/2020	165.65376	145.6886833	128.3517472	113.2816671	100.1685388	88.74630365	78.78635413	70.09209851	62.49433703
200615A00004	6/15/2020	0.56	6/15/2022	6/15/2020	104.23435	103.1967509	102.1796556	101.1824612	100.2045888	99.24548122	98.30460292	97.38143838	96.4754914
200331A00030	4/2/2020	1.17	4/1/2022	4/2/2020	103.78831	102.982683	102.1894973	101.4084634	100.6393039	99.88174998	99.13554074	98.40042307	97.67615137
200417A00009	4/17/2020	1.35	4/16/2027	4/17/2020	125.44864	118.4869173	111.9505994	105.8115383	100.0435956	94.62248534	89.52563337	84.73204753	80.22219882
200427A00010	4/27/2020	0.68	4/27/2022	4/27/2020	103.72963	102.8452854	101.9759206	101.1211556	100.2806257	99.45397777	98.64087058	97.84097389	97.05396814
200429A00046	5/1/2020	2.07	4/30/2025	5/1/2020	121.05204	116.5841169	112.3055285	108.2072878	104.2808777	100.5182268	96.91168414	93.45399479	90.13827743
200429A00051	5/1/2020	2.54	4/30/2025	5/1/2020	123.00417	118.4971285	114.1806501	110.0456948	106.0836993	102.286548	98.64654792	95.15640395	91.80919653
200430A00006	4/30/2020	0.61	4/29/2022	4/30/2020	103.69508	102.8048118	101.9297209	101.0694215	100.2235414	99.39172118	98.57361295	97.76888032	96.9771978
200304A00052	3/6/2020	2.11	3/8/2027	3/6/2020	129.87934	122.9174295	116.371872	110.215532	104.4231902	98.97139765	93.83834217	89.00372441	84.4486448
200310A00065	3/13/2020	1.1	3/13/2025	3/13/2020	116.52376	112.2997635	108.2508002	104.3685951	100.6453156	97.0735474	93.64626989	90.35683188	87.19892981
200312A00017	3/16/2020	1.09	2/15/2023	3/16/2020	107.78681	106.0352365	104.3211525	102.6434268	101.0009719	99.39274411	97.81774064	96.27499787	94.76358936
200317A00026	3/17/2020	1.22	3/15/2024	3/17/2020	112.88202	109.8681369	106.9502614	104.1246807	101.3878574	98.73641747	96.16714138	93.67695558	91.26292468
200325A00030	3/25/2020	1.5	3/25/2025	3/25/2020	118.88813	114.5631682	110.4187268	106.4461929	102.637421	98.98470599	95.48075564	92.11866558	88.89189593
200330A00041	4/1/2020	1.09	4/1/2025	4/1/2020	116.67838	112.3914059	108.2842151	104.3481995	100.5752228	96.95758937	93.48801709	90.15961203	86.96584501
200224A00029	2/24/2020	1.56	2/24/2023	2/24/2020	108.72348	106.9344316	105.1840828	103.4712454	101.7947812	100.1535984	98.54664912	96.97292681	95.43146455
200225A00006	2/25/2020	1.57	2/25/2022	2/25/2020	103.56692	102.8677377	102.1779604	101.4973972	100.8258648	100.1631842	99.50918159	98.86368734	98.22653636
200227A00006	2/27/2020	1.47	2/27/2025	2/27/2020	117.84415	113.6392447	109.6067294	105.7385337	102.0270195	98.46495201	95.04547591	91.7620926	88.60863938
200227A00016	2/27/2020	1.47	2/27/2025	2/27/2020	117.84415	113.6392447	109.6067294	105.7385337	102.0270195	98.46495201	95.04547591	91.7620926	88.60863938
200228A00016	2/28/2020	1.35	2/22/2024	2/28/2020	112.98889	110.0421578	107.1875312	104.4215246	101.7408125	99.14221894	96.62270957	94.17938437	91.80947047
200228A00039	2/28/2020	1.33	4/28/2023	2/28/2020	109.14578	107.1638188	105.227617	103.335834	101.4871809	99.68041435	97.91433551	96.18778759	94.49965426
200203A00050	2/3/2020	1.54	2/3/2022	2/3/2020	103.28041	102.6472276	102.0217846	101.4039375	100.7935486	100.1904834	99.59461087	99.0058029	98.42393447
200207A00016	2/7/2020	1.74	2/7/2024	2/7/2020	113.87968	110.9693478	108.1487322	105.4144939	102.7634401	100.1925187	97.69881148	95.27952686	92.93199362
200210A00005	2/10/2020	1.77	2/10/2027	2/10/2020	128.49945	121.6339566	115.1760779	109.0994736	103.379646	97.99380079	92.92071893	88.14063953	83.63515181
200210A00021	2/10/2020	1.76	2/10/2025	2/10/2020	118.76244	114.5992483	110.6045889	106.7706718	103.090119	99.55593624	96.16149095	92.90049088	89.76696451
200214A00015	2/18/2020	1.76	8/6/2024	2/18/2020	116.34797	112.8291015	109.4354617	106.1618424	103.0032906	99.95508981	97.01274768	94.17198319	91.42871548
200224A00018	2/24/2020	1.58	8/19/2024	2/24/2020	115.90938	112.3573603	108.9329662	105.6308352	102.4458706	99.37322208	96.40827231	93.54662402	90.78408786
200110A00013	1/10/2020	1.76	1/10/2024	1/10/2020	113.96741	111.1337009	108.3855713	105.7199133	103.1337522	100.6242408	98.18865268	95.82437632	93.52890954

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200122A00034	1/22/2020	1.87	1/22/2024	1/22/2020	114.01769	111.1556452	108.3806674	105.6895675	103.0792919	100.5469195	98.0896545	95.70482049	93.38985419
200123A00048	1/23/2020	1.7	1/23/2025	1/23/2020	118.89199	114.7707767	110.8148054	107.0165192	103.3687551	99.86471822	96.49796041	93.26236052	90.15210574
200129A00017	2/3/2020	1.75	8/15/2022	2/3/2020	106.34897	105.1081148	103.8960685	102.7118382	101.554475	100.4230725	99.31676492	98.2347246	97.17615984
200130A00025	1/30/2020	1.54	1/30/2023	1/30/2020	108.54535	106.8346026	105.1598052	103.5198977	101.9138633	100.3407248	98.79954192	97.28941026	95.80945913
200131A00016	1/31/2020	1.73	1/31/2025	1/31/2020	118.51088	114.3873131	110.4295764	106.6300664	102.9815718	99.47725324	96.11062199	92.87551956	89.76609886
191122A00005	11/22/2019	2.03	11/22/2027	11/22/2019	133.57531	125.5553633	118.068138	111.07555	104.5424232	98.43625358	92.72699292	87.38685197	82.39011968
191125A00036	11/25/2019	2.29	11/23/2029	11/25/2019	143.52363	132.5497692	122.4994428	113.290087	104.8469171	97.10215462	89.99433924	83.46771035	77.47165267
191126A00026	11/26/2019	1.91	11/25/2026	11/26/2019	128.44739	121.8488867	115.6285373	109.7627509	104.2295288	99.00834627	94.08004634	89.42674205	85.03172589
191220A00001	12/20/2019	2.62	12/19/2031	12/20/2019	157.18398	142.6838867	129.6605852	117.9552892	107.4270621	97.95072464	89.41502108	81.7210067	74.78062941
191230A00012	12/30/2019	1.77	12/1/2023	12/30/2019	113.43591	110.7334624	108.1094187	105.5610553	103.0857572	100.6810162	98.34442554	96.07367521	93.86654748
200109A00014	1/14/2020	1.93	8/15/2022	1/14/2020	106.5592	105.3170181	104.1036673	102.9181532	101.7595263	100.62688	99.51934776	98.43610149	97.37634899
191104A00023	11/4/2019	2.24	8/4/2028	11/4/2019	136.97349	127.9806255	119.6406104	111.9026138	104.7200209	98.05006025	91.85346709	86.09417872	80.73905748
191106A00004	11/6/2019	2.01	11/6/2024	11/6/2019	118.43851	114.5926503	110.8921713	107.3308175	103.9026385	100.6019702	97.42341908	94.36184828	91.41236356
191106A00022	11/6/2019	2.34	1/2/2030	11/6/2019	144.52696	133.3623535	123.1481483	113.798373	105.235248	97.38836955	90.19397578	83.59428871	77.5369249
191108A00011	11/8/2019	2.08	10/18/2024	11/8/2019	118.42928	114.6439776	111.0000273	107.4913426	104.1121407	100.8569215	97.72045167	94.6977503	91.78407483
191113A00016	11/15/2019	2.02	8/15/2024	11/15/2019	117.33564	113.7725791	110.3369687	107.0234796	103.8270402	100.7428234	97.76623264	94.89288986	92.11862301
191119A00027	11/19/2019	1.8	11/19/2024	11/19/2019	118.4159	114.5131529	110.7597995	107.149337	103.6755779	100.3326363	97.11491144	94.0170721	91.03404239
190930A00075	9/30/2019	2.19	9/29/2027	9/30/2019	132.83728	125.0767209	117.8199436	111.0315268	104.6787314	98.73128287	93.16117259	87.94247529	83.0511828
191002A00016	10/2/2019	1.79	10/2/2023	10/2/2019	112.2668	109.7726553	107.3469662	104.9873218	102.6914182	100.4570533	98.28212084	96.16460563	94.10257837
191009A00018	10/9/2019	1.74	10/12/2021	10/9/2019	101.58289	101.288122	100.9950748	100.7037324	100.4140801	100.1261029	99.83978638	99.55511607	99.27207772
191009A00028	10/9/2019	1.76	10/9/2024	10/9/2019	117.17913	113.4434463	109.8467387	106.3829992	103.0465204	99.83187842	96.73391614	93.74772857	90.86864851
191011A00013	10/11/2019	1.88	10/11/2022	10/11/2019	107.32729	105.9218313	104.548804	103.2070823	101.895595	100.6133197	99.35928045	98.13254468	96.93222097
191031A00033	10/31/2019	2.2	5/31/2028	10/31/2019	135.85304	127.1311693	119.0284323	111.4977056	104.4956821	97.98254289	91.92165901	86.27932134	81.02449387
190923A00012	9/23/2019	2.43	9/25/2034	9/23/2019	169.55589	150.1298791	133.1455631	118.2814738	105.260052	93.84144608	83.81821616	75.01080618	67.26366818
190923A00020	9/23/2019	2.05	9/24/2029	9/23/2019	142.16639	131.3926149	121.5139213	112.4511961	104.1327176	96.49342882	89.47428421	83.02166449	77.08685095
190925A00004	9/25/2019	1.7	9/24/2024	9/25/2019	117.31231	113.6084935	110.0414232	106.6051798	103.2941443	100.1029797	97.02661466	94.06022787	91.19923402
190930A00008	9/30/2019	1.9	10/10/2023	9/30/2019	112.64112	110.1184778	107.66544	105.279585	102.9586005	100.7002729	98.50248232	96.36319776	94.28047242
190930A00035	9/30/2019	1.93	9/30/2024	9/30/2019	117.6594	113.9434607	110.3649735	106.9179711	103.5967915	100.3960581	97.31066233	94.33574889	91.46670054
190930A00070	9/30/2019	1.93	9/27/2024	9/30/2019	117.61826	113.9127756	110.3440508	106.9061667	103.5935024	100.4007194	97.32274496	94.35475662	91.49216811
190828A00019	8/28/2019	2	3/28/2028	8/28/2019	133.56142	125.1450739	117.3140371	110.0244962	103.2361505	96.91190999	91.0176223	85.52182425	80.39551584
190830A00023	8/30/2019	1.78	9/15/2022	8/30/2019	106.85947	105.5166609	104.2074192	102.9304965	101.6847077	100.4689252	99.28207518	98.12313451	96.99112781
190904A00020	9/4/2019	1.69	9/1/2023	9/4/2019	111.59846	109.2088445	106.8828096	104.6181831	102.4128879	100.2649357	98.1724218	96.13352106	94.1464837
190910A00017	9/16/2019	1.86	9/16/2024	9/16/2019	117.22578	113.5626835	110.0337302	106.6331588	103.3555017	100.1955629	97.14840245	94.20932182	91.37385026

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190910A00027	9/10/2019	1.86	9/9/2022	9/10/2019	106.86661	105.5429391	104.2518859	102.9922602	101.7629257	100.5627999	99.39085173	98.24609789	97.12760043
190918A00003	9/18/2019	1.95	9/19/2022	9/18/2019	107.13673	105.7792453	104.4559903	103.1656846	101.9071096	100.6791059	99.48057037	98.31045204	97.16774957
190815A00007	8/15/2019	1.81	7/6/2023	8/15/2019	111.07334	108.8600262	106.7025933	104.5992578	102.548308	100.5480991	98.59704996	96.69364032	94.83640777
190819A00022	8/19/2019	1.8	8/19/2024	8/19/2019	116.64984	113.0856121	109.649332	106.3356323	103.1394052	100.0557898	97.08015846	94.20810425	91.43542845
190820A00019	8/20/2019	1.76	8/21/2023	8/20/2019	111.60656	109.2499425	106.9553754	104.7207715	102.5441278	100.423525	98.35712384	96.34316026	94.37994219
190826A00028	8/26/2019	1.56	8/26/2022	8/26/2019	106.44047	105.1617664	103.913594	102.6948704	101.5045636	100.3416893	99.20530829	98.09452371	97.00847876
190826A00030	8/26/2019	1.72	8/26/2026	8/26/2019	126.23571	120.0100982	114.1274308	108.5669853	103.3094026	98.33659295	93.63164581	89.17874573	84.96309549
190826A00065	8/26/2019	2.09	8/28/2029	8/26/2019	140.53169	130.0030181	120.3401848	111.4674245	103.3159785	95.8234122	88.93300255	82.5931875	76.75707148
190918A00007	9/20/2019	1.95	12/15/2022	9/20/2019	108.30218	106.7325527	105.1939086	103.6854096	102.2062447	100.7556312	99.33281416	97.93706433	96.5676776
190919A00025	9/19/2019	1.8	9/19/2024	9/19/2019	117.59172	113.8994937	110.343028	106.9164704	103.6142646	100.431132	97.36205536	94.40226374	91.54721854
190808A00050	8/8/2019	1.7	8/8/2024	8/8/2019	116.68524	113.1422446	109.7257365	106.4304444	103.2513492	100.1836725	97.22286374	94.36458719	91.60471069
190809A00020	8/9/2019	2.44	8/9/2034	8/9/2019	169.15208	149.9452848	133.1317687	118.3991103	105.4771991	94.13231177	84.16204546	75.39097924	67.66695508
190809A00021	8/9/2019	2.12	8/9/2029	8/9/2019	142.22539	131.6186081	121.8805682	112.9355421	104.7147768	97.15581898	90.20190658	83.801423	77.90740573
190814A00003	8/14/2019	2.01	8/14/2029	8/14/2019	141.26598	130.6814689	120.9661002	112.043962	103.8461437	96.31006027	89.37884056	83.00077785	77.12883613
190829A00029	8/29/2019	1.75	7/14/2023	8/29/2019	111.05734	108.8203785	106.6403132	104.5153093	102.4436074	100.4235175	98.45341621	96.531743	94.65699766
190829A00050	8/29/2019	1.73	8/29/2024	8/29/2019	116.54203	112.9484848	109.4848582	106.1456541	102.9256487	99.81987302	96.82359908	93.93232591	91.14176723
190917A00022	9/17/2019	2.02	9/16/2022	9/17/2019	107.17745	105.8292877	104.5148889	103.2329948	101.9824111	100.7620015	99.57068408	98.40742808	97.27125097
190917A00028	9/17/2019	2.02	3/1/2023	9/17/2019	109.60091	107.7880133	106.0145467	104.2792953	102.5810908	100.9188129	99.29138657	97.69777996	96.13700199
190917A00044	9/17/2019	1.86	9/17/2021	9/17/2019	101.24736	101.024307	100.8022477	100.5811775	100.3610896	100.1419775	99.92383471	99.70665461	99.49043083
190917A00045	9/17/2019	1.86	9/17/2021	9/17/2019	101.24736	101.024307	100.8022477	100.5811775	100.3610896	100.1419775	99.92383471	99.70665461	99.49043083
190820A00030	8/20/2019	1.76	4/16/2024	8/20/2019	114.86642	111.7242458	108.6843757	105.7428562	102.8959165	100.1399557	97.4715341	94.88736454	92.38430474
190826A00029	8/26/2019	1.53	8/26/2024	8/26/2019	116.3451	112.7514362	109.2877452	105.9485281	102.7285594	99.6228687	96.62672618	93.73562927	90.94528999
190826A00063	8/26/2019	2.05	8/28/2028	8/26/2019	135.73519	126.7045858	118.3358536	110.5770133	103.3804336	96.70244368	90.50298406	84.74528937	79.39560111
190828A00031	8/28/2019	1.71	8/28/2024	8/28/2019	116.46138	112.8722866	109.4128701	106.0776517	102.8614205	99.75921979	96.76633293	93.87826964	91.09075361
190829A00012	8/29/2019	1.54	8/29/2024	8/29/2019	116.4171	112.8128629	109.3392425	105.9906991	102.7619706	99.64805207	96.64418176	93.74582718	90.94867242
190829A00015	8/30/2019	2.06	8/30/2022	8/30/2019	106.95315	105.6608524	104.3996385	103.1683936	101.9660598	100.7916284	99.64413726	98.52266796	97.42634338
190814A00009	8/14/2019	1.84	8/14/2024	8/14/2019	116.71891	113.1690955	109.7462641	106.4451038	103.2605638	100.1878364	97.22234382	94.35972534	91.59582548
190816A00022	8/16/2019	1.77	8/16/2024	8/16/2019	116.51017	112.957574	109.5322615	106.2289061	103.0424369	99.9680277	97.00108325	94.13722671	91.37228763
190816A00036	8/16/2019	1.77	8/16/2024	8/16/2019	116.51017	112.957574	109.5322615	106.2289061	103.0424369	99.9680277	97.00108325	94.13722671	91.37228763
190819A00001	8/19/2019	1.82	8/19/2021	8/19/2019	100.76869	100.628526	100.4887681	100.3494123	100.210457	100.0719003	99.93374043	99.79597577	99.65860457
190819A00004	8/20/2019	1.81	5/24/2024	8/20/2019	115.52571	112.254233	109.0925081	106.036253	103.0813811	100.2239872	97.46033884	94.78686712	92.20015891
190820A00029	8/20/2019	1.76	8/20/2024	8/20/2019	116.52808	112.9627503	109.5255163	106.2109987	103.0140798	99.92988945	96.95379177	94.0813718	91.30842353
190802A00017	8/2/2019	2.01	11/15/2023	8/2/2019	113.42732	110.7841313	108.2161357	105.7207743	103.2955867	100.9382103	98.64637619	96.41790486	94.25070193

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190805A00009	8/5/2019	1.91	8/5/2024	8/5/2019	116.83351	113.3098398	109.9114053	106.6330093	103.4697029	100.4167739	97.46973314	94.62430277	91.87640468
190805A00029	8/5/2019	1.93	8/5/2022	8/5/2019	106.40169	105.1921643	104.0100082	102.8543014	101.7241643	100.6187557	99.53727102	98.47894018	97.44302588
190808A00011	8/8/2019	1.86	8/8/2023	8/8/2019	111.649	109.3308473	107.0729988	104.8734494	102.7302807	100.6416528	98.60580082	96.6210312	94.68571796
190808A00023	8/8/2019	1.68	11/8/2023	8/8/2019	112.87835	110.256471	107.7088029	105.2328271	102.8261287	100.4863888	98.21137943	95.99896012	93.84707341
190808A00049	8/8/2019	1.89	8/8/2024	8/8/2019	116.80684	113.274265	109.86751	106.5813413	103.4107761	100.3510702	97.39770497	94.54637482	91.79297579
190701A00009	7/3/2019	2.14	7/2/2024	7/3/2019	117.11829	113.6956558	110.3917963	107.2019153	104.1214354	101.1459908	98.27141624	95.49373628	92.8091557
190703A00021	7/3/2019	2.11	7/2/2021	7/3/2019	100.03236	100.0267908	100.0212273	100.0156688	100.0101152	100.0045665	99.99902278	99.99348399	99.98795012
190711A00020	7/11/2019	1.98	7/11/2022	7/11/2019	106.19096	105.0593858	103.951837	102.8675498	101.8057972	100.7658823	99.74713662	98.74891869	97.77061276
190729A00006	7/29/2019	2.14	7/29/2022	7/29/2019	106.5258	105.3376565	104.1759051	103.0396753	101.9281334	100.8404818	99.77595689	98.73382727	97.7133921
190730A00007	7/30/2019	2.19	7/30/2024	7/30/2019	117.67869	114.1599816	110.7656932	107.4906837	104.3300608	101.2791639	98.33355227	95.4889929	92.74144923
190730A00016	7/30/2019	2	7/30/2024	7/30/2019	117.56028	114.0312123	110.6272188	107.3431256	104.1740045	101.1151616	98.16212479	95.31063145	92.55661738
190620A00025	6/20/2019	2.04	6/20/2022	6/20/2019	105.7743	104.712917	103.6727615	102.6531984	101.6536206	100.6734448	99.71211041	98.76907793	97.84382845
190620A00027	6/20/2019	2.14	6/20/2024	6/20/2019	116.94293	113.5620754	110.2973316	107.1440547	104.0978168	101.1543923	98.30974718	95.56002941	92.90155939
190621A00015	6/21/2019	2.2	6/21/2024	6/21/2019	117.14872	113.7613645	110.4904188	107.3312286	104.2793507	101.3305451	98.48076451	95.726144	93.06299203
190621A00023	6/21/2019	1.93	6/21/2022	6/21/2019	105.80752	104.7409356	103.6957657	102.6713742	101.6671461	100.6824907	99.71683987	98.7696476	97.84038844
190625A00021	6/25/2019	1.88	6/26/2023	6/25/2019	111.39202	109.1997364	107.0622848	104.9779394	102.9450387	100.9619851	99.02724225	97.13933203	95.29683199
190627A00010	6/27/2019	1.97	6/27/2024	6/27/2019	116.99442	113.5780892	110.2801051	107.0956934	104.0203036	101.0495946	98.17942467	95.40584008	92.72506591
190531A00037	5/31/2019	2.61	5/31/2029	5/31/2019	145.74732	135.2538061	125.597533	116.7072373	108.5180702	100.970988	94.01220468	87.59269958	81.66777268
190603A00031	6/3/2019	1.98	6/3/2022	6/3/2019	105.55583	104.5468402	103.5570652	102.5859572	101.632992	100.6976651	99.77949029	98.87799933	97.9927407
190603A00048	6/3/2019	2.24	6/3/2024	6/3/2019	117.00584	113.6797916	110.4661498	107.3604921	104.3585989	101.4564402	98.65016522	95.93609417	93.31070904
190606A00028	6/6/2019	2.74	6/6/2029	6/6/2019	145.37636	134.9472755	125.3494522	116.5121633	108.3710447	100.8674935	93.94812468	87.56428248	81.67159896
190610A00017	6/10/2019	2.29	6/10/2024	6/10/2019	117.26847	113.9153728	110.6763155	107.5467821	104.5224641	101.5992478	98.77320441	96.0405801	93.39778767
190617A00026	6/17/2019	2.17	6/17/2022	6/17/2019	105.85417	104.8017166	103.7701232	102.7587769	101.7670858	100.794481	99.84041543	98.90436266	97.98581606
190524A00015	5/24/2019	2.24	5/24/2022	5/24/2019	105.62905	104.6507605	103.6905439	102.7478988	101.8223464	100.9134248	100.0206886	99.14370856	98.28207007
190524A00040	5/24/2019	2.47	5/24/2024	5/24/2019	117.57105	114.2683165	111.0761277	107.9901778	105.0063541	102.1207268	99.32953959	96.62920076	94.01627534
190529A00012	5/29/2019	2.34	11/29/2021	5/29/2019	102.58087	102.1450953	101.7130135	101.2845763	100.8597378	100.4384528	100.020677	99.60636668	99.195479
190529A00020	5/29/2019	2.38	5/29/2024	5/29/2019	117.36751	114.0520765	110.8481252	107.7512968	104.7574259	101.8625328	99.06281454	96.35463562	93.73451981
190530A00045	5/30/2019	2.44	5/30/2024	5/30/2019	117.56963	114.2479224	111.0379876	107.935445	104.9361155	102.0360064	99.23130247	96.51835669	93.89368194
190531A00009	6/5/2019	2.1	6/3/2022	6/5/2019	105.67072	104.6611336	103.6707644	102.69907	101.7455262	100.8096281	99.89088948	98.98884186	98.10303361
190508A00008	5/8/2019	2.36	5/9/2022	5/8/2019	105.47167	104.5406556	103.6260436	102.7274002	101.8443097	100.9763708	100.1231959	99.28441049	98.45965267
190514A00056	5/14/2019	2.32	5/15/2023	5/14/2019	111.61496	109.551513	107.5367677	105.5692745	103.6476392	101.7705184	99.93661675	98.14468508	96.39351845
190515A00055	5/15/2019	2.26	5/15/2023	5/15/2019	111.49666	109.4344122	107.4208383	105.4544935	103.5339845	101.6579683	99.82515021	98.03428172	96.28415843
190523A00015	5/23/2019	2.51	4/1/2024	5/23/2019	116.86788	113.743893	110.7203979	107.7934632	104.9593439	102.2144706	99.5554396	96.97900357	94.48206316

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190523A00016	5/23/2019	2.48	2/15/2023	5/23/2019	110.15773	108.3851429	106.6504451	104.9524877	103.2901723	101.6624446	100.0682918	98.50674048	96.97685485
190523A00024	5/23/2019	2.47	10/31/2022	5/23/2019	108.32886	106.8955199	105.4882126	104.1062919	102.7491284	101.4161132	100.1066568	98.82018825	97.55615459
190326A00032	3/26/2019	2.4	3/26/2024	3/26/2019	116.90327	113.7874191	110.7715232	107.8516779	105.0241648	102.2854394	99.63212171	97.06098691	94.56895697
190401A00010	4/1/2019	2.62	4/1/2024	4/1/2019	117.19098	114.0622965	111.0342178	108.1028111	105.264328	102.5151954	99.85200626	97.27150996	94.77060407
190409A00031	4/9/2019	2.64	4/9/2024	4/9/2019	117.37864	114.2217177	111.166822	108.2099941	105.3474572	102.5756077	99.89100607	97.29036805	94.77055611
190430A00002	4/30/2019	2.4	11/2/2022	4/30/2019	108.4583	107.014792	105.597656	104.2062251	102.8398583	101.4979355	100.1798568	98.88504105	97.61292582
190507A00004	5/7/2019	2.88	5/7/2029	5/7/2019	147.81962	137.3307422	127.6702765	118.7683375	110.5612789	102.9911036	96.00493599	89.55454549	83.59591725
190507A00014	5/7/2019	2.6	5/7/2024	5/7/2019	117.70632	114.4553828	111.3116009	108.270868	105.3292556	102.4830068	99.72852793	97.06238053	94.4812736
190219A00020	2/19/2019	2.88	2/16/2024	2/19/2019	117.19737	114.2115264	111.3181097	108.5136512	105.7948388	103.1585081	100.6016349	98.12132749	95.71482003
190222A00021	2/22/2019	2.95	8/21/2024	2/22/2019	120.55352	116.9185645	113.4136994	110.0334693	106.7726839	103.6264042	100.5899285	97.65877901	94.82868998
190226A00020	2/26/2019	2.64	2/26/2024	2/26/2019	117.12846	114.1008804	111.168025	108.3262993	105.5722709	102.9026627	100.3143448	97.80432624	95.36974826
190314A00018	3/14/2019	2.53	3/14/2022	3/14/2019	104.59645	103.8408877	103.0962337	102.3622505	101.6387096	100.925389	100.2220731	99.52855227	98.8446227
190326A00002	3/26/2019	2.56	9/26/2022	3/26/2019	108.03465	106.6485337	105.2978796	103.9813362	102.6976237	101.4455257	100.223885	99.0316004	97.86762329
190326A00003	3/26/2019	2.57	3/27/2023	3/26/2019	110.99975	109.0964845	107.2359392	105.4167459	103.6375925	101.8972231	100.1944348	98.52807507	96.89703912
190117A00004	1/17/2019	2.9	1/18/2022	1/17/2019	103.75545	103.1689627	102.5891044	102.0157665	101.4488393	100.8882154	100.33379	99.78546067	99.24312696
190123A00034	1/23/2019	2.98	1/23/2025	1/23/2019	123.83471	119.620948	115.5751684	111.6897157	107.9573273	104.3711128	100.9245333	97.61138095	94.42575984
190129A00061	1/30/2019	2.92	2/1/2022	1/30/2019	104.0257	103.3967246	102.7753378	102.161404	101.5547897	100.9553647	100.3630019	99.77757711	99.19896896
190208A00005	2/8/2019	2.63	2/8/2023	2/8/2019	110.52148	108.764477	107.0447606	105.3612154	103.7127714	102.0984003	100.5171142	98.96796292	97.45003283
190208A00009	2/8/2019	2.67	2/8/2024	2/8/2019	116.90317	113.938471	111.0651361	108.2797613	105.5790903	102.9600109	100.4195477	97.95485485	95.56320935
190215A00006	2/15/2019	2.89	2/15/2024	2/15/2019	117.20798	114.2252965	111.334859	108.5332124	105.817054	103.1832283	100.6287193	98.15064299	95.74624098
181119A00018	11/19/2018	3.28	11/17/2023	11/19/2018	116.66386	113.9733189	111.3592467	108.8190288	106.3501602	103.9502363	101.6169478	99.34807638	97.14149096
181120A00023	11/20/2018	3.15	11/19/2021	11/20/2018	102.73204	102.3249677	101.9211273	101.5204812	101.1229916	100.7286211	100.3373332	99.94909153	99.56386067
181211A00031	12/11/2018	2.95	12/11/2023	12/11/2018	116.64709	113.87163	111.1773208	108.5613099	106.020864	103.5533627	101.1562933	98.82724488	96.56390421
181220A00027	12/20/2018	2.97	2/28/2022	12/20/2018	104.57055	103.858527	103.1561813	102.463315	101.779737	101.1052618	100.4397084	99.78290085	99.13466765
190102A00026	1/2/2019	2.62	1/4/2022	1/2/2019	103.39256	102.8481694	102.3095053	101.7764778	101.2489986	100.7269814	100.2103416	99.69899639	99.19286464
190115A00025	1/15/2019	2.96	1/12/2024	1/15/2019	116.81859	113.949323	111.1664057	108.4667013	105.8472125	103.3050702	100.837527	98.44195142	96.11582189
180917A00054	9/17/2018	3.17	9/15/2023	9/17/2018	115.25001	112.7736586	110.3639379	108.0185363	105.7352447	103.51195	101.3466299	99.23734805	97.18224981
181002A00018	10/2/2018	3.1	10/4/2021	10/2/2018	101.8253	101.5530413	101.2822442	101.0128929	100.7449759	100.4784817	100.2133991	99.94971667	99.6874235
181005A00037	10/9/2018	3.4	10/3/2025	10/9/2018	130.03623	124.8368738	119.8779346	115.1468851	110.631925	106.3219389	102.2064515	98.27558658	94.52002853
181009A00060	10/9/2018	3.07	10/12/2021	10/9/2018	101.99669	101.7008351	101.4067054	101.1142895	100.8235722	100.5345387	100.2471743	99.96146432	99.67739455
181107A00008	11/7/2018	3.42	11/7/2023	11/7/2018	116.82787	114.1676094	111.5821057	109.0688388	106.6253861	104.2494206	101.9387068	99.69109602	97.50452309
181116A00015	11/19/2018	3.29	2/15/2024	11/19/2018	118.32698	115.3287301	112.4231013	109.6066224	106.8759792	104.2280051	101.6596734	99.16809007	96.75048671
180829A00044	8/29/2018	2.98	8/26/2022	8/29/2018	107.99243	106.7061203	105.4504073	104.2242094	103.0264947	101.8562792	100.7126233	99.5946303	98.50144309

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180831A00016	8/31/2018	2.99	8/31/2023	8/31/2018	114.56271	112.1419079	109.7852652	107.4905948	105.255806	103.0788969	100.9579497	98.89112655	96.8766653
180913A00030	9/13/2018	3.33	9/12/2025	9/13/2018	128.59875	123.5248889	118.6826379	114.0600682	109.6459425	105.4296676	101.4012533	97.55127378	93.87083263
180913A00040	9/13/2018	2.89	9/13/2021	9/13/2018	101.39979	101.1878795	100.9768664	100.7667467	100.5575148	100.349165	100.1416916	99.93508894	99.7293516
180914A00026	9/14/2018	3.15	9/14/2023	9/14/2018	115.18502	112.7126037	110.3066494	107.9648517	105.6850094	103.4650172	101.30286	99.19660825	97.1444136
180914A00029	9/14/2018	3.48	9/14/2028	9/14/2018	147.56777	138.0354861	129.1969536	120.9977398	113.3879735	106.3219379	99.75770236	93.65678942	87.98387206
180713A00027	7/13/2018	3.23	7/13/2028	7/13/2018	145.98907	136.6861832	128.0491989	120.0267818	112.5718158	105.6410371	99.19469967	93.19627184	87.61216044
180719A00011	7/19/2018	3	11/12/2021	7/19/2018	102.53952	102.1532529	101.7699076	101.3894468	101.0118379	100.6370489	100.2650481	99.89580438	99.52928712
180801A00013	8/1/2018	3.04	10/15/2021	8/1/2018	102.01808	101.7138603	101.4114649	101.1108787	100.8120853	100.5150686	100.2198129	99.92630222	99.6345212
180820A00036	8/20/2018	3	8/21/2023	8/20/2018	114.41014	112.0214516	109.6954915	107.4301511	105.2234075	103.0733227	100.9780391	98.93577528	96.94482232
180823A00013	8/23/2018	2.97	8/23/2023	8/23/2018	114.37722	111.9828407	109.6514575	107.3809484	105.1692776	103.0144948	100.9147308	98.86819344	96.87316351
180829A00008	8/29/2018	3.23	8/30/2027	8/29/2018	140.8608	132.9043333	125.4549895	118.4776306	111.9397425	105.8112254	100.0642013	94.67283833	89.61318933
180529A00066	5/29/2018	2.99	5/26/2023	5/29/2018	112.83456	110.7307499	108.6771668	106.6723041	104.7147062	102.802971	100.9357473	99.1117327	97.32967167
180530A00014	5/30/2018	2.93	5/30/2023	5/30/2018	112.78578	110.6702567	108.6055121	106.5900099	104.6222711	102.7008716	100.8244391	98.99165112	97.20123314
180530A00026	5/30/2018	3.55	5/30/2031	5/30/2018	165.18454	151.0610958	138.2940435	126.7449691	116.2902807	106.8195517	98.23405589	90.44547351	83.37474554
180618A00026	6/18/2018	3.05	4/13/2023	6/18/2018	112.16831	110.2025449	108.2815317	106.403888	104.568291	102.7734706	101.0182068	99.3013272	97.62170445
180625A00040	6/25/2018	3	6/24/2022	6/25/2018	106.81739	105.7377541	104.6799125	103.6432135	102.6270276	101.6307502	100.6538002	99.6956191	98.75566951
180703A00015	7/3/2018	3.06	7/3/2023	7/3/2018	113.67422	111.4418602	109.2655704	107.1435715	105.0741534	103.0556724	101.0865482	99.16526084	97.29034819
180223A00022	2/23/2018	2.93	2/23/2023	2/23/2018	111.07757	109.2706544	107.5027125	105.7725557	104.0790401	102.4210681	100.7975862	99.20758228	97.65008419
180226A00015	2/26/2018	2.85	9/28/2022	2/26/2018	108.44572	107.0503193	105.6907517	104.3656479	103.0737099	101.813704	100.5844572	99.38485321	98.21382927
180406A00014	4/6/2018	2.95	4/6/2023	4/6/2018	111.87383	109.931971	108.0340895	106.1787978	104.3647654	102.5907171	100.8554302	99.15773171	97.49649588
180425A00007	4/25/2018	2.98	4/25/2023	4/25/2018	112.54616	110.5346345	108.5694111	106.6491193	104.7724396	102.9381009	101.1448787	99.39159244	97.67710402
180514A00033	5/14/2018	3.36	5/15/2028	5/14/2018	146.03156	136.9479591	128.5001743	120.6402636	113.324135	106.5112215	100.1641826	94.24863213	88.73289063
180521A00025	5/21/2018	3.24	5/21/2025	5/21/2018	126.94141	122.2669304	117.7924632	113.5083904	109.4056042	105.4754808	101.7098522	98.1009795	94.64152832
171219A00063	12/19/2017	2.8	12/20/2027	12/19/2017	139.51847	131.1993177	123.4355085	116.1870106	109.4168833	103.0910193	97.17791304	91.64844965	86.47571168
180102A00020	1/2/2018	2.5	1/3/2023	1/2/2018	109.45979	107.8241273	106.2217718	104.6517911	103.113285	101.6053864	100.1272591	98.6780971	97.25712287
180116A00010	1/16/2018	2.58	1/17/2023	1/16/2018	109.82218	108.1424626	106.497463	104.8861848	103.3076677	101.7609872	100.2452532	98.75960835	97.30322665
180118A00037	1/18/2018	2.88	1/21/2025	1/18/2018	122.80939	118.6370576	114.6306645	110.7826692	107.085916	103.5336153	100.1193222	96.83691713	93.68058741
180126A00028	1/26/2018	2.69	1/26/2023	1/26/2018	110.15517	108.446196	106.7728865	105.134197	103.5291269	101.9567138	100.4160317	98.90618933	97.42632831
180130A00085	1/30/2018	2.79	1/30/2025	1/30/2018	123.21386	118.9891331	114.9336678	111.0397109	107.2999108	103.7072952	100.2552489	96.93749353	93.74806797
171030A00020	10/30/2017	2.16	1/14/2022	10/30/2017	103.2681	102.6950671	102.1283903	101.567964	101.013685	100.4654525	99.92316774	99.38673422	98.85605745
171031A00029	10/31/2017	2.43	10/31/2023	10/31/2017	114.24594	111.640387	109.1076719	106.6453516	104.2510822	101.9226119	99.65777611	97.45449405	95.3107648
171101A00023	11/1/2017	2.78	11/3/2025	11/1/2017	126.874	121.6646906	116.7002513	111.9679112	107.4556288	103.1520482	99.04645672	95.12874532	91.38937138
171214A00005	12/14/2017	2.29	12/14/2022	12/14/2017	109.01452	107.4386864	105.8939533	104.3794736	102.8944332	101.4380466	100.0095559	98.60822928	97.23336016

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
171218A00020	12/18/2017	2.99	12/20/2027	12/18/2017	139.6064	131.3337632	123.61157	116.4002503	109.6632743	103.3669077	97.47998343	91.97369406	86.82140156
171219A00025	12/19/2017	2.33	12/19/2022	12/19/2017	109.15927	107.5672641	106.0069544	104.4774761	102.9779922	101.5076955	100.0658073	98.651576	97.26427611
170921A00063	9/21/2017	2.23	9/21/2022	9/21/2017	107.52557	106.159022	104.8270652	103.5284035	102.2618004	101.02608	99.82012335	98.64286491	97.49328948
171005A00006	10/5/2017	2.32	10/7/2024	10/5/2017	119.66985	115.8839768	112.2386994	108.7279277	105.3458808	102.0870655	98.9462605	95.91850075	92.99906268
171011A00013	10/11/2017	2.77	10/13/2026	10/11/2017	131.94171	125.4294201	119.2804638	113.4726041	107.9850825	102.7985162	97.89479922	93.25701098	88.8693324
171016A00033	10/16/2017	2.2	10/17/2022	10/16/2017	107.80386	106.3889776	105.0046203	103.6498066	102.3235962	101.0250892	99.75342354	98.50777324	97.28734647
171026A00009	10/26/2017	2.75	10/27/2025	10/26/2017	126.62567	121.4454017	116.5077931	111.8002095	107.3107382	103.0281456	98.94183498	95.04180669	91.31862162
171026A00010	10/26/2017	2.84	10/26/2026	10/26/2017	132.53867	125.966134	119.7619991	113.9036888	108.3701261	103.141625	98.19979222	93.52743527	89.10847833
170731A00006	7/31/2017	2.16	8/1/2022	7/31/2017	106.598	105.3999396	104.2286964	103.0833768	101.9631278	100.8671335	99.79461296	98.74481848	97.71703383
170731A00029	7/31/2017	2.34	7/31/2023	7/31/2017	112.59113	110.2864557	108.0412271	105.853492	103.7213769	101.6430841	99.61688826	97.64113287	95.71422684
170814A00084	8/14/2017	1.91	8/15/2022	8/14/2017	106.68391	105.4386	104.2222306	103.0338002	101.8723547	100.7369832	99.62681519	98.54101861	97.4787977
170906A00034	9/6/2017	1.87	9/7/2021	9/6/2017	101.0713	100.8771371	100.6837305	100.4910729	100.2991596	100.1079866	99.91754934	99.72784367	99.53886532
170907A00059	9/7/2017	1.99	9/7/2022	9/7/2017	106.99597	105.6778325	104.3920141	103.1373414	101.9126936	100.717003	99.54925215	98.4084706	97.29373246
170908A00017	9/9/2019	2.32	9/9/2024	9/9/2019	118.7093	115.0440275	111.5120299	108.1076285	104.8254245	101.6602856	98.6073305	95.66191487	92.81961785
170614A00012	6/14/2017	1.9	6/14/2022	6/14/2017	105.6613	104.617394	103.5940359	102.5906245	101.606581	100.6413487	99.69439194	98.76519545	97.85326304
170630A00027	6/30/2017	2.35	6/28/2024	6/30/2017	118.23021	114.7910552	111.4709746	108.2651691	105.1690585	102.1782739	99.28864664	96.49619781	93.79712843
170724A00015	7/24/2017	2.32	7/24/2023	7/24/2017	112.43769	110.1556951	107.932202	105.7652996	103.6531585	101.594023	99.58620695	97.62809105	95.71811921
170725A00047	7/25/2017	2.19	7/25/2022	7/25/2017	106.51461	105.3391308	104.1895026	103.0648777	101.9644473	100.887437	99.83310527	98.80074153	97.78966464
170726A00034	7/26/2017	2.05	7/26/2021	7/26/2017	100.41666	100.3441146	100.271686	100.1993701	100.1271668	100.0550757	99.98309655	99.91122917	99.83947328
170728A00032	7/28/2017	2.36	7/27/2023	7/28/2017	112.57205	110.2795796	108.0460286	105.8694699	103.7480547	101.680009	99.66362942	97.69728036	95.77939038
170427A00047	4/27/2017	3.18	4/27/2029	4/27/2017	148.70712	138.2906251	128.69055	119.8384408	111.6719156	104.1341016	97.17312253	90.74163593	84.79641591
170518A00011	5/18/2017	1.94	5/18/2022	5/18/2017	105.25015	104.2923651	103.3519589	102.4284586	101.5214114	100.6303804	99.75494405	98.89469559	98.04924223
170519A00002	5/19/2017	2.15	5/19/2022	5/19/2017	105.35309	104.3932262	103.4507995	102.5253421	101.6163987	100.7235301	99.84631247	98.98433695	98.13720871
170530A00006	5/30/2017	2.15	5/31/2022	5/30/2017	105.557	104.558981	103.5797585	102.6188063	101.6756169	100.7497018	99.84058976	98.94782696	98.07097558
170531A00003	5/31/2017	1.94	5/31/2022	5/31/2017	105.46755	104.46839	103.4880756	102.5260789	101.5818905	100.6550197	99.74499382	98.85135712	97.97367019
170609A00007	6/9/2017	1.96	6/9/2022	6/9/2017	105.63701	104.6088558	103.6006409	102.6117899	101.6417492	100.689986	99.75598712	98.8392589	97.93932559
170216A00010	2/16/2017	2.37	2/16/2022	2/16/2017	103.95158	103.2779037	102.6129487	101.9565443	101.3085261	100.6687342	100.0370126	99.41320901	98.79717531
170216A00045	2/16/2017	3.73	2/17/2037	2/16/2017	200.61895	175.4159416	153.7930479	135.2146065	119.2280544	105.450641	93.55832325	83.27647741	74.37212086
170317A00059	3/17/2017	2.47	3/17/2023	3/17/2017	110.90288	109.0259296	107.190676	105.3957949	103.6400208	101.9221418	100.2409968	98.59547222	96.98450016
170320A00014	3/20/2017	2.22	3/21/2022	3/20/2017	104.49328	103.7169084	102.9520487	102.1984499	101.4558645	100.7240521	100.0027795	99.29182005	98.59095354
170327A00072	3/29/2017	3.09	3/29/2027	3/29/2017	137.50536	130.205348	123.3433697	116.8906733	110.820558	105.108215	99.73058222	94.66621126	89.89514529
170410A00007	4/10/2017	2.1	4/11/2022	4/10/2017	104.76213	103.9205591	103.0924806	102.2775681	101.4755091	100.6860012	99.90875132	99.14347558	98.38989866
161013A00038	10/13/2016	1.52	10/13/2021	10/13/2016	101.56065	101.2627537	100.9666159	100.6722214	100.3795549	100.088601	99.79934463	99.51177088	99.22586499

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
161212A00040	12/12/2016	2.45	12/12/2023	12/12/2016	115.3619	112.600026	109.919096	107.3162656	104.7888042	102.3340941	99.94962477	97.63298833	95.38187407
170111A00013	1/11/2017	3.4	1/10/2031	1/11/2017	161.02812	147.6772115	135.5671764	124.5753412	114.5917816	105.5179369	97.26538037	89.75472941	82.91467759
170117A00046	1/17/2017	2.55	1/17/2024	1/17/2017	115.79218	112.9213711	110.1373948	107.43708	104.8173976	102.275449	99.80845935	97.41377138	95.08883961
170215A00038	2/15/2017	2.71	8/22/2022	2/15/2017	107.59635	106.3253416	105.0842927	103.8721572	102.6879334	101.530665	100.3994394	99.29338436	98.21166651
170215A00041	2/15/2017	2.6	10/16/2023	2/15/2017	114.42523	111.8628079	109.371252	106.9481309	104.5911133	102.2979652	100.0665449	97.89479819	95.78075463
160921A00020	9/21/2016	1.97	9/21/2023	9/21/2016	112.5354	110.0722341	107.6759353	105.3441656	103.0746903	100.8653725	98.71416818	96.61912102	94.57835776
160922A00009	9/22/2016	1.55	9/22/2022	9/22/2016	106.83508	105.4674006	104.1345117	102.8350966	101.5679073	100.3317573	99.1255176	97.94811348	96.79852108
160922A00051	9/22/2016	2.5	9/22/2028	9/22/2016	139.7082	130.4396851	121.8534612	113.8956031	106.5167274	99.67158825	93.31870937	87.42005001	81.94070273
160926A00046	9/26/2016	1.66	9/26/2023	9/26/2016	112.23281	109.7503148	107.3357239	104.9866414	102.7007808	100.4759569	98.31007999	96.20115099	94.14725645
161004A00034	10/4/2016	1.67	10/4/2021	10/4/2016	101.44145	101.1698751	100.8997593	100.6310865	100.3638452	100.098024	99.83361144	99.57059651	99.30896807
161006A00011	10/6/2016	1.64	10/6/2022	10/6/2016	107.12942	105.7278044	104.3603373	103.0257724	101.7229243	100.4506644	99.20791758	97.99365867	96.80690987
160714A00029	8/10/2016	2.27	8/10/2026	8/10/2016	128.18994	121.9974092	116.1417836	110.6029219	105.3619967	100.4014015	95.70466531	91.25637239	87.04208932
160714A00054	7/14/2016	2.03	7/15/2024	7/14/2016	116.94331	113.4830852	110.1440547	106.9212694	103.8100134	100.8057912	97.9043166	95.101501	92.39344336
160726A00024	7/26/2016	1.61	7/26/2021	7/26/2016	100.38478	100.312265	100.239863	100.1675736	100.0953967	100.0233319	99.95137916	99.87953808	99.80780845
160728A00022	7/28/2016	1.37	7/28/2021	7/28/2016	100.40276	100.3245922	100.2465494	100.1686332	100.0908433	100.0131794	99.93564118	99.8582284	99.78094072
160804A00014	8/4/2016	1.99	8/5/2024	8/4/2016	117.09933	113.5713241	110.1686725	106.8861708	103.7188665	100.6620436	97.71120935	94.86208253	92.11058174
160909A00024	9/9/2016	1.7	9/9/2021	9/9/2016	101.06873	100.8689044	100.6698734	100.4716371	100.2741907	100.0775294	99.88164843	99.6865432	99.49220904
160624A00063	6/24/2016	1.52	6/24/2022	6/24/2016	105.44007	104.366135	103.3139634	102.2828964	101.2723042	100.2815819	99.31014815	98.35744417	97.42293251
160628A00039	6/28/2016	2.01	6/29/2026	6/28/2016	127.15	121.0936029	115.3617215	109.9352698	104.7963839	99.92833731	95.31546302	90.94308048	86.79742844
160701A00039	7/1/2016	1.92	7/1/2026	7/1/2016	126.67892	120.6279673	114.9017455	109.4811334	104.3482332	99.48628854	94.87960532	90.51347903	86.37412705
160705A00006	7/5/2016	1.38	7/5/2022	7/5/2016	105.46186	104.3533691	103.2680382	102.2051517	101.1640192	100.1439787	99.14439465	98.16465674	97.2041788
160706A00006	7/6/2016	1.47	7/6/2023	7/6/2016	110.67054	108.4554264	106.2963689	104.1915779	102.1393329	100.1379806	98.18593223	96.28165995	94.42369441
160714A00023	8/10/2016	2.49	8/10/2028	8/10/2016	139.05127	129.9610769	121.5305889	113.7084062	106.4473941	99.70430901	93.43945726	87.61638583	82.20160176
150819A00012	8/19/2015	3.04	8/19/2025	8/19/2015	126.88325	121.9274486	117.1952077	112.6751716	108.3566266	104.2294633	100.2841394	96.51164365	92.90346336
150923A00049	9/23/2015	1.97	9/23/2021	9/23/2015	101.36861	101.1282937	100.8891222	100.6510898	100.4141882	100.1784095	99.94374549	99.71018838	99.47773028
151211A00007	12/11/2015	2.73	12/15/2025	12/11/2015	128.05727	122.6533437	117.5103137	112.6141987	107.9518386	103.5108443	99.27954841	95.24695936	91.40271865
160119A00026	1/19/2016	3.14	1/19/2029	1/19/2016	146.78491	136.8141254	127.6018409	119.0861617	111.2105538	103.9233572	97.17734142	90.92930395	85.13970714
160329A00044	3/29/2016	1.79	3/29/2022	3/29/2016	104.30213	103.5022944	102.7146819	101.9390108	101.1750112	100.4224215	99.68098753	98.95046281	98.23060802
160624A00010	6/24/2016	1.66	6/24/2022	6/24/2016	105.45404	104.3819599	103.3315679	102.3022143	101.2932722	100.3041393	99.33423683	98.38300832	97.44991864
150601A00830	6/1/2015	6.743	7/31/2025	6/1/2015	143.35768	138.092305	133.0583925	128.2443915	123.6393944	119.2330994	115.0157731	110.978216	107.1117297
150603A00017	6/3/2015	2.84	6/3/2025	6/3/2015	125.45994	120.7719379	116.2866372	111.9941891	107.8852796	103.9510947	100.1832909	96.57396687	93.11563826
150603A00018	6/3/2015	2.84	6/3/2025	6/3/2015	125.45994	120.7719379	116.2866372	111.9941891	107.8852796	103.9510947	100.1832909	96.57396688	93.11563826
150610A00009	6/10/2015	3.03	6/10/2025	6/10/2015	126.39156	121.6600887	117.1339884	112.8032389	108.6583633	104.6903958	100.8908513	97.2516972	93.76532638

	Parallel-Shift Sensitivity Analysis												
6/30/2021					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	100.31609	100.2630569	100.2100941	100.1572039	100.1043862	100.0516409	99.99896788	99.94636694	99.89383792
150817A00077	8/17/2015	2.49	8/17/2023	8/17/2015	113.53517	111.1618271	108.8507627	106.5998805	104.4071767	102.2707315	100.1887042	98.15932959	96.18091414
150518A00026	5/18/2015	2.08	11/18/2021	5/18/2015	102.32232	101.9187678	101.5184034	101.1211909	100.7270931	100.3360734	99.94809562	99.56312433	99.18112456
150601A00470	6/1/2015	2.98	5/31/2024	6/1/2015	119.62491	116.2571739	113.0028461	109.8574748	106.8168115	103.8767983	101.0335579	98.28338432	95.62273469
150601A00638	6/1/2015	2.51	9/30/2021	6/1/2015	101.58812	101.3277586	101.0687277	100.8110142	100.5546082	100.2994999	100.0456794	99.79313707	99.54186336
150601A00640	6/1/2015	2.57	12/31/2021	6/1/2015	103.23246	102.7009602	102.1749191	101.65425	101.1388712	100.6287025	100.1236653	99.62368254	99.12867872
150601A00664	6/1/2015	3.78	1/16/2032	6/1/2015	170.97245	155.6260907	141.8318286	129.4229545	118.2515253	108.1861634	99.1101227	90.91958936	83.52218733
150601A00668	6/1/2015	3.89	1/16/2037	6/1/2015	202.07535	176.901355	155.2803797	136.6838538	120.6647629	106.844679	94.90290763	84.56740079	75.60713993
140815A00030	8/15/2014	2.96	10/16/2023	8/15/2014	115.29966	112.7265515	110.2245492	107.7912087	105.4241917	103.1212575	100.8802579	98.69913273	96.57590546
140922A00026	9/22/2014	3.02	9/30/2024	9/22/2014	122.01825	118.214298	114.5506654	111.0212681	107.6203286	104.3423607	101.182152	98.13474837	95.19543897
141024A00010	10/24/2014	2.81	10/24/2024	10/24/2014	121.67626	117.8016879	114.0720854	110.4812315	107.0232044	103.6923697	100.4833643	97.39108143	94.41065727
150319A00013	3/19/2015	3.25	3/19/2030	3/19/2015	154.62357	142.7209431	131.8434712	121.8969295	112.7962397	104.464539	96.83234542	89.83681189	83.42106004
150331A00004	3/31/2015	2.08	3/31/2022	3/31/2015	104.55876	103.7517504	102.9571547	102.1746862	101.4040689	100.6450355	99.89732636	99.16068969	98.43488109
150408A00004	4/8/2015	2.17	4/10/2023	4/8/2015	110.75246	108.8043997	106.9007182	105.0400264	103.2209968	101.442356	99.70288201	98.00140136	96.33678681
120411A00012	4/11/2012	2.87	4/15/2022	4/11/2012	105.36469	104.509457	103.6680933	102.8402658	102.0256496	101.2239299	100.4348021	99.65797097	98.89315043
121101A00011	11/1/2012	2.03	11/1/2022	11/1/2012	107.92436	106.4878887	105.0776077	103.6928604	102.3330114	100.9974465	99.68557072	98.39680825	97.13060141
121116A00007	11/16/2012	1.99	11/16/2021	11/16/2012	102.22197	101.8248436	101.4308095	101.0398301	100.6518699	100.2668939	99.88486765	99.50575727	99.12952938
131011A00006	10/11/2013	3.28	10/15/2021	10/11/2013	102.08993	101.7855687	101.4830337	101.1823086	100.8833769	100.5862227	100.2908299	99.9971829	99.70526611
140411A00009	4/11/2014	3.1	4/11/2024	4/11/2014	119.23803	116.0369744	112.939522	109.9416557	107.0395423	104.2295243	101.5081097	98.87196375	96.3179003
140423A00036	4/23/2014	4.03	4/23/2029	4/23/2014	156.18025	145.4771592	135.6055046	126.4959075	118.0851317	110.3155095	103.1344248	96.49384563	90.34990297
110818A00006	8/18/2011	3.09	8/30/2021	8/18/2011	101.15444	100.9828571	100.8118549	100.6414296	100.4715784	100.3022984	100.1335869	99.96544096	99.79785779
110818A00012	8/18/2011	2.86	8/31/2022	8/18/2011	108.09575	106.790328	105.516358	104.2727174	103.058333	101.8721815	100.7132872	99.58071844	98.47358595
110825A00016	8/25/2011	3.06	8/31/2022	8/25/2011	108.33882	107.0318031	105.7562688	104.5110897	103.2951921	102.1075519	100.9471927	99.81318226	98.7046307
110919A00026	9/19/2011	2.66	9/30/2021	9/19/2011	101.65927	101.3985283	101.1391179	100.8810298	100.624254	100.3687805	100.1145995	99.8617012	99.61007601
111024A00022	10/24/2011	3.11	10/30/2023	10/24/2011	116.29095	113.6552289	111.0931389	108.6022066	106.180056	103.8244046	101.5330594	99.30391265	97.13493797
120228A00010	2/28/2012	2.34	3/2/2022	2/28/2012	104.24637	103.5285928	102.8206736	102.1224115	101.4336101	100.754078	100.0836291	99.42208232	98.76926115
210607A00001	6/7/2021	0.46	6/7/2023	6/7/2021	107.89865	105.8086818	103.769663	101.7800359	99.83829872	97.9430056	96.0927643	94.28623371	92.52212163
210609A00013	6/11/2021	1.64	6/11/2025	6/11/2021	119.76856	115.1892077	110.8098353	106.6206608	102.6124349	98.7764077	95.10429875	91.58826934	88.22089657
010824A00028	8/24/2001	6.24	8/24/2021	8/24/2001	101.52408	101.3689364	101.2142765	101.0600977	100.9063977	100.7531743	100.6004253	100.4481485	100.2963417
011029A00020	10/29/2001	5.73	10/29/2021	10/29/2001	103.22684	102.8794446	102.5343905	102.1916534	101.85121	101.5130374	101.1771129	100.8434141	100.511919
080909A00042	9/9/2008	4.74	9/11/2023	9/9/2008	119.18802	116.6709562	114.2212243	111.8364985	109.5145561	107.2532709	105.0506075	102.9046168	100.8134313
081215A00091	12/15/2008	4.19	12/15/2023	12/15/2008	119.95967	117.1282475	114.379689	111.7110771	109.1196121	106.6026106	104.1574994	101.7818106	99.47317618
200825A00007	8/27/2020	4.79	8/27/2026	8/27/2020	142.74007	136.1009212	129.8199393	123.8757216	118.2482696	112.9188858	107.8700819	103.0854934	98.54980082

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200928A00002	9/28/2020	0.35	9/28/2023	9/28/2020	109.145	106.6932271	104.3088676	101.989534	99.73294812	97.53693272	95.39940642	93.31837829	91.29194301
201030A00002	11/2/2020	2.8	10/29/2040	11/2/2020	198.19344	167.3954047	141.9220206	120.8127605	103.2854097	88.70217315	76.54236154	66.380355	57.86780456
210106A00007	1/8/2021	0.49	7/25/2023	1/8/2021	108.46354	106.2225225	104.0392232	101.9117545	99.83830705	97.81714431	95.84659911	93.92507015	92.05101892
210312A00005	3/12/2021	0.53	3/12/2024	3/12/2021	111.29439	108.302619	105.4062759	102.6016757	99.88530219	97.2538016	94.70397353	92.2327626	89.83725068
210527A00008	5/27/2021	0.32	5/30/2023	5/27/2021	107.82952	105.7593511	103.7391828	101.7674946	99.84282665	97.96377327	96.12898017	94.33714241	92.58700215
200731A00004	7/31/2020	0.38	7/31/2023	7/31/2020	108.60963	106.3429075	104.1349901	101.9839425	99.88790535	97.84509475	95.85379891	93.91237445	92.0192431
200803A00011	8/3/2020	0.72	8/4/2025	8/3/2020	116.30903	111.6286329	107.1602929	102.8932569	98.81738323	94.92309913	91.20136523	87.6436427	84.24186257
200812A00004	8/12/2020	0.59	8/12/2025	8/12/2020	116.47949	111.7504406	107.237079	102.9283974	98.81401651	94.88414339	91.12953483	87.54146305	84.11168383
200814A00009	8/18/2020	1.36	8/16/2028	8/18/2020	130.05051	121.2710648	113.1367638	105.5969655	98.60525669	92.11907641	86.09937681	80.51031583	75.3189782
200818A00006	8/18/2020	1.18	8/18/2028	8/18/2020	128.62182	119.8883177	111.7981169	104.3006477	97.3495629	90.90236665	84.92007525	79.36690948	74.21001545
200818A00010	8/18/2020	1.88	8/20/2035	8/18/2020	160.84886	140.9294948	123.6815676	108.7319223	95.76126418	84.49614961	74.70220219	66.17836129	58.75200152
200626A00014	6/26/2020	0.62	6/26/2025	6/26/2020	116.19401	111.6199368	107.2490928	103.0713884	99.07729047	95.25778837	91.60436185	88.10895176	84.76393254
200709A00002	7/10/2020	1.66	7/10/2025	7/10/2020	120.20439	115.5203273	111.0445855	106.7667842	102.6771143	98.76630679	95.02560061	91.44671148	88.0218034
200709A00014	7/13/2020	0.57	1/20/2023	7/13/2020	106.59816	104.9370564	103.3104614	101.7173768	100.1568432	98.62793756	97.12977136	95.66148889	94.22226581
200720A00037	7/22/2020	2.1	7/21/2025	7/22/2020	122.27349	117.5105747	112.9602544	108.6118731	104.4553735	100.4812559	96.68054429	93.04475427	89.56586325
200720A00041	7/22/2020	2.34	7/21/2027	7/22/2020	133.01954	125.4954208	118.4461939	111.8393827	105.6448986	99.83485336	94.38338654	89.26650797	84.46195285
200722A00012	7/22/2020	0.41	7/21/2023	7/22/2020	108.57181	106.3350794	104.1558506	102.0322535	99.96249038	97.94483571	95.9776325	94.05928907	92.18827594
200511A00019	5/11/2020	1.18	2/1/2027	5/11/2020	123.67382	117.0190482	110.7588579	104.8678455	99.32237303	94.10043802	89.18155147	84.54662581	80.17787173
200529A00008	5/29/2020	0.33	5/31/2022	5/29/2020	103.93998	102.9487559	101.9762712	101.0220017	100.0854404	99.16609871	98.26350607	97.37720876	96.50676935
200604A00001	6/4/2020	0.65	6/5/2023	6/4/2020	108.26307	106.1755298	104.1387189	102.1510891	100.2111494	98.31746448	96.46865177	94.66337948	92.9003642
200604A00004	6/4/2020	0.76	6/4/2024	6/4/2020	112.38455	109.1265539	105.9793521	102.9385725	100.0000431	97.15977962	94.4139756	91.75899364	89.19135676
200604A00009	6/4/2020	0.7	6/4/2025	6/4/2020	116.32652	111.8229775	107.5164189	103.39722	99.45627814	95.68498106	92.07517755	88.61915041	85.30959098
200615A00005	6/15/2020	0.61	6/15/2023	6/15/2020	108.29384	106.174872	104.108136	102.0920158	100.1249544	98.20545346	96.33207089	94.50341831	92.71815859
200429A00035	5/1/2020	1.41	4/30/2024	5/1/2020	113.99562	110.8223228	107.7533965	104.7848542	101.9128874	99.13385274	96.44426413	93.84078503	91.32022122
200430A00007	4/30/2020	0.72	4/28/2023	4/30/2020	107.9756	106.0051689	104.080264	102.1995595	100.3617725	98.56566615	96.81004725	95.09376468	93.41570755
200501A00003	5/1/2020	0.66	4/14/2023	5/1/2020	107.70109	105.7754059	103.8937347	102.0547285	100.2570894	98.49957082	96.7809749	95.10015025	93.45598959
200506A00002	5/8/2020	0.97	5/5/2025	5/8/2020	116.53211	112.1388082	107.9333284	103.906695	100.0504116	96.35642882	92.81711826	89.42524851	86.17396235
200506A00010	5/6/2020	0.94	5/6/2026	5/6/2020	120.71343	115.0065518	109.5988473	104.473172	99.61344724	95.00458947	90.6324441	86.48372354	82.54594988
200511A00014	5/11/2020	0.52	2/1/2022	5/11/2020	102.56727	101.9433635	101.3269994	100.7180452	100.116368	99.52183819	98.9343292	98.35371742	97.77988213
200313A00032	3/18/2020	1.46	3/18/2025	3/18/2020	118.02199	113.7531128	109.6613829	105.7384015	101.9762228	98.36732683	94.90459418	91.58128136	88.39099842
200319A00024	3/19/2020	1.12	3/15/2022	3/19/2020	103.51271	102.7595675	102.0173413	101.2857969	100.5647049	99.85384254	99.15299317	98.4619463	97.78049731
200326A00028	3/26/2020	1.54	3/26/2025	3/26/2020	118.43662	114.1342635	110.0112734	106.0591039	102.2696701	98.63532327	95.14882449	91.80331928	88.59231464
200413A00023	4/13/2020	0.74	2/7/2022	4/13/2020	102.77711	102.1346008	101.5000883	100.8734255	100.2544674	99.6430725	99.03910299	98.44242423	97.85290483

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200428A00011	4/30/2020	1.95	4/29/2025	4/30/2020	120.54049	116.0860825	111.8204487	107.7346249	103.820116	100.0688722	96.47326332	93.02605451	89.72038404
200429A00009	4/29/2020	0.78	4/29/2025	4/29/2020	116.31865	111.931194	107.7310597	103.7093103	99.85748069	96.16755051	92.63191902	89.24338078	85.99510305
200305A00035	3/5/2020	1.25	3/5/2026	3/5/2020	120.84905	115.3702709	110.1693005	105.2305484	100.5393891	96.08209637	91.84578262	87.81834263	83.98840127
200306A00030	3/6/2020	0.88	3/6/2023	3/6/2020	107.66863	105.8585055	104.0880532	102.3560404	100.6612825	99.00264383	97.37903512	95.78941118	94.23276857
200309A00003	3/9/2020	0.72	3/9/2022	3/9/2020	103.14511	102.411516	101.6883095	100.9752694	100.2721826	99.57884172	98.89504524	98.22059713	97.5553067
200309A00005	3/9/2020	0.77	3/7/2025	3/9/2020	115.75492	111.5481927	107.5156777	103.6491481	99.94081977	96.38332384	92.96968127	89.6932796	86.54785118
200309A00021	3/9/2020	1.05	3/9/2026	3/9/2020	119.86125	114.3936314	109.2041714	104.2772183	99.59808995	95.15300978	90.92904514	86.91405059	83.09661516
200310A00037	3/10/2020	0.84	3/7/2022	3/10/2020	103.20412	102.4763135	101.7587202	101.0511302	100.3533354	99.66513359	98.98632803	98.31672731	97.65614522
200228A00026	2/28/2020	2.14	2/28/2035	2/28/2020	163.53758	144.0973179	127.1767938	112.4348794	99.57825602	88.35450385	78.54621735	69.96599242	62.45215291
200228A00040	2/28/2020	1.14	2/28/2023	2/28/2020	108.29213	106.489766	104.7266646	103.0016085	101.3134343	99.66102602	98.04331317	96.45926807	94.90790377
200302A00028	3/2/2020	1.25	2/26/2024	3/2/2020	112.7567	109.8002453	106.9365403	104.1620594	101.4734409	98.86747538	96.34109721	93.89137699	91.5155144
200302A00034	3/2/2020	1.25	3/1/2024	3/2/2020	112.80559	109.8356604	106.9592165	104.1726902	101.472681	98.8559427	96.31937567	93.86001843	91.47504061
200302A00036	3/2/2020	1.45	3/2/2026	3/2/2020	121.84244	116.3492224	111.1337755	106.1805423	101.47493	97.0032412	92.75261354	88.71096377	84.86693592
200304A00038	3/4/2020	1.01	3/1/2022	3/4/2020	103.24236	102.5324476	101.8322485	101.1415617	100.4601944	99.78795923	99.12467384	98.47016059	97.82424654
200227A00009	2/27/2020	1.47	2/27/2025	2/27/2020	117.84415	113.6392447	109.6067294	105.7385337	102.0270195	98.46495201	95.04547591	91.7620926	88.60863938
200227A00022	2/27/2020	1.41	2/27/2023	2/27/2020	108.50734	106.7105124	104.9527046	103.2327097	101.549375	99.90159503	98.2883087	96.70849738	95.16118261
200227A00030	2/27/2020	1.59	2/27/2026	2/27/2020	122.52436	117.0246544	111.8023723	106.8420107	102.1290228	97.64975257	93.39137471	89.34183934	85.48982037
200228A00019	2/28/2020	1.21	2/20/2025	2/28/2020	117.33659	113.1494993	109.1337572	105.2813621	101.5847408	98.03671849	94.63049553	91.35962483	88.21799145
200228A00020	2/28/2020	1.32	2/24/2023	2/28/2020	108.30775	106.5224341	104.7757495	103.0665079	101.3935732	99.75585548	98.15230858	96.58192779	95.04374785
200228A00025	2/28/2020	1.57	3/2/2027	2/28/2020	126.41278	119.5731384	113.1431553	107.0961468	101.4073093	96.05357766	91.01349426	86.26708783	81.79576243
200221A00004	2/21/2020	1.69	2/21/2025	2/21/2020	118.63542	114.4362725	110.4084163	106.5438719	102.8350836	99.27489274	95.85651392	92.57351326	89.4197877
200221A00014	2/21/2020	1.49	2/21/2023	2/21/2020	108.79648	107.01233	105.2666957	103.558401	101.8863168	100.2493593	98.64648846	97.07670519	95.53904949
200224A00002	2/24/2020	1.56	2/24/2023	2/24/2020	108.72348	106.9344316	105.1840828	103.4712454	101.7947812	100.1535984	98.54664912	96.97292681	95.43146455
200224A00020	2/24/2020	1.59	2/24/2025	2/24/2020	118.28031	114.0774981	110.0465441	106.1794283	102.468553	98.90672067	95.48711028	92.20325483	89.04902076
200224A00046	2/24/2020	1.59	2/24/2025	2/24/2020	118.28031	114.0774981	110.0465441	106.1794283	102.468553	98.90672067	95.48711028	92.20325483	89.04902076
200226A00017	2/26/2020	1.53	2/27/2023	2/26/2020	108.71626	106.9175542	105.1578968	103.4360869	101.7509708	100.1014419	98.48643835	96.90494061	95.35596937
200131A00047	1/31/2020	1.68	1/31/2023	1/31/2020	108.56307	106.8531825	105.179199	103.5400625	101.9347578	100.3623088	98.82177661	97.31225787	95.83288297
200203A00011	2/3/2020	1.7	2/15/2023	2/3/2020	108.82728	107.0664904	105.3433601	103.6567556	102.005585	100.3887997	98.80539258	97.25439571	95.73487853
200204A00016	2/4/2020	1.72	2/6/2023	2/4/2020	108.72225	106.9915478	105.2974577	103.6388893	102.0147968	100.424175	98.86605779	97.33951605	95.84365577
200214A00013	2/18/2020	1.78	11/10/2021	2/18/2020	102.04699	101.6676768	101.2911877	100.9174905	100.5465543	100.1783483	99.81284247	99.45000709	99.08981288
200218A00004	2/18/2020	1.73	2/21/2023	2/18/2020	108.97145	107.1899069	105.4467554	103.7408201	102.0709771	100.4361484	98.83529862	97.26743339	95.73159711
200218A00028	2/18/2020	1.73	2/21/2023	2/18/2020	108.97145	107.1899069	105.4467554	103.7408201	102.0709771	100.4361484	98.83529862	97.26743339	95.73159711
200124A00008	1/24/2020	1.92	1/22/2027	1/24/2020	129.20166	122.383291	115.9660032	109.9241088	104.2336967	98.87250277	93.81978804	89.05622603	84.5637992

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200127A00013	1/27/2020	1.56	1/27/2023	1/27/2020	108.53568	106.833794	105.1675558	103.5359203	101.937884	100.3724818	98.83878555	97.3359017	95.86297012
200128A00015	1/28/2020	1.81	1/28/2025	1/28/2020	118.78328	114.6640252	110.7100786	106.9138702	103.2682259	99.7663406	96.40175746	93.16834737	90.06029049
200129A00010	1/29/2020	1.76	1/31/2022	1/29/2020	103.3052	102.6817143	102.0657217	101.457089	100.8556849	100.2613816	99.6740538	99.0935796	98.51983967
200130A00021	1/30/2020	1.54	1/30/2023	1/30/2020	108.54535	106.8346026	105.1598052	103.5198977	101.9138633	100.3407248	98.79954192	97.28941026	95.80945913
200131A00015	2/5/2020	1.73	2/5/2025	2/5/2020	118.57805	114.4357815	110.4606624	106.6449933	102.9814809	99.46321011	96.08362141	92.83649072	89.71590995
200115A00014	1/17/2020	1.88	9/15/2022	1/17/2020	106.98527	105.641613	104.331535	103.0537903	101.8071936	100.5906166	99.40298517	98.2432759	97.11051304
200115A00017	1/15/2020	1.88	1/17/2023	1/15/2020	108.68793	107.0178138	105.3822359	103.7802074	102.2107728	100.6730124	99.16604053	97.68900435	96.24108193
200115A00022	1/15/2020	1.88	10/14/2022	1/15/2020	107.35654	105.9477622	104.5704399	103.2235199	101.9059971	100.6169106	99.35534189	98.12041195	96.9112795
200115A00024	1/15/2020	1.88	1/17/2023	1/15/2020	108.68793	107.0178138	105.3822359	103.7802074	102.2107728	100.6730124	99.16604053	97.68900435	96.24108193
200122A00028	1/22/2020	1.84	1/21/2022	1/22/2020	103.20106	102.6075003	102.0207576	101.4407151	100.8672584	100.3002756	99.73965758	99.18529746	98.63709082
200122A00035	1/22/2020	1.94	1/22/2025	1/22/2020	119.20815	115.0998461	111.1557238	107.3682983	103.7304719	100.2355106	96.87702284	93.64894052	90.54550018
191120A00024	11/20/2019	2.23	11/16/2029	11/20/2019	142.85712	131.9383325	121.9370566	112.7714163	104.3672341	96.6572687	89.58053441	83.08169071	77.11049406
191121A00004	11/21/2019	1.77	11/21/2024	11/21/2019	118.33339	114.4254722	110.6673971	107.0526306	103.5749572	100.2284647	97.00752771	93.90679238	90.92116141
191206A00020	12/9/2019	1.91	12/15/2021	12/9/2019	102.65338	102.1705517	101.6922628	101.2184533	100.7490603	100.2840221	99.82327826	99.36676929	98.9144369
191218A00014	12/18/2019	2.04	12/18/2024	12/18/2019	119.12508	115.1296125	111.2901147	107.5996554	104.0516471	100.6398305	97.3582559	94.20126671	91.16348285
191226A00020	12/26/2019	2.44	12/21/2029	12/26/2019	145.33898	134.182723	123.9718167	114.6210944	106.0534765	98.19916391	90.99491623	84.38340493	78.31263319
200103A00009	1/3/2020	1.9	1/3/2024	1/3/2020	113.83927	111.0373885	108.3194908	105.6825547	103.1236851	100.6401095	98.22917178	95.88832685	93.6151348
191008A00031	10/8/2019	1.52	10/8/2024	10/8/2019	116.86193	113.1212779	109.520073	106.0522689	102.7121251	99.49418683	96.39326918	93.40444135	90.52301246
191018A00015	10/18/2019	1.89	10/18/2021	10/18/2019	101.72425	101.4119514	101.1015833	100.7931243	100.4865567	100.181863	99.8790262	99.57802911	99.27885497
191025A00010	10/25/2019	2.24	7/25/2028	10/25/2019	136.85085	127.8971806	119.5914094	111.8832583	104.7265995	98.07909569	91.9018695	86.15920384	80.81826946
191104A00019	11/5/2019	1.9	2/1/2022	11/5/2019	103.40587	102.7790461	102.159794	101.5479765	100.9434605	100.346116	99.75581603	99.17243674	98.59585705
191120A00005	11/20/2019	2.63	11/20/2034	11/20/2019	170.32797	150.8199883	133.7763296	118.8706666	105.8214753	94.3856869	84.35326283	75.54255926	67.79636128
191120A00010	11/20/2019	1.88	1/20/2022	11/20/2019	103.20814	102.6175155	102.0336465	101.456413	100.8857021	100.3214036	99.76340978	99.21161534	98.66591728
191001A00006	10/1/2019	1.83	6/18/2024	10/1/2019	115.9291	112.5706543	109.3274695	106.1949405	103.1686776	100.2444915	97.41838256	94.68653108	92.04528814
191003A00002	10/3/2019	1.58	10/4/2021	10/3/2019	101.44201	101.1701655	100.8997786	100.6308393	100.3633362	100.0972576	99.83259221	99.56932874	99.30745604
191003A00019	10/3/2019	1.71	9/27/2024	10/3/2019	116.85138	113.1589563	109.6029376	106.177412	102.876771	99.69568808	96.62910167	93.67220034	90.82040818
191004A00004	10/4/2019	1.54	10/4/2024	10/4/2019	116.88264	113.154109	109.5642483	106.1070359	102.7767549	99.56797493	96.47553584	93.49453191	90.62029745
191004A00032	10/4/2019	2.01	1/3/2028	10/4/2019	132.66364	124.5752932	117.0324593	109.9955348	103.4279905	97.29611525	91.56878533	86.21725258	81.21495177
191007A00027	10/7/2019	1.69	10/7/2022	10/7/2019	107.02312	105.6241931	104.2589539	102.9261834	101.6247244	100.3534743	99.11138234	97.89744616	96.71070925
190924A00010	9/24/2019	1.95	9/24/2021	9/24/2019	101.35786	101.114954	100.8732185	100.6326434	100.3932203	100.1549411	99.91779748	99.68178138	99.44688476
190925A00011	9/25/2019	1.89	9/25/2024	9/25/2019	117.45164	113.7554931	110.195582	106.7660197	103.4612148	100.2758564	97.20489728	94.24353921	91.38721823
190926A00012	9/26/2019	1.93	9/27/2021	9/26/2019	101.40042	101.1489147	100.8986566	100.6496361	100.4018443	100.155272	99.90991035	99.66575039	99.42278336
190927A00012	10/1/2019	1.96	10/1/2024	10/1/2019	117.77752	114.056452	110.4730837	107.0214427	103.6958595	100.4909493	97.40159585	94.42293586	91.55034424

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190930A00041	9/30/2019	1.94	10/25/2021	9/30/2019	101.8512	101.5185426	101.1880586	100.8597283	100.5335307	100.2094451	99.88745093	99.56752803	99.24965643
190930A00069	9/30/2019	1.9	9/29/2023	9/30/2019	112.4869	109.9992302	107.579663	105.2257899	102.9353143	100.7060419	98.53587424	96.42280421	94.36491073
210608A00005	6/8/2021	0.51	6/7/2024	6/8/2021	112.10322	108.8287535	105.6662356	102.6112308	99.65950288	96.80700708	94.04988028	91.3844318	88.80713462
210608A00017	6/10/2021	2.67	6/8/2029	6/10/2021	144.77438	134.3623979	124.7814289	115.9606964	107.8357944	100.3480873	93.44416502	87.07535318	81.19727091
210609A00007	6/11/2021	2.6	6/11/2029	6/11/2021	144.18577	133.7865959	124.2188137	115.4115109	107.3001725	99.82607048	92.93571732	86.58037398	80.71560603
210601A00002	6/1/2021	0.9	6/2/2025	6/1/2021	116.50863	112.0263205	107.7392787	103.6379992	99.71348996	95.95724116	92.36119706	88.91772925	85.61961168
210621A00008	6/21/2021	1.04	6/23/2025	6/21/2021	117.32164	112.7528868	108.3859318	104.2108101	100.2180994	96.39889095	92.74475876	89.24773072	85.90026165
190920A00018	9/20/2019	1.98	9/20/2022	9/20/2019	107.19076	105.8297044	104.5030442	103.2094898	101.9478139	100.7168495	99.51548598	98.34266547	97.19738011
210527A00026	6/1/2021	2.78	6/1/2028	6/1/2021	140.38025	131.4926459	123.2329826	115.5535728	108.4105874	101.763723	95.57590093	89.81299416	84.44357825
160211A00091	2/16/2016	3.55	2/16/2023	2/16/2016	112.00368	110.211452	108.4575359	106.7407692	105.0600403	103.4142816	101.8024678	100.2236136	98.67677187
210624A00022	6/24/2021	0.87	6/24/2025	6/24/2021	117.25964	112.670001	108.283732	104.0907554	100.0815501	96.24711592	92.57894144	89.06897519	85.70959802
210609A00011	6/11/2021	1.32	6/11/2024	6/11/2021	114.22419	110.915103	107.7190536	104.6315576	101.6483343	98.76529676	95.97854173	93.28434054	90.67913008
210603A00015	6/7/2021	2.71	6/7/2028	6/7/2021	139.92088	131.0275478	122.7643853	115.0834068	107.9405209	101.295192	95.11013652	89.35104618	83.98633668
210624A00020	6/24/2021	0.78	6/24/2024	6/24/2021	112.65813	109.331489	106.1200961	103.0193125	100.024718	97.13209508	94.3374189	91.63684676	89.02670898
210428A00007	4/28/2021	1.74	10/27/2028	4/28/2021	133.88632	124.7146105	116.2302904	108.3784215	101.1087173	94.37512706	88.13545937	82.35104084	76.98640642
210428A00015	4/28/2021	2.02	4/28/2031	4/28/2021	147.11742	134.0418213	122.2343415	111.5653639	101.9191253	93.19217339	85.29200274	78.13584739	71.64961237
210429A00005	4/29/2021	2.08	4/29/2031	4/29/2021	147.81116	134.6967234	122.8535361	112.1516877	102.475152	93.7202402	85.7942333	78.6141732	72.10579165
210507A00009	5/7/2021	2.02	5/7/2032	5/7/2021	151.39521	136.676088	123.5158356	111.7410627	101.1984751	91.75245235	83.28293259	75.68355906	68.86005556
210527A00009	5/27/2021	0.5	5/28/2024	5/27/2021	111.97117	108.7306645	105.599933	102.5746682	99.65075367	96.82425726	94.09142157	91.44865523	88.89252454
210527A00019	5/27/2021	1	5/27/2026	5/27/2021	121.24003	115.4504012	109.9675139	104.7736001	99.85200683	95.18712373	90.76431243	86.56984116	82.59082408
210312A00004	3/12/2021	0.34	3/10/2023	3/12/2021	107.00188	105.1817667	103.4018433	101.6608457	99.95756491	98.29084236	96.65956729	95.06267431	93.49914096
210312A00010	3/12/2021	0.63	3/12/2024	3/12/2021	111.15024	108.1702572	105.285142	102.4912352	99.78504776	97.16325117	94.62266899	92.16026843	89.77315264
210323A00007	3/23/2021	0.51	3/25/2024	3/23/2021	111.36494	108.3324049	105.3976753	102.5569206	99.80649505	97.14292361	94.56289264	92.06324078	89.64095069
210326A00002	3/26/2021	0.57	6/26/2024	3/26/2021	112.48956	109.1476051	105.9219151	102.8077982	99.80077781	96.89658357	94.09114085	91.38056033	88.76112852
210414A00001	4/14/2021	0.7	5/16/2024	4/14/2021	112.0063	108.8133246	105.7271355	102.7435889	99.85872975	97.0687772	94.37011632	91.75928971	89.23298976
210428A00006	4/28/2021	1.23	4/28/2026	4/28/2021	121.35202	115.6819919	110.3069854	105.2101954	100.3758543	95.78916589	91.43624099	87.30403699	83.38030221
210216A00006	2/16/2021	1.44	2/15/2030	2/16/2021	137.95682	126.837926	116.6884057	107.4188914	98.94868302	91.20486634	84.1215245	77.63903361	71.70343237
210216A00007	2/16/2021	1.3	2/16/2029	2/16/2021	132.81643	123.223823	114.3820433	106.2285856	98.70645448	91.76365089	85.35270993	79.43028326	73.95676217
210216A00008	2/16/2021	0.71	2/17/2026	2/16/2021	118.77011	113.3705256	108.2438032	103.3747096	98.74894921	94.35309947	90.17455251	86.20146083	82.42268701
210216A00009	2/16/2021	0.92	2/16/2027	2/16/2021	123.2427	116.5089281	110.1786204	104.2255488	98.62532841	93.35527799	88.39429179	83.72272149	79.32226782
210224A00011	2/26/2021	1.17	2/27/2023	2/26/2021	108.08948	106.2964289	104.5423201	102.8259552	101.1461835	99.50190132	97.8920494	96.31561091	94.77160909
210305A00013	3/5/2021	2.41	3/5/2036	3/5/2021	171.97373	150.4521761	131.8873203	115.854738	101.9930116	89.99409302	79.59518391	70.57188523	62.73241385
210129A00008	1/29/2021	0.62	10/8/2024	1/29/2021	113.15393	109.4905504	105.9640323	102.5684399	99.29813846	96.14777368	93.11225567	90.18674394	87.36663332

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210129A00013	1/29/2021	0.65	1/9/2025	1/29/2021	114.12782	110.1544314	106.3395394	102.6759586	99.15687271	95.77581207	92.52663341	89.40350158	86.40087225
210201A00004	2/3/2021	1.15	2/3/2025	2/3/2021	116.29771	112.2053685	108.2783841	104.5091431	100.8904311	97.41540728	94.07758254	90.87079918	87.78921187
210210A00005	2/10/2021	0.52	2/13/2024	2/10/2021	110.55754	107.6737637	104.8796812	102.1719217	99.5472702	97.00265453	94.5351384	92.14191407	89.82029576
210212A00008	2/12/2021	0.95	10/13/2026	2/12/2021	121.31737	115.0968294	109.2277666	103.6885301	98.45891567	93.52006295	88.85435904	84.44534899	80.27765343
210212A00016	2/17/2021	1.32	2/18/2025	2/17/2021	117.14063	112.980417	108.9898645	105.161079	101.4865854	97.95930079	94.57251104	91.31984891	88.19527407
201208A00029	12/10/2020	1.52	12/9/2025	12/10/2020	121.31159	116.1075916	111.155301	106.4412567	101.9527832	97.67794527	93.60550023	89.7248544	86.02602219
201208A00031	12/10/2020	1.43	12/9/2024	12/10/2020	116.73931	112.8159569	109.0451167	105.4200513	101.934355	98.58193885	95.35701346	92.25407228	89.26787629
210114A00009	1/19/2021	2.66	1/17/2030	1/19/2021	147.84742	136.4825173	126.0856887	116.5691729	107.8535977	99.86713924	92.54476816	85.82757443	79.66216259
210125A00006	1/27/2021	2.16	1/26/2027	1/27/2021	129.67267	122.8642777	116.4556603	110.4212372	104.7371982	99.38137252	94.33310662	89.57315287	85.08356628
210125A00007	1/27/2021	2.98	1/27/2031	1/27/2021	156.79708	143.5828848	131.6077258	120.7482991	110.8941899	101.9464629	93.81641404	86.42446394	79.6991763
210128A00008	1/28/2021	0.54	4/9/2024	1/28/2021	111.15911	108.0933479	105.1273615	102.2572641	99.4793508	96.79008725	94.18610005	91.66416827	89.22121532
201028A00006	10/30/2020	1.56	2/15/2024	10/30/2020	113.48732	110.5563797	107.7164535	104.9641242	102.2961278	99.70934548	97.20079668	94.76763148	92.40712392
201030A00004	11/2/2020	2.56	10/29/2040	11/2/2020	192.48189	162.243438	137.2576548	116.5744429	99.42039442	85.16515959	73.29435563	63.38771493	55.1014397
201030A00005	11/2/2020	2.49	10/29/2040	11/2/2020	190.81601	160.740781	135.8972147	115.338267	98.2930983	84.13353064	72.34702058	62.51486158	54.29458328
201116A00011	11/16/2020	0.71	11/15/2024	11/16/2020	113.83485	110.0408658	106.3921141	102.8822871	99.50538578	96.25570211	93.12780332	90.11651715	87.21691794
201119A00008	11/19/2020	0.28	5/19/2022	11/19/2020	103.74921	102.7958736	101.8599326	100.94091	100.0383504	99.15181503	98.28088035	97.42513768	96.5841925
201204A00016	12/8/2020	1.58	12/8/2023	12/8/2020	112.64902	109.9432488	107.3164903	104.7659826	102.2890744	99.88322305	97.54598965	95.27503385	93.06810939
200925A00002	9/25/2020	0.74	9/25/2025	9/25/2020	116.86195	112.0028572	107.3704248	102.952804	98.73883957	94.71802433	90.88045718	87.21680407	83.71826181
200925A00004	9/25/2020	0.53	9/25/2023	9/25/2020	109.18753	106.751737	104.3825711	102.077685	99.83483831	97.65188995	95.52679212	93.45758555	91.44239474
200925A00008	9/25/2020	0.74	9/25/2025	9/25/2020	116.86195	112.0028572	107.3704248	102.952804	98.73883957	94.71802433	90.88045718	87.21680407	83.71826181
201022A00012	10/26/2020	2.25	10/24/2030	10/26/2020	147.41162	135.0206027	123.7725988	113.5560919	104.2709766	95.82733968	88.14437587	81.14942343	74.7771064
201028A00003	10/30/2020	1.42	2/27/2026	10/30/2020	121.656	116.1773687	110.9753903	106.0345957	101.3404712	96.87939191	92.63856246	88.60596108	84.77028841
201028A00004	10/30/2020	1.55	12/29/2023	10/30/2020	112.84208	110.0687365	107.3782412	104.7676216	102.2340349	99.77475757	97.38718009	95.06880108	92.81722217
200922A00036	9/24/2020	1.55	9/23/2025	9/24/2020	120.57942	115.6447996	110.9390416	106.4502275	102.167131	98.0791765	94.17639645	90.44939268	86.88930002
200922A00037	9/24/2020	2.76	9/23/2025	9/24/2020	126.15989	121.1020519	116.2772479	111.6733828	107.2790622	103.0835509	99.07672973	95.24905611	91.59152756
200922A00039	9/24/2020	3	9/23/2025	9/24/2020	127.26676	122.1844821	117.3360657	112.7093805	108.292999	104.0761541	100.0486967	96.20105547	92.52420079
200922A00041	9/24/2020	2.68	9/23/2024	9/24/2020	120.16854	116.4327454	112.8340155	109.366443	106.0244199	102.8026181	99.69597386	96.69967216	93.80913261
200922A00043	9/24/2020	2.4	9/25/2023	9/24/2020	113.61169	111.1231507	108.7023769	106.3469886	104.0547117	101.8233727	99.65089271	97.53528271	95.47463842
200922A00044	9/24/2020	2.61	9/25/2023	9/24/2020	114.10852	111.6140581	109.1874888	106.8264291	104.5286012	102.2918279	100.114027	97.99320592	95.92745723
200922A00027	9/24/2020	1.65	9/23/2025	9/24/2020	121.04062	116.0958122	111.3802157	106.8818932	102.5896047	98.49276117	94.58138267	90.84605908	87.27791387
200922A00029	9/24/2020	2.73	9/25/2023	9/24/2020	114.39242	111.8945767	109.4646956	107.1003951	104.7993952	102.5595167	100.3786752	98.25487632	96.18621083
200922A00030	9/24/2020	2.45	9/25/2023	9/24/2020	113.72998	111.2400334	108.8178798	106.4611411	104.1675425	101.9349096	99.76116278	97.64431204	95.58245242
200922A00033	9/24/2020	2.37	9/23/2024	9/24/2020	119.09175	115.3742421	111.7932967	108.3430234	105.0178314	101.8124093	98.72170914	95.74093108	92.86550922

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200922A00034	9/24/2020	2.24	9/23/2026	9/24/2020	128.5928	122.2398425	116.2396242	110.570612	105.2127117	100.1471626	95.35644077	90.82417027	86.53504107
200922A00035	9/24/2020	2.94	9/23/2024	9/24/2020	121.07165	117.3205222	113.7068764	110.224795	106.8686554	103.6331158	100.5130991	97.50377759	94.60055869
200911A00023	9/15/2020	2.04	9/14/2027	9/15/2020	131.61698	123.9486779	116.7758097	110.0637265	103.7803907	97.89616221	92.38360582	87.21731539	82.37375273
200911A00024	9/15/2020	2.09	9/14/2027	9/15/2020	131.96333	124.2838929	117.1004049	110.3781919	104.0851891	98.19173093	92.67035834	87.49564278	82.64402506
200911A00025	9/15/2020	2.28	9/13/2030	9/15/2020	147.21677	134.9865047	123.8724981	113.7668059	104.5724587	96.20229253	88.57791017	81.62875688	75.29129836
200911A00026	9/15/2020	1.45	9/15/2025	9/15/2020	120.02748	115.1316044	110.461869	106.0065517	101.7546075	97.69562771	93.81979923	90.11786654	86.58109633
200917A00002	9/17/2020	0.53	9/17/2025	9/17/2020	116.52492	111.6787566	107.058225	102.6515593	98.44768202	94.43615725	90.60714889	86.95138241	83.46010908
200922A00023	9/24/2020	2.5	9/26/2022	9/24/2020	107.95724	106.5716669	105.2215391	103.9055128	102.6223085	101.3707099	100.1495602	98.95775841	97.79425611
200828A00002	8/28/2020	0.73	8/28/2026	8/28/2020	120.60297	114.5221647	108.7789372	103.3527997	98.22461697	93.3765122	88.7917774	84.45479019	80.35093714
200902A00018	9/4/2020	1.08	9/3/2025	9/4/2020	118.20833	113.3919403	108.7969277	104.4118837	100.2260604	96.22932395	92.41211626	88.76541808	85.2807154
200911A00006	9/11/2020	0.37	9/11/2023	9/11/2020	109.01567	106.6181577	104.2854118	102.0151861	99.80533357	97.6538002	95.55862017	93.51791113	91.52986983
200911A00020	9/15/2020	1.14	9/15/2025	9/15/2020	118.6056	113.7409529	109.1014012	104.6752591	100.4515236	96.41982629	92.57039225	88.89400224	85.38195757
200911A00021	9/15/2020	1.1	9/15/2025	9/15/2020	118.42213	113.561514	108.925857	104.5034794	100.2833837	96.25520675	92.40917844	88.73608427	85.22722999
200911A00022	9/15/2020	1.42	9/15/2025	9/15/2020	119.88988	114.9970253	110.3302108	105.8777169	101.6285026	97.57216305	93.69888888	89.99942806	86.46505064
200817A00011	8/17/2020	0.53	2/18/2025	8/17/2020	114.63074	110.5022962	106.5431194	102.7453105	99.10138659	95.60425822	92.24720618	89.02385957	85.92817546
200817A00014	8/17/2020	0.51	8/17/2022	8/17/2020	104.924	103.6858393	102.4766359	101.2953824	100.1411197	99.01293196	97.90994449	96.83132121	95.77626269
200818A00005	8/18/2020	1.05	8/18/2027	8/18/2020	124.5384	117.1884365	110.3122203	103.8768326	97.85181265	92.20895956	86.92215277	81.96718776	77.32162559
200818A00009	8/18/2020	1.7	8/18/2033	8/18/2020	151.50726	135.0203743	120.4702495	107.6191796	96.25973332	86.21076506	77.31396779	69.4308926	62.44037024
200819A00007	8/19/2020	0.38	8/21/2023	8/19/2020	108.8227	106.4912226	104.2214346	102.0112455	99.85865841	97.76176032	95.71871785	93.72777318	91.78724026
200827A00007	8/27/2020	0.77	8/27/2025	8/27/2020	116.73519	111.9733252	107.4298474	103.0935461	98.95384988	95.0007892	91.22495826	87.61747957	84.16997102
200731A00005	7/31/2020	0.45	7/31/2024	7/31/2020	112.43609	108.9872321	105.6614219	102.453552	99.35875766	96.37240589	93.49008304	90.70758286	88.0208953
200803A00005	8/3/2020	0.54	6/30/2023	8/3/2020	108.31463	106.1487459	104.0373809	101.97881	99.97137395	98.0134781	96.10358877	94.24023069	92.42198428
200806A00002	8/6/2020	0.43	8/6/2024	8/6/2020	112.42523	108.9581369	105.61527	102.3914456	99.28173037	96.28142768	93.38606448	90.59137908	87.89330962
200807A00004	8/7/2020	0.29	8/8/2022	8/7/2020	104.71089	103.5000921	102.317016	101.1607234	100.030314	98.92492781	97.8437422	96.78597039	95.75085933
200810A00004	8/10/2020	0.43	8/9/2024	8/10/2020	112.45296	108.9762038	105.6242814	102.3919685	99.27429698	96.26653772	93.36418733	90.56295581	87.85875487
200811A00003	8/11/2020	0.57	8/11/2025	8/11/2020	116.38091	111.6571533	107.1487441	102.8447034	98.73467288	94.80887921	91.05809719	87.47361581	84.0472064
200720A00039	7/22/2020	2.48	7/21/2025	7/22/2020	123.94948	119.1510581	114.566393	110.1847814	105.9961203	101.9908667	98.16000347	94.49500681	90.98781675
200720A00044	7/22/2020	2.22	7/21/2026	7/22/2020	127.65131	121.5394191	115.7572396	110.2852283	105.1051091	100.1997801	95.55323126	91.15046938	86.97744757
200722A00010	7/22/2020	0.66	7/22/2024	7/22/2020	112.54652	109.1353844	105.8449187	102.6701586	99.60637352	96.6490562	93.7939104	91.03683975	88.37393707
200722A00011	7/22/2020	0.59	7/24/2023	7/22/2020	108.67108	106.4307182	104.2479871	102.1210107	100.0479844	98.02717596	96.05692249	94.13562655	92.26175325
200727A00016	7/27/2020	0.43	7/27/2023	7/27/2020	108.67792	106.4222649	104.2249162	102.0839591	99.99755822	97.96395277	95.98145242	94.04843407	92.16333857
200730A00001	7/30/2020	0.46	7/30/2024	7/30/2020	112.45981	109.0136206	105.6903014	102.4847511	99.39211572	96.40777225	93.52731646	90.74655085	88.06147357
200701A00004	7/1/2020	0.54	7/1/2022	7/1/2020	104.40013	103.312168	102.246681	101.2029835	100.1804136	99.17833578	98.19613982	97.2332395	96.28907144

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200709A00004	7/10/2020	1.4	7/10/2025	7/10/2020	119.06665	114.4065098	109.953918	105.6985202	101.6305373	97.74072939	94.02036289	90.46117972	87.05536882
200709A00005	7/10/2020	2.23	7/10/2030	7/10/2020	145.87917	133.9499247	123.0920379	113.2035668	104.1927657	95.9770151	88.4818706	81.64021642	75.39150982
200709A00006	7/10/2020	2.58	7/10/2030	7/10/2020	149.50688	137.4088715	126.3931414	116.3569276	107.2077273	98.86222713	91.24534615	84.28938427	77.93326199
200709A00007	7/10/2020	1.67	7/9/2027	7/10/2020	128.37874	121.0402855	114.1653766	107.7223688	101.6819371	96.01689393	90.70202337	85.71392766	81.03088731
200720A00012	7/20/2020	0.77	7/15/2025	7/20/2020	116.35421	111.7354784	107.3237024	103.108515	99.08012362	95.22927754	91.54723516	88.02573285	84.65695611
200611A00013	6/11/2020	0.59	6/12/2023	6/11/2020	108.21919	106.1103338	104.053247	102.0463305	100.0880476	98.17691928	96.31152196	94.49048464	92.71248676
200615A00019	6/17/2020	1.34	6/16/2025	6/17/2020	118.53946	113.9687585	109.5986606	105.4193111	101.421394	97.59609845	93.93508834	90.43047402	87.07478608
200615A00023	6/17/2020	1.68	6/17/2024	6/17/2020	115.43947	112.0919396	108.8592514	105.7368212	102.7202784	99.80545144	96.98835755	94.26519297	91.63232388
200626A00015	6/26/2020	0.43	6/26/2023	6/26/2020	108.35155	106.1917426	104.0861116	102.0329455	100.0306014	98.07750002	96.17212241	94.31300722	92.49874811
200629A00005	6/29/2020	0.55	6/29/2022	6/29/2020	104.3862	103.304528	102.2450821	101.2071824	100.1901778	99.19344338	98.21637871	97.25840692	96.31897347
200630A00004	6/30/2020	0.66	7/1/2024	6/30/2020	112.34554	109.001473	105.7740239	102.6584728	99.65031798	96.74526621	93.93922126	91.22827383	88.60869179
200529A00009	5/29/2020	0.42	5/30/2023	5/29/2020	108.03114	105.9588993	103.9366947	101.9630104	100.0363855	98.15541312	96.31873794	94.52505394	92.77310228
200601A00006	6/1/2020	0.6	6/1/2023	6/1/2020	108.11685	106.0432534	104.0197652	102.0448621	100.11708	98.23500904	96.39729097	94.60261696	92.84972546
200604A00010	6/4/2020	0.89	6/4/2025	6/4/2020	116.48579	111.9973234	107.7046803	103.5983104	99.66918382	95.90875553	92.30893725	88.86207038	85.56090088
200604A00012	6/4/2020	1.59	6/4/2030	6/4/2020	138.86469	127.3934159	116.9494594	107.4356936	98.7646245	90.85739243	83.64288137	77.05692362	71.04158979
200611A00010	6/11/2020	1.08	6/11/2027	6/11/2020	124.18372	117.0714416	110.405189	104.1548069	98.29232716	92.79179792	87.62912855	82.7819471	78.22946939
200611A00011	6/11/2020	1.2	6/9/2028	6/11/2020	128.15583	119.6776808	111.8090194	104.5030761	97.71688986	91.41098241	85.54905931	80.09773835	75.02630227
200511A00020	5/11/2020	1.4	2/1/2028	5/11/2020	128.48143	120.4370228	112.9436051	105.9606637	99.45086759	93.37980117	87.71572196	82.42933951	77.49361386
200511A00022	5/11/2020	1.6	2/1/2030	5/11/2020	137.64438	126.6766551	116.6578217	107.5009857	99.12762828	91.46675723	84.45414948	78.03167419	72.14668639
200511A00028	5/13/2020	1.02	5/13/2024	5/13/2020	112.95741	109.7593191	106.6677728	103.678659	100.7880432	97.99216361	95.28742308	92.67038071	90.13774422
200513A00002	5/13/2020	0.56	5/13/2024	5/13/2020	112.00857	108.8140756	105.726356	102.7412769	99.85488586	97.06340483	94.36322117	91.75087967	89.22307471
200527A00022	5/27/2020	0.53	5/27/2022	5/27/2020	103.97147	102.9939692	102.034707	101.0931793	100.1688983	99.26139414	98.37021383	97.4949205	96.63509277
200529A00004	5/29/2020	0.56	5/29/2024	5/29/2020	112.16824	108.9215957	105.7850067	102.7541498	99.82489518	96.99329768	94.25558783	91.60816283	89.04757817
200507A00005	5/7/2020	0.67	5/5/2023	5/7/2020	107.95801	105.9668099	104.0220133	102.1222635	100.2662526	98.45271865	96.68044445	94.94825518	93.25501689
200508A00004	5/8/2020	0.43	5/8/2023	5/8/2020	107.81279	105.8087244	103.8516534	101.9401937	100.0730125	98.24882467	96.46639056	94.72451428	93.02204175
200511A00015	5/11/2020	0.6	2/1/2023	5/11/2020	106.78081	105.0831251	103.4211703	101.7938917	100.2002769	98.63935269	97.11018328	95.61186815	94.14354056
200511A00016	5/11/2020	0.71	2/1/2024	5/11/2020	110.95867	108.1079287	105.344898	102.6663273	100.0691089	97.55027115	95.10697187	92.73649136	90.43622643
200511A00017	5/11/2020	0.83	2/3/2025	5/11/2020	115.05441	110.9854927	107.081229	103.3340373	99.73672877	96.28248682	92.96484553	89.7776693	86.71513393
200511A00018	5/11/2020	0.98	2/2/2026	5/11/2020	119.20423	113.8716656	108.805525	103.9910946	99.41455684	95.06292842	90.92400488	86.98630959	83.23904618
200430A00016	4/30/2020	0.82	4/30/2024	4/30/2020	112.21046	109.063848	106.0209357	103.0777612	100.2305373	97.47564131	94.80960705	92.2291169	89.73099481
200504A00004	5/4/2020	0.75	5/5/2025	5/4/2020	116.25154	111.8461765	107.6296578	103.5929416	99.72746687	96.02512408	92.4782288	89.07949733	85.8220237
200504A00015	5/4/2020	0.68	5/4/2023	5/4/2020	107.96627	105.9779763	104.035951	102.1388468	100.285361	98.47423713	96.70426294	94.97426834	93.28312387
200505A00004	5/5/2020	0.77	5/5/2025	5/5/2020	116.33516	111.9281156	107.7099646	103.6716668	99.8046595	96.10083103	92.55249519	89.15236654	85.89353744

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200505A00006	5/5/2020	0.39	11/4/2021	5/5/2020	101.48853	101.1275119	100.769056	100.4131374	100.0597291	99.70880479	99.36033818	99.01430353	98.67067544
200506A00005	5/6/2020	0.97	5/6/2025	5/6/2020	116.54188	112.1451991	107.9366049	103.9071076	100.0481931	96.35179573	92.81027193	89.41637612	86.16323795
200429A00052	5/1/2020	1.43	4/30/2024	5/1/2020	114.05613	110.8819321	107.812124	104.8427218	101.9699162	99.1900633	96.49967624	93.89541785	91.3740933
200429A00053	5/1/2020	2.18	4/30/2025	5/1/2020	121.50892	117.0318431	112.7443868	108.6375533	104.7028146	100.9320892	97.31771609	93.85243097	90.5293436
200429A00056	5/1/2020	1.54	4/30/2025	5/1/2020	118.85071	114.4268911	110.1910297	106.1341905	102.2479086	98.52416243	94.95534839	91.5342568	88.25404951
200429A00058	5/1/2020	1.83	4/30/2025	5/1/2020	120.05521	115.60726	111.3480196	107.2685268	103.3602879	99.61525425	96.02579626	92.58467947	89.28504215
200430A00008	4/30/2020	0.94	4/30/2025	4/30/2020	116.35864	111.9847487	107.7972575	103.7872879	99.94643417	96.26673107	92.74062867	89.36096851	86.1209613
200430A00009	4/30/2020	1.16	4/30/2026	4/30/2020	121.00112	115.3332919	109.9607652	104.8667132	100.0353472	95.45185053	91.10231404	86.97367589	83.05366594
200429A00018	5/4/2020	0.73	4/17/2023	5/4/2020	107.88723	105.9503643	104.0578762	102.2084164	100.4006891	98.63344884	96.90549774	95.21568355	93.56289735
200429A00043	5/1/2020	1.56	4/30/2025	5/1/2020	118.93378	114.5082959	110.2708221	106.2124206	102.3246244	98.59941014	95.02917238	91.60669974	88.32515245
200429A00044	5/1/2020	1.86	4/30/2025	5/1/2020	120.17982	115.7293671	111.4677082	107.3858719	103.4753616	99.72812582	96.13653224	92.69334388	89.39169656
200429A00045	5/1/2020	1.54	4/30/2025	5/1/2020	118.85071	114.4268911	110.1910297	106.1341905	102.2479086	98.52416243	94.95534839	91.5342568	88.25404951
200429A00047	5/1/2020	2.7	4/30/2025	5/1/2020	123.66872	119.1483665	114.8189893	110.6715355	106.6974258	102.8885297	99.23713985	95.73594749	92.37802006
200429A00050	5/1/2020	2.61	4/30/2025	5/1/2020	123.29491	118.7820451	114.4599235	110.3195001	106.3522046	102.549915	98.90493189	95.40995425	92.05805682
200424A00006	4/24/2020	0.6	4/24/2023	4/24/2020	107.9837	106.02002	104.1016586	102.2272715	100.3955628	98.60528462	96.85523468	95.14425449	93.47122726
200428A00013	4/30/2020	1.49	4/29/2024	4/30/2020	114.22506	111.051475	107.9821747	105.0131737	102.140664	99.36100355	96.67070772	94.06644178	91.54501356
200429A00003	4/29/2020	0.74	4/28/2023	4/29/2020	108.01397	106.0431574	104.1178821	102.2368144	100.3986712	98.60221528	96.84625342	95.12963428	93.45124678
200429A00010	4/29/2020	0.78	4/29/2025	4/29/2020	116.31865	111.931194	107.7310597	103.7093103	99.85748069	96.16755051	92.63191902	89.24338078	85.99510305
200429A00015	4/29/2020	0.66	4/29/2024	4/29/2020	112.17161	109.0181578	105.9687935	103.0195273	100.1665478	97.40620973	94.7350262	92.14966053	89.64691907
200429A00017	5/4/2020	0.66	8/15/2022	5/4/2020	105.07592	103.8430888	102.6389428	101.4624867	100.3127751	99.18890485	98.0900133	97.0152757	95.96390326
200414A00016	4/16/2020	1.64	4/15/2024	4/16/2020	114.49538	111.3618333	108.3302805	105.3967805	102.55757	99.80905618	97.14780704	94.57054344	92.074131
200415A00019	4/15/2020	0.68	4/15/2022	4/15/2020	103.57739	102.7302475	101.8968877	101.0769735	100.2701814	99.47619866	98.69472202	97.92545791	97.16812185
200415A00030	4/15/2020	0.76	3/15/2023	4/15/2020	107.5607	105.7250913	103.9301753	102.1746706	100.457346	98.7770224	97.13256948	95.52290342	93.94698434
200416A00005	4/16/2020	0.49	4/15/2022	4/16/2020	103.51587	102.66771	101.833363	101.0124977	100.2047895	99.40992413	98.62759723	97.85751402	97.09938889
200417A00016	4/21/2020	2.18	4/21/2025	4/21/2020	121.38413	116.9390948	112.6814398	108.6022583	104.6931146	100.946019	97.35340145	93.90808725	90.60327393
200420A00047	4/20/2020	0.77	4/20/2023	4/20/2020	107.9979	106.0509336	104.1486821	102.2897963	100.4729837	98.69700044	96.96064956	95.26277869	93.60227798
200407A00001	4/8/2020	2.41	4/7/2025	4/8/2020	122.12882	117.7150799	113.4858347	109.4322965	105.5461485	101.8195204	98.24496135	94.81541454	91.52419379
200407A00002	4/8/2020	1.82	4/8/2024	4/8/2020	114.93644	111.8184717	108.8014732	105.8815213	103.0548709	100.317949	97.66734589	95.09980618	92.61222042
200408A00019	4/10/2020	1.7	4/11/2022	4/10/2020	104.35585	103.5172651	102.6921166	101.8800789	101.0808414	100.2941031	99.5195724	98.75696689	98.00601264
200408A00021	4/8/2020	0.99	4/4/2025	4/8/2020	116.92644	112.6078501	108.4710378	104.5072859	100.7083568	97.0664585	93.57421715	90.22465156	87.0111496
200413A00031	4/13/2020	0.73	4/13/2022	4/13/2020	103.60099	102.7597104	101.9320148	101.1175809	100.3160917	99.52724081	98.75073105	97.98627466	97.23359272
200413A00032	4/13/2020	0.82	4/13/2023	4/13/2020	107.98954	106.0640687	104.182569	102.3436819	100.5461065	98.78859397	97.06994454	95.38900527	93.74466768
200403A00006	4/3/2020	1.05	4/3/2025	4/3/2020	116.53652	112.2458984	108.1354404	104.1965217	100.4209906	96.80113604	93.32966022	89.9996538	86.8045723

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200403A00014	4/3/2020	0.63	4/17/2023	4/3/2020	107.95868	106.0163724	104.1186463	102.2641436	100.4515601	98.67964271	96.94718628	95.25303168	93.59606348
200403A00021	4/3/2020	0.74	4/29/2022	4/3/2020	103.80639	102.9155985	102.0399882	101.1791754	100.3327882	99.50046664	98.6818629	97.87664046	97.08447371
200406A00006	4/6/2020	1.13	4/7/2025	4/6/2020	116.90436	112.5936249	108.4642072	104.507439	100.7151229	97.07950218	93.59323446	90.24936635	87.04131037
200406A00013	4/6/2020	0.83	4/1/2022	4/6/2020	103.52446	102.7199726	101.927914	101.147995	100.3799385	99.62347586	98.87834634	98.14429709	97.42108268
200406A00020	4/6/2020	0.65	4/6/2022	4/6/2020	103.53017	102.7093361	101.9014437	101.1061877	100.3232736	99.5524159	98.79333803	98.04577166	97.3094566
200330A00045	3/30/2020	1.47	3/30/2027	3/30/2020	126.05339	119.1311658	112.6287879	106.5185674	100.7747909	95.37357147	90.29270858	85.51155951	81.01092112
200331A00060	3/31/2020	1.09	3/31/2025	3/31/2020	116.66793	112.3843775	108.2803708	104.34731	100.5770685	96.96196015	93.49471216	90.16843993	86.97662347
200401A00020	4/1/2020	0.72	3/29/2022	4/1/2020	103.40069	102.6058122	101.8230759	101.0522085	100.2929419	99.54501614	98.8081789	98.08218528	97.36679752
200401A00025	4/1/2020	0.54	4/1/2022	4/1/2020	103.38017	102.5752013	101.7826832	101.0023305	100.233865	99.47701713	98.73152527	97.99713567	97.27360207
200402A00011	4/2/2020	0.8	3/31/2023	4/2/2020	107.81825	105.9331193	104.0906154	102.2893576	100.5280285	98.80536722	97.12016696	95.4712716	93.85757314
200402A00021	4/2/2020	0.77	10/2/2024	4/2/2020	114.1551	110.4795648	106.9410159	103.5334855	100.2513132	97.08912387	94.04181087	91.10452031	88.2726367
200324A00020	3/24/2020	1.23	3/24/2022	3/24/2020	103.72086	102.9397081	102.1702684	101.4122824	100.6654956	99.92966152	99.20454048	98.48989988	97.78551382
200325A00029	3/25/2020	1.15	3/24/2023	3/25/2020	108.62314	106.7465953	104.9121683	103.1185085	101.3643243	99.64837964	97.96949054	96.32652249	94.71838775
200326A00029	3/26/2020	1.82	3/26/2027	3/26/2020	128.24346	121.2693707	114.7164399	108.5569748	102.7652557	97.31738522	92.19114856	87.3658855	82.82237284
200326A00030	3/26/2020	1.13	3/24/2023	3/26/2020	108.33575	106.466402	104.6389402	102.8520264	101.1043782	99.39476754	97.72201855	96.08500412	94.48264358
200327A00075	3/31/2020	1.75	3/29/2024	3/31/2020	114.59578	111.5141634	108.5316907	105.6444846	102.8488494	100.1412626	97.51836548	94.9769539	92.5139698
200330A00027	3/30/2020	0.62	3/30/2022	3/30/2020	103.41664	102.6175759	101.8307798	101.0559716	100.2928794	99.54123922	98.8007952	98.0712989	97.35250921
200312A00016	3/16/2020	1.09	2/15/2023	3/16/2020	107.78681	106.0352365	104.3211525	102.6434268	101.0009719	99.39274411	97.81774064	96.27499787	94.76358936
200312A00042	3/16/2020	1.38	3/16/2023	3/16/2020	108.68278	106.8338374	105.025906	103.2576886	101.5279433	99.8354806	98.17916048	96.55788978	94.97061974
200313A00022	3/13/2020	1.11	3/8/2022	3/13/2020	103.40824	102.6766098	101.9552889	101.2440619	100.542718	99.85105238	99.16886566	98.49596402	97.83215887
200316A00064	3/16/2020	0.99	3/16/2022	3/16/2020	103.43169	102.675865	101.9310398	101.1969772	100.4734451	99.76021813	99.05707726	98.36380964	97.68020837
200317A00065	3/19/2020	2.05	3/19/2025	3/19/2020	120.40655	116.088119	111.9484966	107.9792138	104.172256	100.5200381	97.01537882	93.65147619	90.4218847
200323A00007	3/23/2020	1.05	9/23/2021	3/23/2020	101.12822	100.8885388	100.6499956	100.412586	100.1763019	99.94113544	99.7070786	99.47412355	99.2422625
200311A00006	3/13/2020	1.12	3/10/2025	3/13/2020	116.57287	112.3573725	108.3162112	104.4411564	100.7244223	97.15863803	93.73682291	90.45236289	87.29898879
200311A00036	3/16/2020	1.03	4/15/2022	3/16/2020	103.86303	103.014596	102.1799571	101.3587782	100.5507357	99.75551644	98.97281701	98.20234355	97.44381135
200311A00040	3/12/2020	1.3	3/11/2025	3/12/2020	117.30272	113.0699576	109.0122024	105.1211928	101.3891111	97.80855675	94.37252076	91.07436264	87.90778827
200311A00056	3/13/2020	1.27	4/10/2024	3/13/2020	113.33308	110.2323206	107.2322933	104.3290813	101.5189514	98.79834157	96.16385146	93.61223402	91.14038723
200311A00058	3/16/2020	1.1	10/14/2022	3/16/2020	106.3094	104.9081391	103.5381941	102.1985211	100.8881185	99.60602924	98.35133818	97.12316978	95.92068598
200312A00004	3/13/2020	1.23	1/24/2025	3/13/2020	116.49758	112.4336542	108.5328581	104.7877366	101.191218	97.73659407	94.41749856	91.22788798	88.16202305
200309A00056	3/9/2020	0.97	3/7/2025	3/9/2020	115.94417	111.75025	107.7295696	103.8739638	100.1757081	96.62748881	93.22237846	89.95381276	86.81556894
200309A00064	3/9/2020	0.55	3/9/2022	3/9/2020	103.09828	102.3638888	101.6399077	100.9261186	100.2223073	99.5282657	98.84379154	98.16868798	97.50276362
200310A00019	3/10/2020	0.95	3/10/2023	3/10/2020	107.84018	106.0167082	104.2334036	102.489006	100.7823093	99.11215738	97.47744194	95.87709973	94.31011025
200310A00025	3/10/2020	0.87	3/11/2024	3/10/2020	112.26344	109.2608818	106.3539103	103.5388381	100.8121483	98.17048596	95.61064959	93.12958245	90.72436494

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200310A00042	3/10/2020	1.41	3/11/2030	3/10/2020	136.18195	125.1363447	115.0591619	105.8606411	97.45977185	89.78340221	82.76543829	76.34612959	70.47143003
200310A00073	3/12/2020	2.12	3/11/2027	3/12/2020	129.97763	123.002671	116.445341	110.2783871	104.4764834	99.01608471	93.87529104	89.03372365	84.4724108
200306A00098	3/10/2020	1.59	3/8/2030	3/10/2020	137.94243	126.8284855	116.6861445	107.425516	98.96546633	91.23271985	84.16106005	77.69061561	71.76722221
200306A00100	3/10/2020	1.82	3/10/2031	3/10/2020	144.45183	131.6842034	120.1434746	109.7053241	100.2586304	91.70400565	83.95250168	76.92446424	70.54851849
200306A00101	3/10/2020	1.93	3/8/2030	3/10/2020	141.323	130.0576246	119.7733229	110.3795148	101.7944288	93.94420336	86.76208298	80.18770033	74.16643424
200309A00016	3/9/2020	0.77	9/12/2022	3/9/2020	105.55162	104.2271929	102.9357058	101.6759439	100.4467507	99.2470254	98.0757193	96.93183303	95.81441356
200309A00027	3/9/2020	0.97	3/10/2025	3/9/2020	115.97373	111.7698107	107.7398762	103.8757098	100.1695386	96.61400428	93.20213802	89.92733705	86.78334301
200309A00046	3/9/2020	0.78	3/11/2025	3/9/2020	115.83386	111.6129652	107.5673046	103.6885833	99.96895163	96.40097951	92.97763142	89.69224249	86.53849642
200306A00009	3/6/2020	0.82	3/7/2022	3/6/2020	103.19003	102.4622778	101.7447398	101.0372045	100.339464	99.65131588	98.9725635	98.30301546	97.64248554
200306A00012	3/6/2020	0.95	3/6/2024	3/6/2020	112.00632	109.0324261	106.152626	103.3633148	100.6610525	98.04255602	95.50469142	93.04446528	90.65901751
200306A00014	3/6/2020	1.38	3/6/2030	3/6/2020	135.83513	124.8226015	114.7745909	105.6018062	97.22364988	89.56733231	82.56707812	76.16341671	70.30254812
200306A00037	3/6/2020	1.11	3/6/2026	3/6/2020	120.14085	114.6760933	109.488817	104.5634375	99.88533283	95.44078094	91.21689897	87.20158671	83.38347441
200306A00046	3/6/2020	1.01	3/3/2025	3/6/2020	116.06366	111.8800136	107.8687078	104.0216432	100.3311559	96.78998847	93.39126531	90.12847015	86.99542475
200306A00065	3/6/2020	1.38	3/6/2030	3/6/2020	135.83513	124.8226015	114.7745909	105.6018062	97.22364988	89.56733231	82.56707812	76.16341671	70.30254812
200305A00020	3/5/2020	0.95	3/5/2025	3/5/2020	116.45365	112.2397574	108.1999993	104.3261666	100.6104922	97.0456221	93.62459095	90.34079852	87.18798811
200305A00036	3/5/2020	1.36	3/5/2027	3/5/2020	125.11978	118.3082279	111.9058272	105.8858686	100.2235299	94.89573283	89.88101005	85.15938424	80.71225644
200305A00040	3/10/2020	0.99	3/10/2023	3/10/2020	107.91112	106.0869984	104.3030552	102.5580311	100.8507195	99.17996402	97.54465601	95.94373189	94.3761709
200305A00043	3/5/2020	0.95	3/7/2022	3/5/2020	103.28163	102.5535101	101.8356125	101.1277213	100.4296282	99.74113103	99.06203294	98.39214251	97.73127346
200306A00001	3/6/2020	1.11	3/6/2026	3/6/2020	120.14085	114.6760933	109.488817	104.5634375	99.88533283	95.44078094	91.21689897	87.20158671	83.38347441
200306A00002	3/6/2020	0.64	3/7/2022	3/6/2020	103.13656	102.4080436	101.6897652	100.9815143	100.2830822	99.59426565	98.91486727	98.24469491	97.58356164
200304A00054	3/6/2020	2.35	3/8/2027	3/6/2020	131.3935	124.3869203	117.7986234	111.6013741	105.7698578	100.2805367	95.11151418	90.24241195	85.6542559
200305A00002	3/5/2020	1.14	3/5/2025	3/5/2020	116.60084	112.4005623	108.373422	104.5112744	100.8064124	97.25153827	93.83973881	90.56446255	87.41949835
200305A00007	3/5/2020	1.14	3/5/2025	3/5/2020	116.60084	112.4005623	108.373422	104.5112744	100.8064124	97.25153827	93.83973881	90.56446255	87.41949835
200305A00009	3/10/2020	1.04	10/18/2023	3/10/2020	110.65884	108.1364803	105.6842393	103.2997179	100.9806131	98.72471732	96.52991358	94.39417091	92.31554027
200305A00011	3/5/2020	0.95	3/7/2022	3/5/2020	103.28163	102.5535101	101.8356125	101.1277213	100.4296282	99.74113103	99.06203294	98.39214251	97.73127346
200305A00012	3/5/2020	1.14	3/5/2025	3/5/2020	116.60084	112.4005623	108.373422	104.5112744	100.8064124	97.25153827	93.83973881	90.56446255	87.41949835
200303A00010	3/3/2020	1.34	3/3/2025	3/3/2020	117.37456	113.1657164	109.1299695	105.2591978	101.545709	97.98221889	94.56182624	91.27799031	88.12450949
200303A00034	3/3/2020	1.21	3/3/2025	3/3/2020	116.85815	112.6592274	108.6331088	104.7716763	101.0672487	97.51255236	94.10069618	90.82514903	87.67971853
200304A00007	3/4/2020	1.01	3/15/2022	3/4/2020	103.43269	102.6798761	101.9379732	101.2067489	100.4859738	99.77542511	99.07488629	98.38414691	97.70300237
200304A00017	3/4/2020	0.83	3/16/2022	3/4/2020	103.39093	102.6342443	101.8885891	101.1537237	100.429415	99.71543684	99.01156921	98.31759849	97.633317
200304A00040	3/4/2020	1.12	3/1/2024	3/4/2020	112.43599	109.471285	106.5999314	103.8183738	101.1232157	98.51121481	95.97927494	93.52443815	91.14387742
200304A00053	3/6/2020	2.33	3/6/2025	3/6/2020	121.34956	117.0546294	112.9358514	108.9849604	105.1941309	101.5559526	98.06340539	94.70983612	91.48893687
200302A00051	3/2/2020	1.22	8/8/2023	3/2/2020	110.22688	107.9247435	105.682571	103.4983731	101.3702406	99.29634322	97.27492493	95.30430073	93.38285293

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200302A00053	3/2/2020	1.31	3/3/2025	3/2/2020	117.25539	113.0488343	109.0153094	105.1466928	101.4352951	97.87383431	94.45541161	91.17348848	88.02186542
200302A00054	3/2/2020	1.31	3/3/2025	3/2/2020	117.25539	113.0488343	109.0153094	105.1466928	101.4352951	97.87383431	94.45541161	91.17348848	88.02186542
200303A00002	3/3/2020	1.06	3/3/2023	3/3/2020	108.19081	106.3804868	104.609752	102.8773738	101.1821737	99.52302171	97.89883413	96.30857074	94.75123283
200303A00004	3/3/2020	1.06	3/3/2022	3/3/2020	103.37648	102.6590682	101.9515702	101.253779	100.565496	99.886528	99.21668698	98.55578995	97.90365879
200303A00007	3/3/2020	1.11	3/4/2024	3/3/2020	112.87268	109.8829591	106.9877856	104.1835327	101.4667453	98.83412611	96.28252745	93.80894275	91.41049928
200228A00073	2/28/2020	1.32	2/28/2023	2/28/2020	108.36491	106.5661465	104.8064882	103.0847314	101.3997188	99.75034074	98.13553208	96.55427045	95.00557385
200302A00008	3/2/2020	1.2	3/9/2023	3/2/2020	108.27076	106.4462934	104.6619485	102.9164734	101.2086648	99.53736974	97.9014825	96.29994231	94.73173098
200302A00011	3/2/2020	1.31	2/27/2025	3/2/2020	117.21055	113.0177921	108.9970571	105.1402889	101.4398627	97.88855664	94.47952775	91.20628917	88.06268942
200302A00031	3/2/2020	1.02	11/18/2022	3/2/2020	106.74054	105.2610759	103.8094689	102.3849966	100.9869628	99.61469468	98.26754161	96.94487446	95.64608462
200302A00033	3/2/2020	1.31	3/3/2025	3/2/2020	117.25539	113.0488343	109.0153094	105.1466928	101.4352951	97.87383431	94.45541161	91.17348848	88.02186542
200302A00035	3/2/2020	1.22	7/3/2023	3/2/2020	109.78345	107.592949	105.457664	103.3758413	101.3457951	99.36590518	97.43461371	95.55042251	93.71189017
200228A00060	2/28/2020	1.31	2/28/2022	2/28/2020	103.43414	102.7265038	102.0284968	101.3399275	100.6606057	99.9903463	99.32896917	98.67629884	98.03216448
200228A00061	2/28/2020	1.13	7/20/2022	2/28/2020	105.41038	104.2550735	103.1249205	102.0191096	100.9368614	99.87742953	98.84009871	97.82418335	96.82902594
200228A00062	2/28/2020	1.32	2/28/2023	2/28/2020	108.36491	106.5661465	104.8064882	103.0847314	101.3997188	99.75034074	98.13553208	96.55427045	95.00557385
200228A00064	2/28/2020	1.35	2/28/2024	2/28/2020	113.06524	110.0979523	107.2238802	104.439474	101.7413496	99.12627623	96.59116851	94.1330783	91.74918766
200228A00065	2/28/2020	1.4	2/28/2025	2/28/2020	117.57934	113.3760509	109.3452557	105.478873	101.7692538	98.20915349	94.7917075	91.51040905	88.35908785
200228A00066	2/28/2020	1.35	2/28/2024	2/28/2020	113.06524	110.0979523	107.2238802	104.439474	101.7413496	99.12627623	96.59116851	94.1330783	91.74918766
200228A00030	2/28/2020	1.32	2/28/2023	2/28/2020	108.36491	106.5661465	104.8064882	103.0847314	101.3997188	99.75034074	98.13553208	96.55427045	95.00557385
200228A00031	2/28/2020	1.35	2/28/2024	2/28/2020	113.06524	110.0979523	107.2238802	104.439474	101.7413496	99.12627623	96.59116851	94.1330783	91.74918766
200228A00041	2/28/2020	1.14	2/28/2023	2/28/2020	108.29213	106.489766	104.7266646	103.0016085	101.3134343	99.66102602	98.04331317	96.45926807	94.90790377
200228A00042	2/28/2020	1.17	2/28/2024	2/28/2020	112.98403	110.0083038	107.1262667	104.3343429	101.6291246	99.00735876	96.46593907	94.00189768	91.6123981
200228A00043	2/28/2020	1.21	2/28/2025	2/28/2020	117.43553	113.2186105	109.1751741	105.2970788	101.576616	98.00648539	94.57977071	91.28991669	88.13070787
200228A00058	2/28/2020	1.31	2/28/2022	2/28/2020	103.43414	102.7265038	102.0284968	101.3399275	100.6606057	99.9903463	99.32896917	98.67629884	98.03216448
200227A00052	2/27/2020	1.41	2/27/2023	2/27/2020	108.50734	106.7105124	104.9527046	103.2327097	101.549375	99.90159503	98.2883087	96.70849738	95.16118261
200228A00005	2/28/2020	1.35	2/28/2024	2/28/2020	113.06524	110.0979523	107.2238802	104.439474	101.7413496	99.12627623	96.59116851	94.1330783	91.74918766
200228A00013	3/3/2020	1.33	1/14/2022	3/3/2020	102.80615	102.2346123	101.6694154	101.1104574	100.5576351	100.0108478	99.46999699	98.93498627	98.40572131
200228A00015	3/3/2020	1.34	10/16/2023	3/3/2020	111.36475	108.8397052	106.3847117	103.9973586	101.675339	99.41644234	97.21854925	95.07962732	92.9977267
200228A00027	2/28/2020	1.31	2/28/2022	2/28/2020	103.43414	102.7265038	102.0284968	101.3399275	100.6606057	99.9903463	99.32896917	98.67629884	98.03216448
200228A00029	2/28/2020	1.31	2/28/2022	2/28/2020	103.43414	102.7265038	102.0284968	101.3399275	100.6606057	99.9903463	99.32896917	98.67629884	98.03216448
200227A00011	2/27/2020	1.42	2/28/2022	2/27/2020	103.50945	102.8015174	102.1032229	101.4143689	100.734765	100.0642263	99.40257237	98.74962789	98.10522192
200227A00013	2/27/2020	1.43	2/27/2024	2/27/2020	113.27922	110.312175	107.4382306	104.6538515	101.955661	99.34043535	96.80509533	94.34669876	91.96243321
200227A00023	2/27/2020	1.47	2/27/2025	2/27/2020	117.84415	113.6392447	109.6067294	105.7385337	102.0270195	98.46495201	95.04547591	91.7620926	88.60863938
200227A00026	2/27/2020	1.41	2/27/2023	2/27/2020	108.50734	106.7105124	104.9527046	103.2327097	101.549375	99.90159503	98.2883087	96.70849738	95.16118261

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200227A00027	2/27/2020	1.47	2/27/2025	2/27/2020	117.84415	113.6392447	109.6067294	105.7385337	102.0270195	98.46495201	95.04547591	91.7620926	88.60863938
200227A00031	2/27/2020	1.43	2/27/2024	2/27/2020	113.27922	110.312175	107.4382306	104.6538515	101.955661	99.34043535	96.80509533	94.34669876	91.96243321
200226A00015	2/26/2020	1.53	2/26/2024	2/26/2020	113.54934	110.5817469	107.7071656	104.9220675	102.2230824	99.60699296	97.07072575	94.61134399	92.22604024
200226A00016	2/26/2020	1.57	2/26/2025	2/26/2020	118.2272	114.0184337	109.9820192	106.109896	102.3944346	98.82840766	95.40496674	92.11761938	88.96020839
200226A00019	2/26/2020	1.38	2/26/2025	2/26/2020	118.08534	113.8629243	109.8138452	105.9299849	102.2036542	98.62757064	95.19483387	91.89890322	88.73357644
200226A00025	2/26/2020	1.38	2/26/2025	2/26/2020	118.08534	113.8629243	109.8138452	105.9299849	102.2036542	98.62757064	95.19483387	91.89890322	88.73357644
200227A00004	2/27/2020	1.65	2/27/2030	2/27/2020	140.19476	128.9283216	118.6453148	109.2548637	100.6749362	92.83143662	85.65739948	79.09226925	73.0812563
200227A00005	2/27/2020	1.43	2/27/2024	2/27/2020	113.27922	110.312175	107.4382306	104.6538515	101.955661	99.34043535	96.80509533	94.34669876	91.96243321
200225A00050	2/25/2020	1.57	2/25/2025	2/25/2020	118.21425	114.009215	109.9762638	106.1073554	102.3948769	98.83161678	95.41074106	92.12577073	88.97056112
200226A00005	2/26/2020	1.53	2/27/2023	2/26/2020	108.71626	106.9175542	105.1578968	103.4360869	101.7509708	100.1014419	98.48643835	96.90494061	95.35596937
200226A00006	2/26/2020	1.57	2/26/2025	2/26/2020	118.2272	114.0184337	109.9820192	106.109896	102.3944346	98.82840766	95.40496674	92.11761938	88.96020839
200226A00009	2/26/2020	1.75	2/26/2030	2/26/2020	141.18004	129.87341	119.5523207	110.1257817	101.5116516	93.63573047	86.4309539	79.8366724	73.79800735
200226A00013	2/26/2020	1.35	2/26/2024	2/26/2020	113.46925	110.4932198	107.6106741	104.8180576	102.1119769	99.48919216	96.94660929	94.48127184	92.09035389
200226A00014	2/26/2020	1.53	2/27/2023	2/26/2020	108.71626	106.9175542	105.1578968	103.4360869	101.7509708	100.1014419	98.48643835	96.90494061	95.35596937
200225A00012	2/25/2020	1.57	2/25/2025	2/25/2020	118.21425	114.009215	109.9762638	106.1073554	102.3948769	98.83161678	95.41074106	92.12577073	88.97056112
200225A00014	2/25/2020	1.57	2/25/2022	2/25/2020	103.56692	102.8677377	102.1779604	101.4973972	100.8258648	100.1631842	99.50918159	98.86368734	98.22653636
200225A00018	2/25/2020	1.94	2/25/2030	2/25/2020	141.29172	130.068153	119.8188873	110.454248	101.8932563	94.0627411	86.89654908	80.33483758	74.32344262
200225A00042	2/25/2020	1.39	2/25/2022	2/25/2020	103.51573	102.8158177	102.1253307	101.4440809	100.7718841	100.1085609	99.45393635	98.80784045	98.17010741
200225A00044	2/25/2020	1.57	2/25/2022	2/25/2020	103.56692	102.8677377	102.1779604	101.4973972	100.8258648	100.1631842	99.50918159	98.86368734	98.22653636
200225A00045	2/25/2020	1.54	2/24/2023	2/25/2020	108.68883	106.9000985	105.150055	103.4375172	101.7613472	100.1204532	98.51378741	96.94034355	95.39915483
200224A00021	2/24/2020	1.58	9/24/2024	2/24/2020	116.3603	112.6859537	109.1471085	105.7379115	102.4528024	99.28649938	96.23398315	93.29048149	90.4514553
200224A00024	2/24/2020	1.59	2/24/2025	2/24/2020	118.28031	114.0774981	110.0465441	106.1794283	102.468553	98.90672067	95.48711028	92.20325483	89.04902076
200224A00025	2/24/2020	1.59	1/23/2025	2/24/2020	117.87322	113.7867091	109.863863	106.0972143	102.4796779	99.00453213	95.66539786	92.45621878	89.37124318
200224A00035	2/24/2020	1.59	2/24/2025	2/24/2020	118.28031	114.0774981	110.0465441	106.1794283	102.468553	98.90672067	95.48711028	92.20325483	89.04902076
200225A00003	2/25/2020	1.54	2/27/2023	2/25/2020	108.73367	106.9348077	105.1749962	103.453035	101.7677704	100.1180958	98.50294916	96.92131088	95.3722016
200225A00004	2/25/2020	1.54	2/26/2024	2/25/2020	113.57765	110.6096576	107.734688	104.9492106	102.2498553	99.6334043	97.09678392	94.6370571	92.25141616
200224A00001	2/24/2020	1.59	2/24/2025	2/24/2020	118.28031	114.0774981	110.0465441	106.1794283	102.468553	98.90672067	95.48711028	92.20325483	89.04902076
200224A00007	2/24/2020	1.59	2/24/2025	2/24/2020	118.28031	114.0774981	110.0465441	106.1794283	102.468553	98.90672067	95.48711028	92.20325483	89.04902076
200224A00015	2/24/2020	1.57	1/10/2024	2/24/2020	113.04793	110.2353801	107.5076796	104.8617495	102.2946452	99.80354777	97.38575762	95.03868885	92.75986351
200224A00016	2/24/2020	1.56	2/24/2023	2/24/2020	108.72348	106.9344316	105.1840828	103.4712454	101.7947812	100.1535984	98.54664912	96.97292681	95.43146455
200224A00017	2/24/2020	1.59	2/24/2025	2/24/2020	118.28031	114.0774981	110.0465441	106.1794283	102.468553	98.90672067	95.48711028	92.20325483	89.04902076
200224A00019	2/24/2020	1.59	2/18/2025	2/24/2020	118.20226	114.0218314	110.0116656	106.1638511	102.4708909	98.92568071	95.52148601	92.25192023	89.11092452
200220A00008	2/20/2020	1.74	2/20/2024	2/20/2020	114.06038	111.1051697	108.2420581	105.4675744	102.778401	100.1713688	97.64345021	95.19175087	92.81350315

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200220A00015	2/20/2020	1.57	2/20/2025	2/20/2020	118.75825	114.5439822	110.5018801	106.623913	102.9024776	99.33037049	95.9007644	92.60718609	89.44349559
200220A00025	2/20/2020	1.72	2/21/2023	2/20/2020	108.95421	107.1728272	105.429827	103.72404	102.0543428	100.4196571	98.81894771	97.2512204	95.71551961
200221A00003	2/25/2020	1.69	2/25/2025	2/25/2020	118.6887	114.4745848	110.4328245	106.5553707	102.8346004	99.26329234	95.83460338	92.54204579	89.37946649
200221A00009	2/21/2020	1.69	2/22/2022	2/21/2020	103.60179	102.911451	102.2302867	101.5581108	100.8947464	100.240021	99.5937668	98.95582015	98.32602169
200221A00013	2/21/2020	1.69	2/21/2025	2/21/2020	118.63542	114.4362725	110.4084163	106.5438719	102.8350836	99.27489274	95.85651392	92.57351326	89.4197877
200219A00006	2/19/2020	1.76	2/18/2022	2/19/2020	103.58605	102.9077453	102.2382999	101.577542	100.9253033	100.2814197	99.64573146	99.01808274	98.39832173
200219A00007	2/19/2020	1.81	8/19/2021	2/19/2020	100.76729	100.6271326	100.4873764	100.3480223	100.2090686	100.0705135	99.93235529	99.79459225	99.65722266
200219A00015	2/19/2020	1.77	2/19/2027	2/19/2020	128.61196	121.7096521	115.2188138	109.1127431	103.366618	97.95734981	92.86345266	88.06492325	83.54313064
200219A00016	2/19/2020	1.57	10/19/2022	2/19/2020	107.15668	105.7413862	104.3559945	102.9995681	101.671209	100.3700565	99.09528524	97.84610384	96.62175266
200220A00001	2/20/2020	1.74	2/22/2022	2/20/2020	103.63516	102.9447	102.2634106	101.5911108	100.9276236	100.2727767	99.62640196	98.98833594	98.3584192
200220A00007	2/20/2020	1.72	2/21/2023	2/20/2020	108.95421	107.1728272	105.429827	103.72404	102.0543428	100.4196571	98.81894771	97.2512204	95.71551961
200214A00014	2/18/2020	1.8	2/18/2025	2/18/2020	119.02798	114.8318205	110.8063997	106.943785	103.2364619	99.67730953	96.25957765	92.97686459	89.82309709
200214A00016	2/14/2020	1.57	2/14/2024	2/14/2020	113.92657	110.9834031	108.1317034	105.3680323	102.6891069	100.091791	97.5730871	95.13012949	92.76017712
200214A00017	2/14/2020	1.59	2/14/2025	2/14/2020	118.75589	114.562745	110.5401986	106.6803331	102.9756444	99.41902151	96.0037227	92.72335419	89.57184979
200214A00020	2/18/2020	1.78	1/15/2025	2/18/2020	118.50521	114.4320349	110.5210733	106.7649645	103.1567233	99.68972026	96.35766183	93.15457101	90.07476958
200218A00023	2/18/2020	1.55	2/21/2023	2/18/2020	108.90001	107.114927	105.3683829	103.6591953	101.9862346	100.3484167	98.74470096	97.17408791	95.63561714
200218A00024	2/20/2020	1.73	7/17/2023	2/20/2020	111.056	108.8101245	106.6215252	104.4883523	102.4088283	100.3812461	98.4039662	96.47541287	94.59407158
200210A00009	2/10/2020	1.57	2/10/2025	2/10/2020	118.62333	114.4467427	110.4396478	106.5941963	102.902953	99.35887023	95.95526569	92.68580058	89.54445989
200211A00022	2/11/2020	1.73	2/10/2023	2/11/2020	108.80099	107.0566389	105.3493678	103.6780679	102.0416727	100.4391579	98.86953892	97.33186947	95.82523923
200212A00003	2/12/2020	1.63	2/12/2025	2/12/2020	118.88575	114.6971555	110.6787204	106.8225546	103.1211844	99.56752654	96.15486537	92.87683105	89.72737961
200214A00002	2/14/2020	1.58	11/15/2024	2/14/2020	117.5588	113.684553	109.9582955	106.3735968	102.9243437	99.60471994	96.40919011	93.33248454	90.3695851
200214A00005	2/14/2020	1.59	2/14/2025	2/14/2020	118.75589	114.562745	110.5401986	106.6803331	102.9756444	99.41902151	96.0037227	92.72335419	89.57184979
200214A00007	2/14/2020	1.59	2/14/2025	2/14/2020	118.75589	114.562745	110.5401986	106.6803331	102.9756444	99.41902151	96.0037227	92.72335419	89.57184979
200204A00020	2/4/2020	1.6	2/4/2025	2/4/2020	118.65938	114.5031712	110.5149263	106.6869032	103.011764	99.48255155	96.09266716	92.83584987	89.70615695
200205A00011	2/7/2020	2.31	2/7/2024	2/7/2020	115.46041	112.5282713	109.6863665	106.9313395	104.2599812	101.6692244	99.1561359	96.71791006	94.351862
200205A00013	2/5/2020	1.77	2/6/2023	2/5/2020	108.80621	107.074773	105.3799633	103.7206885	102.0959024	100.5045997	98.94581369	97.418615	95.92210929
200207A00015	2/7/2020	1.73	2/7/2022	2/7/2020	103.39563	102.750917	102.1142172	101.4853863	100.8642792	100.2507541	99.64467284	99.04590052	98.45430551
200207A00017	2/7/2020	1.96	2/8/2027	2/7/2020	128.59376	121.770435	115.3506087	109.308299	103.6193308	98.26120466	93.21297083	88.4551147	83.96945073
200207A00018	2/7/2020	2.14	2/7/2030	2/7/2020	143.03024	131.8001731	121.5376344	112.1541467	103.5697575	95.71217652	88.5160047	81.92204435	75.87668182
200203A00009	2/3/2020	1.52	2/3/2023	2/3/2020	108.57228	106.8486304	105.1613737	103.5094315	101.8917677	100.3073866	98.75533079	97.23467927	95.74454593
200203A00012	2/3/2020	1.57	2/3/2025	2/3/2020	118.52893	114.3786901	110.3960873	106.5733959	102.9032971	99.37885143	95.99347658	92.74092698	89.61527424
200203A00022	2/3/2020	1.75	2/3/2025	2/3/2020	118.62888	114.4926357	110.5230501	106.7124665	103.053623	99.53963313	96.16396444	92.92041773	89.80310801
200204A00001	2/4/2020	1.79	2/4/2025	2/4/2020	118.79792	114.654994	110.6790851	106.8625072	103.1979789	99.67859537	96.2978072	93.04939924	89.92747162

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200204A00012	2/4/2020	1.98	2/4/2027	2/4/2020	128.66798	121.8572468	115.4484888	109.4158642	103.735332	98.38451349	93.34256893	88.59008311	84.10896061
200204A00015	2/4/2020	1.72	2/6/2023	2/4/2020	108.72225	106.9915478	105.2974577	103.6388893	102.0147968	100.424175	98.86605779	97.33951605	95.84365577
200131A00038	1/31/2020	1.73	1/30/2025	1/31/2020	118.49857	114.378372	110.4237758	106.6271884	102.9814131	99.47962389	96.11534458	92.88242827	89.77503869
200131A00048	1/31/2020	1.69	1/31/2024	1/31/2020	113.64483	110.760519	107.9646095	105.2538357	102.6250719	100.0753296	97.60174982	95.20159666	92.87225126
200203A00001	2/3/2020	1.7	2/3/2023	2/3/2020	108.64248	106.9221891	105.2381567	103.5893078	101.9746118	100.3930782	98.84375446	97.32572443	95.83810633
200203A00004	2/3/2020	1.7	2/3/2023	2/3/2020	108.64248	106.9221891	105.2381567	103.5893078	101.9746118	100.3930782	98.84375446	97.32572443	95.83810633
200203A00005	2/3/2020	1.7	5/3/2023	2/3/2020	109.92695	107.9221969	105.9639645	104.0508954	102.181682	100.3550627	98.56982011	96.82477957	95.11880694
200203A00006	2/3/2020	1.76	2/3/2025	2/3/2020	118.66774	114.5307569	110.5604612	106.7491886	103.0896762	99.57503689	96.19873747	92.95457804	89.83667295
200130A00048	1/30/2020	1.74	1/31/2022	1/30/2020	103.2931	102.6696595	102.0537085	101.4451168	100.8437535	100.2494906	99.66220289	99.08176843	98.50806791
200131A00006	1/31/2020	1.52	1/31/2022	1/31/2020	103.22243	102.5984216	101.9819283	101.3728125	100.7709427	100.1761904	99.58842988	99.00753865	98.43339694
200131A00010	2/3/2020	1.68	2/3/2023	2/3/2020	108.60907	106.8890728	105.2053254	103.5567562	101.9423348	100.3610709	98.81201198	97.29424211	95.80687962
200131A00014	2/5/2020	1.7	2/22/2022	2/5/2020	103.60846	102.9181008	102.2369115	101.5647108	100.9013218	100.2465721	99.60029383	98.96232331	98.33250119
200131A00017	1/31/2020	1.51	1/31/2024	1/31/2020	113.56675	110.6743682	107.870835	105.1528566	102.5172857	99.96111328	97.48146114	95.07557531	92.74081978
200131A00032	1/31/2020	2.1	1/31/2030	1/31/2020	142.54311	131.3622766	121.1431424	111.7979209	103.2472707	95.41943888	88.24949946	81.6786714	75.65370814
200130A00006	1/30/2020	1.77	1/30/2025	1/30/2020	118.65348	114.5303769	110.5729579	106.7736311	103.1251964	99.62082487	96.25403743	93.01868446	89.90892706
200130A00010	1/30/2020	1.56	1/31/2022	1/30/2020	103.24663	102.6225394	102.005963	101.3967649	100.7948135	100.1999802	99.61213943	99.0311686	98.45694796
200130A00011	1/30/2020	1.54	1/30/2023	1/30/2020	108.54535	106.8346026	105.1598052	103.5198977	101.9138633	100.3407248	98.79954192	97.28941026	95.80945913
200130A00012	1/30/2020	1.72	1/30/2023	1/30/2020	108.61517	106.9077513	105.2361445	103.5992985	101.996202	100.4258828	98.88740563	97.37987059	95.90241132
200130A00015	1/30/2020	1.63	7/30/2021	1/30/2020	100.4533	100.3695127	100.2858666	100.2023609	100.1189952	100.0357691	99.95268234	99.86973454	99.78692537
200130A00028	1/30/2020	1.54	2/7/2023	1/30/2020	108.66725	106.9297781	105.2291682	103.5643245	101.9341905	100.3377508	98.77402973	97.2420891	95.74102636
200127A00019	1/27/2020	1.8	1/27/2025	1/27/2020	118.73208	114.6169333	110.6668374	106.8742408	103.2319844	99.73327761	96.37167656	93.14106452	90.03563311
200127A00023	1/27/2020	1.8	1/27/2025	1/27/2020	118.73208	114.6169333	110.6668374	106.8742408	103.2319844	99.73327761	96.37167656	93.14106452	90.03563311
200128A00028	1/28/2020	1.81	1/28/2025	1/28/2020	118.78328	114.6640252	110.7100786	106.9138702	103.2682259	99.76634061	96.40175746	93.16834737	90.06029049
200129A00008	1/29/2020	1.76	1/31/2022	1/29/2020	103.3052	102.6817143	102.0657217	101.457089	100.8556849	100.2613816	99.6740538	99.0935796	98.51983967
200129A00018	2/3/2020	1.74	12/15/2022	2/3/2020	107.98224	106.4151762	104.8790493	103.3730221	101.8962851	100.4480568	99.02758334	97.63413675	96.26701396
200130A00005	1/30/2020	1.73	1/30/2024	1/30/2020	113.74172	110.8591167	108.0647883	105.3554732	102.7280533	100.179547	97.70710177	95.30798795	92.97959235
200121A00009	1/24/2020	1.94	1/24/2025	1/24/2020	119.23408	115.1189844	111.1685391	107.375227	103.7319214	100.2318614	96.86863076	93.63613813	90.52859845
200122A00010	1/22/2020	1.84	1/24/2022	1/22/2020	103.24264	102.6401247	102.0446278	101.4560262	100.8742006	100.2990344	99.7304138	99.16822746	98.61236661
200123A00005	1/23/2020	1.81	1/24/2022	1/23/2020	103.22509	102.6226355	102.0271972	101.4386537	100.8568856	100.2817766	99.71321265	99.15108251	98.59527741
200123A00013	1/27/2020	1.89	1/27/2025	1/27/2020	119.0798	114.9581359	111.0017177	107.2029847	103.5547711	100.0502794	96.68305935	93.44698813	90.33625153
200123A00049	1/23/2020	1.63	1/23/2023	1/23/2020	108.59331	106.9026315	105.2472133	103.6260281	102.0380894	100.4824482	98.95819153	97.46444041	96.0003483
200127A00016	1/27/2020	1.81	1/27/2025	1/27/2020	118.77071	114.6548447	110.7040463	106.9107679	103.2678496	99.76850003	96.40627465	93.17505603	90.06903516
200110A00022	1/13/2020	2	1/6/2025	1/13/2020	119.22869	115.1704576	111.2728175	107.528527	103.930712	100.4728461	97.14873123	93.95247869	90.8784923

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200113A00003	1/13/2020	1.72	1/13/2022	1/13/2020	103.0591	102.4890524	101.9253081	101.3677607	100.8163083	100.2708512	99.73129186	99.19753485	98.66948677
200114A00006	1/15/2020	1.99	1/15/2025	1/15/2020	119.30873	115.2206273	111.2951822	107.5250132	103.903119	100.4228552	97.07791362	93.86230351	90.77033339
200115A00015	1/17/2020	1.88	1/17/2023	1/17/2020	108.68793	107.0178138	105.3822359	103.7802074	102.2107728	100.6730124	99.16604053	97.68900435	96.24108193
200115A00018	1/15/2020	1.9	1/16/2024	1/15/2020	114.01725	111.1734607	108.4157747	105.7410565	103.1463025	100.6286384	98.18531253	95.81368976	93.5112457
200117A00026	1/17/2020	1.69	1/18/2022	1/17/2020	103.121	102.5359196	101.9574763	101.3855529	100.8200395	100.2608285	99.70781503	99.1608962	98.61997154
191231A00006	12/31/2019	1.88	12/31/2021	12/31/2019	102.89405	102.3635694	101.8385409	101.318877	100.804496	100.2953178	99.79126386	99.29225723	98.79822252
200106A00015	1/6/2020	1.87	2/15/2024	1/6/2020	114.35454	111.4115407	108.5598412	105.796017	103.1167948	100.5190475	97.99978615	95.55615296	93.18541436
200106A00019	1/6/2020	1.89	7/16/2024	1/6/2020	116.5005	113.0442672	109.7092332	106.4904448	103.3831812	100.3829428	97.48543928	94.68657881	91.98245714
200108A00017	1/8/2020	2.55	1/8/2035	1/8/2020	172.75073	152.6754154	135.1667467	119.8809734	106.5220717	94.83490168	84.59937605	75.62548702	67.74905939
200108A00018	1/8/2020	1.68	1/18/2022	1/8/2020	103.11531	102.5302573	101.9518326	101.3799276	100.8144324	100.2552395	99.70224399	99.15534296	98.61443596
200110A00014	1/10/2020	1.73	1/10/2023	1/10/2020	108.56512	106.9127114	105.2942834	103.7088696	102.1555393	100.6333962	99.14157683	97.67924936	96.24561182
191223A00009	12/23/2019	1.95	12/23/2022	12/23/2019	108.42416	106.8296822	105.2671301	103.7356297	102.2343338	100.7624257	99.31911715	97.90364798	96.51528419
191223A00022	12/23/2019	1.93	12/30/2021	12/23/2019	102.9038	102.3762302	101.8540558	101.33719	100.8255523	100.3190637	99.81764686	99.32122601	98.82972685
191223A00055	12/23/2019	2.46	12/7/2029	12/23/2019	145.34427	134.2393307	124.0712512	114.7560015	106.2174927	98.38679146	91.2014136	84.60469072	78.54520219
191226A00019	12/26/2019	2.4	12/22/2028	12/26/2019	140.09069	130.4803676	121.5997346	113.3895496	105.7956709	98.76859297	92.26302781	86.23752528	80.65412984
191230A00013	12/30/2019	1.84	12/2/2024	12/30/2019	118.74138	114.7897749	110.9909287	107.3381216	103.8249661	100.4453893	97.19361563	94.06415055	91.05176531
191230A00031	12/30/2019	1.85	12/30/2024	12/30/2019	119.15468	115.1047455	111.2147418	107.4774759	103.886119	100.4341868	97.11551985	93.92426544	90.8548605
191212A00028	12/13/2019	1.93	1/17/2023	12/13/2019	108.76895	107.0981459	105.4618949	103.8592058	102.2891224	100.7507248	99.24312714	97.76547606	96.31694941
191212A00029	12/13/2019	1.94	5/16/2023	12/13/2019	110.58424	108.5336832	106.5315269	104.5763371	102.6667289	100.8013677	98.97896654	97.19828423	95.45812353
191216A00042	12/16/2019	1.95	12/16/2022	12/16/2019	108.31743	106.7446924	105.2030608	103.6916871	102.2097557	100.7564798	99.33110024	97.932884	96.56112324
191217A00012	12/20/2019	2.03	12/20/2024	12/20/2019	119.11469	115.1129581	111.2676859	107.5719083	104.019007	100.602694	97.31699326	94.1562233	91.11498087
191219A00036	12/20/2019	2.1	12/20/2024	12/20/2019	119.37688	115.3703745	111.5204664	107.8201863	104.2629109	100.8423476	97.55251579	94.38772961	91.34258174
191220A00002	12/20/2019	3.02	12/20/2038	12/20/2019	195.26646	167.617725	144.338465	124.7060713	108.121255	94.08643965	82.18803247	72.08186046	63.48119378
191206A00019	12/6/2019	1.96	11/15/2023	12/6/2019	113.30136	110.6597591	108.0933188	105.5994784	103.1757781	100.8198567	98.52944626	96.30236807	94.13652872
191206A00021	12/6/2019	2.02	12/6/2024	12/6/2019	118.8887	114.9362007	111.1366049	107.4831752	103.9695117	100.58953	97.33744388	94.20774907	91.19520788
191206A00044	12/10/2019	2.01	10/31/2024	12/10/2019	118.35541	114.5308171	110.8501221	107.3071648	103.8960822	100.6112918	97.44747687	94.39957185	91.46274963
191209A00009	12/9/2019	1.91	12/9/2021	12/9/2019	102.5574	102.0924165	101.6316471	101.175036	100.722527	100.2740649	99.82959551	99.38906554	98.95242271
191210A00011	12/10/2019	1.92	12/12/2022	12/10/2019	108.21101	106.6510563	105.1217287	103.6222024	102.1516801	100.7093921	99.29459556	97.90657305	96.54463165
191212A00019	12/13/2019	1.93	12/19/2022	12/13/2019	108.33246	106.7506569	105.2003043	103.6805444	102.1905483	100.7295166	99.29667775	97.89128732	96.5126264
191202A00005	12/2/2019	2.03	12/2/2024	12/2/2019	118.87174	114.9324468	111.145063	107.5029244	103.9996918	100.6293372	97.38612754	94.2646077	91.2595861
191203A00004	12/4/2019	1.87	12/4/2024	12/4/2019	118.30737	114.3717788	110.5882955	106.9502325	103.4512305	100.0852436	96.84652158	93.72959409	90.72925524
191204A00013	12/4/2019	1.72	12/4/2024	12/4/2019	118.32351	114.3729582	110.575438	106.9242071	103.4128553	100.0352888	96.7857125	93.6586139	90.64874763
191206A00008	12/6/2019	2.44	12/6/2030	12/6/2019	150.02042	137.3404076	125.8409486	115.4057182	105.9304135	97.32145513	89.49483562	82.37509643	75.89441917

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191206A00009	12/6/2019	2.87	12/4/2037	12/6/2019	187.7569	162.3636034	140.7862863	122.4250624	106.7774233	93.42199697	82.00508124	72.22946857	63.84516359
191206A00013	12/6/2019	3.05	12/6/2044	12/6/2019	224.5737	184.381221	152.2967953	126.6105388	105.9832071	89.36412359	75.92761758	65.02372884	56.13992144
191122A00021	11/26/2019	3.4	11/22/2038	11/26/2019	203.00176	174.7878549	150.986703	130.8740859	113.8485957	99.4102398	87.14286518	76.69970275	67.79146666
191126A00015	11/27/2019	1.88	10/14/2022	11/27/2019	107.35654	105.9477622	104.5704399	103.2235199	101.9059971	100.6169106	99.35534189	98.12041195	96.9112795
191126A00022	11/26/2019	1.72	5/26/2023	11/26/2019	110.59352	108.5070146	106.4705148	104.4825164	102.5415671	100.6462682	98.79527185	96.98727901	95.22103737
191126A00023	11/26/2019	1.81	5/27/2025	11/26/2019	120.96776	116.3953925	112.0208124	107.834436	103.8271944	99.99050374	96.31623644	92.7966945	89.42458454
191129A00010	11/29/2019	1.94	8/27/2021	11/29/2019	100.9114	100.748571	100.5862695	100.4244949	100.2632447	100.1025163	99.94230717	99.78261491	99.62343698
191129A00012	11/29/2019	1.99	11/29/2024	11/29/2019	118.68363	114.7574495	110.9823552	107.3517294	103.8592812	100.4990279	97.26527833	94.15261715	91.15588967
191121A00009	11/21/2019	2.55	11/21/2036	11/21/2019	181.05193	157.5124725	137.3413619	120.0351962	105.1682769	92.38027593	81.36590829	71.86627957	63.6616297
191121A00010	11/21/2019	2.59	11/20/2037	11/21/2019	186.0182	160.5322999	138.8948692	120.4994648	104.8382187	91.48538054	80.08367757	70.33299591	61.9809801
191121A00034	11/21/2019	2.28	11/2/2029	11/21/2019	143.15044	132.2714216	122.3021695	113.1618709	104.777277	97.08195745	90.01563473	83.52358607	77.55610652
191122A00007	11/22/2019	1.87	11/21/2025	11/22/2019	123.54099	118.3232781	113.3551427	108.6233686	104.115508	99.81983222	95.72528676	91.82144879	88.09848793
191122A00018	11/26/2019	3.11	11/22/2039	11/26/2019	201.29182	171.6524676	146.8989973	126.188571	108.828274	94.24776714	81.97703912	71.62828962	62.88116064
191122A00020	11/26/2019	3.2	11/23/2037	11/26/2019	194.19701	168.3120053	146.2890523	127.523913	111.5100788	97.82251572	86.1041834	76.05484271	67.42175297
191115A00016	11/18/2019	2.48	11/18/2024	11/18/2019	120.31861	116.3997341	112.6300903	109.0032013	105.5129092	102.1533553	98.91896326	95.80442474	92.80468447
191115A00028	11/15/2019	2.34	9/28/2029	11/15/2019	143.26778	132.5091389	122.6411872	113.5853596	105.2704236	97.63175623	90.61069678	84.15396709	78.21315073
191115A00030	11/15/2019	2.35	11/9/2029	11/15/2019	143.91066	132.9726173	122.9505771	113.7630275	105.3361013	97.60282106	90.50242417	83.97975818	77.98473725
191120A00006	11/20/2019	2.67	11/20/2035	11/20/2019	175.30143	153.9629814	135.4930177	119.4878313	105.6025232	93.54217433	83.05438045	73.92293324	65.96246732
191120A00011	11/20/2019	1.88	1/20/2023	11/20/2019	108.73237	107.0531188	105.4087116	103.7981406	102.2204372	100.6746693	99.15993987	97.6753849	96.22017213
191120A00031	11/20/2019	1.69	11/21/2022	11/20/2019	107.75519	106.2587714	104.7906791	103.3501731	101.9365413	100.5490957	99.18717122	97.85012495	96.53733499
191114A00008	11/18/2019	1.93	4/17/2023	11/18/2019	110.15033	108.1915189	106.2775069	104.4069367	102.5785005	100.7909411	99.04304965	97.33366319	95.66166255
191114A00009	11/18/2019	1.94	8/16/2023	11/18/2019	111.94168	109.5962337	107.3122358	105.0876321	102.9204501	100.8087991	98.75086656	96.74491374	94.78927227
191114A00020	11/18/2019	1.91	2/15/2022	11/18/2019	103.63635	102.9668367	102.3059534	101.6535357	101.0094216	100.3734532	99.74547674	99.12534211	98.51290305
191114A00021	11/18/2019	1.91	6/15/2022	11/18/2019	105.5729	104.528057	103.503813	102.4995675	101.5147392	100.5487689	99.60111889	98.67127167	97.75872907
191115A00014	11/18/2019	2.45	11/18/2024	11/18/2019	120.20921	116.2922833	112.5245274	108.8994731	105.4109643	102.0531442	98.82043831	95.70753991	92.70939538
191115A00015	11/18/2019	2.61	11/18/2024	11/18/2019	120.79265	116.8653543	113.0875293	109.4526902	105.9546705	102.5876032	99.34590471	96.224259	93.21760382
191105A00014	11/5/2019	1.96	11/6/2023	11/5/2019	113.1704	110.5591082	108.0213817	105.5547412	103.1568027	100.8252764	98.55796213	96.35274532	94.20759325
191105A00018	11/5/2019	1.78	11/6/2023	11/5/2019	113.09963	110.4813726	107.9370359	105.4641223	103.0602317	100.7230591	98.45038963	96.24009523	94.09013014
191106A00012	11/6/2019	2.02	10/11/2024	11/6/2019	118.122	114.363852	110.7455277	107.2609872	103.9044953	100.6706009	97.55411999	94.55012115	91.65391134
191107A00011	11/8/2019	2.02	2/24/2023	11/8/2019	109.5203	107.7240934	105.9667217	104.2469923	102.5637632	100.9159391	99.3024685	97.72234158	96.17458823
191108A00013	11/8/2019	2.25	11/8/2029	11/8/2019	144.65997	133.6141281	123.495575	114.2216419	105.7174199	97.91499909	90.75278218	84.17486902	78.13050372
191113A00017	11/15/2019	1.93	12/6/2021	11/15/2019	102.51835	102.0622537	101.6102156	101.1621777	100.7180869	100.2778913	99.84153974	99.40898192	98.98016851
191031A00041	10/31/2019	1.72	10/31/2023	10/31/2019	112.864	110.2678596	107.7445373	105.2915916	102.9066735	100.5875266	98.33198215	96.13795548	94.00344219

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191104A00009	11/4/2019	1.91	11/6/2023	11/4/2019	113.0458	110.4360593	107.8998563	105.4347056	103.0382245	100.708124	98.44220489	96.2383536	94.09453826
191104A00022	11/4/2019	2.17	8/4/2027	11/4/2019	132.03513	124.4945008	117.4329423	110.817499	104.6176524	98.80512865	93.35372224	88.23913367	83.43882108
191104A00024	11/4/2019	2.26	8/3/2029	11/4/2019	141.79426	131.3016145	121.664208	112.807794	104.6649414	97.17437269	90.28037341	83.93225971	78.0839002
191105A00007	11/5/2019	1.98	11/5/2026	11/5/2019	128.61349	122.0809181	115.9189121	110.1045876	104.6165865	99.43496727	94.54110413	89.91759375	85.54816914
191105A00008	11/5/2019	1.83	11/5/2024	11/5/2019	118.33233	114.4775485	110.7687101	107.1995331	103.7640364	100.4565271	97.2715846	94.20404652	91.24899472
191023A00006	10/23/2019	1.95	10/23/2024	10/23/2019	118.03394	114.2399107	110.5880261	107.072183	103.6865741	100.4256739	97.28422297	94.25721357	91.33987609
191024A00017	10/25/2019	1.9	7/15/2021	10/25/2019	100.23402	100.1922167	100.1504644	100.1087643	100.0671164	100.0255206	99.98397671	99.94248471	99.90104447
191025A00005	10/28/2019	1.98	10/28/2024	10/28/2019	118.20765	114.3950011	110.7255775	107.1932415	103.7921517	100.5167475	97.36173418	94.32206836	91.39294498
191025A00009	10/25/2019	2.26	5/25/2029	10/25/2019	140.89391	130.6923525	121.3046322	112.6615989	104.7003129	97.36345445	90.5987958	84.35872544	78.59981878
191025A00013	10/25/2019	1.98	10/25/2024	10/25/2019	118.16761	114.3650189	110.7050335	107.1815377	103.7887096	100.5210086	97.3731601	94.34014134	91.41716761
191031A00019	10/31/2019	1.88	10/31/2022	10/31/2019	107.50763	106.0803612	104.6790189	103.3029574	101.9515506	100.6241924	99.32029605	98.03929338	96.78063402
191017A00022	10/17/2019	2.25	7/17/2028	10/17/2019	136.8324	127.9070914	119.6259112	111.9389963	104.8005958	98.16870818	92.00475537	86.27328724	80.94171258
191017A00026	10/17/2019	2.3	7/17/2029	10/17/2019	141.94562	131.5070156	121.9148012	113.0958628	104.9837636	97.51809993	90.64392478	84.3112285	78.47447184
191018A00006	10/18/2019	1.89	6/1/2022	10/18/2019	105.32662	104.326684	103.3456476	102.38298	101.4381692	100.5107222	99.60016417	98.70603712	97.82789966
191018A00007	10/18/2019	1.89	7/1/2022	10/18/2019	105.80093	104.7050603	103.6317864	102.5804129	101.5502751	100.5407349	99.55117979	98.58102109	97.6296931
191021A00033	10/22/2019	1.9	7/18/2022	10/22/2019	106.08201	104.9311281	103.805116	102.7031712	101.6245284	100.5684544	99.53424651	98.521231	97.52876151
191021A00034	10/22/2019	1.9	10/17/2022	10/22/2019	107.39852	105.986564	104.6050781	103.253085	101.9296459	100.6338623	99.36487352	98.12185486	96.90401575
191009A00026	10/9/2019	1.74	10/7/2022	10/9/2019	107.08922	105.6898248	104.3241262	102.9909045	101.6890021	100.4173163	99.17479596	97.96043869	96.77328772
191009A00027	10/9/2019	1.74	10/6/2023	10/9/2019	112.20141	109.6960762	107.2597046	104.8898809	102.584299	100.340753	98.1571319	96.03141428	93.96166392
191015A00013	10/15/2019	1.72	10/15/2024	10/15/2019	117.65881	113.8825222	110.2474436	106.7474771	103.3768261	100.1299795	97.00169531	93.98698619	91.08110491
191015A00026	10/15/2019	1.69	10/15/2021	10/15/2019	101.64151	101.3377111	101.0357415	100.7355833	100.4372201	100.1406358	99.84581422	99.55273975	99.26139673
191015A00029	10/15/2019	1.91	10/15/2024	10/15/2019	117.78629	114.0214789	110.3971107	106.9071341	103.5457955	100.3076239	97.18741517	94.18021718	91.28131585
191017A00003	10/17/2019	1.9	12/10/2021	10/17/2019	102.56882	102.1008765	101.6372005	101.1777358	100.7224251	100.2712122	99.82404173	99.38085957	98.94161237
191007A00020	10/7/2019	1.69	10/7/2022	10/7/2019	107.02312	105.6241931	104.2589539	102.9261834	101.6247244	100.3534743	99.11138234	97.89744616	96.71070925
191007A00029	10/7/2019	1.88	10/9/2029	10/7/2019	140.74322	129.9756212	120.1079714	111.0603835	102.7604538	95.14252627	88.14703106	81.71989044	75.81198615
191008A00018	10/8/2019	1.74	10/11/2022	10/8/2019	107.14056	105.7364396	104.3647204	103.0242836	101.7140587	100.4330241	99.18020436	97.95466749	96.75552267
191008A00033	10/8/2019	1.71	10/8/2024	10/8/2019	116.99048	113.2611488	109.6705043	106.2125513	102.8815916	99.67221038	96.5792597	93.59784358	90.72330378
191009A00017	10/9/2019	1.76	10/4/2024	10/9/2019	117.11585	113.3967768	109.815675	106.3665652	103.0437711	99.84190006	96.75582724	93.78067998	90.91182352
191009A00021	10/9/2019	1.71	10/7/2022	10/9/2019	107.04956	105.6504458	104.2850228	102.9520719	101.6504355	100.3790111	99.13674779	97.92264317	96.73574064
191004A00003	10/4/2019	1.89	10/5/2026	10/4/2019	126.71327	120.3708908	114.3833742	108.728946	103.3872923	98.33945107	93.56771421	89.0555375	84.78745726
191004A00005	10/4/2019	1.54	10/4/2024	10/4/2019	116.88264	113.154109	109.5642483	106.1070359	102.7767549	99.56797493	96.47553584	93.49453191	90.62029745
191004A00009	10/4/2019	1.71	10/4/2021	10/4/2019	101.45218	101.180593	100.9104582	100.6417664	100.3745062	100.1086661	99.84423487	99.58120127	99.31955424
191004A00012	10/4/2019	1.78	10/4/2024	10/4/2019	117.186	113.4657234	109.8834528	106.4332064	103.1093066	99.90635976	96.81923991	93.84307343	90.97322458

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191004A00013	10/4/2019	1.53	10/22/2021	10/4/2019	101.69868	101.3746554	101.0527022	100.7328013	100.4149331	100.0990784	99.78521775	99.4733324	99.16340365
191007A00018	10/8/2019	1.77	7/16/2021	10/8/2019	100.24384	100.1992449	100.1547112	100.1102344	100.0658145	100.0214514	99.97714492	99.93289498	99.88870148
191003A00014	10/3/2019	1.71	9/20/2024	10/3/2019	116.76012	113.0919306	109.5585496	106.1541687	102.8732745	99.71062881	96.66125245	93.7204106	90.88359882
191003A00020	10/3/2019	1.72	10/3/2022	10/3/2019	107.03962	105.6444906	104.2843595	102.9579183	101.6639224	100.4011874	99.16858667	97.96504688	96.7895454
191003A00022	10/3/2019	1.72	2/3/2023	10/3/2019	108.67588	106.9553053	105.270988	103.6218594	102.0068888	100.4250855	98.87549693	97.35720674	95.86933303
191003A00033	10/3/2019	1.54	10/3/2022	10/3/2019	106.97004	105.5726607	104.2103901	102.8819121	101.5859764	100.3213941	99.08703358	97.88181724	96.70471835
191004A00001	10/4/2019	2.47	10/4/2034	10/4/2019	167.25043	148.1394183	131.4283945	116.8015536	103.9862001	92.74666684	82.87911818	74.20710504	66.57776063
191004A00002	10/4/2019	2.08	10/4/2029	10/4/2019	140.89725	130.2180075	120.4267631	111.4449722	103.2014357	95.63157212	88.67676962	82.28380484	76.40432095
190930A00040	9/30/2019	1.92	2/25/2022	9/30/2019	103.80354	103.1034507	102.4127775	101.731327	101.0589155	100.3953642	99.74049888	99.09414996	98.4561522
190930A00071	9/30/2019	2.05	9/29/2025	9/30/2019	122.96482	117.9573692	113.1823193	108.6275398	104.2816076	100.1337636	96.17386954	92.39236797	88.78024499
191001A00005	10/1/2019	1.8	4/18/2023	10/1/2019	109.91996	107.9603431	106.0455928	104.1743486	102.345305	100.5572069	98.80884684	97.09906325	95.42673779
191002A00006	10/2/2019	1.84	10/2/2024	10/2/2019	117.37064	113.6534189	110.0738991	106.6261101	103.3043829	100.1033331	97.01784448	94.04305316	91.17433344
191002A00013	10/2/2019	1.78	10/3/2022	10/2/2019	107.11825	105.7225643	104.3618909	103.0349172	101.7403979	100.4771487	99.24404248	98.04000571	96.86401555
191002A00017	10/2/2019	1.84	10/2/2024	10/2/2019	117.37064	113.6534189	110.0738991	106.6261101	103.3043829	100.1033331	97.01784448	94.04305316	91.17433344
190926A00017	9/26/2019	2.23	9/26/2029	9/26/2019	142.208	131.5018559	121.6825317	112.6718076	104.3987583	96.79903771	89.81423565	83.39130017	77.48201965
190927A00019	9/30/2019	1.91	9/30/2022	9/30/2019	107.2591	105.865538	104.507986	103.1850586	101.8954453	100.6379007	99.41124073	98.2143392	97.04612388
190927A00036	9/27/2019	1.94	9/6/2024	9/27/2019	117.36455	113.7315948	110.2306442	106.8560802	103.6025645	100.4650214	97.43862302	94.51877501	91.70110381
190930A00011	9/30/2019	1.89	10/24/2022	9/30/2019	107.46778	106.0478222	104.6560796	103.291733	101.9539988	100.6421235	99.3553821	98.09307696	96.8545363
190930A00012	9/30/2019	1.93	9/30/2024	9/30/2019	117.6594	113.9434607	110.3649735	106.9179711	103.5967915	100.3960581	97.31066233	94.33574889	91.46670054
190930A00014	9/30/2019	1.89	9/30/2022	9/30/2019	107.23306	105.8396859	104.4823123	103.1595603	101.8701192	100.6127438	99.38625018	98.1895122	97.0214577
190925A00019	9/27/2019	1.93	9/27/2023	9/27/2019	112.52898	110.0470831	107.6329802	105.2842866	102.9987213	100.7741039	98.6083497	96.49946395	94.44553744
190925A00024	9/25/2019	1.88	4/14/2022	9/25/2019	104.54913	103.7005269	102.8656559	102.0441886	101.2358041	100.4401915	99.65704977	98.88608743	98.12702187
190926A00004	9/26/2019	1.93	9/21/2021	9/26/2019	101.30569	101.0714003	100.8382001	100.6060844	100.3750456	100.1450761	99.91616866	99.68831574	99.4615101
190926A00006	9/26/2019	1.7	9/26/2022	9/26/2019	107.08906	105.7067955	104.3599942	103.047302	101.7674367	100.5191798	99.30137233	98.11291123	96.95274626
190926A00015	9/26/2019	2.32	11/26/2030	9/26/2019	148.58805	136.015375	124.6117332	114.2621643	104.8635602	96.32338982	88.55856528	81.49443581	75.06389271
190926A00016	9/26/2019	2.28	5/24/2030	9/26/2019	145.79041	134.0413548	123.3329986	113.5676621	104.6572992	96.5225026	89.09161675	82.29994596	76.0890467
190923A00017	9/23/2019	1.74	9/23/2024	9/23/2019	117.43808	113.7353879	110.1692786	106.7338438	103.423476	100.232849	97.15690095	94.19081988	91.33002881
190923A00032	9/23/2019	1.72	9/22/2023	9/23/2019	112.31729	109.8463724	107.4427539	105.1040741	102.828077	100.6126058	98.45559765	96.35507868	94.30915905
190923A00078	9/23/2019	1.96	6/28/2024	9/23/2019	116.48356	113.0837067	109.8015453	106.6323353	103.5715549	100.6148902	97.75822469	94.99762909	92.32935134
190924A00026	9/24/2019	1.9	7/22/2022	9/24/2019	106.14575	104.9819149	103.8434928	102.7296555	101.6396131	100.5726096	99.52792034	98.50485113	97.50273613
190924A00033	9/24/2019	1.84	9/30/2022	9/24/2019	107.16798	105.7750557	104.4181282	103.0958144	101.8068038	100.5498515	99.3237738	98.1274447	96.95979226
190925A00018	9/25/2019	1.7	9/25/2024	9/25/2019	117.32582	113.6185098	110.0481732	106.6088789	103.2949943	100.1011697	97.0223217	94.05361805	91.19046307
190916A00008	9/16/2019	2.05	9/16/2021	9/16/2019	101.25293	101.0329297	100.8138945	100.5958205	100.3787015	100.1625311	99.94730309	99.7330112	99.51964931

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190916A00009	9/16/2019	2.04	9/16/2022	9/16/2019	107.20267	105.8543355	104.5397688	103.2577096	102.0069635	100.7863944	99.59491998	98.43150961	97.29518062
190917A00035	9/19/2019	2.02	10/16/2023	9/19/2019	113.01644	110.4712209	107.9964953	105.5898389	103.2489315	100.9715499	98.75556275	96.59892589	94.49967828
190919A00007	9/19/2019	2.04	9/19/2024	9/19/2019	117.88928	114.2052149	110.6562626	107.2366097	103.9407381	100.7634046	97.69962524	94.74466003	91.89399945
190919A00017	9/19/2019	1.8	9/19/2022	9/19/2019	107.10753	105.7476109	104.4220309	103.1295043	101.8688071	100.6387751	99.43830038	98.26632766	97.12185146
190920A00021	9/20/2019	1.96	9/18/2026	9/20/2019	127.89871	121.548926	115.5521366	109.8867879	104.532765	99.47128744	94.68481283	90.15694765	85.87236536
190910A00030	9/10/2019	1.86	9/10/2024	9/10/2019	117.14482	113.5025631	109.9930887	106.6107246	103.3500836	100.2060446	97.17373727	94.24852808	91.42600685
190912A00031	9/12/2019	1.75	9/12/2024	9/12/2019	117.3226	113.6578078	110.1270898	106.7247033	103.4451898	100.2833617	97.23428675	94.29327308	91.45585596
190912A00033	9/12/2019	1.77	9/12/2023	9/12/2019	112.28916	109.8500299	107.4766462	105.1667283	102.9180973	100.7286688	98.5964478	96.51952422	94.49606818
190912A00034	9/12/2019	1.76	9/12/2022	9/12/2019	106.94694	105.6105599	104.3073942	103.0362142	101.7958538	100.585203	99.40320464	98.24885104	97.12118136
190913A00014	9/13/2019	2.08	9/13/2024	9/13/2019	117.94269	114.2772597	110.7456375	107.3420972	104.0611994	100.8977743	97.84690572	94.90391739	92.06435884
190913A00025	9/13/2019	2.04	3/15/2022	9/13/2019	104.18195	103.4260776	102.6811467	101.9469253	101.2231833	100.5096974	99.8062507	99.11263217	98.42863679
190906A00005	9/6/2019	1.77	9/6/2023	9/6/2019	111.8526	109.4444209	107.1006351	104.8190349	102.5975043	100.4340181	98.32663729	96.27350411	94.2728382
190906A00012	9/6/2019	1.76	9/6/2024	9/6/2019	116.74874	113.1261022	109.6351831	106.2703798	103.0263635	99.89806771	96.88067326	93.96959429	91.16046521
190906A00014	9/6/2019	1.57	9/6/2024	9/6/2019	116.62337	112.9899022	109.4888691	106.1146174	102.8617793	99.72525129	96.70017995	93.78194714	90.96615703
190906A00018	9/6/2019	1.76	9/6/2024	9/6/2019	116.74874	113.1261022	109.6351831	106.2703798	103.0263635	99.89806771	96.88067326	93.96959429	91.16046521
190909A00025	9/9/2019	1.88	9/9/2024	9/9/2019	117.19993	113.5599996	110.0526506	106.672231	103.4133658	100.2709451	97.24010934	94.31623482	91.4949205
190910A00013	9/10/2019	1.9	9/9/2022	9/10/2019	106.91624	105.5922306	104.3008518	103.0409061	101.8112568	100.6108216	99.4385689	98.2935155	97.17472326
190904A00008	9/4/2019	1.69	9/3/2024	9/4/2019	116.47037	112.8620983	109.384766	106.0328147	102.8009591	99.68417312	96.67767537	93.77691535	90.97756052
190904A00019	9/4/2019	1.69	9/4/2024	9/4/2019	116.48334	112.8716096	109.391049	106.0360789	102.801401	99.68197684	96.67301361	93.76995012	90.96844387
190905A00003	9/5/2019	1.76	9/5/2024	9/5/2019	116.73556	113.1163818	109.6286982	106.2669201	103.0257321	99.90007989	96.88515588	93.9763849	91.16941135
190905A00015	9/5/2019	1.78	9/6/2022	9/5/2019	106.72133	105.4082101	104.1272234	102.8772046	101.6570416	100.4656752	99.30209548	98.16533949	97.0544882
190905A00035	9/5/2019	1.82	9/7/2021	9/5/2019	101.06166	100.867517	100.6741242	100.4814801	100.2895805	100.0984209	99.9079972	99.71830499	99.52934006
190906A00004	9/6/2019	1.78	9/6/2022	9/6/2019	106.72133	105.4082101	104.1272234	102.8772046	101.6570416	100.4656752	99.30209548	98.16533949	97.0544882
190830A00002	8/30/2019	1.93	8/28/2026	8/30/2019	126.48865	120.2817841	114.4160748	108.8709381	103.6271447	98.66672454	93.97287701	89.52988832	85.32305494
190830A00010	9/3/2019	1.75	9/1/2023	9/3/2019	111.73609	109.3448819	107.0172861	104.7511314	102.54434	100.3949225	98.30097338	96.26066654	94.27225137
190830A00012	8/30/2019	1.76	8/30/2024	8/30/2019	116.65679	113.0582323	109.5898409	106.2461116	103.021807	99.91194558	96.91178723	94.01681994	91.222747
190830A00021	8/30/2019	1.76	8/30/2024	8/30/2019	116.65679	113.0582323	109.5898409	106.2461116	103.021807	99.91194558	96.91178723	94.01681994	91.222747
190903A00004	9/3/2019	1.77	9/6/2022	9/3/2019	106.70901	105.3959733	104.1150669	102.865127	101.6450417	100.4537516	99.29024704	98.15356496	97.0427864
190904A00007	9/4/2019	1.69	9/1/2023	9/4/2019	111.59846	109.2088445	106.8828096	104.6181831	102.4128879	100.2649357	98.1724218	96.13352106	94.1464837
190828A00009	8/28/2019	1.71	8/28/2024	8/28/2019	116.46138	112.8722866	109.4128701	106.0776517	102.8614205	99.75921979	96.76633293	93.87826964	91.09075361
190828A00015	8/28/2019	2.04	8/28/2029	8/28/2019	140.067	129.5579003	119.9134823	111.0580592	102.9229467	95.44577876	88.56989577	82.24379426	76.4206328
190828A00020	8/28/2019	1.95	5/28/2027	8/28/2019	129.78127	122.5455666	115.75768	109.3876291	103.4075912	97.79173227	92.51605479	87.55825862	82.89761261
190829A00005	8/30/2019	2.06	8/30/2023	8/30/2019	112.41745	110.0244898	107.6950185	105.4268773	103.2179974	101.066398	98.97018136	96.92752891	94.93669679

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190829A00031	8/29/2019	1.54	8/29/2024	8/29/2019	116.4171	112.8128629	109.3392425	105.9906991	102.7619706	99.64805207	96.64418176	93.74582718	90.94867242
190829A00045	8/29/2019	1.9	8/28/2026	8/29/2019	126.31796	120.1156713	114.254357	108.7134419	103.473705	98.51718415	93.82708625	89.38770454	85.18434218
190826A00058	8/26/2019	1.91	8/26/2026	8/26/2019	126.35125	120.1546792	114.2984439	108.7620276	103.5262616	98.57323161	93.88618793	89.44946349	85.24839755
190826A00060	8/26/2019	2.02	8/26/2027	8/26/2019	131.26138	123.6706382	116.5667422	109.9158988	103.6868406	97.85062146	92.38043167	87.25142885	82.44058332
190827A00001	8/27/2019	1.74	8/27/2024	8/27/2019	116.55037	112.9629079	109.5049598	106.171059	102.9560051	99.85485115	96.86288949	93.97563822	91.18882881
190827A00022	8/27/2019	1.83	8/27/2021	8/27/2019	100.8936	100.730789	100.5685097	100.4067573	100.2455292	100.0848228	99.92463568	99.76496533	99.60580926
190827A00039	8/27/2019	1.78	8/26/2022	8/27/2019	106.5526	105.2755977	104.0290391	102.8118458	101.6229902	100.4614919	99.32641549	98.21686754	97.13199463
190828A00008	8/28/2019	1.75	8/29/2022	8/28/2019	106.56234	105.2757677	104.0200813	102.7941819	101.5970201	100.4275952	99.28495234	98.16818029	97.07640854
190826A00018	8/26/2019	1.9	8/27/2029	8/26/2019	140.39991	129.8051246	120.0845663	111.1615521	102.9665017	95.43624796	88.51341441	82.14585597	76.28615676
190826A00025	8/26/2019	1.76	11/26/2024	8/26/2019	117.79785	113.8974124	110.1468771	106.5396874	103.0696128	99.7307277	96.51739431	93.42424748	90.44617982
190826A00034	8/26/2019	1.9	8/24/2029	8/26/2019	140.36351	129.781034	120.0710269	111.1570192	102.9696233	95.44584174	88.52844708	82.16542541	76.30947621
190826A00038	8/26/2019	1.74	8/26/2022	8/26/2019	106.50461	105.2279136	103.9816601	102.764767	101.5762067	100.414999	99.28020856	98.17094212	97.08634635
190826A00056	8/26/2019	1.72	8/26/2024	8/26/2019	116.46982	112.886797	109.4330568	106.1031399	102.8918588	99.79427884	96.80570357	93.92166179	91.13789491
190826A00057	8/26/2019	1.87	8/26/2025	8/26/2019	121.70244	116.8359868	112.1912547	107.7568988	103.522223	99.47713878	95.61212663	91.91820042	88.38687417
190821A00028	8/21/2019	1.8	8/21/2023	8/21/2019	111.697	109.339346	107.0437662	104.8081708	102.6305561	100.5090024	98.44166949	96.426793	94.46268026
190821A00030	8/21/2019	1.8	8/21/2024	8/21/2019	116.67583	113.1049457	109.6624279	106.3428784	103.1411654	100.0524058	97.07195146	94.19537604	91.41846276
190822A00016	8/22/2019	1.84	8/22/2022	8/22/2019	106.56258	105.2981871	104.0636546	102.8579299	101.6800141	100.5289539	99.40383887	98.30379972	97.22800537
190823A00005	8/23/2019	1.62	8/23/2024	8/23/2019	116.6119	113.0231839	109.5639511	106.2287373	103.0123484	99.9098434	96.91651959	94.02789965	91.2397191
190826A00004	8/26/2019	1.74	8/26/2022	8/26/2019	106.50461	105.2279136	103.9816601	102.764767	101.5762067	100.414999	99.28020856	98.17094212	97.08634635
190826A00006	8/26/2019	1.72	8/26/2024	8/26/2019	116.46982	112.886797	109.4330568	106.1031399	102.8918588	99.79427884	96.80570357	93.92166179	91.13789491
190820A00021	8/20/2019	2.13	8/20/2029	8/20/2019	140.80536	130.2935901	120.6439415	111.7811595	103.6369323	96.1492158	89.26162815	82.92290526	77.08641158
190820A00054	8/20/2019	1.76	8/18/2022	8/20/2019	106.40644	105.1557243	103.9342584	102.741029	101.5750659	100.4354427	99.32127496	98.23171708	97.16596071
190821A00009	8/21/2019	1.79	8/22/2022	8/21/2019	106.50316	105.2391552	104.0049972	102.799641	101.6220877	100.4713842	99.34662045	98.24692704	97.17147312
190821A00016	8/21/2019	1.79	8/22/2022	8/21/2019	106.50316	105.2391552	104.0049972	102.799641	101.6220877	100.4713842	99.34662045	98.24692704	97.17147312
190821A00017	8/21/2019	1.8	8/21/2024	8/21/2019	116.67583	113.1049457	109.6624279	106.3428784	103.1411654	100.0524058	97.07195146	94.19537604	91.41846276
190821A00021	8/21/2019	1.79	8/18/2022	8/21/2019	106.44174	105.1907995	103.9691131	102.7756667	101.6094899	100.4696566	99.35528187	98.26552023	97.19956321
190819A00030	8/19/2019	2.01	8/20/2029	8/19/2019	141.34103	130.7317147	120.9950808	112.0547716	103.841492	96.29231819	89.35008123	82.96281229	77.08324472
190820A00005	8/21/2019	1.76	2/27/2023	8/21/2019	109.11671	107.3143843	105.5511819	103.8258932	102.1373626	100.4844817	98.86618685	97.28145681	95.72931066
190820A00008	8/20/2019	1.76	8/20/2024	8/20/2019	116.52808	112.9627503	109.5255163	106.2109987	103.0140798	99.92988945	96.95379177	94.0813718	91.30842353
190820A00012	8/20/2019	1.76	8/19/2022	8/20/2019	106.42171	105.1677265	103.9431443	102.7469387	101.5781323	100.4357924	99.3190278	98.22698726	97.15885676
190820A00013	8/20/2019	1.76	8/21/2023	8/20/2019	111.60656	109.2499425	106.9553754	104.7207715	102.5441278	100.423525	98.35712384	96.34316026	94.37994219
190820A00020	8/20/2019	1.76	8/20/2024	8/20/2019	116.52808	112.9627503	109.5255163	106.2109987	103.0140798	99.92988945	96.95379177	94.0813718	91.30842353
190816A00021	8/16/2019	1.77	8/16/2023	8/16/2019	111.55987	109.2187567	106.9390089	104.7185667	102.5554602	100.4478015	98.3937803	96.39166028	94.43977531

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190816A00031	8/16/2019	1.77	8/16/2024	8/16/2019	116.51017	112.957574	109.5322615	106.2289061	103.0424369	99.9680277	97.00108325	94.13722671	91.37228763
190816A00035	8/16/2019	1.77	8/16/2023	8/16/2019	111.55987	109.2187567	106.9390089	104.7185667	102.5554602	100.4478015	98.3937803	96.39166028	94.43977531
190819A00005	8/19/2019	1.62	8/21/2023	8/19/2019	111.63086	109.2672051	106.9659136	104.724881	102.5420905	100.4156099	98.34358769	96.32424843	94.35588917
190819A00020	8/19/2019	1.79	8/19/2022	8/19/2019	106.4571	105.2028877	103.9780839	102.7816602	101.6126393	100.4700882	99.35311575	98.26087052	97.19253847
190819A00026	8/19/2019	1.62	8/19/2024	8/19/2019	116.56019	112.9848464	109.5381467	106.2146847	103.0093144	99.91713938	96.93349878	94.05395427	91.27427777
190816A00006	8/16/2019	1.77	8/16/2024	8/16/2019	116.51017	112.957574	109.5322615	106.2289061	103.0424369	99.9680277	97.00108325	94.13722671	91.37228763
190816A00007	8/16/2019	1.77	8/16/2023	8/16/2019	111.55987	109.2187567	106.9390089	104.7185667	102.5554602	100.4478015	98.3937803	96.39166028	94.43977531
190816A00011	8/16/2019	1.77	8/16/2024	8/16/2019	116.51017	112.957574	109.5322615	106.2289061	103.0424369	99.9680277	97.00108325	94.13722671	91.37228763
190816A00013	8/16/2019	2.2	8/16/2029	8/16/2019	141.40407	130.8813953	121.220131	112.3451949	104.1884247	96.68790388	89.78735822	83.43561469	77.58611427
190816A00014	8/16/2019	1.77	8/16/2024	8/16/2019	116.51017	112.957574	109.5322615	106.2289061	103.0424369	99.9680277	97.00108325	94.13722671	91.37228763
190816A00016	8/16/2019	2.2	8/16/2029	8/16/2019	141.40407	130.8813953	121.220131	112.3451949	104.1884247	96.68790388	89.78735822	83.43561469	77.58611427
190814A00005	8/14/2019	1.65	8/14/2024	8/14/2019	116.59633	113.0360208	109.6033692	106.2930255	103.0999018	100.019156	97.04617754	94.17657538	91.4061654
190814A00008	8/14/2019	1.84	8/14/2024	8/14/2019	116.71891	113.1690955	109.7462641	106.4451038	103.2605638	100.1878364	97.22234382	94.35972534	91.59582548
190814A00010	8/14/2019	1.84	4/5/2023	8/14/2019	109.80173	107.8826777	106.0071232	104.1736841	102.3810394	100.6279231	98.91312212	97.23547269	95.5938582
190814A00015	8/14/2019	1.84	8/14/2024	8/14/2019	116.71891	113.1690955	109.7462641	106.4451038	103.2605638	100.1878364	97.22234382	94.35972534	91.59582548
190815A00012	8/15/2019	1.81	8/15/2024	8/15/2019	116.63141	113.0799305	109.6555871	106.353065	103.167303	100.0934841	97.12702137	94.26354593	91.49889457
190815A00032	8/15/2019	1.83	8/13/2021	8/15/2019	100.67873	100.5555148	100.4326167	100.310034	100.1877655	100.0658098	99.94416588	99.82283238	99.70180811
190809A00015	8/9/2019	1.88	8/9/2022	8/9/2019	106.40716	105.1849312	103.9906531	102.8233716	101.6821795	100.5662095	99.47463288	98.40665646	97.36152131
190809A00022	8/9/2019	1.88	8/9/2024	8/9/2019	116.78675	113.2513929	109.8420435	106.5534586	103.3806441	100.3188454	97.36353416	94.51039559	91.75531729
190812A00003	8/12/2019	1.67	8/12/2024	8/12/2019	116.63734	113.0826174	109.6551627	106.3496563	103.1610331	100.0844721	97.11538256	94.24939186	91.48233306
190812A00006	8/12/2019	1.86	8/12/2024	8/12/2019	116.75957	113.2153143	109.7976583	106.501316	103.3212593	100.2527014	97.29108432	94.43206548	91.67150652
190813A00007	8/13/2019	1.89	8/15/2022	8/13/2019	106.51248	105.2705952	104.0575342	102.8723054	101.7139593	100.5815894	99.47432935	98.39135107	97.33186252
190813A00016	8/13/2019	1.88	8/13/2024	8/13/2019	116.83969	113.2910057	109.8691573	106.5688438	103.3850243	100.3129003	97.34790248	94.48567785	91.72207826
190808A00052	8/8/2019	1.7	8/8/2024	8/8/2019	116.68524	113.1422446	109.7257365	106.4304444	103.2513492	100.1836725	97.22286374	94.36458719	91.60471069
190809A00001	8/9/2019	1.88	8/9/2022	8/9/2019	106.40716	105.1849312	103.9906531	102.8233716	101.6821795	100.5662095	99.47463288	98.40665646	97.36152131
190809A00005	8/9/2019	1.88	7/11/2022	8/9/2019	105.94917	104.821064	103.7168777	102.6358586	101.5772834	100.5404587	99.52471941	98.52942728	97.55396961
190809A00008	8/9/2019	1.87	8/3/2023	8/9/2019	111.60046	109.2978375	107.0548329	104.8694794	102.7398909	100.6642582	98.64084502	96.66798486	94.74407723
190809A00011	8/9/2019	1.69	8/9/2024	8/9/2019	116.66498	113.1191845	109.7000713	106.4023534	103.2210003	100.1512234	97.18846183	94.328371	91.56681012
190809A00012	8/9/2019	1.69	8/9/2024	8/9/2019	116.66498	113.1191845	109.7000713	106.4023534	103.2210003	100.1512234	97.18846183	94.328371	91.56681012
190807A00054	8/7/2019	1.66	8/6/2021	8/7/2019	100.56239	100.4588525	100.3555422	100.2524542	100.1495878	100.0469424	99.94451703	99.84231111	99.74032387
190808A00009	8/8/2019	1.89	8/8/2024	8/8/2019	116.80684	113.274265	109.86751	106.5813413	103.4107761	100.3510702	97.39770497	94.54637482	91.79297579
190808A00015	8/8/2019	1.92	8/9/2021	8/8/2019	100.62695	100.5150236	100.4033599	100.2919568	100.1808133	100.0699286	99.95930164	99.84893157	99.73881744
190808A00025	8/8/2019	1.7	8/8/2024	8/8/2019	116.68524	113.1422446	109.7257365	106.4304444	103.2513492	100.1836725	97.22286374	94.36458719	91.60471069

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190808A00041	8/8/2019	1.74	8/6/2021	8/8/2019	100.57064	100.4670977	100.3637791	100.2606829	100.1578084	100.0551547	99.95272126	99.85050721	99.74851185
190808A00047	8/8/2019	1.89	8/8/2024	8/8/2019	116.80684	113.274265	109.86751	106.5813413	103.4107761	100.3510702	97.39770497	94.54637482	91.79297579
190807A00014	8/7/2019	1.75	8/7/2023	8/7/2019	111.39078	109.0785278	106.8263842	104.6323533	102.4945246	100.4110661	98.38022027	96.40030037	94.46968703
190807A00020	8/7/2019	1.57	2/7/2024	8/7/2019	113.82936	110.9104638	108.0817453	105.3398399	102.681532	100.1037485	97.60355116	95.17812965	92.82479502
190807A00021	8/7/2019	2	8/7/2026	8/7/2019	126.63307	120.4918296	114.6848579	109.1921811	103.9951262	99.0762301	94.41915455	90.00860761	85.83027075
190807A00023	8/7/2019	1.77	8/7/2024	8/7/2019	116.39412	112.8713916	109.4741101	106.1970545	103.0352597	99.98399802	97.03876633	94.19527375	91.44943014
190807A00036	8/7/2019	1.75	8/7/2023	8/7/2019	111.39078	109.0785278	106.8263842	104.6323533	102.4945246	100.4110661	98.38022027	96.40030037	94.46968703
190807A00045	8/7/2019	1.77	8/7/2024	8/7/2019	116.39412	112.8713916	109.4741101	106.1970545	103.0352597	99.98399802	97.03876633	94.19527375	91.44943014
190805A00011	8/5/2019	1.91	8/5/2024	8/5/2019	116.83351	113.3098398	109.9114053	106.6330093	103.4697029	100.4167739	97.46973314	94.62430277	91.87640468
190805A00049	8/5/2019	1.88	8/4/2023	8/5/2019	111.63671	109.3306863	107.0844219	104.895944	102.7633598	100.6848537	98.65868372	96.68317771	94.75672996
190805A00050	8/5/2019	1.91	8/5/2024	8/5/2019	116.83351	113.3098398	109.9114053	106.6330093	103.4697029	100.4167739	97.46973314	94.62430277	91.87640468
190806A00012	8/6/2019	1.93	8/6/2021	8/6/2019	100.58087	100.4774169	100.3741835	100.2711713	100.1683794	100.0658072	99.96345401	99.86131903	99.75940157
190806A00026	8/6/2019	1.71	8/7/2023	8/6/2019	111.63672	109.3151243	107.0539895	104.8513027	102.7051389	100.6136524	98.5750727	96.58770069	94.64990538
190807A00012	8/7/2019	1.76	2/7/2023	8/7/2019	108.80499	107.0703257	105.3723996	103.7101174	102.0824276	100.4883201	98.92682399	97.3970055	95.89796635
190802A00003	8/2/2019	2.01	8/2/2024	8/2/2019	117.1249	113.6058289	110.21153	106.9368334	103.7768207	100.7268074	97.7823305	94.93913633	92.19316924
190802A00016	8/2/2019	2.01	7/12/2023	8/2/2019	111.58625	109.3494857	107.1694806	105.0444089	102.9725197	100.9521312	98.98162745	97.05945511	95.18412057
190802A00029	8/2/2019	2	8/2/2022	8/2/2019	106.43357	105.2333496	104.0600696	102.9128337	101.7907826	100.6930943	99.61898222	98.56769341	97.53850659
190805A00004	8/5/2019	1.7	8/5/2022	8/5/2019	106.28391	105.0728505	103.8892415	102.732156	101.6007106	100.4940607	99.41139849	98.35195089	97.31497771
190805A00007	8/5/2019	1.88	8/5/2022	8/5/2019	106.34474	105.1355686	103.9537576	102.7983906	101.668588	100.5635088	99.48234858	98.42433733	97.38873792
190805A00008	8/5/2019	1.88	8/4/2023	8/5/2019	111.63671	109.3306863	107.0844219	104.895944	102.7633598	100.6848537	98.65868372	96.68317771	94.75672996
190729A00008	7/29/2019	2.18	1/29/2024	7/29/2019	114.96419	112.0679174	109.260149	106.5376222	103.8972151	101.3359423	98.85094748	96.43949727	94.09897467
190729A00017	7/29/2019	1.97	7/29/2021	7/29/2019	100.46565	100.3846396	100.3037641	100.2230219	100.1424129	100.0619367	99.98159298	99.90138142	99.8213017
190731A00004	7/31/2019	2.18	7/31/2024	7/31/2019	117.65989	114.1383761	110.7414656	107.464009	104.3011029	101.2480766	98.30048005	95.45407122	92.70480535
190731A00028	7/31/2019	1.93	7/29/2022	7/31/2019	106.43265	105.2428698	104.0795565	102.9418385	101.8288784	100.7398755	99.67406285	98.63070624	97.60910199
190801A00007	8/1/2019	2.17	8/2/2021	8/1/2019	100.54004	100.4478512	100.355835	100.2639894	100.1723141	100.0808087	99.98947253	99.89830525	99.80730639
190801A00010	8/1/2019	1.97	8/1/2023	8/1/2019	112.12512	109.816126	107.5668906	105.3754461	103.2399029	101.1584486	99.12934377	97.15091879	95.22157016
190719A00006	7/19/2019	2.17	7/19/2024	7/19/2019	117.45629	113.9754097	110.6167111	107.3751919	104.2460848	101.2248467	98.30714604	95.48885228	92.76602469
190724A00005	7/24/2019	2.12	7/26/2021	7/24/2019	100.42173	100.3491815	100.2767487	100.2044287	100.1322211	100.0601258	99.9881425	99.91627093	99.84451086
190724A00021	7/24/2019	2.33	7/23/2027	7/24/2019	134.15504	126.5448992	119.4162872	112.7361902	106.4740287	100.6014654	95.09222862	89.92195174	85.06802486
190724A00022	7/24/2019	1.94	7/23/2021	7/24/2019	100.36731	100.3030961	100.2389796	100.1749581	100.1110316	100.0471998	99.98346246	99.9198194	99.85627041
190724A00024	7/24/2019	2.49	7/24/2029	7/24/2019	145.43715	134.7539141	124.9384461	115.915586	107.6170606	99.98081606	92.9504208	86.47452909	80.50639831
190726A00005	7/26/2019	1.97	7/26/2022	7/26/2019	106.42788	105.2475968	104.0933733	102.964355	101.8597236	100.7786958	99.72052127	98.68448151	97.66988768
190715A00027	7/15/2019	1.99	7/15/2021	7/15/2019	100.24157	100.1997232	100.1579277	100.1161849	100.0744947	100.0328571	99.99127181	99.94973887	99.90825815

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190715A00028	7/17/2019	2.17	1/18/2022	7/17/2019	103.34087	102.7557419	102.1772347	101.605237	101.0396392	100.4803342	99.92721712	99.38018571	98.83913975
190715A00029	7/17/2019	2.16	4/18/2022	7/17/2019	104.83602	103.9740034	103.1261302	102.2920518	101.4714336	100.6639516	99.86929211	99.08715138	98.3172352
190716A00046	7/16/2019	2.19	7/18/2022	7/16/2019	106.39718	105.2444424	104.1166	103.0128523	101.932433	100.8746086	99.83867546	98.8239594	97.82981342
190717A00008	7/17/2019	2.22	7/17/2024	7/17/2019	117.5911	114.1142756	110.7593078	107.5212114	104.3952394	101.3768672	98.46178092	95.6458662	92.92519753
190719A00002	7/19/2019	2.12	4/21/2022	7/19/2019	104.85347	103.9821975	103.1253686	102.2826225	101.4536141	100.6380095	99.83548541	99.04572909	98.26843755
190711A00016	7/11/2019	2.17	7/11/2022	7/11/2019	106.25847	105.1285722	104.0226206	102.9398619	101.8795724	100.8410579	99.82365279	98.82671825	97.84964104
190711A00022	7/11/2019	2	7/11/2023	7/11/2019	111.8734	109.6302597	107.444086	105.3130463	103.2353822	101.2094049	99.23349152	97.30608234	95.42567758
190712A00009	7/12/2019	2.19	7/12/2023	7/12/2019	111.9717	109.7307435	107.5466287	105.4175307	103.3416964	101.3174416	99.34314795	97.41725998	95.53828196
190715A00010	7/15/2019	2.23	7/15/2024	7/15/2019	117.59496	114.1243038	110.7751158	107.5424383	104.4215461	101.4079352	98.49731065	95.68557608	92.96882269
190715A00014	7/15/2019	2.16	3/30/2022	7/15/2019	104.52271	103.7200044	102.9295843	102.1511704	101.384491	100.6292824	99.88528882	99.15226194	98.4299608
190715A00024	7/15/2019	2.17	7/15/2021	7/15/2019	100.24531	100.2034921	100.1617304	100.120021	100.0783637	100.0367585	99.99520533	99.953704	99.91225446
190708A00001	7/8/2019	1.99	7/8/2022	7/8/2019	106.15197	105.0300762	103.9318055	102.8564134	101.8031906	100.7714572	99.76056049	98.76987417	97.79879677
190708A00011	7/8/2019	2.2	7/8/2024	7/8/2019	117.39715	113.9514295	110.6257536	107.4152445	104.3152559	101.321358	98.42932501	95.63512538	92.93491097
190708A00021	7/8/2019	1.99	7/8/2022	7/8/2019	106.15197	105.0300762	103.9318055	102.8564134	101.8031906	100.7714572	99.76056049	98.76987417	97.79879677
190709A00018	7/9/2019	2.24	7/9/2024	7/9/2019	117.54103	114.0899149	110.7590887	107.5436673	104.4389918	101.4406199	98.54431485	95.74603431	93.04192018
190710A00012	7/10/2019	2.18	7/10/2023	7/10/2019	111.91987	109.6854522	107.5076136	105.3845377	103.3144836	101.2957789	99.32681623	97.40605044	95.53199563
190710A00022	7/10/2019	2.22	7/10/2024	7/10/2019	117.49059	114.0371648	110.7042008	107.4868014	104.3802976	101.3802376	98.48237577	95.68266153	92.97722904
190701A00017	7/1/2019	1.9	7/1/2022	7/1/2019	105.94268	104.8440262	103.7680543	102.714064	101.6813876	100.6693838	99.67743702	98.7049559	97.75137206
190701A00023	7/1/2019	1.95	7/1/2024	7/1/2019	116.98813	113.5588862	110.2488471	107.0531886	103.9673111	100.9868281	98.10755451	95.32549663	92.63684176
190703A00004	7/3/2019	2.08	7/5/2022	7/3/2019	106.06383	104.9539073	103.8671281	102.8027702	101.7601454	100.7385932	99.73747993	98.7561968	97.79415914
190703A00017	7/3/2019	2.33	5/4/2026	7/3/2019	127.26432	121.4255614	115.8893935	110.6385956	105.6570143	100.929491	96.44179502	92.18056303	88.1332414
190703A00019	7/3/2019	2.08	7/5/2022	7/3/2019	106.06383	104.9539073	103.8671281	102.8027702	101.7601454	100.7385932	99.73747993	98.7561968	97.79415914
190703A00022	7/3/2019	2.08	7/5/2022	7/3/2019	106.06383	104.9539073	103.8671281	102.8027702	101.7601454	100.7385932	99.73747993	98.7561968	97.79415914
190627A00009	6/27/2019	1.93	6/27/2023	6/27/2019	111.51249	109.3157454	107.174018	105.0855699	103.048732	101.0618994	99.1235288	97.23213559	95.386291
190627A00037	6/27/2019	1.93	6/27/2023	6/27/2019	111.51249	109.3157454	107.174018	105.0855699	103.048732	101.0618994	99.1235288	97.23213559	95.386291
190627A00052	6/27/2019	2.1	6/27/2022	6/27/2019	105.95202	104.8678071	103.8056981	102.7650204	101.7451307	100.7454109	99.7652674	98.8041297	97.86144917
190628A00004	6/28/2019	2.12	6/28/2023	6/28/2019	111.61006	109.4151736	107.275218	105.1884602	103.1532342	101.1679388	99.23103361	97.34103705	95.49652313
190628A00024	6/28/2019	2.09	6/28/2022	6/28/2019	105.9585	104.8711299	103.8059866	102.7623939	101.7397029	100.7372908	99.7545593	98.79093328	97.84585993
190701A00007	7/2/2019	2.09	7/1/2022	7/2/2019	106.00845	104.9114147	103.8369872	102.7844765	101.7532175	100.7425718	99.75192645	98.78069243	97.82830371
190625A00017	6/25/2019	2.02	12/15/2022	6/25/2019	108.40883	106.8383448	105.2988617	103.7895388	102.3095645	100.858156	99.43455777	98.03804019	96.66789882
190625A00023	6/25/2019	2.47	6/25/2027	6/25/2019	133.56643	126.1145863	119.1278885	112.5748593	106.4263142	100.6551795	95.23632927	90.1464353	85.36382962
190625A00024	6/25/2019	2.26	6/25/2025	6/25/2019	122.62355	117.9377494	113.4578918	109.1738191	105.0759314	101.1551519	97.40289552	93.81103951	90.37189587
190626A00010	6/26/2019	2.1	6/26/2023	6/26/2019	111.53676	109.3489732	107.2157911	105.1354972	103.1064399	101.1270312	99.19574387	97.31110829	95.47171006

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190626A00015	6/26/2019	2.15	6/26/2024	6/26/2019	117.06323	113.6607937	110.3758492	107.2036682	104.1397463	101.1797857	98.31968481	95.55552824	92.8835768
190626A00019	6/26/2019	2.1	6/24/2022	6/26/2019	105.90171	104.827146	103.7743079	102.7425424	101.7312218	100.7397429	99.76752631	98.81401484	97.87867265
190624A00008	6/24/2019	2.08	6/24/2022	6/24/2019	105.88136	104.8069103	103.7541834	102.7225275	101.711315	100.7199427	99.74783133	98.79442364	97.85918383
190624A00026	6/24/2019	2.08	6/24/2022	6/24/2019	105.88136	104.8069103	103.7541834	102.7225275	101.711315	100.7199427	99.74783133	98.79442364	97.85918383
190624A00052	6/24/2019	1.89	6/24/2022	6/24/2019	105.81677	104.7407432	103.6865104	102.653411	101.6408146	100.6481156	99.67473209	98.72010459	97.78369509
190625A00003	6/25/2019	2.03	6/27/2022	6/25/2019	105.88019	104.7963827	103.734669	102.6943811	101.6748757	100.6755349	99.69576529	98.73499636	97.79267965
190625A00012	6/25/2019	2.12	6/25/2024	6/25/2019	116.95257	113.5551603	110.2749715	107.107294	104.0476372	101.0917165	98.23544296	95.47491272	92.80639762
190625A00013	6/25/2019	2.01	6/24/2022	6/25/2019	105.81014	104.7360852	103.6837475	102.6524753	101.6416412	100.6506422	99.67889891	98.72585442	97.79097297
190620A00010	6/20/2019	2.04	6/20/2022	6/20/2019	105.7743	104.712917	103.6727615	102.6531984	101.6536206	100.6734448	99.71211041	98.76907793	97.84382845
190620A00026	6/20/2019	2.09	6/20/2023	6/20/2019	111.42211	109.2544749	107.1405024	105.0785159	103.0669057	101.1041234	99.18867916	97.31913899	95.4941223
190620A00045	6/20/2019	2.14	6/20/2024	6/20/2019	116.94293	113.5620754	110.2973316	107.1440547	104.0978168	101.1543923	98.30974718	95.56002941	92.90155939
190620A00057	6/25/2019	2.09	5/15/2023	6/25/2019	110.86468	108.8143161	106.8122742	104.8571228	102.9474814	101.082019	99.25945254	97.47854429	95.73810034
190621A00021	6/21/2019	2.12	6/21/2022	6/21/2019	105.87159	104.8065545	103.7628747	102.7399118	101.7370537	100.7537121	99.78932133	98.84333761	97.91523766
190621A00041	6/21/2019	2.12	6/21/2022	6/21/2019	105.87159	104.8065545	103.7628747	102.7399118	101.7370537	100.7537121	99.78932133	98.84333761	97.91523766
190610A00018	6/10/2019	2.52	6/10/2026	6/10/2019	128.74022	122.7397454	117.055921	111.6703835	106.5659276	101.7264289	97.13676974	92.78277184	88.65113273
190611A00015	6/11/2019	2.32	6/11/2024	6/11/2019	117.37826	114.020171	110.7763858	107.6423734	104.6138113	101.6865732	98.85671778	96.12048004	93.47426195
190612A00011	6/12/2019	2.2	6/30/2022	6/12/2019	106.10581	105.0113651	103.9394085	102.8892517	101.8602352	100.8517259	99.86311574	98.89382052	97.9432786
190618A00002	6/18/2019	2.11	6/18/2025	6/18/2019	122.55432	117.8747738	113.4003958	109.1210993	105.0273456	101.1101145	97.36087275	93.77154527	90.33448796
190619A00009	6/19/2019	2.26	6/19/2024	6/19/2019	117.30964	113.9263318	110.6590588	107.5031886	104.4543009	101.508177	98.66078943	95.90829217	93.24701112
190619A00024	6/19/2019	2.21	7/19/2022	6/19/2019	106.43575	105.2796328	104.1485524	103.0416977	101.9582966	100.8976095	99.85892755	98.84157127	97.84488881
190605A00035	6/5/2019	2.18	6/5/2023	6/5/2019	111.37076	109.2509831	107.1825852	105.1639943	103.1937012	101.270253	99.39225021	97.55834485	95.76723786
190606A00023	6/6/2019	2.23	6/6/2024	6/6/2019	117.01948	113.6833778	110.4603388	107.3459046	104.335819	101.4260173	98.61261675	95.89190694	93.2603414
190606A00029	6/6/2019	2.96	6/6/2034	6/6/2019	173.41733	154.3737171	137.6531699	122.9577141	110.0290852	98.64325733	88.60574773	79.7475865	71.92185307
190607A00005	6/7/2019	1.92	6/7/2022	6/7/2019	105.5648	104.5432769	103.5414458	102.5587426	101.5946235	100.6485651	99.72006348	98.80863353	97.91380766
190607A00012	6/7/2019	2.13	6/7/2022	6/7/2019	105.65607	104.6357165	103.6350023	102.6533665	101.6902675	100.7451839	99.81761384	98.90707388	98.01309822
190607A00018	6/7/2019	2.19	6/7/2024	6/7/2019	116.90879	113.5711172	110.3466838	107.2310183	104.2198535	101.3091148	98.49490994	95.77351967	93.14138928
190603A00046	6/3/2019	2.17	6/3/2022	6/3/2019	105.62689	104.6191592	103.630586	102.6606301	101.7087696	100.7745019	99.85734267	98.95682542	98.07250038
190604A00007	6/4/2019	2.23	7/8/2021	6/4/2019	100.13214	100.1098496	100.0875851	100.0653442	100.0431268	100.0209329	99.99876237	99.97661526	99.9544915
190604A00031	6/4/2019	2.25	6/5/2023	6/4/2019	111.51294	109.3916901	107.321847	105.3018396	103.3301578	101.4053479	99.52600962	97.69079425	95.89840202
190605A00004	6/5/2019	2.11	1/12/2022	6/5/2019	103.20702	102.6401076	102.079422	101.5248578	100.976315	100.433696	99.89690481	99.36584793	98.84043367
190605A00005	6/5/2019	2.01	6/5/2024	6/5/2019	116.79683	113.456156	110.2288639	107.1104816	104.0967361	101.1835469	98.3670162	95.64341956	93.00919729
190605A00034	6/5/2019	2.11	6/6/2022	6/5/2019	105.6199	104.6028481	103.6053196	102.6267521	101.6666089	100.7243733	99.79954785	98.89165347	98.00022841
190531A00035	5/31/2019	2.29	5/31/2022	5/31/2019	105.68976	104.6910483	103.7111462	102.7495232	101.8056719	100.8791031	99.96934591	99.07594602	98.19846552

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190603A00002	6/3/2019	2.03	6/2/2023	6/3/2019	111.32474	109.2091756	107.1447672	105.1299569	103.1632455	101.2431896	99.36839879	97.53753379	95.74930379
190603A00003	6/3/2019	2.05	6/3/2024	6/3/2019	116.89268	113.5571105	110.3345298	107.2204829	104.2107202	101.3011828	98.48799357	95.76744715	93.13600186
190603A00005	6/3/2019	2.25	6/3/2024	6/3/2019	117.03713	113.7106047	110.4964926	107.3903766	104.3880367	101.4854423	98.67874253	95.96425708	93.33846764
190603A00032	6/3/2019	1.98	6/3/2022	6/3/2019	105.55583	104.5468402	103.5570652	102.5859572	101.632992	100.6976651	99.77949029	98.87799933	97.9927407
190603A00033	6/3/2019	2.05	6/3/2024	6/3/2019	116.89268	113.5571105	110.3345298	107.2204829	104.2107202	101.3011828	98.48799357	95.76744715	93.13600186
190530A00006	5/30/2019	2.25	5/30/2024	5/30/2019	117.45817	114.1269661	110.908107	107.7971862	104.7899946	101.8825113	99.07089443	96.35147212	93.72073366
190530A00007	5/30/2019	2.35	11/30/2021	5/30/2019	102.60229	102.163551	101.7285542	101.2972483	100.8695867	100.4455234	100.0250132	99.60801167	99.1944752
190530A00009	5/30/2019	2.25	5/30/2024	5/30/2019	117.45817	114.1269661	110.908107	107.7971862	104.7899946	101.8825113	99.07089443	96.35147212	93.72073366
190530A00021	5/30/2019	2.21	5/27/2022	5/30/2019	105.65369	104.6659724	103.6966645	102.7452531	101.8112462	100.8941696	99.99356608	99.10899495	98.24003098
190530A00024	5/30/2019	2.25	5/30/2024	5/30/2019	117.45817	114.1269661	110.908107	107.7971862	104.7899946	101.8825113	99.07089443	96.35147212	93.72073366
190530A00034	5/30/2019	2.44	5/30/2024	5/30/2019	117.56963	114.2479224	111.0379876	107.935445	104.9361155	102.0360064	99.23130247	96.51835669	93.89368194
190529A00028	5/29/2019	2.38	5/29/2024	5/29/2019	117.36751	114.0520765	110.8481252	107.7512968	104.7574259	101.8625328	99.06281454	96.35463562	93.73451981
190529A00032	5/29/2019	2.38	5/29/2024	5/29/2019	117.36751	114.0520765	110.8481252	107.7512968	104.7574259	101.8625328	99.06281454	96.35463562	93.73451981
190529A00050	5/29/2019	2.31	11/29/2021	5/29/2019	102.56808	102.1323411	101.7002919	101.271887	100.8470806	100.4258276	100.0080835	99.59380478	99.18294847
190529A00069	5/29/2019	2.34	11/29/2021	5/29/2019	102.58087	102.1450953	101.7130135	101.2845763	100.8597378	100.4384528	100.020677	99.60636668	99.195479
190530A00003	5/30/2019	2.21	5/27/2022	5/30/2019	105.65369	104.6659724	103.6966645	102.7452531	101.8112462	100.8941696	99.99356608	99.10899495	98.24003098
190530A00004	5/30/2019	2.24	5/30/2023	5/30/2019	111.70074	109.5906779	107.5314112	105.5213981	103.5591564	101.6432585	99.7723293	97.94504375	96.16012469
190528A00039	5/28/2019	2.38	11/29/2021	5/28/2019	102.59792	102.1621008	101.7299757	101.3014954	100.876614	100.4552864	100.0374682	99.62311588	99.21218638
190528A00042	5/28/2019	2.38	11/29/2021	5/28/2019	102.59792	102.1621008	101.7299757	101.3014954	100.876614	100.4552864	100.0374682	99.62311588	99.21218638
190529A00005	5/29/2019	2.31	11/29/2021	5/29/2019	102.56808	102.1323411	101.7002919	101.271887	100.8470806	100.4258276	100.0080835	99.59380478	99.18294847
190529A00009	5/29/2019	2.35	5/31/2022	5/29/2019	105.74665	104.7476485	103.7674552	102.8055448	101.8614097	100.9345609	100.0245271	99.13085419	98.25310406
190529A00011	5/29/2019	2.36	5/30/2023	5/29/2019	111.63819	109.5344756	107.4813001	105.4771385	103.5205185	101.6100224	99.74428389	97.9219867	96.14186181
190529A00023	5/29/2019	2.38	5/29/2024	5/29/2019	117.36751	114.0520765	110.8481252	107.7512968	104.7574259	101.8625328	99.06281454	96.35463562	93.73451981
190524A00032	5/24/2019	2.45	5/24/2023	5/24/2019	111.72099	109.6346492	107.598035	105.6096571	103.6680783	101.7719135	99.91982807	98.11053546	96.34279503
190528A00003	5/28/2019	2.42	5/31/2022	5/28/2019	105.81303	104.8136821	103.833149	102.8709033	101.9264371	100.9992616	100.0889052	99.19491373	98.31684903
190528A00005	5/28/2019	2.42	6/15/2023	5/28/2019	112.02414	109.8659589	107.7607988	105.7070215	103.7030474	101.7473565	99.83848612	97.97502789	96.15562546
190528A00006	5/28/2019	2.43	9/15/2023	5/28/2019	113.52147	111.0654904	108.6757041	106.349813	104.0856207	101.8810264	99.73401985	97.64267607	95.60515128
190528A00009	5/28/2019	2.45	5/15/2024	5/28/2019	117.3715	114.1002895	110.9377185	107.8795918	104.9218983	102.0608034	99.29264058	96.6139026	94.02123399
190528A00015	5/28/2019	2.42	5/27/2022	5/28/2019	105.74192	104.7553338	103.7871051	102.8367266	101.9037082	100.9875774	100.0878789	99.20417366	98.33603798
190523A00007	5/23/2019	2.28	5/23/2022	5/23/2019	105.64849	104.6732089	103.7158836	102.7760237	101.8531546	100.9468184	100.0565738	99.18199501	98.32267112
190523A00008	5/23/2019	2.29	5/23/2023	5/23/2019	111.68685	109.5982812	107.5595287	105.5690964	103.6255434	101.7274815	99.87357307	98.0625286	96.29310476
190523A00017	5/23/2019	2.51	3/15/2024	5/23/2019	116.60443	113.5372757	110.567427	107.6911258	104.9047936	102.2050173	99.58853974	97.05225119	94.59318166
190523A00020	5/23/2019	2.5	2/9/2024	5/23/2019	116.01973	113.0732948	110.2176388	107.4493754	104.7652709	102.1622349	99.63731262	97.18767778	94.81062618

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190523A00023	5/23/2019	2.48	3/22/2023	5/23/2019	110.75267	108.8666483	107.0227149	105.2195241	103.4557919	101.7302888	100.041837	98.38930765	96.771618
190524A00014	5/24/2019	2.24	5/24/2022	5/24/2019	105.62905	104.6507605	103.6905439	102.7478988	101.8223464	100.9134248	100.0206886	99.14370856	98.28207007
190520A00007	5/20/2019	2.52	5/20/2024	5/20/2019	117.664	114.3725129	111.1907955	108.1145854	105.1398131	102.262589	99.47919465	96.78607419	94.17982611
190521A00005	5/21/2019	2.56	5/21/2024	5/21/2019	117.80309	114.5063187	111.3195708	108.2385737	105.259245	102.3776832	99.59015847	96.8931042	94.28310883
190521A00028	5/21/2019	2.47	11/22/2021	5/21/2019	102.51385	102.0985892	101.6866969	101.27813	100.872848	100.4708115	100.0719816	99.67632	99.28378892
190521A00043	5/21/2019	2.54	5/22/2023	5/21/2019	111.86726	109.7855009	107.753228	105.7689566	103.8312603	101.9387644	100.0901439	98.28412162	96.51946561
190522A00017	5/23/2019	2.53	3/1/2023	5/23/2019	110.49185	108.6708917	106.8895171	105.1465053	103.4406839	101.7709284	100.13616	98.53534296	96.96748259
190522A00019	5/23/2019	2.55	5/15/2024	5/23/2019	117.67865	114.4027844	111.2356753	108.1731242	105.2111164	102.3458137	99.57354581	96.89080235	94.29422456
190514A00073	5/14/2019	2.53	5/14/2024	5/14/2019	117.6017	114.3301611	111.1671538	108.1084856	105.1501536	102.2883308	99.51935751	96.83973313	94.2461083
190515A00002	5/15/2019	2.44	5/16/2022	5/15/2019	105.56463	104.6129818	103.6784543	102.7605911	101.8589492	100.9731011	100.1026344	99.24715077	98.40626566
190515A00008	5/15/2019	2.41	11/15/2021	5/15/2019	102.36827	101.9736952	101.5821712	101.19366	100.808127	100.4255377	100.0458585	99.66905625	99.29509813
190515A00023	5/15/2019	2.25	5/16/2022	5/15/2019	105.49746	104.5446377	103.608983	102.6900371	101.7873552	100.9005082	100.029082	99.17267667	98.33090623
190516A00012	5/16/2019	2.43	11/16/2021	5/16/2019	102.39337	101.9958322	101.6013895	101.2100039	100.8216397	100.4362621	100.0538365	99.67432905	99.29770631
190517A00005	5/17/2019	2.31	5/17/2024	5/17/2019	117.44608	114.1564165	110.9764272	107.9018626	104.9286585	102.0529305	99.27096486	96.57921023	93.97426935
190510A00009	5/10/2019	2.47	11/10/2021	5/10/2019	102.30409	101.9241848	101.5471047	101.1728198	100.801299	100.4325117	100.0664277	99.7030173	99.34225119
190513A00013	5/13/2019	2.52	5/13/2024	5/13/2019	117.55552	114.2878468	111.1284856	108.0732562	105.1181672	102.2594022	99.49331181	96.81640502	94.22534145
190513A00076	5/13/2019	2.42	11/12/2021	5/13/2019	102.32013	101.9343779	101.5515433	101.1715904	100.7944866	100.4201998	100.0486985	99.67995147	99.3139282
190514A00020	5/14/2019	2.66	5/14/2025	5/14/2019	123.71348	119.1461881	114.7736691	110.5866022	106.5761597	102.7339804	99.05214193	95.52313621	92.13984499
190514A00021	5/14/2019	2.72	11/14/2025	5/14/2019	126.70378	121.4619759	116.4682481	111.7095698	107.1736651	102.8489618	98.72454798	94.79013031	91.03599629
190514A00024	5/14/2019	2.34	5/14/2024	5/14/2019	117.4923	114.2114794	111.0397398	107.9728668	105.0068286	102.1377714	99.36201013	96.67602038	94.07643027
190501A00028	5/1/2019	2.42	5/1/2024	5/1/2019	117.53452	114.2944309	111.1608153	108.1296047	105.1969083	102.3590047	99.61233365	96.95348786	94.3792059
190502A00027	5/2/2019	2.42	5/2/2022	5/2/2019	105.39823	104.489255	103.5959121	102.7178033	101.8545414	101.0057523	100.1710745	99.35015821	98.54266536
190507A00027	5/7/2019	2.59	5/7/2024	5/7/2019	117.67585	114.4253706	111.2820356	108.2417385	105.300551	102.4547168	99.70064246	97.0348898	94.45416816
190509A00019	5/9/2019	2.5	10/12/2021	5/9/2019	101.804	101.5088068	101.2153395	100.923579	100.6335103	100.3451187	100.0583895	99.77330833	99.48986093
190509A00029	5/9/2019	2.34	6/9/2022	5/9/2019	106.00743	104.9773001	103.9671364	102.9763629	102.0044252	101.0507899	100.1149436	99.19639174	98.29465825
190509A00030	5/9/2019	2.48	11/9/2021	5/9/2019	102.29032	101.9133443	101.5391544	101.1677167	100.7990008	100.4329768	100.0696152	99.70888688	99.35076329
190426A00033	6/27/2019	2.55	6/27/2022	6/27/2019	106.41375	105.3269642	104.2623137	103.2191304	102.1967698	101.1946134	100.2120667	99.24855831	98.30353895
190429A00003	4/29/2019	2.62	10/13/2023	4/29/2019	114.42539	111.8720359	109.389151	106.9743034	104.6251641	102.3395028	100.1151822	97.9501536	95.84245239
190429A00004	4/29/2019	2.65	4/15/2024	4/29/2019	117.50515	114.3272359	111.2524154	108.2767122	105.3963279	102.6076356	99.90717107	97.29162409	94.75783043
190430A00003	4/30/2019	2.43	8/2/2023	4/30/2019	113.15554	110.8319925	108.568581	106.3633215	104.2143113	102.119725	100.0778112	98.08688866	96.14534296
190430A00021	4/30/2019	2.52	10/29/2021	4/30/2019	102.11146	101.7667495	101.4243657	101.084281	100.7464723	100.410917	100.0775924	99.74647659	99.41754759
190501A00003	5/1/2019	2.61	5/1/2024	5/1/2019	117.64221	114.41124	111.2862055	108.2630635	105.3379509	102.5071721	99.76719121	97.114624	94.54623071
190424A00019	4/24/2019	2.67	4/24/2024	4/24/2019	117.71069	114.5010104	111.3960516	108.3918025	105.4844312	102.6702746	99.94583001	97.30774737	94.75282121

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190426A00008	4/26/2019	2.57	4/26/2022	4/26/2019	105.31899	104.4302523	103.5564763	102.6972901	101.8523306	101.0212466	100.2036984	99.39935733	98.60790526
190426A00009	4/26/2019	2.63	4/26/2024	4/26/2019	117.62259	114.4078357	111.2981179	108.2894177	105.377897	102.5598861	99.83187507	97.19050621	94.63256609
190426A00012	5/1/2019	2.57	7/15/2022	5/1/2019	106.75656	105.6111586	104.4902861	103.3931564	102.3190206	101.2671613	100.2368905	99.22754836	98.23850168
190426A00016	5/1/2019	2.58	4/14/2023	5/1/2019	111.30465	109.3441599	107.4283656	105.5558905	103.7254176	101.935682	100.1854683	98.47360827	96.79897841
190426A00032	6/27/2019	2.55	6/27/2022	6/27/2019	106.41375	105.3269642	104.2623137	103.2191304	102.1967698	101.1946134	100.2120667	99.24855831	98.30353895
190411A00017	4/15/2019	2.65	4/15/2024	4/15/2019	117.50515	114.3272359	111.2524154	108.2767122	105.3963279	102.6076356	99.90717107	97.29162409	94.75783043
190411A00019	5/1/2019	2.63	5/2/2022	5/1/2019	105.47967	104.5717287	103.6793759	102.8022173	101.9398674	101.0919536	100.2581156	99.43800535	98.6312858
190411A00020	5/1/2019	2.63	5/2/2022	5/1/2019	105.47967	104.5717287	103.6793759	102.8022173	101.9398674	101.0919536	100.2581156	99.43800535	98.6312858
190411A00029	4/11/2019	2.46	4/11/2024	4/11/2019	117.33464	114.1615936	111.0914567	108.1202344	105.2441158	102.4594646	99.76280931	97.15083477	94.62037363
190423A00002	4/23/2019	2.52	4/23/2024	4/23/2019	117.70822	114.4911619	111.3792267	108.3683731	105.4547443	102.6346542	99.90457924	97.26114973	94.70114227
190424A00007	4/24/2019	2.66	4/24/2024	4/24/2019	117.68062	114.4713834	111.3668605	108.3630366	105.4560799	102.6423279	99.91827824	97.28058101	94.72603112
190403A00024	4/3/2019	2.61	7/29/2022	4/3/2019	107.05155	105.8602287	104.6953458	103.5560323	102.4414534	101.3508103	100.2833383	99.23830476	98.21500787
190404A00003	4/4/2019	2.47	4/4/2024	4/4/2019	117.25167	114.1022687	111.0545484	108.1045388	105.2484534	102.4826821	99.80378163	97.20846609	94.69359856
190404A00023	4/5/2019	2.62	5/16/2022	4/5/2019	105.72755	104.775092	103.8397637	102.9211097	102.0186868	101.1320674	100.2608387	99.4046023	98.56297345
190404A00024	4/5/2019	2.61	2/15/2022	4/5/2019	104.08964	103.4184588	102.75592	102.1018619	101.4561223	100.8185431	100.1889702	99.5672534	98.95324619
190408A00004	4/8/2019	2.6	10/8/2021	4/8/2019	101.76208	101.4784511	101.1964132	100.9159499	100.637048	100.3596945	100.0838764	99.80958086	99.53679536
190409A00019	4/9/2019	2.91	4/9/2029	4/9/2019	147.64681	137.2703333	127.7064095	118.8869147	110.74979	103.2384671	96.30135519	89.89137747	83.96555402
190329A00017	3/29/2019	2.59	3/29/2023	3/29/2019	111.07006	109.1601512	107.2932185	105.4678781	103.6828065	101.9367371	100.2284572	98.55680505	96.92066684
190329A00034	3/29/2019	2.56	3/29/2022	3/29/2019	104.81278	104.0118642	103.223158	102.4463844	101.6812743	100.9275666	100.1850078	99.45335203	98.73236049
190401A00035	4/1/2019	2.53	10/1/2021	4/1/2019	101.61965	101.3563674	101.0944455	100.8338726	100.5746385	100.3167329	100.0601457	99.80486668	99.55088604
190402A00004	4/2/2019	2.9	4/2/2029	4/2/2019	147.44736	137.1053359	127.5715968	118.7784665	110.6642858	103.1728497	96.25289655	89.85764796	83.9443937
190402A00010	4/2/2019	2.4	4/6/2022	4/2/2019	104.91391	104.0869889	103.2730731	102.4718601	101.683054	100.9063683	100.1415251	99.38825504	98.6462968
190402A00014	4/2/2019	2.64	4/2/2024	4/2/2019	117.26584	114.1328784	111.1007191	108.1654234	105.3232389	102.5705881	99.90405932	97.32039747	94.81649518
190328A00025	3/28/2019	2.51	7/23/2021	3/28/2019	100.39802	100.3338447	100.2697606	100.2057708	100.1418753	100.0780738	100.0143661	99.95075206	99.88723143
190328A00033	4/25/2019	2.56	4/25/2024	4/25/2019	117.39576	114.1875727	111.0841636	108.0815208	105.1758125	102.3633754	99.64070624	97.00445388	94.45141167
190328A00046	3/28/2019	2.7	3/4/2025	3/28/2019	122.79234	118.4760823	114.3363316	110.3648186	106.5537189	102.8956222	99.38350756	96.01072042	92.77095071
190328A00053	3/28/2019	2.33	3/28/2022	3/28/2019	104.69903	103.9005379	103.1141927	102.3397203	101.576853	100.8253318	100.0849047	99.35532762	98.63636334
190328A00065	3/28/2019	2.56	3/28/2024	3/28/2019	116.95196	113.8392903	110.826419	107.9094521	105.0846772	102.3485558	99.69771355	97.12893094	94.63913509
190328A00079	3/28/2019	2.37	3/28/2024	3/28/2019	116.84661	113.7253127	110.7043211	107.7797091	104.9477385	102.2048465	99.54763585	96.97286581	94.47744327
190327A00013	3/27/2019	2.53	3/27/2024	3/27/2019	116.84866	113.740603	110.7321252	107.8193431	104.9985557	102.2662349	99.61901629	97.05368964	94.56719077
190327A00024	3/27/2019	2.48	3/25/2022	3/27/2019	104.68012	103.8918952	103.115519	102.3507243	101.5972533	100.8548557	100.1232889	99.40231685	98.69171073
190327A00031	3/27/2019	2.53	3/27/2024	3/27/2019	116.84866	113.740603	110.7321252	107.8193431	104.9985557	102.2662349	99.61901629	97.05368964	94.56719077
190327A00032	3/27/2019	2.53	1/26/2024	3/27/2019	115.87844	112.9788644	110.1676045	107.4414096	104.7971742	102.231928	99.74282856	97.32715555	94.98230395

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190328A00003	3/28/2019	2.64	9/30/2024	3/28/2019	120.14091	116.3825873	112.7628906	109.275808	105.9156371	102.6769626	99.55463904	96.54377567	93.63972145
190328A00019	3/28/2019	2.56	3/28/2024	3/28/2019	116.95196	113.8392903	110.826419	107.9094521	105.0846772	102.3485558	99.69771355	97.12893094	94.63913509
190321A00018	3/21/2019	2.45	3/21/2022	3/21/2019	104.66461	103.8875191	103.1219521	102.3676534	101.6243753	100.8918774	100.1699262	99.45829498	98.75676349
190321A00021	3/21/2019	2.67	3/21/2024	3/21/2019	117.16192	114.0680635	111.0727924	108.1722877	105.3629051	102.6411695	100.003766	97.4475306	94.96944221
190321A00044	3/21/2019	2.45	3/21/2022	3/21/2019	104.66461	103.8875191	103.1219521	102.3676534	101.6243753	100.8918774	100.1699262	99.45829498	98.75676349
190326A00001	3/26/2019	2.55	3/28/2022	3/26/2019	104.78709	103.9893149	103.2036605	102.429851	101.6676202	100.9167095	100.1768684	99.44785324	98.72942788
190326A00004	3/26/2019	2.58	9/26/2023	3/26/2019	114.05412	111.5571491	109.1282149	106.7649246	104.4649931	102.2262363	100.0465654	97.92398188	95.85657262
190327A00006	3/27/2019	2.53	3/27/2024	3/27/2019	116.84866	113.740603	110.7321252	107.8193431	104.9985557	102.2662349	99.61901629	97.05368964	94.56719077
190311A00009	3/11/2019	2.54	3/11/2022	3/11/2019	104.54888	103.8026137	103.0669937	102.34179	101.6267825	100.921757	100.2265053	99.54082496	98.86451913
190313A00019	3/13/2019	2.73	7/15/2022	3/13/2019	106.92906	105.7826487	104.6607819	103.5626724	102.4875712	101.4347605	100.4035519	99.39328522	98.40332704
190314A00027	3/22/2019	2.92	3/21/2025	3/22/2019	123.93786	119.544228	115.3320074	111.2926106	107.4179118	103.7002216	100.1322593	96.70712923	93.41829702
190318A00021	3/18/2019	2.76	3/18/2024	3/18/2019	117.37454	114.286997	111.2975669	108.4024588	105.598056	102.8809091	100.2477272	97.69536879	95.2208337
190318A00024	3/18/2019	2.57	3/18/2024	3/18/2019	117.27131	114.1752411	111.1777821	108.2751108	105.4635853	102.7397329	100.1002402	97.54194495	95.06182742
190319A00013	3/19/2019	2.72	3/18/2022	3/19/2019	104.73208	103.9648661	103.2088788	102.4638773	101.7296232	101.0058848	100.2924373	99.58906214	98.89554684
190220A00007	2/20/2019	2.87	2/20/2024	2/20/2019	117.2387	114.2390591	111.3325875	108.5157723	105.7852625	103.1378573	100.5704986	98.08026255	95.6643535
190221A00002	2/21/2019	2.81	2/22/2022	2/21/2019	104.34939	103.6562268	102.972261	102.29731	101.6311963	100.9737472	100.3247944	99.68417379	99.05172575
190225A00026	2/25/2019	3.43	2/27/2034	2/25/2019	182.19948	162.8045283	145.7220275	130.6610602	117.3688279	105.6254743	95.23963538	86.04461183	77.89507213
190301A00009	3/1/2019	2.83	3/1/2022	3/1/2019	104.49349	103.7787411	103.0737457	102.3783087	101.6922366	101.0153414	100.3474399	99.68835388	99.03790964
190308A00007	3/8/2019	2.8	3/8/2024	3/8/2019	117.32673	114.2711226	111.3117935	108.445058	105.6673989	102.9754601	100.3660374	97.83607095	95.38263689
190311A00003	3/11/2019	2.68	9/10/2021	3/11/2019	101.2809	101.0779192	100.8757632	100.6744261	100.4739028	100.2741884	100.0752778	99.87716618	99.67984874
190214A00013	2/14/2019	2.64	2/14/2023	2/14/2019	110.65018	108.8723749	107.1325772	105.4296374	103.7624538	102.1299687	100.5311661	98.96506972	97.43074095
190215A00003	2/15/2019	2.82	2/15/2022	2/15/2019	104.22563	103.5539455	102.89091	102.2363597	101.5901325	100.95207	100.3220182	99.69982679	99.08534913
190215A00017	2/15/2019	2.89	2/15/2024	2/15/2019	117.20798	114.2252965	111.334859	108.5332124	105.817054	103.1832283	100.6287193	98.15064299	95.74624098
190215A00046	2/15/2019	2.7	2/15/2024	2/15/2019	117.10794	114.1171649	111.2190945	108.4102474	105.6872981	103.0470696	100.4865259	98.00276399	95.59300756
190219A00026	2/19/2019	2.8	2/22/2022	2/19/2019	104.34271	103.649577	102.9656362	102.29071	101.6246209	100.9671961	100.3182673	99.67767063	99.04524625
190219A00045	2/19/2019	2.8	2/28/2022	2/19/2019	104.45417	103.7425969	103.0406956	102.3482693	101.6651272	100.9910837	100.325958	99.66957414	99.0217607
190212A00017	2/12/2019	2.86	6/30/2023	2/12/2019	113.19961	110.9813831	108.8187391	106.7099231	104.653246	102.6470835	100.689874	98.78011529	96.9163617
190213A00023	2/13/2019	2.93	2/13/2024	2/13/2019	117.28486	114.3077137	111.4224823	108.6257254	105.9141586	103.2846433	100.7341798	98.25989893	95.85905635
190214A00004	2/14/2019	2.6	2/14/2022	2/14/2019	104.13237	103.4631492	102.8025246	102.1503307	101.5064065	100.8705955	100.2427449	99.62270555	99.01033231
190214A00006	2/14/2019	2.67	2/14/2024	2/14/2019	117.00661	114.0205614	111.1270059	108.3224695	105.6036373	102.9673424	100.410558	97.93039017	95.52407078
190214A00008	2/14/2019	2.64	2/14/2023	2/14/2019	110.65018	108.8723749	107.1325772	105.4296374	103.7624538	102.1299687	100.5311661	98.96506972	97.43074095
190214A00012	2/14/2019	2.6	2/14/2022	2/14/2019	104.13237	103.4631492	102.8025246	102.1503307	101.5064065	100.8705955	100.2427449	99.62270555	99.01033231
190206A00013	2/6/2019	2.68	2/6/2023	2/6/2019	110.56833	108.8174674	107.1036705	105.4258321	103.7828917	102.1738306	100.5976697	99.0534672	97.54031731

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190208A00008	2/8/2019	2.86	2/8/2024	2/8/2019	117.00297	114.0462502	111.1804476	108.4021804	105.7082145	103.0954586	100.5609571	98.10188248	95.71552946
190211A00002	2/11/2019	2.88	2/12/2024	2/11/2019	117.12793	114.156265	111.276283	108.4845551	105.7778079	103.1529136	100.606882	98.13685343	95.74009209
190211A00011	2/11/2019	2.8	2/11/2022	2/11/2019	104.1384	103.4790346	102.8280115	102.1851742	101.5503691	100.9234461	100.3042589	99.69266496	99.08852499
190211A00016	2/11/2019	3.01	2/11/2025	2/11/2019	123.66371	119.4041589	115.3161724	111.3918416	107.6236703	104.0045524	100.5277485	97.18686496	93.97583371
190211A00017	2/11/2019	3.12	2/11/2026	2/11/2019	130.06463	124.4408495	119.0957782	114.0140474	109.1812258	104.5837551	100.2088914	96.04465163	92.07976398
190131A00017	1/31/2019	2.83	3/25/2022	1/31/2019	104.94472	104.1553816	103.3779004	102.6120122	101.8574591	101.1139908	100.3813641	99.65934322	98.94769886
190131A00019	1/31/2019	3.44	1/30/2034	1/31/2019	181.88038	162.6339629	145.669175	130.7005788	117.4799298	105.7911539	95.44602591	86.28044909	78.15124773
190131A00027	1/31/2019	2.86	1/31/2023	1/31/2019	110.52363	108.7967861	107.1061616	105.4506902	103.8293477	102.2411498	100.6851495	99.16043562	97.66613119
190131A00053	1/31/2019	2.67	1/31/2023	1/31/2019	110.43921	108.7091322	107.0154063	105.3569617	103.732769	102.1418386	100.5832185	99.05599323	97.55928128
190201A00009	2/1/2019	2.8	2/4/2022	2/1/2019	104.00845	103.3705439	102.7404458	102.1180171	101.5031186	100.8956142	100.2953711	99.70225958	99.11615318
190201A00011	2/1/2019	2.8	2/4/2022	2/1/2019	104.00845	103.3705439	102.7404458	102.1180171	101.5031186	100.8956142	100.2953711	99.70225958	99.11615318
190128A00035	1/28/2019	3.04	1/26/2024	1/28/2019	117.27422	114.3556252	111.5257914	108.7814556	106.1194987	103.536937	101.0309155	98.59870159	96.23767849
190129A00028	1/30/2019	2.92	2/1/2022	1/30/2019	104.0257	103.3967246	102.7753378	102.161404	101.5547897	100.9553647	100.3630019	99.77757711	99.19896896
190130A00012	1/30/2019	2.92	1/31/2022	1/30/2019	104.0068	103.3808905	102.7624928	102.1514755	101.5477071	100.9510594	100.3614071	99.7786277	99.20260176
190130A00018	1/30/2019	2.95	10/17/2022	1/30/2019	108.81721	107.3950119	106.0034759	104.6416106	103.308472	102.0031564	100.7247986	99.47256921	98.24567327
190130A00020	1/30/2019	2.97	4/17/2023	1/30/2019	112.11169	110.1338529	108.2011869	106.3123211	104.4659371	102.6607678	100.8955946	99.16924554	97.4805924
190131A00011	1/31/2019	3.13	1/30/2026	1/31/2019	129.96769	124.3883308	119.0837365	114.0388594	109.239558	104.6725397	100.3253048	96.18609478	92.24384395
190122A00042	1/22/2019	2.79	1/23/2023	1/22/2019	110.4955	108.7885469	107.1171527	105.4802845	103.8769477	102.3061852	100.7670763	99.25873451	97.78030616
190122A00045	1/22/2019	3.17	1/22/2027	1/22/2019	136.94048	129.8980269	123.2661873	117.0187794	111.1314296	105.5814388	100.3476583	95.41037549	90.75120901
190122A00046	1/22/2019	3.29	1/22/2029	1/22/2019	149.69176	139.5298359	130.1419471	121.4648047	113.4406211	106.0166015	99.14448776	92.78014608	86.8831943
190123A00005	1/23/2019	2.94	1/24/2022	1/23/2019	103.88607	103.2813951	102.6837507	102.0930195	101.5090818	100.9318208	100.3611226	99.79687549	99.23897052
190123A00035	1/23/2019	3.18	1/22/2027	1/23/2019	137.00239	129.9581448	123.3245888	117.0755367	111.1866115	105.6351103	100.3998813	95.46120869	90.80070829
190123A00036	1/23/2019	3.32	1/23/2029	1/23/2019	149.96696	139.790556	130.3893076	121.6998298	113.6642432	106.2296704	99.34777865	92.97436673	87.06899151
190114A00040	1/14/2019	2.89	1/14/2025	1/14/2019	123.33932	119.1639021	115.1541176	111.3024597	107.6018049	104.0453925	100.6268042	97.33994447	94.17902251
190114A00043	1/14/2019	2.88	1/14/2022	1/14/2019	103.66882	103.0944979	102.5265372	101.9648372	101.4092946	100.8598084	100.3162797	99.77861196	99.24671049
190115A00028	1/15/2019	2.86	11/8/2021	1/15/2019	102.41227	102.0379166	101.6663088	101.2974121	100.9311966	100.5676331	100.2066929	99.84834751	99.49256903
190115A00029	1/15/2019	2.86	11/8/2021	1/15/2019	102.41227	102.0379166	101.6663088	101.2974121	100.9311966	100.5676331	100.2066929	99.84834751	99.49256903
190115A00034	1/15/2019	2.91	1/17/2023	1/15/2019	110.3569	108.6726542	107.0232129	105.4075742	103.8247753	102.2738896	100.7540249	99.26432167	97.80395202
190122A00007	1/22/2019	3.03	1/22/2024	1/22/2019	117.17837	114.2734162	111.4565443	108.7245244	106.0742721	103.5028365	101.0073931	98.58523815	96.23378203
190110A00010	1/10/2019	2.97	1/16/2024	1/10/2019	116.91326	114.0304011	111.234559	108.5225683	105.8913974	103.3381449	100.8600333	98.45440284	96.11870513
190110A00013	1/10/2019	2.97	1/17/2024	1/10/2019	116.9302	114.0440256	111.2450403	108.5300642	105.8960574	103.3401105	100.8594384	98.45137431	96.11336319
190110A00014	1/10/2019	2.97	1/17/2024	1/10/2019	116.9302	114.0440256	111.2450403	108.5300642	105.8960574	103.3401105	100.8594384	98.45137431	96.11336319
190110A00028	1/10/2019	2.78	1/10/2024	1/10/2019	116.71484	113.8442244	111.0600466	108.3591733	105.7386033	103.195464	100.7270046	98.33059028	96.00369647

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190111A00013	1/11/2019	2.87	1/7/2022	1/11/2019	103.53733	102.9841342	102.4368472	101.8953752	101.3596258	100.8295085	100.3049348	99.78581797	99.27207303
190111A00026	1/11/2019	3.48	1/11/2034	1/11/2019	182.18626	162.9990834	146.0774878	131.139087	117.9381552	106.2606979	95.92020501	86.75399151	78.62004119
190107A00028	1/7/2019	2.62	1/7/2022	1/7/2019	103.44756	102.8940884	102.3465371	101.8048118	101.2688197	100.7384701	100.213674	99.69434452	99.18039634
190107A00036	1/7/2019	2.84	4/15/2022	1/7/2019	105.34021	104.4850843	103.6438302	102.8161111	102.0016021	101.1999884	100.4109654	99.63423791	98.86951991
190110A00001	1/10/2019	2.88	1/10/2022	1/10/2019	103.59357	103.0313636	102.4752576	101.9251558	101.380961	100.8425783	100.3099149	99.78287984	99.26138408
190110A00002	1/10/2019	2.93	1/10/2023	1/10/2019	110.26406	108.6011727	106.9723906	105.3767457	103.8133052	102.2811708	100.7794774	99.30739097	97.8641076
190110A00004	1/10/2019	3.09	1/10/2025	1/10/2019	123.43497	119.2862922	115.3013938	111.4728817	107.7937439	104.2573235	100.8572991	97.58766563	94.44271661
190110A00005	1/10/2019	3.2	1/9/2026	1/10/2019	129.97734	124.4677137	119.2265951	114.2394335	109.4925448	104.9730568	100.6688564	96.56854059	92.66137095
190103A00010	1/3/2019	2.7	1/3/2024	1/3/2019	116.3832	113.5386667	110.7793428	108.1021589	105.5041752	102.9825766	100.5346663	98.15786056	95.84968252
190104A00033	1/4/2019	3.37	1/31/2029	1/4/2019	148.94672	138.8479076	129.5184922	120.8955305	112.9215538	105.5440623	98.71507025	92.3906961	86.53079072
190107A00010	1/7/2019	2.66	1/9/2023	1/7/2019	110.03704	108.3752449	106.7475562	105.1530097	103.5906724	102.0596459	100.559065	99.08809559	97.64593382
190107A00022	1/7/2019	2.83	1/7/2022	1/7/2019	103.51586	102.9627333	102.4155129	101.874107	101.3384232	100.808371	100.2838619	99.76480912	99.25112781
190107A00023	1/7/2019	2.87	1/6/2023	1/7/2019	110.09723	108.4474832	106.8314313	105.248123	103.696643	102.1761095	100.685673	99.22451443	97.79184387
190107A00024	1/7/2019	2.91	1/5/2024	1/7/2019	116.56663	113.7222922	110.9631023	108.2859891	105.6880154	103.1663688	100.718355	98.34139242	96.03300673
181227A00028	12/27/2018	3.46	12/27/2028	12/27/2018	149.14174	139.1629931	129.9358418	121.3994751	113.4983078	106.1815074	99.40256527	93.11890736	87.2915425
181228A00008	12/28/2018	2.9	12/28/2021	12/28/2018	103.36472	102.841655	102.3238774	101.8113063	101.3038635	100.8014723	100.3040575	99.81154548	99.32386408
190102A00037	1/2/2019	2.8	7/2/2021	1/2/2019	100.0362	100.0306328	100.0250661	100.0195044	100.0139476	100.0083957	100.0028488	99.99730685	99.99176981
190102A00041	1/2/2019	2.91	1/2/2024	1/2/2019	116.51639	113.6819594	110.9321776	108.2640056	105.6745313	103.1609656	100.7206365	98.35098328	96.04955099
190102A00050	1/2/2019	3.38	1/3/2034	1/2/2019	180.56645	161.5169738	144.7165279	129.8849777	116.7785264	105.1848311	94.91879656	85.81895175	77.74432342
190102A00058	1/2/2019	2.91	1/2/2024	1/2/2019	116.51639	113.6819594	110.9321776	108.2640056	105.6745313	103.1609656	100.7206365	98.35098328	96.04955099
181218A00072	12/18/2018	3.04	12/19/2022	12/18/2018	110.03658	108.4410309	106.877181	105.344167	103.8411531	102.3673331	100.9219292	99.50419071	98.11339285
181218A00077	12/18/2018	3.09	12/18/2023	12/18/2018	116.73325	113.9430679	111.2349093	108.6058773	106.053194	103.5741965	101.1663319	98.82715177	96.5543071
181227A00019	12/28/2020	3.1	12/29/2025	12/28/2020	129.30611	123.8490281	118.6565878	113.7145249	109.0094198	104.5286445	100.2603109	96.19322408	92.31683755
181227A00022	12/27/2019	2.91	12/27/2022	12/27/2019	109.98152	108.3623651	106.7758455	105.221052	103.6971132	102.2031886	100.7384681	99.30216973	97.89353926
181227A00026	12/27/2018	3.03	12/27/2023	12/27/2018	116.73241	113.9138659	111.178993	108.5248001	105.9484264	103.4471312	101.0182881	98.65937902	96.36798959
181227A00027	12/27/2018	3.24	12/26/2025	12/27/2018	129.94493	124.4830878	119.2854557	114.3378193	109.6268087	105.1398407	100.8650681	96.79133267	92.90812159
181130A00037	11/30/2018	3.05	11/30/2023	11/30/2018	116.71046	113.9690204	111.3067631	108.7209414	106.2089206	103.7681729	101.396273	99.0908929	96.84979729
181203A00053	12/4/2018	3.23	12/1/2023	12/4/2018	116.79457	114.0571967	111.3988057	108.8166589	106.3081301	103.8707003	101.501952	99.19956474	96.96131032
181211A00018	12/11/2018	3.14	12/11/2023	12/11/2018	116.74035	113.9721435	111.2846951	108.6751759	106.1408711	103.6791778	101.2875994	98.96374073	96.7053031
181211A00043	12/11/2018	3.14	12/11/2023	12/11/2018	116.74035	113.9721435	111.2846951	108.6751759	106.1408711	103.6791778	101.2875994	98.96374073	96.7053031
181213A00031	12/13/2018	2.97	12/13/2023	12/13/2018	116.73446	113.95153	111.250138	108.6274133	106.0806038	103.6070714	101.2042861	98.86982127	96.60134849
181217A00010	12/17/2018	3.11	12/15/2023	12/17/2018	116.73282	113.9521001	111.2528598	108.6322311	106.0874631	103.6159188	101.2150696	98.88248983	96.61585228
181115A00076	11/15/2018	3.22	12/31/2021	11/15/2018	103.58659	103.0540207	102.5269198	102.0051989	101.488776	100.9775708	100.4715047	99.9705004	99.47448246

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181123A00015	11/23/2018	3.14	11/23/2021	11/23/2018	102.80556	102.3866743	101.9712002	101.5591007	101.1503346	100.7448618	100.3426423	99.9436372	99.54780792
181127A00026	11/27/2018	3.2	11/26/2021	11/27/2018	102.88877	102.4609407	102.0366675	101.6159061	101.1986132	100.784746	100.3742623	99.96712087	99.56328098
181128A00031	11/28/2018	3.29	11/28/2023	11/28/2018	116.89336	114.1643355	111.513786	108.9390023	106.4373836	104.0064346	101.6437601	99.34706093	97.11412898
181129A00023	11/29/2018	3.16	11/29/2021	11/29/2018	102.93038	102.4937099	102.0607386	101.6314172	101.2057	100.7835418	100.3648981	99.94972521	99.53798018
181129A00027	11/29/2018	3.16	11/29/2021	11/29/2018	102.93038	102.4937099	102.0607386	101.6314172	101.2057	100.7835418	100.3648981	99.94972521	99.53798018
181109A00028	11/9/2018	3.72	11/9/2026	11/9/2018	137.95849	131.1862396	124.793773	118.7577707	113.0564626	107.6695179	102.5779424	97.76398412	93.21104604
181109A00029	11/9/2018	3.72	11/9/2026	11/9/2018	137.95849	131.1862396	124.793773	118.7577707	113.0564626	107.6695179	102.5779424	97.76398412	93.21104604
181114A00010	11/14/2018	3.08	11/15/2021	11/14/2018	102.65926	102.2636208	101.8710409	101.4814852	101.0949187	100.7113071	100.3306163	99.95281298	99.57786428
181114A00021	11/14/2018	3.17	11/14/2023	11/14/2018	116.71949	114.0298863	111.4166265	108.8771039	106.4088209	104.0093797	101.6764775	99.40790255	97.20152936
181114A00026	11/14/2018	3.32	12/14/2022	11/14/2018	110.37015	108.7869635	107.2349449	105.7132527	104.2210721	102.7576169	101.322128	99.91387284	98.53214378
181115A00036	11/15/2018	3.2	11/15/2021	11/15/2018	102.67378	102.2784776	101.8862295	101.4969983	101.1107493	100.7274483	100.3470613	99.96955511	99.59489708
181029A00081	10/29/2018	3.27	4/28/2023	10/29/2018	112.86731	110.8487056	108.8765757	106.9495597	105.0663484	103.2256791	101.4263343	99.66713917	97.94696021
181030A00012	10/30/2018	3.32	10/30/2023	10/30/2018	116.42958	113.7999672	111.2436511	108.758177	106.3411843	103.9904049	101.7036596	99.47885366	97.31397299
181101A00020	11/1/2018	3.26	11/1/2021	11/1/2018	102.42118	102.0671406	101.7155449	101.3663655	101.0195777	100.6751568	100.3330789	99.99332013	99.655857
181102A00006	11/2/2018	3.07	11/2/2021	11/2/2018	102.40313	102.0458926	101.6911472	101.3388659	100.989023	100.6415933	100.2965519	99.95387425	99.61353611
181109A00023	11/9/2018	3.39	11/9/2022	11/9/2018	109.78778	108.3159298	106.8712753	105.4531199	104.0607948	102.693653	101.3510688	100.0324365	98.73717008
181109A00027	11/13/2018	3.48	4/15/2024	11/13/2018	119.97853	116.7641509	113.6537738	110.6433888	107.7291685	104.9074583	102.1747673	99.52775967	96.9632468
181018A00011	10/18/2018	3.35	10/18/2023	10/18/2018	116.28362	113.6924005	111.1728128	108.7224099	106.3388439	104.019864	101.7633117	99.56711632	97.42929043
181022A00026	10/22/2018	3.18	10/15/2021	10/22/2018	102.05999	101.7556902	101.4532134	101.1525461	100.8536721	100.5565752	100.2612395	99.96764928	99.67578906
181022A00029	10/22/2018	3.22	10/24/2022	10/22/2018	109.29203	107.8587483	106.4539157	105.0767111	103.7263441	102.4020547	101.1031118	99.82881177	98.57847707
181023A00052	10/23/2018	3.15	10/23/2023	10/23/2018	116.26241	113.64848	111.1072131	108.6361438	106.2329035	103.8952196	101.6209111	99.40788438	97.25412856
181025A00010	10/25/2018	3.07	10/25/2022	10/25/2018	109.27555	107.8385071	106.4296857	105.0482838	103.6935295	102.3646802	101.061021	99.78186355	98.52654452
181026A00002	10/26/2018	3.28	10/26/2023	10/26/2018	116.25821	113.6429139	111.1003222	108.6279849	106.223547	103.8847474	101.6094148	99.39546346	97.24088936
181009A00035	10/9/2018	3.12	10/11/2022	10/9/2018	109.15209	107.7308412	106.3423614	104.985519	103.6592311	102.3624645	101.0942327	99.8535931	98.63964484
181009A00036	10/9/2018	3.07	10/8/2021	10/9/2018	101.91935	101.6351489	101.3525382	101.0715084	100.7920461	100.5141382	100.2377716	99.96293355	99.68961122
181010A00020	10/10/2018	3.27	12/1/2022	10/10/2018	110.04576	108.5042517	106.9923805	105.5093617	104.054438	102.6268781	101.2259755	99.85104756	98.50143449
181010A00021	10/10/2018	3.29	3/15/2023	10/10/2018	112.08509	110.2076529	108.3717091	106.5759491	104.8191195	103.1000198	101.4174989	99.77045315	98.15782371
181015A00008	10/15/2018	3.15	9/15/2021	10/15/2018	101.47344	101.2559378	101.0393797	100.8237599	100.6090723	100.3953109	100.1824695	99.97054232	99.75952327
181016A00084	10/16/2018	3.21	10/17/2022	10/16/2018	109.1685	107.7437704	106.3497459	104.985436	103.6498956	102.3422197	101.061542	99.80703181	98.57789323
181002A00019	10/2/2018	2.98	10/4/2021	10/2/2018	101.81787	101.5453533	101.2742986	101.0046944	100.736529	100.4697909	100.2044687	99.94055113	99.67802696
181004A00029	10/4/2018	3.7	10/4/2028	10/4/2018	149.70717	140.020041	131.0412629	122.7149664	114.9899911	107.8194604	101.1603997	94.97339167	89.22226256
181005A00011	10/5/2018	3.2	10/5/2023	10/5/2018	116.05457	113.4982827	111.0121862	108.5938196	106.2408315	103.9509733	101.7220936	99.55213272	97.4391182
181005A00012	10/5/2018	3.33	10/4/2024	10/5/2018	123.17645	119.3398417	115.6448992	112.0854971	108.6558146	105.350322	102.1637642	99.09114455	96.12771048

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181005A00017	10/5/2018	3.27	4/11/2023	10/5/2018	112.54234	110.5791147	108.6604942	106.7850981	104.9515993	103.1587242	101.4052501	99.69000233	98.0118522
181009A00008	10/9/2018	3.24	10/7/2022	10/9/2018	109.0722	107.6587773	106.2792968	104.9325367	103.6173323	102.3325742	101.0772046	99.85021469	98.65064177
180926A00004	9/26/2018	3.04	9/26/2022	9/26/2018	108.81915	107.4248974	106.0663142	104.742047	103.4508076	102.1913716	100.9625743	99.7633076	98.59251593
180926A00031	9/26/2018	3.24	9/26/2023	9/26/2018	115.61757	113.1019361	110.6547438	108.2735868	105.9561682	103.7002923	101.5038595	99.36486041	97.28137191
180927A00008	9/27/2018	3.14	9/27/2022	9/27/2018	108.80219	107.4075439	106.0486064	104.7240233	103.4325036	102.1728205	100.9438071	99.74435286	98.57340045
180927A00015	9/27/2018	3.02	9/27/2022	9/27/2018	108.8127	107.4152516	106.05364	104.7264963	103.4325239	102.1704904	100.939224	99.73760944	98.56458484
180927A00042	9/27/2018	3.02	9/27/2022	9/27/2018	108.8127	107.4152516	106.05364	104.7264963	103.4325239	102.1704904	100.939224	99.73760944	98.56458484
181001A00074	10/1/2018	3.03	10/3/2022	10/1/2018	108.92422	107.513104	106.1373382	104.7956038	103.4866436	102.2092618	100.9623205	99.74473573	98.5554749
180920A00063	9/20/2018	3	9/20/2021	9/20/2018	101.55616	101.3240819	101.0930711	100.8631251	100.6342364	100.4063978	100.1796019	99.95384161	99.7291097
180921A00021	9/21/2018	2.99	9/21/2021	9/21/2018	101.5729	101.3379381	101.1040778	100.8713074	100.6396191	100.4090055	100.1794589	99.95097199	99.72353734
180921A00039	9/21/2018	3.15	9/21/2022	9/21/2018	108.69903	107.3244352	105.9845792	104.6781554	103.4039233	102.1607031	100.9473723	99.76286175	98.60615297
180924A00044	9/24/2018	3.1	9/24/2021	9/24/2018	101.63426	101.3909001	101.14871	100.907682	100.6678078	100.4290791	100.1914877	99.95502543	99.71968435
180924A00047	9/24/2018	3.14	9/23/2022	9/24/2018	108.72491	107.3436911	105.9975332	104.6851131	103.4051736	102.1565195	100.9380133	99.74857237	98.58716523
180925A00060	9/25/2018	3.23	8/25/2023	9/25/2018	115.0031	112.5954507	110.2512356	107.968305	105.7446055	103.5781699	101.4671131	99.40962795	97.40398102
180918A00041	9/18/2018	3.18	9/18/2024	9/18/2018	122.36174	118.5919243	114.9598721	111.4596625	108.0856762	104.8325741	101.6952805	98.66896854	95.74904565
180920A00014	9/20/2018	3.59	9/20/2028	9/20/2018	148.56566	138.9735679	130.0803362	121.8310499	114.1754002	107.067277	100.464396	94.32796116	88.6223583
180920A00027	9/20/2018	3.04	9/20/2022	9/20/2018	108.70263	107.3285785	105.9892179	104.6832472	103.4094289	102.166586	100.9535982	99.76939876	98.61297124
180920A00028	9/20/2018	3.12	9/20/2023	9/20/2018	115.58515	113.0817046	110.646091	108.2759337	105.9689675	103.7230263	101.5360382	99.40602003	97.33107304
180920A00035	9/20/2018	3.16	9/20/2022	9/20/2018	108.69241	107.3210843	105.9843366	104.6808692	103.40945	102.1689071	100.958125	99.77604158	98.62164465
180920A00062	9/20/2018	3.12	9/20/2023	9/20/2018	115.58515	113.0817046	110.646091	108.2759337	105.9689675	103.7230263	101.5360382	99.40602003	97.33107304
180914A00028	9/14/2018	3.37	9/12/2025	9/14/2018	128.78184	123.7039655	118.8578351	114.2315154	109.8137638	105.5939818	101.5621743	97.70891106	94.02529103
180917A00078	9/17/2018	3.05	9/15/2023	9/17/2018	115.32795	112.8435066	110.426038	108.0732215	105.7828324	103.552743	101.3809172	99.26540568	97.20434147
180918A00011	9/18/2018	3.17	9/18/2023	9/18/2018	115.30502	112.8185008	110.3990919	108.0444565	105.7523623	103.5206741	101.3473488	99.23043092	97.16804729
180918A00012	9/18/2018	3.06	9/17/2021	9/18/2018	101.49198	101.2687579	101.0465329	100.8252947	100.6050368	100.3857526	100.1674356	99.95007936	99.73367753
180918A00013	9/18/2018	3.11	9/16/2022	9/18/2018	108.55187	107.1943957	105.8708413	104.5799486	103.3205189	102.0914116	100.8915406	99.71987113	98.57541691
180918A00038	9/18/2018	3.11	9/16/2022	9/18/2018	108.55187	107.1943957	105.8708413	104.5799486	103.3205189	102.0914116	100.8915406	99.71987113	98.57541691
180911A00012	9/11/2018	3.06	9/9/2022	9/11/2018	108.3553	107.0216848	105.7208646	104.451637	103.2128608	102.0034493	100.8223669	99.66862622	98.54128546
180911A00080	9/11/2018	2.94	9/9/2022	9/11/2018	108.36496	107.0287179	105.7253811	104.4537405	103.2126501	102.0010182	100.8178048	99.66201837	98.53271299
180912A00011	9/12/2018	3.41	9/11/2026	9/12/2018	135.14485	128.6564631	122.5235533	116.7246371	111.2396493	106.0498443	101.1377016	96.48683815	92.08192838
180913A00029	9/13/2018	3.11	9/13/2023	9/13/2018	115.07355	112.6056171	110.2039624	107.8662905	105.5904089	103.3742201	101.2157164	99.11297545	97.0641555
180914A00008	9/14/2018	3.15	9/14/2023	9/14/2018	115.18502	112.7126037	110.3066494	107.9648517	105.6850094	103.4650172	101.30286	99.19660825	97.1444136
180914A00013	9/14/2018	3.48	9/14/2028	9/14/2018	147.56777	138.0354861	129.1969536	120.9977398	113.3879735	106.3219379	99.75770236	93.65678942	87.98387206
180904A00012	9/4/2018	3.35	9/4/2030	9/4/2018	160.40619	147.4891429	135.7365453	125.0365829	115.2887529	106.4026664	98.29698034	90.89844795	84.14107302

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180904A00014	9/4/2018	3.37	9/1/2028	9/4/2018	146.4587	137.0164052	128.2589251	120.1327452	112.5888127	105.5821429	99.07146099	93.01887663	87.38958928
180905A00015	9/5/2018	2.85	9/1/2022	9/5/2018	108.10244	106.7937487	105.5166683	104.2700658	103.0528601	101.8640206	100.7025643	99.56755332	98.45809198
180906A00013	9/6/2018	2.81	9/7/2021	9/6/2018	101.27199	101.0773363	100.8834373	100.6902913	100.4978938	100.3062405	100.115327	99.92514892	99.73570205
180906A00020	9/6/2018	2.81	9/7/2021	9/6/2018	101.27199	101.0773363	100.8834373	100.6902913	100.4978938	100.3062405	100.115327	99.92514891	99.73570205
180910A00033	9/10/2018	3.43	9/8/2028	9/10/2018	147.06095	137.5700527	128.7687882	120.6031431	113.0236245	105.9848539	99.44520374	93.36646778	87.71356219
180827A00020	8/27/2018	3.21	8/27/2025	8/27/2018	127.78076	122.7791774	118.00399	113.4436466	109.0872572	104.9245494	100.9458293	97.14194542	93.5042546
180827A00032	8/27/2018	2.96	8/29/2022	8/27/2018	108.0247	106.7286153	105.4635726	104.228471	103.0222569	101.8439254	100.6925178	99.56711915	98.46685524
180827A00034	8/27/2018	2.99	8/28/2023	8/27/2018	114.51015	112.0990622	109.7517028	107.4659074	105.2396055	103.0708148	100.9576355	98.89824679	96.89090263
180827A00060	8/27/2018	2.9	8/27/2021	8/27/2018	101.06678	100.9037593	100.7412638	100.5792959	100.4178528	100.256932	100.0965311	99.93664759	99.77727889
180831A00018	8/31/2018	2.95	8/31/2022	8/31/2018	108.05011	106.7474655	105.4761697	104.2351003	103.0231892	101.8394176	100.682814	99.55245098	98.44744303
180904A00004	9/4/2018	2.89	9/5/2023	9/4/2018	114.77376	112.3276611	109.9468498	107.6290883	105.3722326	103.1742305	101.0331171	98.9470102	96.91410567
180821A00011	8/21/2018	2.98	8/21/2023	8/21/2018	114.36492	111.9767498	109.6512961	107.3864514	105.1801933	103.0305841	100.9357663	98.89395891	96.90345329
180823A00033	8/23/2018	2.85	8/23/2023	8/23/2018	114.45152	112.0494385	109.7106851	107.4331172	105.2146847	103.0534239	100.9474528	98.89496739	96.89423713
180823A00035	8/23/2018	3.05	8/22/2025	8/23/2018	127.6993	122.6953128	117.9177779	113.3551485	108.9965385	104.8316786	100.8508772	97.04498434	93.40535796
180823A00053	8/23/2018	3.2	8/23/2028	8/23/2018	146.41114	136.943361	128.1624489	120.0147504	112.4510813	105.4263335	98.8991164	92.83143119	87.18837562
180823A00055	8/23/2018	3.44	8/23/2033	8/23/2018	179.36152	160.9519913	144.6589333	130.2253375	117.4267387	106.0669411	95.97432371	86.99864509	79.00827804
180824A00023	8/24/2018	2.79	8/24/2021	8/24/2018	101.01013	100.8554526	100.7012593	100.5475478	100.3943158	100.2415611	100.0892815	99.93747459	99.78613828
180816A00038	8/16/2018	3.38	8/16/2028	8/16/2018	146.28149	136.9036654	128.2024312	120.1251855	112.623691	105.6536899	99.174555	93.14897325	87.54265883
180816A00043	8/16/2018	2.83	8/16/2022	8/16/2018	107.77797	106.5225593	105.2963427	104.0983128	102.9275056	101.7830008	100.6639189	99.56941929	98.49869827
180817A00013	8/17/2018	2.94	2/15/2022	8/17/2018	104.30334	103.6313664	102.9680471	102.3132157	101.6667097	101.0283712	100.3980457	99.77558301	99.16083653
180817A00022	8/17/2018	2.87	8/17/2023	8/17/2018	114.39117	112.0080685	109.6874465	107.4272063	105.2253382	103.0799166	100.9890952	98.9511036	96.96424309
180820A00055	8/20/2018	3.37	8/21/2028	8/20/2018	146.2815	136.8856164	128.1687686	120.0780827	112.5650747	105.5852671	99.09783702	93.06529723	87.45320674
180821A00002	8/22/2018	2.89	8/23/2021	8/22/2018	100.99155	100.8398716	100.6886609	100.537914	100.3876286	100.2378028	100.0884343	99.93952102	99.79106095
180814A00032	8/14/2018	3.1	8/14/2025	8/14/2018	127.79184	122.8124369	118.0573497	113.5151994	109.1752487	105.0273651	101.0619837	97.27007098	93.6430928
180814A00033	8/14/2018	3.25	8/13/2027	8/14/2018	140.73062	132.8387397	125.4466221	118.5198588	112.0265947	105.9373243	100.2247057	94.86339072	89.82986866
180815A00009	8/15/2018	2.93	8/16/2021	8/15/2018	100.868	100.7361573	100.6046722	100.4735454	100.3427755	100.212361	100.0823004	99.95259224	99.82323505
180815A00011	8/15/2018	2.97	8/15/2022	8/15/2018	107.77386	106.5240154	105.3031267	104.110195	102.9442675	101.8044344	100.6898264	99.59961237	98.53299747
180815A00021	8/15/2018	3.01	8/15/2023	8/15/2018	114.32732	111.9577824	109.6501265	107.402288	105.2122843	103.0782151	100.9982582	98.97066588	96.99376065
180816A00024	8/16/2018	3.01	8/16/2023	8/16/2018	114.34489	111.9721183	109.6613701	107.4105735	105.2177392	103.0809605	100.9984095	98.96833259	96.98904728
180808A00009	8/8/2018	3.12	8/7/2023	8/8/2018	114.43089	112.084459	109.7988454	107.5720373	105.4021038	103.2871928	101.2255279	99.21540402	97.25518408
180809A00029	8/9/2018	2.99	9/9/2021	8/9/2018	101.32452	101.1243181	100.9249159	100.7263096	100.5284944	100.3314655	100.1352181	99.93974758	99.74504932
180813A00013	8/13/2018	2.99	12/5/2022	8/13/2018	109.70378	108.1529368	106.6321365	105.1405779	103.677488	102.2421203	100.8337542	99.45169323	98.09526455
180813A00016	8/13/2018	2.92	8/13/2021	8/13/2018	100.8125	100.6891368	100.5660907	100.4433604	100.3209446	100.198842	100.0770515	99.9555717	99.83440148

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180813A00026	8/13/2018	2.87	8/11/2023	8/13/2018	114.28544	111.9218204	109.6198309	107.3774148	105.1926028	103.0635072	100.9883175	98.96529687	96.99277829
180813A00059	8/13/2018	3.01	8/11/2023	8/13/2018	114.25705	111.9004421	109.605153	107.3691462	105.1904658	103.0672366	100.9976601	98.9800106	97.01263174
180730A00081	7/30/2018	3.5	7/28/2028	7/30/2018	146.93258	137.5995201	128.935039	120.8875004	113.4095239	106.4576121	99.99181242	93.97541041	88.37465131
180731A00004	7/31/2018	2.97	7/31/2023	7/31/2018	114.31184	111.9814371	109.7111751	107.4990699	105.3432237	103.2418159	101.1930993	99.19539653	97.24709664
180801A00012	8/1/2018	3.03	8/16/2021	8/1/2018	100.88111	100.7492532	100.6177531	100.4866113	100.3558265	100.2253972	100.0953217	99.96559873	99.83622676
180801A00014	8/1/2018	3.03	8/2/2021	8/1/2018	100.61914	100.5268793	100.4347911	100.3428737	100.2511267	100.1595496	100.068142	99.97690336	99.88583328
180801A00015	8/1/2018	3.16	8/1/2023	8/1/2018	114.4116	112.0835961	109.8155991	107.6056329	105.4518053	103.3523009	101.3053774	99.30936233	97.36264902
180802A00006	8/2/2018	2.99	8/2/2023	8/2/2018	114.39181	112.0544223	109.7774597	107.5589294	105.39692	103.2895982	101.2352051	99.23205176	97.2785168
180727A00028	7/27/2018	3.25	7/27/2026	7/27/2018	134.4657	128.1223893	122.1204872	116.4397385	111.0612018	105.9671562	101.141015	96.56724759	92.23130596
180727A00037	7/27/2018	3.13	7/27/2023	7/27/2018	114.25541	111.9442679	109.6924336	107.4979675	105.3590096	103.2737751	101.2405505	99.25769016	97.32361316
180727A00039	7/27/2018	3.48	7/27/2028	7/27/2018	146.7568	137.4337766	128.778509	120.7394404	113.2692577	106.3245243	99.8653429	93.85504875	88.2599321
180730A00004	7/30/2018	3.14	7/28/2023	7/30/2018	114.29536	111.9807532	109.725595	107.5279389	105.3859184	103.2977427	101.2616923	99.27611627	97.33942855
180730A00023	7/30/2018	3.13	7/30/2024	7/30/2018	121.30284	117.7129517	114.249762	110.9080367	107.6827929	104.569285	101.5629906	98.65959969	95.85500212
180730A00041	7/30/2018	3.14	7/31/2023	7/30/2018	114.34963	112.0253535	109.7609344	107.5544043	105.4038778	103.307546	101.2636726	99.27059085	97.32669949
180720A00008	7/20/2018	3	7/20/2022	7/20/2018	107.31572	106.1512461	105.0120173	103.8972189	102.806071	101.7378263	100.6917688	99.66721226	98.66349823
180720A00011	7/20/2018	2.93	7/20/2021	7/20/2018	100.36948	100.3136688	100.2579342	100.2022771	100.1466973	100.0911948	100.0357692	99.98042049	99.92514848
180720A00030	7/20/2018	2.79	7/20/2021	7/20/2018	100.36674	100.310876	100.2550938	100.1993896	100.1437634	100.088215	100.0327442	99.97735081	99.92203473
180720A00049	7/20/2018	2.93	7/20/2021	7/20/2018	100.36948	100.3136688	100.2579342	100.2022771	100.1466973	100.0911948	100.0357692	99.98042049	99.92514848
180720A00068	7/20/2018	2.89	7/20/2023	7/20/2018	113.93978	111.6468623	109.4125445	107.2349228	105.1121706	103.0425342	101.0243295	99.05593868	97.13580704
180724A00025	7/24/2018	2.93	7/25/2022	7/24/2018	107.4749	106.2914899	105.1340976	104.0018751	102.8940076	101.8097155	100.7482517	99.70890082	98.69097683
180718A00026	7/18/2018	3.03	7/18/2023	7/18/2018	113.87699	111.5971887	109.3754353	107.2098493	105.0986287	103.0400433	101.0324311	99.07419511	97.1638004
180719A00059	7/19/2018	2.98	7/19/2021	7/19/2018	100.35364	100.3006248	100.247678	100.1948033	100.1420007	100.0892699	100.0366108	99.98402327	99.93150717
180719A00060	7/19/2018	3.05	7/19/2022	7/19/2018	107.35109	106.1895662	105.0531577	103.9410544	102.8524821	101.7866995	100.7429958	99.72068972	98.7191277
180719A00063	7/19/2018	3.21	7/19/2024	7/19/2018	120.85764	117.3221164	113.9102195	110.6168948	107.4373267	104.3669261	101.4013175	98.53632799	95.76797634
180719A00064	7/19/2018	3.3	7/21/2025	7/19/2018	127.56609	122.6910485	118.0322711	113.5789519	109.3208897	105.248448	101.3525206	97.62449911	94.05624271
180720A00006	7/20/2018	3.03	7/17/2023	7/20/2018	113.85923	111.5826475	109.3639713	107.2013354	105.0929439	103.0370726	101.0320649	99.07632912	97.16833521
180713A00035	7/13/2018	3.02	7/13/2022	7/13/2018	107.20337	106.0616808	104.944284	103.8504131	102.7793304	101.7303288	100.7027302	99.695884	98.70916571
180716A00016	7/16/2018	3.03	7/14/2023	7/16/2018	113.80598	111.5390259	109.32958	107.1757937	105.0758901	103.0281622	101.0309702	99.08273789	97.18194998
180716A00054	7/16/2018	3.59	7/16/2040	7/16/2018	220.64983	187.7110173	160.3296847	137.5217046	118.4828508	102.5550581	89.19915407	77.97279665	68.51260165
180716A00056	7/16/2018	3.1	7/16/2025	7/16/2018	127.30685	122.4338862	117.777086	113.3256545	109.0694006	104.998697	101.1044454	97.37804445	93.81135985
180717A00047	7/17/2018	3.3	9/17/2025	7/17/2018	128.5473	123.4573694	118.6004888	113.9646158	109.5384102	105.3111841	101.2728603	97.41393283	93.72543122
180717A00076	7/17/2018	3.03	7/17/2023	7/17/2018	113.85923	111.5826475	109.3639713	107.2013354	105.0929439	103.0370726	101.0320649	99.07632912	97.16833521
180705A00062	7/5/2018	3.04	7/6/2023	7/5/2018	113.68525	111.4437223	109.2586545	107.1282436	105.0507616	103.0245477	101.0480057	99.11960065	97.23785597

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180706A00010	7/6/2018	2.92	7/6/2021	7/6/2018	100.11063	100.0939098	100.0772039	100.0605147	100.0438423	100.0271866	100.0105475	99.99392507	99.97731924
180706A00013	7/6/2018	3.01	7/6/2023	7/6/2018	113.62154	111.3807053	109.1963115	107.066561	104.9897261	102.9641465	100.9882263	99.06043089	97.17928406
180713A00011	7/13/2018	2.95	7/13/2021	7/13/2018	100.24084	100.2045827	100.1683702	100.132201	100.096075	100.0599922	100.0239525	99.9879558	99.95200202
180713A00013	7/13/2018	2.88	7/13/2023	7/13/2018	113.79368	111.5235638	109.3111064	107.1544463	105.0518007	103.0014573	101.001771	99.05116099	97.14810727
180713A00030	7/13/2018	2.8	7/13/2021	7/13/2018	100.23869	100.2024038	100.1661612	100.1299624	100.0938071	100.0576954	100.0216272	99.98560233	99.94962077
180629A00071	6/29/2018	3.02	6/29/2023	6/29/2018	113.51813	111.2996645	109.1367001	107.027484	104.9703319	102.9636244	101.0058041	99.09537273	97.23088877
180702A00012	7/2/2018	3.01	7/3/2023	7/2/2018	113.56849	111.3372702	109.1620947	107.0411876	104.9728393	102.955407	100.9873108	99.06703154	97.19310748
180702A00034	7/2/2018	2.86	7/3/2023	7/2/2018	113.57365	111.3361963	109.1550578	107.0284444	104.9546353	102.9319765	100.9588781	99.03381125	97.15530501
180705A00003	7/5/2018	3.04	7/5/2023	7/5/2018	113.66747	111.4291559	109.2471629	107.1197017	105.0450502	103.0215536	101.0476209	99.12172235	97.24238622
180705A00060	7/5/2018	3	7/6/2022	7/5/2018	107.04819	105.9294979	104.834162	103.7614529	102.7106746	101.6811594	100.6722663	99.68338	98.7139095
180705A00061	7/5/2018	3	7/6/2022	7/5/2018	107.04819	105.9294979	104.834162	103.7614529	102.7106746	101.6811594	100.6722663	99.68338	98.7139095
180622A00005	6/22/2018	3.5	7/2/2029	6/22/2018	152.67692	141.8480492	131.8832982	122.7087926	114.257351	106.4678435	99.28461641	92.6569756	86.53872057
180622A00018	6/22/2018	2.92	6/22/2023	6/22/2018	113.49847	111.2964712	109.1491403	107.0547673	105.0117053	103.0183704	101.073239	99.17484504	97.32177736
180625A00041	6/25/2018	3.06	6/20/2023	6/25/2018	113.43566	111.2467211	109.1118734	107.0294299	104.9977686	103.0153293	101.0806108	99.19216833	97.34861074
180627A00026	6/27/2018	2.87	6/27/2023	6/27/2018	113.48636	111.2685057	109.1060944	106.9973799	104.9406804	102.9343795	100.9769224	99.06681353	97.20261375
180627A00030	6/27/2018	3.02	6/27/2023	6/27/2018	113.48135	111.2696434	109.1131191	107.0100394	104.9587339	102.9575967	101.0050829	99.09970657	97.24003735
180627A00057	6/27/2018	2.98	6/27/2022	6/27/2018	106.85497	105.7657144	104.6986353	103.6530576	102.6283362	101.6238514	100.6390082	99.67323454	98.7259803
180619A00023	6/19/2018	3.04	6/19/2023	6/19/2018	113.3757	111.1905761	109.0593785	106.9804261	104.952104	102.9728588	101.041196	99.15567669	97.31491568
180620A00017	6/20/2018	3.24	6/20/2028	6/20/2018	145.6914	136.4846602	127.9316679	119.9824307	112.5910282	105.7152635	99.31634332	93.35858623	87.80915838
180620A00038	6/20/2018	3.4	6/20/2028	6/20/2018	145.52034	136.377009	127.8809277	119.9827195	112.6370222	105.8021442	99.43974866	93.5145678	87.99414186
180621A00017	6/21/2018	3.42	6/21/2028	6/21/2018	145.69388	136.5405092	128.0352399	120.1286097	112.7751855	105.9332109	99.56429147	93.6331068	88.1071499
180622A00003	6/22/2018	2.87	6/22/2022	6/22/2018	106.77577	105.7007052	104.6472593	103.6147832	102.6026549	101.6102772	100.6370759	99.68249877	98.7460148
180622A00004	6/22/2018	3.47	12/22/2028	6/22/2018	149.14304	139.1828342	129.9714923	121.4485329	113.5586611	106.2513023	99.48017532	93.20290797	87.3806876
180604A00048	6/4/2018	3.01	6/5/2023	6/4/2018	113.05662	110.9193663	108.8338329	106.7984461	104.8116868	102.8720925	100.9782546	99.12881626	97.32246998
180604A00050	6/4/2018	3.15	6/4/2024	6/4/2018	119.87154	116.4979818	113.2381757	110.0876544	107.0421491	104.0975828	101.2500602	98.49585864	95.83141948
180615A00066	6/15/2018	3	6/14/2024	6/15/2018	120.0688	116.6473745	113.3426426	110.1499615	107.0649035	104.0832422	101.2009418	98.41414794	95.71917789
180618A00025	6/18/2018	3.01	4/13/2022	6/18/2018	105.44877	104.5991634	103.7632446	102.9406799	102.131151	101.3343495	100.5499766	99.77774297	99.01736815
180619A00020	6/19/2018	3.1	6/19/2025	6/19/2018	126.8483	122.0760742	117.5121904	113.1464202	108.9690936	104.9710655	101.1436847	97.47876378	93.96855224
180619A00021	6/19/2018	3.24	6/19/2028	6/19/2018	145.67471	136.4723905	127.9232573	119.9773808	112.5888962	105.7156561	99.31891117	93.36301954	87.81518249
180530A00030	5/30/2018	3.68	5/30/2034	5/30/2018	184.35722	164.618671	147.260976	131.9808438	118.5152065	106.6356956	96.14390193	86.86730552	78.65577485
180530A00039	5/30/2018	2.93	5/30/2023	5/30/2018	112.78578	110.6702567	108.6055121	106.5900099	104.6222711	102.7008716	100.8244391	98.99165112	97.20123314
180530A00072	5/30/2018	3.06	5/30/2024	5/30/2018	119.50237	116.1509714	112.9120991	109.7813524	106.7545275	103.827608	100.9967559	98.25830242	95.60873958
180601A00018	6/1/2018	2.87	6/1/2023	6/1/2018	113.00751	110.8777274	108.7992931	106.7706509	104.7902981	102.8567882	100.9687276	99.12477386	97.32363307

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180601A00023	6/1/2018	3.3	6/1/2028	6/1/2018	145.84403	136.7043265	128.2086403	120.3080896	112.9577508	106.1163151	99.74578015	93.81116942	88.28027661
180604A00047	6/4/2018	2.97	6/3/2022	6/4/2018	106.39242	105.3806795	104.3881524	103.4142948	102.4585835	101.5205148	100.5996033	99.69538159	98.80739874
180529A00056	5/29/2018	3	5/26/2023	5/29/2018	112.85458	110.7505595	108.6967756	106.6917161	104.7339252	102.8220008	100.9545915	99.13039483	97.34815514
180529A00063	5/29/2018	2.95	5/31/2022	5/29/2018	106.31561	105.313651	104.3305451	103.3657603	102.4187879	101.4891382	100.5763392	99.6799359	98.79948951
180530A00006	5/30/2018	2.87	5/31/2022	5/30/2018	106.23975	105.238184	104.2554665	103.2910649	102.3444708	101.4151946	100.5027643	99.60672501	98.72663811
180530A00024	5/30/2018	3.44	5/30/2029	5/30/2018	151.56744	140.9117271	131.097755	122.0543251	113.7166147	106.0255761	98.92739495	92.37300168	86.31763054
180530A00027	5/30/2018	3.61	6/1/2032	5/30/2018	171.78702	155.8379097	141.5535798	128.7498451	117.2638386	106.9514421	97.68504003	89.35155289	81.85071329
180530A00028	5/30/2018	3.67	5/31/2033	5/30/2018	178.45109	160.6135455	144.7831986	130.7211066	118.2180044	107.0904803	97.17766071	88.33833561	80.44846229
180522A00039	5/22/2018	3.43	5/22/2028	5/22/2018	146.69311	137.5600077	129.0674363	121.1669873	113.8141517	106.9679876	100.590817	94.64794993	89.10743306
180524A00024	5/24/2018	3	3/21/2022	5/24/2018	104.99605	104.2186359	103.4527283	102.698073	101.9544232	101.2215392	100.4991883	99.78714436	99.08518772
180525A00001	5/25/2018	3.04	5/25/2023	5/25/2018	112.91648	110.8148856	108.7633963	106.760511	104.8047796	102.8948049	101.0292408	99.20678944	97.42619962
180525A00005	5/25/2018	3.32	5/25/2028	5/25/2018	145.88507	136.769821	128.2951237	120.4124948	113.0773596	106.2487206	99.88885306	93.9630284	88.43926143
180529A00042	5/29/2018	3.42	5/30/2028	5/29/2018	145.32925	136.2718598	127.8504681	120.0169535	112.7270736	105.9401355	99.61869428	93.72827777	88.2371366
180529A00044	5/29/2018	3.11	5/29/2024	5/29/2018	119.64094	116.2905991	113.0526388	109.9226627	106.8964765	103.9700726	101.1396214	98.40146177	95.75209297
180511A00035	5/11/2018	2.93	5/11/2023	5/11/2018	112.74451	110.6819138	108.6676918	106.7004158	104.7787084	102.9012418	101.0667355	99.27395453	97.52170733
180516A00019	5/16/2018	3.19	5/16/2023	5/16/2018	113.04892	110.9734701	108.9469188	106.9678111	105.0347482	103.1463822	101.3014132	99.49858775	97.73669674
180518A00014	5/18/2018	3.17	5/18/2023	5/18/2018	113.04654	110.965008	108.9326421	106.9479819	105.0096173	103.116189	101.2663871	99.45894813	97.69265349
180521A00005	5/21/2018	3.02	5/22/2023	5/21/2018	113.12495	111.0247644	108.9745484	106.9728031	105.0180851	103.109004	101.2442197	99.42244047	97.64242065
180522A00018	5/22/2018	3.1	5/23/2022	5/22/2018	106.30002	105.3229835	104.3638943	103.4222614	102.4976111	101.5894867	100.6974478	99.82106963	98.95994203
180522A00019	5/22/2018	3.16	5/22/2023	5/22/2018	113.10078	111.0064685	108.9618881	106.965551	105.0160235	103.1119243	101.251922	99.43473294	97.65911929
180425A00019	4/25/2018	3.02	10/25/2021	4/25/2018	102.20491	101.8715131	101.5402981	101.2112405	100.8843191	100.5595131	100.2368022	99.91616595	99.59758448
180425A00020	4/25/2018	3.11	10/25/2022	4/25/2018	109.15449	107.7211536	106.3159238	104.938003	103.5866239	102.2610477	100.9605636	99.6844865	98.43215669
180426A00011	4/26/2018	2.94	4/26/2023	4/26/2018	112.4883	110.4742605	108.5066219	106.5840132	104.7051163	102.8686612	101.0734239	99.31822428	97.60192408
180426A00053	4/26/2018	2.94	4/26/2023	4/26/2018	112.4883	110.4742605	108.5066219	106.5840132	104.7051163	102.8686612	101.0734239	99.31822428	97.60192408
180427A00010	4/27/2018	2.95	4/27/2023	4/27/2018	112.5261	110.5086107	108.5376346	106.6118047	104.7298038	102.8903625	101.0922569	99.33430643	97.61537267
180507A00005	5/7/2018	3.06	5/5/2023	5/7/2018	112.5924	110.5551232	108.565149	106.6210988	104.721639	102.8654834	101.0513911	99.27816468	97.54464838
180403A00006	4/3/2018	3.07	4/3/2028	4/3/2018	143.11776	134.2924241	126.0775419	118.4274898	111.3002968	104.6573351	98.46303491	92.68462665	87.29190516
180403A00041	4/3/2018	2.91	4/3/2025	4/3/2018	124.7507	120.2811757	115.9979559	111.8921457	107.9553387	104.179582	100.5573489	97.08151263	93.74532259
180410A00016	4/10/2018	2.89	4/11/2022	4/10/2018	105.31343	104.4705673	103.6411847	102.8249603	102.0215825	101.2307495	100.452169	99.68555758	98.93064057
180411A00014	4/11/2018	2.88	6/27/2022	4/11/2018	106.75236	105.6636795	104.5971652	103.5521443	102.5279719	101.5240286	100.5397195	99.57447263	98.62773813
180412A00034	4/12/2018	3.23	4/15/2030	4/12/2018	156.75451	144.5634847	133.4320518	123.2620584	113.9649382	105.4607313	97.67720589	90.54907415	84.01729114
180425A00008	4/25/2018	2.89	4/25/2022	4/25/2018	105.6692	104.7805155	103.9067544	103.0475477	102.2025337	101.371363	100.5536971	99.74920894	98.95758161
180313A00026	3/13/2018	3.34	3/13/2028	3/13/2018	143.4702	134.7617789	126.6489645	119.0876776	112.0373382	105.4605689	99.3229244	93.59264639	88.24043928

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180320A00007	3/20/2018	2.92	3/21/2022	3/20/2018	104.93648	104.1593177	103.3936557	102.6392435	101.8958342	101.1631884	100.4410731	99.72926248	99.0275368
180327A00024	3/27/2018	2.79	5/26/2023	3/27/2018	112.73818	110.6296846	108.5716347	106.5625115	104.6008501	102.6852399	100.8143216	98.98678511	97.20136752
180328A00010	3/28/2018	3.1	3/28/2025	3/28/2018	124.77852	120.3456552	116.0964671	112.0222254	108.1146703	104.3659871	100.7687793	97.31604324	94.00114391
180402A00005	4/2/2018	2.94	4/3/2023	4/2/2018	111.80082	109.8688388	107.980512	106.1344471	104.3293101	102.5638236	100.8367634	99.14695637	97.49327694
180403A00005	4/3/2018	2.72	4/3/2023	4/3/2018	111.65396	109.718715	107.8272847	105.9782668	104.1703201	102.4021607	100.6725583	98.9803339	97.32435654
180222A00027	2/22/2018	3.24	2/22/2028	2/22/2018	143.75446	135.0570013	126.95164	119.3947798	112.3462658	105.7690942	99.62914827	93.89495831	88.53748218
180226A00040	2/26/2018	2.79	2/28/2022	2/26/2018	104.44732	103.7357775	103.0339023	102.3415019	101.6583854	100.9843673	100.3192668	99.66290786	99.01511912
180306A00005	3/6/2018	2.65	3/4/2022	3/6/2018	104.4976	103.7727759	103.0579921	102.35304	101.6577175	100.9718283	100.2951814	99.6275908	98.96887552
180306A00010	3/6/2018	2.8	2/15/2022	3/6/2018	104.21268	103.541042	102.8780538	102.2235504	101.5773696	100.9393532	100.309347	99.68720076	99.0727679
180308A00011	3/8/2018	2.9	9/15/2022	3/8/2018	108.26846	106.916124	105.5975163	104.3113879	103.0565493	101.8318683	100.636267	99.46871807	98.32824231
180308A00015	3/8/2018	2.82	12/15/2021	3/8/2018	103.08246	102.5984284	102.1189446	101.6439484	101.1733766	100.7071677	100.2452609	99.78759686	99.33411705
180205A00050	2/5/2018	2.81	2/6/2023	2/5/2018	110.55255	108.8058581	107.0960792	105.4221114	103.7829005	102.1774335	100.6047366	99.06387325	97.5539425
180207A00003	2/7/2018	3.28	2/7/2028	2/7/2018	142.46307	133.9190172	125.9522287	118.5205145	111.5849891	105.1097957	99.06185394	93.41063081	88.12793155
180214A00004	2/14/2018	2.71	2/14/2023	2/14/2018	110.76951	108.9906485	107.2498133	105.5458551	103.8776718	102.2442052	100.6444388	99.07739574	97.542137
180216A00004	2/16/2018	2.75	2/16/2023	2/16/2018	110.87563	109.0892687	107.3411816	105.6302123	103.9552477	102.3152195	100.7091016	99.13590805	97.5946911
180222A00023	2/22/2018	2.84	2/22/2022	2/22/2018	104.36941	103.6761761	102.9921353	102.31711	101.6509226	100.9934006	100.3443754	99.70368326	99.07116426
180222A00025	2/22/2018	3.48	2/22/2033	2/22/2018	177.01375	159.5134904	143.9524653	130.1033932	117.7668141	106.7675479	96.9516224	88.18360446	80.34427909
180130A00070	1/30/2018	3.14	1/29/2027	1/30/2018	135.77082	128.7757392	122.1890418	115.9846581	110.138321	104.6274325	99.4309398	94.5292217	89.90398336
180130A00084	1/30/2018	2.59	1/30/2023	1/30/2018	110.2888	108.5629767	106.87338	105.2189459	103.59865	102.0115073	100.4565706	98.93292837	97.4397033
180201A00033	2/1/2018	2.53	2/1/2022	2/1/2018	103.85163	103.2224476	102.6008688	101.9867584	101.3799822	100.7804098	100.1879132	99.60236804	99.02365242
180202A00012	2/2/2018	2.57	2/2/2022	2/2/2018	103.89418	103.2618437	102.6371916	102.0200815	101.4103774	100.8079465	100.2126593	99.62438929	99.04301304
180205A00018	2/5/2018	2.66	2/3/2023	2/5/2018	110.47864	108.7383884	107.0348438	105.3669141	103.7335548	102.1337616	100.5665693	99.03104938	97.52630827
180205A00019	2/5/2018	2.88	2/5/2025	2/5/2018	123.66768	119.4132675	115.3299102	111.4097369	107.64529	104.0294985	100.5556555	97.21739707	94.00868249
180123A00026	1/23/2018	2.57	1/14/2022	1/23/2018	103.49629	102.9225208	102.3551128	101.7939612	101.2389627	100.6900163	100.1470232	99.60988682	99.07851266
180124A00019	1/24/2018	2.41	1/24/2022	1/24/2018	103.63655	103.0319376	102.4343719	101.8437315	101.2598964	100.6827494	100.112176	99.54806423	98.99030468
180124A00020	1/24/2018	2.53	1/24/2023	1/24/2018	110.08629	108.3798934	106.7090898	105.0728442	103.4701592	101.9000756	100.3616703	98.85405474	97.37637344
180124A00038	1/24/2018	2.51	9/1/2021	1/24/2018	101.09043	100.9132679	100.7367255	100.5607984	100.3854834	100.2107773	100.0366769	99.8631791	99.69028089
180125A00022	1/25/2018	2.69	1/25/2023	1/25/2018	110.13797	108.432083	106.7617556	105.1259508	103.5236723	101.9539619	100.4158976	98.9085917	97.43118948
180126A00029	1/26/2018	2.88	1/27/2025	1/26/2018	122.9047	118.7113643	114.6854002	110.8191681	107.1054247	103.5372989	100.10827	96.81214789	93.64305409
180116A00014	1/16/2018	3.01	1/19/2027	1/16/2018	134.81954	127.8861629	121.3563147	115.2043233	109.4062881	103.9399462	98.78455101	93.92076096	89.33053722
180116A00015	1/16/2018	3.06	1/18/2028	1/16/2018	140.53678	132.1304124	124.2890167	116.9715514	110.1401683	103.759947	97.79865345	92.22651969	87.01604288
180116A00031	1/16/2018	2.58	1/17/2023	1/16/2018	109.82218	108.1424626	106.497463	104.8861848	103.3076677	101.7609872	100.2452532	98.75960835	97.30322665
180116A00046	1/16/2018	2.58	1/11/2023	1/16/2018	109.721	108.0597206	106.4325642	104.8385563	103.2767622	101.7462819	100.2462485	98.77582656	97.33421076

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180118A00004	1/18/2018	2.88	1/17/2025	1/18/2018	122.74586	118.5875231	114.5941745	110.7583374	107.0729146	103.5311702	100.1267097	96.85346045	93.70565312
180118A00010	1/18/2018	2.51	8/18/2021	1/18/2018	100.8476	100.7101603	100.5731058	100.4364389	100.3001578	100.1642609	100.0287466	99.89361323	99.7588591
180110A00027	1/10/2018	2.6	1/10/2023	1/10/2018	109.73613	108.0776597	106.4532135	104.8618255	103.3025653	101.7745369	100.2768769	98.8087535	97.36936467
180110A00028	1/10/2018	2.85	1/10/2025	1/10/2018	122.52039	118.3886374	114.4201637	110.6075978	106.9439455	103.4225672	100.0371578	96.78172774	93.65058554
180110A00029	1/10/2018	3.13	1/10/2028	1/10/2018	140.93228	132.5406042	124.7110354	117.4028696	110.5785544	104.2034337	98.24550931	92.67522388	87.46526253
180111A00007	1/11/2018	2.66	1/14/2025	1/11/2018	122.45764	118.2986181	114.3047489	110.4685407	106.7828873	103.2410449	99.83661117	96.56350578	93.41595245
180111A00016	1/11/2018	2.57	1/11/2023	1/11/2018	109.70497	108.0438276	106.4168031	104.8229246	103.2612577	101.7309022	100.2309915	98.76069003	97.31919266
180116A00009	1/16/2018	2.49	1/14/2022	1/16/2018	103.45177	102.8781396	102.3108743	101.7498642	101.1950061	100.6461989	100.1033441	99.56634485	99.03510676
180103A00011	1/3/2018	2.35	1/3/2023	1/3/2018	109.44189	107.802691	106.1969323	104.6236741	103.0820112	101.5710714	100.0900143	98.63802941	97.21433529
180103A00019	1/3/2018	2.51	1/3/2023	1/3/2018	109.47558	107.839789	106.2373053	104.6671987	103.128569	101.620549	100.1423024	98.69302322	97.27193381
180103A00027	1/3/2018	2.51	1/3/2023	1/3/2018	109.47558	107.839789	106.2373053	104.6671987	103.128569	101.620549	100.1423024	98.69302322	97.27193381
180104A00013	1/4/2018	2.39	1/4/2023	1/4/2018	109.52184	107.8790418	106.2697912	104.6931447	103.1481924	101.6340581	100.1498972	98.69489547	97.2682677
180104A00017	1/4/2018	2.77	1/3/2025	1/4/2018	122.10679	118.0050545	114.0647881	110.2787378	106.6400153	103.1420798	99.77871798	96.54402629	93.43239316
180109A00028	1/9/2018	2.6	1/9/2025	1/9/2018	122.15004	118.0128091	114.0394192	110.222462	106.5549085	103.0300865	99.64166063	96.38361294	93.25022532
171208A00006	12/8/2017	2.67	12/8/2026	12/8/2017	133.1995	126.421279	120.0318793	114.0069538	108.3238081	102.9612759	97.89960828	93.12037187	88.60635433
171212A00024	12/12/2017	2.29	12/12/2022	12/12/2017	108.98121	107.4116498	105.8729502	104.3642773	102.8848262	101.4338199	100.0105086	98.61416836	97.24409988
171213A00032	12/13/2017	2.17	12/13/2021	12/13/2017	102.78097	102.3031831	101.8298392	101.3608801	100.896245	100.435874	99.9797085	99.52769092	99.07976471
171220A00004	12/20/2017	2.52	12/20/2021	12/20/2017	103.02966	102.5310886	102.0373453	101.5483595	101.0640625	100.5843869	100.1092667	99.63863721	99.17243476
180102A00021	1/2/2018	2.82	1/2/2026	1/2/2018	127.98953	122.5499377	117.3751159	112.450753	107.7633851	103.3003446	99.04970852	95.00025058	91.14139693
180103A00007	1/3/2018	2.44	1/7/2022	1/3/2018	103.30655	102.7540746	102.2075035	101.6667419	101.1316975	100.6022799	100.0784006	99.55997285	99.04691191
171206A00038	12/6/2017	2.69	12/6/2027	12/6/2017	138.52032	130.2850344	122.5969179	115.4167345	108.7082607	102.4380357	96.57513732	91.0909771	85.95911264
171206A00040	12/6/2017	2.23	12/6/2022	12/6/2017	108.79139	107.24134	105.7214305	104.2308599	102.7688499	101.3346493	99.92753294	98.54680013	97.19177397
171206A00041	12/6/2017	2.44	12/6/2024	12/6/2017	121.02208	117.0163326	113.1655212	109.462811	105.9017114	102.4760522	99.17996637	96.00787314	92.95446234
171206A00048	12/6/2017	3.04	12/6/2032	12/6/2017	169.77611	153.0338084	138.126849	124.8429474	112.9954263	102.4200127	92.97204585	84.52404536	76.96359207
171207A00019	12/7/2017	2.41	6/16/2022	12/7/2017	106.07586	105.0253171	103.9955351	102.9858997	101.9958236	101.0247426	100.0721135	99.13741416	98.2201416
171207A00036	12/7/2017	2.23	12/7/2022	12/7/2017	108.80787	107.2546817	105.7317602	104.2382896	102.7734874	101.3365982	99.92689258	98.54366625	97.18623863
171129A00010	11/29/2017	2.32	11/29/2021	11/29/2017	102.57234	102.1365925	101.7045324	101.2761168	100.8512997	100.430036	100.0122813	99.59799208	99.18712532
171129A00020	11/29/2017	2.89	11/30/2026	11/29/2017	133.35694	126.6379628	120.3017028	114.3243565	108.6837188	103.3590702	98.33106991	93.58165731	89.09396077
171204A00020	12/4/2017	2.48	12/5/2022	12/4/2017	108.94172	107.3968824	105.8819742	104.3962021	102.9387963	101.5090132	100.1061349	98.72946758	97.37834103
171205A00013	12/5/2017	2.4	12/6/2021	12/5/2017	102.72798	102.2713321	101.8187378	101.3701473	100.9255075	100.4847664	100.0478728	99.61477643	99.18542786
171205A00014	12/5/2017	2.49	12/5/2022	12/5/2017	108.95667	107.411707	105.8966832	104.4107977	102.9532805	101.5233879	100.1204019	98.74362887	97.39239835
171206A00008	12/6/2017	2.36	12/6/2021	12/6/2017	102.71014	102.2535382	101.8009912	101.3524477	100.9078547	100.46716	100.0303126	99.597262	99.16795898
171101A00021	11/1/2017	2.51	11/1/2023	11/1/2017	114.46006	111.8486514	109.3103058	106.8425753	104.443106	102.1096368	99.83999412	97.63208874	95.48391169

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
171101A00022	11/1/2017	2.65	11/1/2024	11/1/2017	120.66934	116.800895	113.0777309	109.4936297	106.0426742	102.7192304	99.51793257	96.43366858	93.46156694
171115A00028	11/15/2017	2.25	8/18/2021	11/15/2017	100.81206	100.6746599	100.5376468	100.4010212	100.2647814	100.1289257	99.9934524	99.85835993	99.72364664
171116A00021	11/16/2017	2.16	11/16/2022	11/16/2017	108.35561	106.8699192	105.4120849	103.9813923	102.5771466	101.1986767	99.84533336	98.51648884	97.21153578
171120A00017	11/20/2017	2.41	11/21/2022	11/20/2017	108.60148	107.1018081	105.6304684	104.1867223	102.7698584	101.3791896	100.0140513	98.673801	97.35781733
171127A00016	11/27/2017	2.28	11/27/2023	11/27/2017	114.68414	111.9784157	109.3507466	106.7984355	104.3188913	101.9096279	99.56825944	97.29249564	95.08013709
171030A00021	10/30/2017	2.29	11/30/2022	10/30/2017	108.57668	107.0496385	105.5519174	104.0827389	102.6413555	101.2270457	99.8391121	98.47688086	97.13970057
171030A00022	10/30/2017	2.28	10/31/2022	10/30/2017	108.0644	106.6330112	105.2276248	103.847591	102.4922813	101.1610879	99.85342199	98.56871363	97.30641068
171030A00094	10/30/2017	2.13	11/1/2021	10/30/2017	102.02883	101.6756391	101.3248893	100.9765514	100.6306007	100.2870128	99.94576352	99.60682919	99.27018633
171031A00007	10/31/2017	2.15	12/27/2021	10/31/2017	102.96679	102.4478426	101.9341195	101.4255386	100.9220228	100.423497	99.92988705	99.44112065	98.95712674
171031A00012	10/31/2017	2.28	10/31/2022	10/31/2017	108.0644	106.6330112	105.2276248	103.847591	102.4922813	101.1610879	99.85342199	98.56871363	97.30641068
171031A00061	10/31/2017	2.28	10/31/2022	10/31/2017	108.0644	106.6330112	105.2276248	103.847591	102.4922813	101.1610879	99.85342199	98.56871363	97.30641068
171018A00011	10/18/2017	2.68	10/18/2027	10/18/2017	137.75179	129.7193402	122.2105739	115.1885639	108.6191773	102.4708489	96.71437502	91.32272475	86.27086715
171025A00026	10/25/2017	2.64	10/25/2024	10/25/2017	120.52531	116.68162	112.9816965	109.4193739	105.98879	102.6843659	99.50079016	96.43300492	93.47619182
171025A00027	10/25/2017	2.36	10/25/2022	10/25/2017	108.12359	106.6977985	105.2999791	103.9293374	102.5851097	101.2665612	99.9729843	98.70369751	97.45804423
171026A00005	10/26/2017	2.16	10/26/2021	10/26/2017	101.93981	101.6040961	101.2705903	100.9392746	100.6101274	100.2831275	99.95825391	99.63548593	99.31480313
171026A00007	10/26/2017	2.47	10/26/2023	10/26/2017	114.26641	111.675707	109.1571734	106.7083679	104.3269516	102.0106788	99.75739334	97.5650238	95.43157989
171026A00008	10/26/2017	2.6	10/25/2024	10/26/2017	120.38242	116.5412199	112.843717	109.2837475	105.8554518	102.5532533	99.37184289	96.3061647	93.35140247
171010A00037	10/10/2017	2.09	10/12/2021	10/10/2017	101.68471	101.3897531	101.0965125	100.8049776	100.5151335	100.2269654	99.94045887	99.65559935	99.37237262
171010A00038	10/10/2017	2.23	10/11/2022	10/10/2017	107.7941	106.3853103	105.009013	103.664079	102.3494355	101.0640586	99.80697066	98.57723765	97.37396674
171012A00026	10/12/2017	2.09	10/12/2021	10/12/2017	101.68471	101.3897531	101.0965125	100.8049776	100.5151335	100.2269654	99.94045887	99.65559935	99.37237262
171013A00021	10/13/2017	2	10/17/2022	10/13/2017	107.7198	106.3025056	104.915845	103.5588266	102.2305054	100.9299772	99.65637598	98.40887208	97.1866701
171016A00005	10/16/2017	2.2	10/17/2022	10/16/2017	107.80386	106.3889776	105.0046203	103.6498066	102.3235962	101.0250892	99.75342354	98.50777324	97.28734647
171016A00021	10/16/2017	2.2	10/17/2022	10/16/2017	107.80386	106.3889776	105.0046203	103.6498066	102.3235962	101.0250892	99.75342354	98.50777324	97.28734647
171003A00007	10/3/2017	2.22	10/3/2022	10/3/2017	107.69484	106.2951045	104.9304551	103.5995757	102.3012188	101.0341983	99.79738509	98.58970383	97.41012994
171003A00008	10/3/2017	2.88	10/4/2027	10/3/2017	137.72063	129.784575	122.3617715	115.4162024	108.9145694	102.8260772	97.12223082	91.77665158	86.76490834
171005A00003	10/5/2017	2.02	10/5/2022	10/5/2017	107.62061	106.2165666	104.8470589	103.5108169	102.2066317	100.9333526	99.68988374	98.4751808	97.28824792
171010A00004	10/10/2017	1.92	10/12/2021	10/10/2017	101.66207	101.3668469	101.0733536	100.7815711	100.4914845	100.2030788	99.91633943	99.63125184	99.34780169
171010A00005	10/10/2017	2.06	10/11/2022	10/10/2017	107.73712	106.3259737	104.9474206	103.600329	102.2836214	100.9962694	99.73729115	98.50574877	97.30074571
171010A00024	10/10/2017	2.38	10/10/2023	10/10/2017	113.79836	111.2616798	108.7949102	106.3956205	104.0614893	101.7902943	99.57990721	97.42828895	95.33348499
170915A00005	9/15/2017	1.81	9/15/2021	9/15/2017	101.20491	100.9876061	100.7712503	100.5558349	100.3413535	100.1278002	99.91516884	99.70345333	99.49264773
170915A00031	9/15/2017	2.1	9/15/2023	9/15/2017	113.10514	110.6469386	108.2551533	105.9274728	103.661689	101.4556903	99.30745575	97.21505097	95.17662303
170918A00108	9/18/2017	1.97	9/20/2022	9/18/2017	107.33985	105.9751292	104.6449365	103.3479748	102.0830112	100.848873	99.64444428	98.46866229	97.32051451
170919A00073	9/19/2017	2.28	9/19/2024	9/19/2017	119.25715	115.5366687	111.9527264	108.4994415	105.1712311	101.9627908	98.86907915	95.88530168	93.00689745

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170928A00020	9/29/2017	2.29	9/29/2022	9/29/2017	107.73688	106.3432012	104.9854239	103.6621771	102.3721569	101.1141242	99.88690095	98.6893661	97.52045253
171002A00012	10/2/2017	2.08	10/1/2021	10/2/2017	101.50265	101.2395751	100.9778547	100.7174826	100.4584484	100.2007419	99.944353	99.68927158	99.43548772
170912A00009	9/12/2017	2.11	12/15/2022	9/12/2017	108.54595	106.9743633	105.4338015	103.9234191	102.4424043	100.9899737	99.56537097	98.1678663	96.79675466
170912A00031	9/12/2017	1.89	9/12/2022	9/12/2017	107.10948	105.772006	104.4677653	103.1955286	101.9541293	100.7424569	99.55945368	98.40411161	97.27546936
170913A00025	9/13/2017	1.94	8/16/2021	9/13/2017	100.7382	100.6065079	100.4751711	100.3441924	100.2135702	100.0833031	99.95338946	99.82382796	99.69461708
170913A00027	9/13/2017	2.08	9/13/2022	9/13/2017	107.20443	105.8656903	104.5602434	103.2868562	102.0443591	100.8316383	99.6476334	98.49133358	97.36177506
170914A00039	9/14/2017	2.23	9/16/2024	9/14/2017	119.03822	115.3313237	111.7601926	108.3189923	105.0021837	101.8045034	98.72094787	95.74675841	92.87740724
170915A00001	9/15/2017	2.43	9/16/2024	9/15/2017	119.19339	115.4970688	111.9357997	108.5037907	105.1955426	102.0058298	98.9296836	95.96237827	93.09941686
170907A00002	9/7/2017	1.69	9/7/2021	9/7/2017	101.05617	100.8618163	100.6682239	100.4753835	100.2832907	100.0919411	99.90133034	99.7114541	99.5223081
170907A00050	9/7/2017	1.69	9/7/2021	9/7/2017	101.05617	100.8618163	100.6682239	100.4753835	100.2832907	100.0919411	99.90133034	99.7114541	99.5223081
170908A00016	9/10/2018	1.94	9/10/2021	9/10/2018	101.13209	100.929333	100.7273954	100.5262758	100.3259693	100.1264709	99.92777572	99.72987884	99.53277541
170911A00032	9/11/2017	1.85	9/12/2022	9/11/2017	107.05946	105.7223303	104.4184204	103.1465088	101.9054291	100.6940711	99.51137705	98.35633913	97.22799613
170911A00044	9/11/2017	1.73	9/13/2021	9/11/2017	101.15673	100.9451907	100.7345451	100.5247916	100.3159247	100.1079386	99.90082769	99.69458636	99.48920908
170912A00008	9/12/2017	1.98	12/15/2021	9/12/2017	102.68639	102.2034653	101.7250845	101.2511837	100.7817	100.3165718	99.85573846	99.39914064	98.94671998
170831A00051	8/31/2017	1.75	8/31/2021	8/31/2017	100.95905	100.7847076	100.6109661	100.4378205	100.2652676	100.0933044	99.92192798	99.75113533	99.58092351
170831A00052	8/31/2017	1.78	11/30/2021	8/31/2017	102.39311	101.9544948	101.5196189	101.0884395	100.6609096	100.2369832	99.81661495	99.39976021	98.98637516
170906A00005	9/6/2017	1.69	9/7/2021	9/6/2017	101.05617	100.8618163	100.6682239	100.4753835	100.2832907	100.0919411	99.90133034	99.7114541	99.5223081
170906A00020	9/6/2017	2.14	9/6/2023	9/6/2017	112.70689	110.2887421	107.9352085	105.6440664	103.4131938	101.2405594	99.12421849	97.06230779	95.05304163
170906A00036	9/6/2017	1.81	9/6/2022	9/6/2017	106.91453	105.5976095	104.3129477	103.0593755	101.8357754	100.6410829	99.47428337	98.33440907	97.22053664
170906A00037	9/6/2017	1.99	9/6/2022	9/6/2017	106.98002	105.6651812	104.3825087	103.1308324	101.9090394	100.7160697	99.55091273	98.41260475	97.30022609
170829A00023	8/29/2017	1.83	8/29/2022	8/29/2017	106.81224	105.5215814	104.2619427	103.0322139	101.8313403	100.6583161	99.5121817	98.39202128	97.29696007
170829A00025	8/29/2017	1.9	8/30/2021	8/29/2017	100.95185	100.7805263	100.6097813	100.4396126	100.2700172	100.1009924	99.93253528	99.76464302	99.59731283
170831A00004	8/31/2017	2	8/31/2023	8/31/2017	112.64163	110.2361553	107.8946773	105.6150121	103.3950687	101.2328454	99.1264245	97.07396871	95.07371648
170831A00006	8/31/2017	1.87	8/31/2022	8/31/2017	106.89258	105.5950261	104.3287996	103.0927743	101.8858804	100.7070982	99.55545498	98.43002253	97.32991445
170831A00021	8/31/2017	1.99	2/25/2022	8/31/2017	103.85086	103.1505934	102.4597409	101.7781129	101.1055256	100.4418002	99.78676233	99.14024249	98.50207536
170831A00029	8/31/2017	1.87	8/31/2022	8/31/2017	106.89258	105.5950261	104.3287996	103.0927743	101.8858804	100.7070982	99.55545498	98.43002253	97.32991445
170824A00038	8/24/2017	2.23	8/24/2023	8/24/2017	112.71493	110.3365989	108.0209991	105.7660134	103.569611	101.4298467	99.34485613	97.31285209	95.33212023
170825A00025	8/25/2017	2.12	8/25/2022	8/25/2017	106.94423	105.667875	104.4218538	103.2050986	102.0165878	100.8553468	99.72044552	98.61099551	97.52614804
170828A00030	8/28/2017	1.96	9/1/2021	8/28/2017	100.99371	100.816677	100.6402614	100.4644607	100.2892718	100.1146913	99.9407162	99.7673434	99.59456979
170828A00031	8/28/2017	2.07	8/1/2022	8/28/2017	106.49654	105.2990991	104.1284647	102.9837446	101.8640858	100.7686728	99.69672495	98.64749468	97.62026597
170829A00018	8/29/2017	1.9	8/30/2021	8/29/2017	100.95185	100.7805263	100.6097813	100.4396126	100.2700172	100.1009924	99.93253528	99.76464302	99.59731283
170829A00022	8/29/2017	1.72	8/30/2021	8/29/2017	100.93842	100.7669245	100.5960147	100.4256839	100.2559291	100.0867474	99.9181359	99.7500918	99.58261224
170821A00038	8/23/2017	2.39	8/23/2024	8/23/2017	119.21921	115.5872465	112.0859358	108.7097725	105.453523	102.312208	99.28108854	96.35565253	93.53160213

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170822A00012	8/22/2017	2.11	8/22/2022	8/22/2017	106.8834	105.6169592	104.3804043	103.1726901	101.9928167	100.8398297	99.71281834	98.61091219	97.53327952
170822A00017	8/22/2017	2.11	8/22/2022	8/22/2017	106.8834	105.6169592	104.3804043	103.1726901	101.9928167	100.8398297	99.71281834	98.61091219	97.53327952
170822A00018	8/22/2017	2.25	8/22/2023	8/22/2017	112.72973	110.3572489	108.0472308	105.7975693	103.6062468	101.4713302	99.39096693	97.36338068	95.3868674
170824A00031	8/24/2017	1.98	8/24/2021	8/24/2017	100.87029	100.7159511	100.5620911	100.4087101	100.2558058	100.1033761	99.95141867	99.79993135	99.64891196
170824A00037	8/24/2017	1.98	8/24/2021	8/24/2017	100.87029	100.7159511	100.5620911	100.4087101	100.2558058	100.1033761	99.95141867	99.79993135	99.64891196
170809A00005	8/9/2017	2.61	8/11/2025	8/9/2017	124.83044	119.945037	115.2795678	110.8228981	106.5645208	102.4945192	98.60352991	94.88270865	91.32369844
170815A00006	8/15/2017	2.5	8/15/2024	8/15/2017	118.9453	115.3557758	111.8944122	108.5558558	105.335011	102.2270275	99.22728699	96.33139027	93.53514515
170818A00003	8/18/2017	2.23	8/20/2024	8/18/2017	118.633	115.0202275	111.5372331	108.178559	104.9390162	101.8136672	98.79781212	95.88697558	93.07689423
170818A00004	8/18/2017	1.95	8/18/2021	8/18/2017	100.77105	100.6336979	100.4967327	100.3601548	100.2239625	100.0881542	99.95272829	99.81768305	99.68301687
170818A00035	8/18/2017	1.77	8/18/2021	8/18/2017	100.76025	100.6227647	100.4856693	100.3489633	100.2126448	100.0767123	99.94116406	99.8059984	99.67121367
170818A00037	8/18/2017	2.08	8/18/2022	8/18/2017	106.78297	105.5298596	104.3060412	103.110497	101.9422558	100.8003905	99.68401534	98.59228404	97.52438733
170802A00027	8/2/2017	2.16	8/2/2022	8/2/2017	106.61441	105.41308	104.2387122	103.0904054	101.9672997	100.8685727	99.79343752	98.74114075	97.71096076
170803A00013	8/3/2017	2.14	8/3/2022	8/3/2017	106.60816	105.4036974	104.2263413	103.0751816	101.9493516	100.8480226	99.77040165	98.71572964	97.6832796
170803A00020	8/3/2017	2.84	8/3/2027	8/3/2017	136.57282	128.8923216	121.697066	114.9537697	108.6316113	102.7020315	97.13855568	91.91663093	87.01347627
170803A00032	8/3/2017	2.12	8/3/2023	8/3/2017	112.48654	110.1674588	107.908494	105.7076578	103.5630453	101.4728297	99.43525779	97.44864714	95.51138202
170804A00020	8/4/2017	2.13	8/1/2022	8/4/2017	106.56418	105.3663261	104.1952858	103.0501661	101.9301138	100.8343133	99.76198362	98.71237721	97.68477788
170808A00036	8/8/2017	2.04	11/15/2021	8/8/2017	102.22518	101.830949	101.4397642	101.0515902	100.6663924	100.2841366	99.90478892	99.52831628	99.15468597
170728A00030	7/28/2017	2.18	7/27/2022	7/28/2017	106.53704	105.355128	104.1993382	103.0688119	101.9627281	100.8803006	99.82077685	98.78343591	97.76758675
170728A00031	7/28/2017	2.27	1/27/2023	7/28/2017	109.47948	107.773377	106.1029306	104.4670945	102.8648668	101.2952837	99.75741828	98.25037807	96.7733039
170728A00033	7/28/2017	2.46	1/29/2024	7/28/2017	115.73305	112.8262632	110.0082336	107.2756854	104.6254891	102.0546518	99.56031033	97.13972444	94.79027061
170731A00004	7/31/2017	2.16	7/29/2022	7/31/2017	106.54817	105.3598936	104.198009	103.0616479	101.9499768	100.8621979	99.79754759	98.7552944	97.73473745
170731A00012	7/31/2017	1.82	8/2/2021	7/31/2017	100.5162	100.4239456	100.3318663	100.2399587	100.1482225	100.056657	99.96526198	99.8740368	99.78298103
170731A00028	7/31/2017	2.16	8/1/2022	7/31/2017	106.598	105.3999396	104.2286964	103.0833768	101.9631278	100.8671335	99.79461296	98.74481848	97.71703383
170717A00033	7/17/2017	2.19	7/18/2022	7/17/2017	106.39718	105.2444424	104.1166	103.0128523	101.932433	100.8746086	99.83867546	98.8239594	97.82981342
170720A00009	7/20/2017	2.14	7/20/2022	7/20/2017	106.3761	105.2171879	104.0834415	102.9740436	101.8882162	100.8252141	99.78432314	98.76485884	97.76616465
170721A00007	7/21/2017	1.8	7/21/2021	7/21/2017	100.32715	100.2685415	100.2100146	100.1515713	100.0932113	100.0349346	99.97674096	99.91863014	99.86060201
170724A00014	7/24/2017	2.14	7/25/2022	7/24/2017	106.45926	105.2841101	104.1348086	103.0105055	101.9103921	100.833694	99.77966999	98.74760947	97.73683143
170724A00016	7/24/2017	2.5	7/24/2024	7/24/2017	118.61167	115.0965961	111.7051653	108.4323005	105.2731628	102.2231415	99.27784184	96.43307355	93.6848399
170728A00029	7/28/2017	2.1	1/27/2022	7/28/2017	103.44447	102.8323802	102.2275116	101.6297413	101.038945	100.4550011	99.87779098	99.30719872	98.74311099
170630A00009	6/30/2017	2.53	6/30/2025	6/30/2017	124.55527	119.7928006	115.2404001	110.8876585	106.7247422	102.742356	98.93171095	95.28449377	91.79283838
170630A00010	6/30/2017	2.63	6/30/2026	6/30/2017	130.58752	124.4380315	118.6169048	113.1048596	107.8838454	102.9369608	98.24837374	93.80324869	89.58767828
170630A00036	6/30/2017	2.01	6/30/2022	6/30/2017	106.04029	104.9442383	103.870741	102.8191081	101.7886772	100.7788126	99.78890365	98.81836362	97.86662863
170706A00013	7/6/2017	2.27	7/6/2022	7/6/2017	106.28016	105.165865	104.0748563	103.006412	101.9598375	100.9344667	99.92965992	98.94480331	97.97930709

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170706A00028	7/6/2017	2.09	7/6/2022	7/6/2017	106.22414	105.1081437	104.0155033	102.945495	101.8974212	100.8706128	99.86442758	98.87824909	97.91148511
170706A00090	7/6/2017	2.48	7/6/2023	7/6/2017	112.49608	110.2674054	108.0949193	105.9768354	103.9114331	101.8970589	99.93212343	98.01509839	96.1445137
170622A00038	6/22/2017	3.32	6/22/2034	6/22/2017	179.17699	159.683673	142.5637044	127.5125498	114.2663148	102.5961354	92.30336634	83.21544945	75.18236662
170623A00028	6/23/2017	2.79	6/23/2027	6/23/2017	135.67015	128.1602737	121.1176084	114.5106057	108.310011	102.488682	97.02142565	91.88484828	87.05721833
170628A00008	6/28/2017	2.04	9/15/2021	6/28/2017	101.23467	101.017532	100.801341	100.5860871	100.3717642	100.1583661	99.94588687	99.73432052	99.52366111
170628A00056	6/28/2017	1.97	6/28/2022	6/28/2017	105.96532	104.8759467	103.808877	102.7634273	101.7389459	100.7348072	99.75041003	98.78517697	97.83855275
170629A00073	6/29/2017	2.2	6/29/2023	6/29/2017	112.11231	109.9027928	107.7487356	105.6483812	103.6000426	101.6020982	99.65298866	97.75121424	95.89533172
170630A00008	6/30/2017	2.35	7/1/2024	6/30/2017	118.27718	114.8275118	111.4975822	108.2825489	105.1777946	102.1789157	99.28171121	96.48217164	93.77646944
170613A00032	6/13/2017	2.45	6/13/2025	6/13/2017	123.94658	119.2553038	114.7686597	110.4766278	106.3697337	102.4390157	98.675994	95.07264211	91.62136031
170613A00033	6/13/2017	2.3	6/13/2024	6/13/2017	117.83385	114.4506217	111.1829639	108.0262771	104.9761756	102.0284731	99.17917211	96.42445452	93.76067233
170615A00034	6/15/2017	2.13	6/15/2022	6/15/2017	105.79104	104.7450105	103.7196016	102.714207	101.7282452	100.7611565	99.81240298	98.88146673	97.96784929
170616A00019	6/16/2017	2.64	6/16/2027	6/16/2017	135.74171	128.212541	121.1516419	114.5274218	108.3105827	102.4739396	96.99225779	91.84210296	87.00170402
170622A00016	6/22/2017	2.11	6/22/2022	6/22/2017	105.87829	104.8101023	103.7633879	102.7375087	101.7318473	100.7458103	99.77882765	98.83035103	97.89985302
170622A00037	6/22/2017	3.27	6/22/2033	6/22/2017	173.16298	155.5568709	139.9514253	126.1066648	113.8126139	102.8854117	93.16394254	84.50691683	76.79033871
170606A00017	6/6/2017	1.9	6/6/2022	6/6/2017	105.52887	104.5106597	103.5120184	102.532387	101.5712269	100.6280194	99.70226521	98.79348337	97.90121043
170608A00017	6/8/2017	1.95	6/8/2022	6/8/2017	105.61057	104.5856762	103.580603	102.5947763	101.6276473	100.678688	99.74738985	98.83326338	97.93583694
170609A00006	6/9/2017	1.89	12/9/2021	6/9/2017	102.58581	102.1202973	101.6590084	101.2018881	100.7488798	100.2999283	99.85497898	99.41397844	98.97687416
170609A00025	6/9/2017	2.13	6/9/2022	6/9/2017	105.68981	104.6630366	103.6561508	102.6685765	101.6997618	100.7491761	99.81630854	98.90066705	98.00177779
170609A00043	6/9/2017	3.07	6/9/2032	6/9/2017	167.49242	151.6156284	137.4131565	124.6984263	113.306581	103.0918548	93.92527423	85.69264567	78.29279373
170612A00003	6/12/2017	1.97	6/13/2022	6/12/2017	105.71379	104.6727215	103.652087	102.6512866	101.6697463	100.706914	99.76225875	98.83526932	97.92545362
170530A00060	5/30/2017	2.12	3/25/2022	5/30/2017	104.40795	103.6208805	102.8456411	102.0819711	101.329613	100.5883169	99.85784001	99.13794687	98.42840864
170531A00005	5/31/2017	1.94	5/31/2022	5/31/2017	105.46755	104.46839	103.4880756	102.5260789	101.5818905	100.6550197	99.74499382	98.85135712	97.97367019
170531A00080	5/31/2017	2.3	5/31/2024	5/31/2017	117.62971	114.2926793	111.0682683	107.9520544	104.9398149	102.0275164	99.21130521	96.48749795	93.85257338
170602A00023	6/2/2017	2.09	6/2/2023	6/2/2017	111.44625	109.329431	107.2637904	105.2477722	103.2798767	101.3586596	99.48272999	97.65074792	95.86142194
170602A00033	6/2/2017	2.09	6/2/2022	6/2/2017	105.53359	104.5294645	103.5443692	102.5777706	101.6291519	100.6980149	99.78388015	98.88628529	98.00478467
170606A00014	6/6/2017	1.9	6/6/2022	6/6/2017	105.52887	104.5106597	103.5120184	102.532387	101.5712269	100.6280194	99.70226521	98.79348337	97.90121043
170515A00056	5/15/2017	3.2	5/17/2032	5/15/2017	168.81052	152.9538669	138.7580229	126.0390485	114.6342956	104.3998414	95.20824606	86.94658938	79.51474944
170517A00027	5/17/2017	1.99	5/17/2022	5/17/2017	105.27886	104.3240279	103.3864642	102.465702	101.5612926	100.672803	99.79981563	98.9419272	98.09874842
170519A00034	5/19/2017	1.97	5/19/2022	5/19/2017	105.29429	104.3331903	103.3895807	102.4629864	101.55295	100.6590307	99.78080298	98.91785632	98.06979439
170524A00011	5/24/2017	2.54	5/24/2024	5/24/2017	117.78798	114.4819314	111.2865116	108.1974122	105.2105179	102.3218962	99.52778815	96.82459978	94.20889375
170530A00002	5/30/2017	2.15	5/31/2022	5/30/2017	105.557	104.558981	103.5797585	102.6188063	101.6756169	100.7497018	99.84058976	98.94782696	98.07097558
170530A00027	5/30/2017	1.97	5/31/2022	5/30/2017	105.49602	104.4967062	103.5162459	102.5541052	101.6097746	100.6827636	99.77259918	98.87882572	98.00100374
170501A00008	5/1/2017	2.23	5/2/2022	5/1/2017	105.13373	104.2274316	103.3367082	102.4611595	101.6004004	100.7540587	99.92177454	99.10319998	98.29799851

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170504A00038	5/4/2017	2.09	5/4/2022	5/4/2017	105.14693	104.2329684	103.3348417	102.4521426	101.5844759	100.7314604	99.89272715	99.06791992	98.25669404
170508A00010	5/8/2017	2.43	5/8/2024	5/8/2017	117.67481	114.4103225	111.253774	108.2010129	105.2480706	102.391153	99.6266309	96.95103255	94.36103557
170509A00006	5/9/2017	2.3	5/9/2022	5/9/2017	105.31606	104.3872755	103.4748279	102.5782932	101.6972577	100.831322	99.98010019	99.14321953	98.32031974
170515A00005	5/15/2017	2.04	5/16/2022	5/15/2017	105.30728	104.3554062	103.4206874	102.5026658	101.6008967	100.7149512	99.84441546	98.98888989	98.14798863
170515A00054	5/15/2017	3.2	5/17/2032	5/15/2017	168.81052	152.9538669	138.7580229	126.0390485	114.6342956	104.3998414	95.20824606	86.94658938	79.51474944
170417A00068	4/17/2019	2.59	4/17/2024	4/17/2019	117.35829	114.1761652	111.0974229	108.1180822	105.2343395	102.4425622	99.73927973	97.12117509	94.58507693
170419A00024	4/19/2017	2.45	4/21/2025	4/19/2017	123.14784	118.6499607	114.3417473	110.2141746	106.2586953	102.4672145	98.83206339	95.34597421	92.0020568
170424A00009	4/24/2017	2.04	4/25/2022	4/24/2017	104.95077	104.0654369	103.1949952	102.3390688	101.4972971	100.6693312	99.85483349	99.05347743	98.26494691
170427A00044	4/27/2017	3.02	4/27/2027	4/27/2017	136.35982	129.0313086	122.1468582	115.6772317	109.5952634	103.8757021	98.49506598	93.43151066	88.66470659
170427A00046	4/27/2017	3.1	4/27/2028	4/27/2017	142.34358	133.511869	125.2946567	117.6459106	110.5232738	103.8877536	97.70343823	91.937239	86.55865459
170428A00030	4/28/2017	2.25	4/28/2022	4/28/2017	105.08213	104.1883767	103.3097743	102.4459428	101.5965122	100.7611249	99.93943482	99.13110739	98.33581873
170323A00013	3/23/2017	2.1	3/23/2022	3/23/2017	104.43795	103.6557381	102.8852173	102.1261263	101.3782121	100.641229	99.9149386	99.19910937	98.4935164
170327A00070	3/29/2017	3.05	3/29/2027	3/29/2017	137.24909	129.9567394	123.1020842	116.6563939	110.5929843	104.8870623	99.51558038	94.45710406	89.69168949
170327A00075	3/27/2019	2.47	3/28/2022	3/27/2019	104.72592	103.928409	103.1430124	102.369458	101.6074796	100.8568187	100.1172246	99.3884541	98.67027081
170328A00015	3/28/2017	2.75	11/29/2024	3/28/2017	121.48081	117.504518	113.6807468	110.0028275	106.4644183	103.0594881	99.78229919	96.62739189	93.58956906
170417A00043	4/17/2017	2.14	4/18/2022	4/17/2017	104.81952	103.9575845	103.1097858	102.2757811	101.4552358	100.6478258	99.85323754	99.07116725	98.30132074
170417A00057	4/17/2017	2.32	4/17/2023	4/17/2017	110.88584	108.9198942	106.9988869	105.1214559	103.2862892	101.4921261	99.73775402	98.02200657	96.34376124
170322A00022	3/22/2017	3.89	9/23/2041	3/22/2017	229.42172	194.0344041	164.8774684	140.7967863	120.8590438	104.3084008	90.53185296	79.03150659	69.40236047
170322A00023	3/22/2017	3.82	9/22/2039	3/22/2017	216.39917	185.6227926	159.8199379	138.1449645	119.9009257	104.512703	91.50511146	80.48503795	71.12685085
170322A00024	3/22/2017	3.72	9/22/2036	3/22/2017	198.18049	173.8179251	152.8395978	134.7501569	119.1294787	105.620883	93.92124606	83.77269888	74.95564986
170322A00025	3/22/2017	3.58	3/22/2033	3/22/2017	176.09315	158.6871279	143.2148312	129.4488817	117.189834	106.2626078	96.51339373	87.80696538	80.02434491
170322A00026	3/22/2017	3.22	3/22/2028	3/22/2017	142.70493	133.9909171	125.8753817	118.3138664	111.2654554	104.6924741	98.56021433	92.83668517	87.49238555
170323A00009	3/23/2017	2.1	3/23/2022	3/23/2017	104.43795	103.6557381	102.8852173	102.1261263	101.3782121	100.641229	99.9149386	99.19910937	98.4935164
170314A00005	3/14/2017	2.29	3/14/2022	3/14/2017	104.42248	103.6676257	102.9236732	102.1903843	101.4675306	100.7548904	100.0522482	99.35939434	98.67612522
170314A00006	3/14/2017	2.67	3/14/2024	3/14/2017	117.49556	114.4088365	111.420068	108.5254719	105.7214438	103.0045459	100.3714978	97.81916777	95.34456462
170316A00018	3/16/2017	2.8	3/18/2024	3/16/2017	117.49033	114.4011237	111.4100723	108.5133821	105.707435	102.9887805	100.3541265	97.80033018	95.32439054
170321A00013	3/21/2017	2.18	3/21/2022	3/21/2017	104.46349	103.687237	102.9225003	102.1690232	101.4265583	100.6948651	99.97371055	99.26286789	98.56211702
170322A00010	3/22/2017	2.11	3/22/2022	3/22/2017	104.4284	103.649262	102.8817255	102.1255327	101.3804332	100.6461843	99.92254996	99.20930124	98.5062156
170322A00015	3/22/2017	2.31	3/22/2022	3/22/2017	104.49961	103.7212402	102.9544391	102.1989544	101.4545369	100.7209446	99.99794256	99.28530251	98.5828028
170307A00033	3/7/2017	2.2	3/7/2022	3/7/2017	104.23615	103.5032633	102.7806638	102.0681345	101.3654658	100.6724541	99.98890119	99.3146142	98.64940562
170310A00032	3/10/2017	2.27	3/10/2022	3/10/2017	104.33798	103.5955952	102.8637609	102.1422509	101.4308477	100.7293399	100.0375218	99.35519351	98.68216065
170313A00027	3/13/2017	2.27	3/14/2022	3/13/2017	104.40798	103.6531873	102.9092932	102.1760621	101.4532657	100.7406822	100.0380961	99.34529785	98.66208377
170313A00032	3/13/2017	3.69	6/14/2032	3/13/2017	173.02526	156.9521761	142.5602988	129.6631533	118.0959041	107.7127439	98.38460683	89.99716785	82.44908945

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170313A00034	3/13/2017	3.31	3/15/2027	3/13/2017	137.55929	130.3463771	123.5623644	117.1793349	111.171349	105.5142891	100.1857213	95.16476789	90.43199123
170313A00035	3/13/2017	3.31	3/15/2027	3/13/2017	137.55929	130.3463771	123.5623644	117.1793349	111.171349	105.5142891	100.1857213	95.16476789	90.43199123
170224A00021	2/24/2017	3.4	2/24/2032	2/24/2017	167.58773	152.2659589	138.5133849	126.1596447	115.053746	105.0617735	96.0648751	87.95749563	80.64582524
170224A00039	5/24/2017	3.17	5/24/2027	5/24/2017	137.73864	130.2732508	123.2648935	116.683167	110.4998469	104.6887169	99.22541593	94.08729786	89.25330232
170224A00044	5/24/2017	3.29	5/24/2029	5/24/2017	150.12164	139.5473271	129.8079387	120.8329278	112.5580607	104.9248183	97.87986077	91.37454475	85.36448772
170228A00014	2/28/2017	2.89	3/1/2027	2/28/2017	135.80852	128.6571093	121.9304398	115.6009466	109.6430039	104.032779	98.74809682	93.76831567	89.0742124
170228A00018	2/28/2017	2.25	2/28/2022	2/28/2017	104.07765	103.367529	102.6670652	101.9760626	101.2943307	100.621684	99.95794199	99.30292889	98.65647351
170303A00021	3/3/2017	2.2	3/3/2022	3/3/2017	104.16698	103.4464833	102.7359269	102.0351069	101.3438244	100.6618857	99.9891023	99.32529073	98.67027244
170215A00040	2/15/2017	2.59	5/15/2023	2/15/2017	111.84907	109.7887747	107.7770028	105.8123115	103.8933147	102.0186763	100.187108	98.39736724	96.64825529
170216A00043	2/16/2017	3.17	2/16/2027	2/16/2017	136.24911	129.1725604	122.5123632	116.2417251	110.3357248	104.7711697	99.52646678	94.58150341	89.91753764
170217A00014	2/17/2017	2.27	2/14/2022	2/17/2017	103.85241	103.1850963	102.526343	101.8759883	101.2338721	100.5998386	99.97373569	99.35541518	98.74473253
170223A00003	2/23/2017	2.05	2/23/2022	2/23/2017	103.92855	103.2330607	102.5468572	101.8697537	101.2015702	100.5421313	99.89126606	99.24880815	98.61459544
170224A00019	2/24/2017	2.21	2/24/2022	2/24/2017	103.98269	103.2849166	102.5964849	101.9172064	101.2468996	100.5853876	99.93249824	99.28806375	98.65192074
170224A00020	2/24/2017	3.08	2/24/2027	2/24/2017	135.81597	128.7217705	122.0467103	115.7637154	109.8476066	104.2749586	99.02396809	94.0743322	89.40713735
170130A00054	3/30/2017	2.33	4/29/2022	3/30/2017	105.16783	104.2706043	103.3886412	102.521551	101.6689601	100.8305072	100.0058431	99.19462989	98.39654061
170203A00012	2/3/2017	3.63	2/2/2035	2/3/2017	187.39885	166.4080913	148.0652776	132.0180043	117.9626386	105.6373395	94.81610743	85.30370762	76.93133485
170207A00013	2/7/2017	2.05	2/7/2022	2/7/2017	103.66034	103.0138412	102.3753872	101.7448318	101.1220293	100.506837	99.89911619	99.29873121	98.70554978
170207A00023	2/7/2017	2.26	2/7/2022	2/7/2017	103.72676	103.080864	102.4429932	101.8130017	101.1907441	100.5760786	99.9688668	99.36897368	98.77626749
170215A00037	2/15/2017	2.71	5/23/2022	2/15/2017	105.93918	104.96397	104.0066892	103.0668415	102.1439539	101.23757	100.3472501	99.47256957	98.61311891
170215A00039	2/15/2017	2.72	11/7/2022	2/15/2017	108.80185	107.3435485	105.9120942	104.5068035	103.1270189	101.7721046	100.441445	99.13444467	97.85052695
170117A00045	1/17/2017	2.21	1/18/2022	1/17/2017	103.36359	102.7783841	102.1998029	101.6277318	101.0620611	100.5026838	99.94949509	99.40239256	98.86127604
170120A00009	1/20/2017	3.67	1/22/2035	1/20/2017	187.87751	166.8998828	148.562133	132.5136864	118.452388	106.1175872	95.28423945	85.75787308	77.37028973
170120A00010	1/20/2017	3.71	1/22/2036	1/20/2017	194.21117	171.2110205	151.2861077	134.0029531	118.9915271	105.9356576	94.56493491	84.64786925	75.98610146
170120A00011	1/20/2017	3.75	1/20/2037	1/20/2017	200.55852	175.4871831	153.96088	135.4515479	119.5126848	105.7663689	93.8923969	83.61919046	74.71617599
170123A00039	1/23/2017	2.79	1/23/2026	1/23/2017	128.95892	123.4024278	118.1196274	113.0955423	108.3160962	103.7680562	99.43897789	95.31715363	91.39156491
170130A00031	1/30/2017	2.96	7/30/2025	1/30/2017	126.20841	121.3327462	116.674783	112.2235768	107.9688024	103.9007094	100.0100874	96.28823245	92.72691638
170110A00023	1/10/2017	2.08	1/10/2022	1/10/2017	103.20808	102.6464538	102.0909394	101.5414347	100.9978425	100.4600676	99.92801671	99.40159877	98.88072449
170111A00009	1/11/2017	3.16	1/11/2028	1/11/2017	141.16656	132.7634467	124.9232651	117.6052425	110.7717641	104.3881172	98.4222518	92.84456361	87.62769481
170111A00011	1/11/2017	3.24	1/11/2029	1/11/2017	147.51403	137.5437202	128.3293733	119.8094707	111.927814	104.6330365	97.87816386	91.62021728	85.81985411
170111A00012	1/11/2017	3.31	1/11/2030	1/11/2017	154.10317	142.4847262	131.8478261	122.1039388	113.1729671	104.9824016	97.46656555	90.56593803	84.22654746
170111A00014	1/11/2017	3.47	1/12/2032	1/11/2017	167.92265	152.7490316	139.1134456	126.8505475	115.813609	105.8723366	96.91095357	88.82651304	81.5274161
170111A00016	1/11/2017	3.51	1/11/2033	1/11/2017	174.02297	157.0331789	141.9054083	128.4237203	116.3983302	105.662317	96.06876067	87.48825175	79.80672126
161215A00014	12/15/2016	2.66	12/15/2022	12/15/2016	109.38389	107.8055874	106.2584331	104.7415768	103.2542033	101.7955258	100.364785	98.96124807	97.58420707

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
161222A00030	12/22/2016	3.09	12/22/2026	12/22/2016	135.95994	129.0539489	122.5456004	116.4098628	110.6234128	105.1645076	100.0128691	95.1495779	90.55697547
161223A00028	12/23/2016	2.23	12/23/2021	12/23/2016	102.98037	102.4726349	101.9699013	101.4720999	100.9791582	100.4910053	100.0075715	99.52878852	99.05458941
170109A00031	1/9/2017	2.29	1/10/2022	1/9/2017	103.2719	102.7107139	102.1556201	101.6065225	101.0633242	100.5259303	99.99424808	99.46818672	98.94765729
170110A00020	1/10/2017	2.4	1/10/2024	1/10/2017	115.69129	112.8344215	110.0636735	107.3759196	104.7681686	102.2375573	99.78134406	97.39690272	95.08171702
170110A00022	1/10/2017	2.27	1/10/2023	1/10/2017	109.42996	107.7702985	106.144756	104.5523575	102.9921684	101.4632889	99.96485208	98.4960229	97.05599618
161109A00018	11/9/2016	2.63	11/9/2026	11/9/2016	131.50079	124.9083089	118.6882189	112.8175711	107.2749443	102.0403362	97.0950627	92.42166438	88.00382042
161115A00011	11/15/2016	2.46	11/15/2023	11/15/2016	114.56099	111.9034809	109.3214872	106.8124382	104.3738638	102.0033921	99.69874555	97.45773597	95.27826084
161117A00015	11/17/2016	2.08	11/17/2021	11/17/2016	102.27341	101.8732567	101.4762425	101.0823277	100.691476	100.3036517	99.91881965	99.53694515	99.15799414
161213A00014	12/13/2016	2.07	12/13/2021	12/13/2016	102.73438	102.2567166	101.7835013	101.3146699	100.8501616	100.3899166	99.93387629	99.48198304	99.03418032
161214A00023	12/14/2016	3.3	12/15/2031	12/14/2016	167.61835	152.4556771	138.8258209	126.5646051	115.5262633	105.5812888	96.61454539	88.52360505	81.21728636
161215A00001	12/15/2016	2.5	12/15/2021	12/15/2016	102.93158	102.4479663	101.9689027	101.4943237	101.0241665	100.5583693	100.0968714	99.63961354	99.18653722
161003A00004	10/3/2016	1.91	10/3/2023	10/3/2016	112.56722	110.0664684	107.6343792	105.2685405	102.9666456	100.726489	98.5459611	96.42304285	94.35580119
161004A00040	10/4/2016	1.45	10/4/2021	10/4/2016	101.40711	101.1353267	100.8650017	100.5961242	100.3286826	100.0626652	99.79806082	99.53485809	99.27304589
161006A00013	10/6/2016	2.07	10/6/2025	10/6/2016	123.8805	118.808479	113.9729966	109.3616845	104.9628926	100.765647	96.75960602	92.93501955	89.28269163
161014A00006	10/14/2016	1.74	10/14/2021	10/14/2016	101.61356	101.3130003	101.0142251	100.7172218	100.4219747	100.128468	99.83668644	99.54661466	99.25823759
161020A00002	10/20/2016	1.96	8/15/2023	10/20/2016	111.97218	109.6293802	107.3479081	105.1257083	102.9608144	100.8513419	98.79548359	96.79150617	94.83774615
161031A00007	10/31/2016	1.91	10/31/2022	10/31/2016	107.54939	106.1218099	104.7201644	103.3438049	101.9921054	100.6644596	99.3602805	98.0789999	96.82006727
160923A00032	9/23/2016	1.67	9/25/2023	9/23/2016	112.24221	109.7627531	107.3510411	105.0046921	102.7214271	100.4990681	98.33553234	96.22882702	94.17704472
160926A00004	9/26/2016	1.66	9/26/2023	9/26/2016	112.23281	109.7503148	107.3357239	104.9866414	102.7007808	100.4759569	98.31007999	96.20115099	94.14725645
160926A00023	9/26/2016	1.74	9/26/2022	9/26/2016	106.97681	105.59802	104.2545593	102.9450831	101.6683154	100.4230433	99.20811295	98.02242654	96.86493846
160929A00004	9/29/2016	1.74	9/29/2022	9/29/2016	107.02256	105.6338494	104.2809584	102.9625116	101.6772078	100.4238103	99.20114319	98.00808786	96.84357929
160930A00005	9/30/2016	2.03	9/30/2024	9/30/2016	118.00891	114.2869996	110.7027083	107.2500608	103.9233895	100.7173122	97.62671539	94.64673858	91.77275982
160930A00010	9/30/2016	1.47	9/30/2022	9/30/2016	106.8515	105.4580561	104.1006899	102.7780122	101.488708	100.231528	99.00528443	97.80884754	96.64114184
160906A00017	9/6/2016	1.65	9/7/2021	9/6/2016	101.02891	100.8348088	100.6414624	100.4488647	100.2570113	100.0658978	99.87551995	99.68587349	99.49695418
160916A00016	9/16/2016	1.66	9/16/2021	9/16/2016	101.16795	100.9480747	100.7291712	100.5112286	100.2942405	100.0782005	99.86310245	99.64894007	99.43570725
160920A00004	9/20/2016	1.68	9/20/2021	9/20/2016	101.23263	101.001292	100.7710252	100.5418176	100.3136618	100.0865507	99.86047683	99.63543325	99.41141284
160922A00014	9/22/2016	2.06	9/22/2026	9/22/2016	128.52943	122.1485233	116.1227734	110.4304563	105.0513043	99.96639722	95.15806417	90.6097938	86.30615134
160922A00050	9/22/2016	2.24	9/22/2025	9/22/2016	123.74784	118.746628	113.9763583	109.4250307	105.0813445	100.9346526	96.97491881	93.19267939	89.57900614
160923A00030	9/23/2016	1.41	9/23/2021	9/23/2016	101.23557	100.9954667	100.7565128	100.5186972	100.2820116	100.046448	99.81199833	99.57865478	99.34640944
160815A00007	8/15/2016	2.23	8/17/2026	8/15/2016	128.05444	121.8422013	115.9690779	110.4147301	105.1601489	100.1875631	95.48035073	91.02295917	86.80082978
160816A00003	8/16/2016	1.63	8/16/2023	8/16/2016	111.58399	109.2359145	106.9495076	104.7226981	102.5535024	100.44002	98.38042861	96.37298068	94.41599938
160825A00054	8/29/2016	2.49	8/30/2021	8/29/2016	101.05229	100.8808416	100.709969	100.5396731	100.3699509	100.2007996	100.0322163	99.8641983	99.69674269
160830A00007	8/30/2016	1.65	8/30/2021	8/30/2016	100.90929	100.7380198	100.5673289	100.3972141	100.2276725	100.0587012	99.89029755	99.72245858	99.55518153

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160830A00032	8/30/2016	1.82	8/30/2022	8/30/2016	106.66239	105.3719964	104.1126466	102.883235	101.6827046	100.5100475	99.36430241	98.24455154	97.14991853
160830A00034	8/30/2016	1.9	8/30/2023	8/30/2016	112.05139	109.6626611	107.3373316	105.073245	102.8683352	100.7206239	98.62821575	96.58929449	94.60211851
160802A00003	8/2/2016	2.53	8/1/2031	8/2/2016	156.3327	142.3108598	129.6749257	118.2801453	107.9975971	98.7123849	90.32204576	82.73514673	75.87004606
160808A00011	8/8/2016	1.6	8/9/2021	8/8/2016	100.59125	100.479367	100.3677407	100.2563749	100.1452686	100.034421	99.92383115	99.81349807	99.70342084
160810A00032	8/10/2016	1.32	8/10/2021	8/10/2016	100.58443	100.4696356	100.3551165	100.2408728	100.1269034	100.0132074	99.89978373	99.78663131	99.67374918
160811A00011	8/11/2016	2.25	8/11/2026	8/11/2016	128.09019	121.8969789	116.0409036	110.5017989	105.2608153	100.3003266	95.6038436	91.15593434	86.94215064
160812A00005	8/12/2016	1.69	8/12/2022	8/12/2016	106.23372	105.0030827	103.8008083	102.6259254	101.4775062	100.3546647	99.25655372	98.18236336	97.13131865
160815A00006	8/15/2016	2.23	8/17/2026	8/15/2016	128.05444	121.8422013	115.9690779	110.4147301	105.1601489	100.1875631	95.48035073	91.02295917	86.80082978
160712A00023	7/12/2016	1.79	7/12/2023	7/12/2016	111.11514	108.883504	106.7085219	104.5883711	102.5213036	100.5056407	98.53976906	96.62213805	94.75125665
160714A00020	9/6/2016	2.28	9/4/2026	9/6/2016	128.57197	122.2853761	116.3446251	110.7288013	105.4183743	100.3950964	95.64191056	91.14286648	86.88304185
160714A00053	7/14/2016	1.58	7/15/2021	7/14/2016	100.22065	100.1788533	100.1371121	100.0954231	100.0537863	100.0122015	99.97066872	99.92918777	99.88775857
160718A00010	7/18/2016	1.65	7/18/2023	7/18/2016	111.22242	108.9654231	106.7661497	104.6227256	102.5333542	100.4963104	98.50993753	96.57264385	94.68289952
160726A00005	7/26/2016	2.28	7/27/2026	7/26/2016	128.06402	121.9213945	116.1108749	110.6127335	105.4085191	100.4809694	95.81392712	91.39226392	87.2018088
160801A00001	8/1/2016	1.97	8/1/2024	8/1/2016	116.97885	113.4652747	110.0762047	106.8064903	103.6512266	100.6057418	97.6655847	94.82651285	92.08448107
160706A00028	7/6/2016	2.39	7/6/2029	7/6/2016	142.62573	132.1980178	122.6124035	113.7964035	105.6841295	98.21565604	91.33645251	84.99687197	79.15169062
160706A00029	7/6/2016	2.49	7/8/2030	7/6/2016	148.54759	136.5015089	125.5335911	115.5414568	106.4329509	98.12507113	90.54301621	83.61933708	77.29318
160706A00030	7/6/2016	2.59	7/7/2031	7/6/2016	154.67046	140.9354372	128.5470424	117.365687	107.2669319	98.13977593	89.88514173	82.41454026	75.6488902
160707A00034	7/7/2016	1.25	7/7/2021	7/7/2016	100.09827	100.0787648	100.0592822	100.0398198	100.0203776	100.0009557	99.98155385	99.96217214	99.94281052
160708A00002	7/8/2016	1.46	7/8/2021	7/8/2016	100.11497	100.0926999	100.0704497	100.048223	100.0260198	100.0038401	99.9816838	99.95955087	99.93744128
160712A00016	7/12/2016	1.32	7/12/2021	7/12/2016	100.17083	100.1373823	100.1039709	100.0705989	100.0372661	100.0039726	99.97071827	99.93750299	99.9043267
160705A00009	7/5/2016	1.21	7/6/2021	7/5/2016	100.08356	100.0668427	100.0501449	100.033464	100.0168	100.0001528	99.98352245	99.96690887	99.95031204
160705A00104	7/5/2016	2.1	7/6/2026	7/5/2016	126.79526	120.7553526	115.0393797	109.6282631	104.5041516	99.65033236	95.05115242	90.69194597	86.55896679
160706A00014	7/6/2016	1.41	7/6/2021	7/6/2016	100.08539	100.0686863	100.0520014	100.0353332	100.0186817	100.0020469	99.98542868	99.96882712	99.95224214
160706A00019	7/6/2016	1.41	7/6/2021	7/6/2016	100.08539	100.0686863	100.0520014	100.0353332	100.0186817	100.0020469	99.98542868	99.96882712	99.95224214
160706A00026	7/6/2016	2.19	7/6/2027	7/6/2016	131.83216	124.3960204	117.4271419	110.8937269	104.7663048	99.01754815	93.6221061	88.55645122	83.79873937
160706A00027	7/6/2016	2.29	7/6/2028	7/6/2016	137.01354	128.1197563	119.8653065	112.2008892	105.0812459	98.46481321	92.31340329	86.59191304	81.26806016
160630A00019	6/30/2016	1.52	7/1/2021	6/30/2016	100.01454	100.0117525	100.0089723	100.0061945	100.0034191	100.0006461	99.99787542	99.99510717	99.9923413
160630A00021	6/30/2016	1.59	6/30/2023	6/30/2016	110.84235	108.6432935	106.4995733	104.4094337	102.3711888	100.383218	98.44396304	96.55192536	94.7056629
160701A00020	7/1/2016	2.13	7/1/2026	7/1/2016	126.89775	120.8716753	115.1680154	109.7678268	104.6533805	99.80807563	95.21636123	90.86366473	86.73632511
160701A00027	7/1/2016	1.93	7/1/2024	7/1/2016	116.42898	113.0203428	109.7300146	106.5532115	103.4853761	100.5221618	97.6594212	94.89319613	92.21970745
160701A00028	7/1/2016	2.16	7/1/2026	7/1/2016	127.06286	121.0324922	115.3247054	109.9205485	104.8022851	99.9533072	95.35805722	91.00195622	86.87133719
160705A00005	7/5/2016	1.49	7/5/2023	7/5/2016	110.69947	108.4870298	106.330523	104.2281682	102.1782506	100.1791225	98.22920002	96.32696033	94.47093863
160628A00038	6/28/2016	1.88	6/27/2025	6/28/2016	121.68229	116.9901929	112.5053268	108.2174306	104.1168071	100.1942897	96.44121028	92.84936936	89.41100795

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					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	110.75006	108.5583087	106.4215655	104.3380882	102.3062052	100.3243098	98.39085683	96.50435987	94.66338867
160628A00049	6/28/2016	1.88	6/27/2025	6/28/2016	121.68229	116.9901929	112.5053268	108.2174306	104.1168071	100.1942897	96.44121028	92.84936936	89.41100795
160628A00050	6/28/2016	1.56	6/28/2023	6/28/2016	110.75006	108.5583087	106.4215655	104.3380882	102.3062052	100.3243098	98.39085683	96.50435987	94.66338867
160630A00011	6/30/2016	1.8	6/30/2023	6/30/2016	110.96768	108.7733678	106.634153	104.5482938	102.5141148	100.5300052	98.59441612	96.70585767	94.86289615
160630A00012	6/30/2016	2.11	6/30/2025	6/30/2016	122.04269	117.3520499	112.8684237	108.5815614	104.4817781	100.5599183	96.80732478	93.21580808	89.77761885
160616A00027	6/16/2016	2.27	6/16/2026	6/16/2016	127.46332	121.4747201	115.8036839	110.431716	105.3414945	100.51679	95.9423904	91.60403264	87.48833806
160616A00034	6/16/2016	1.97	6/17/2024	6/16/2016	116.35947	112.9975768	109.7508909	106.6148218	103.5849869	100.6572028	97.82747564	95.09199085	92.44710431
160620A00015	6/20/2016	1.71	6/20/2023	6/20/2016	110.94578	108.777236	106.6625028	104.5999001	102.5878103	100.6246776	98.70900534	96.83935305	95.01433398
160624A00011	6/24/2016	1.83	6/26/2023	6/24/2016	110.97146	108.789704	106.6624272	104.5879198	102.5645336	100.5906841	98.66484714	96.78555631	94.95140017
160627A00025	6/27/2016	1.65	6/27/2022	6/27/2016	105.49028	104.40865	103.3490825	102.3109105	101.2934915	100.2962083	99.31846811	98.35970109	97.41935939
160627A00070	6/27/2016	1.52	9/27/2021	6/27/2016	101.29843	101.0470936	100.7970064	100.5481562	100.3005339	100.0541306	99.80893715	99.56494482	99.32214478
160524A00027	5/24/2016	3.06	5/27/2031	5/24/2016	159.51316	145.6907829	133.2022425	121.9111188	111.695618	102.4469348	94.06780775	86.47124116	79.57937414
160606A00004	6/6/2016	2.43	6/8/2026	6/6/2016	128.22251	122.2423505	116.5776083	111.2100043	106.1224136	101.2987857	96.72407177	92.38415681	88.26579705
160606A00005	6/6/2016	2.92	6/6/2031	6/6/2016	158.05238	144.2651689	131.8139508	120.561615	110.3857949	101.1772151	92.83823053	85.28153493	78.42901853
160606A00043	6/8/2016	2.23	12/15/2021	6/8/2016	102.80427	102.3210138	101.8423048	101.3680779	100.8982704	100.4328206	99.97166777	99.51475261	99.06201673
160610A00009	6/10/2016	1.89	6/12/2023	6/10/2016	110.8868	108.7500126	106.6655561	104.631815	102.6472365	100.7103266	98.81964665	96.97381161	95.17148727
160613A00047	6/15/2016	2.18	6/16/2025	6/15/2016	122.152	117.5065335	113.0640703	108.8146593	104.7488919	100.8578692	97.13317076	93.56682702	90.1512922
160329A00045	3/29/2016	2.12	3/29/2024	3/29/2016	116.12858	113.0145892	110.0008288	107.0833743	104.2584855	101.5225979	98.87231296	96.30438866	93.81573109
160330A00054	3/30/2016	2.9	3/31/2031	3/30/2016	158.84189	145.174573	132.8127237	121.6240801	111.4904553	102.3061723	93.97667806	86.41731787	79.55225112
160420A00002	4/20/2016	1.96	11/16/2022	4/20/2016	107.86924	106.3904667	104.9393739	103.5152534	102.1174165	100.7451974	99.39795213	98.07505794	96.77591218
160422A00026	4/22/2016	2.62	4/22/2026	4/22/2016	128.57084	122.7419125	117.2128066	111.9665249	106.9871197	102.2596261	97.76999598	93.5050372	89.45235682
160504A00004	5/4/2016	2.3	5/4/2026	5/4/2016	127.95539	122.0721666	116.494379	111.2046127	106.1865354	101.4248227	96.90509024	92.61383171	88.53836071
160510A00012	5/10/2016	1.49	10/12/2021	5/10/2016	101.53694	101.2419644	100.9487089	100.6571633	100.3673125	100.0791416	99.79263598	99.50778109	99.22456262
160216A00028	2/16/2016	1.69	2/16/2022	2/16/2016	103.57694	102.9037654	102.2393238	101.5834433	100.9359592	100.2967109	99.66554188	99.04229968	98.42683554
160307A00027	3/7/2016	2.71	3/6/2026	3/7/2016	128.34927	122.6844936	117.3045463	112.1935098	107.3364462	102.7193342	98.3290075	94.15309686	90.17997747
160307A00028	3/7/2016	2.91	3/7/2028	3/7/2016	140.15117	131.5790974	123.5941339	116.1528394	109.2152213	102.7444398	96.7065421	91.07022121	85.80659579
160328A00013	3/28/2016	2.17	3/28/2024	3/28/2016	116.26036	113.1475799	110.1348907	107.2183789	104.3943129	101.6591363	99.0094579	96.44204287	93.95380376
160328A00014	3/28/2016	2.49	3/27/2026	3/28/2016	128.40697	122.6426286	117.1720796	111.9786802	107.0468287	102.3618947	97.91015271	93.67872013	89.65550032
160328A00045	3/28/2016	2.49	3/27/2026	3/28/2016	128.40697	122.6426286	117.1720796	111.9786802	107.0468287	102.3618947	97.91015271	93.67872013	89.65550032
160211A00033	2/11/2016	1.67	2/11/2022	2/11/2016	103.41953	102.7627751	102.1143365	101.4740606	100.8417939	100.2173868	99.60069339	98.99157128	98.38988163
160211A00035	2/11/2016	2.25	2/11/2025	2/11/2016	120.69196	116.4887227	112.4553625	108.5840364	104.8673101	101.2981362	97.86983143	94.57605584	91.41079254
160212A00029	2/12/2016	1.8	2/11/2022	2/12/2016	103.50224	102.8451766	102.1964407	101.5558701	100.9233114	100.2986149	99.68163456	99.07222808	98.47025653
160212A00043	2/12/2016	1.8	2/14/2022	2/12/2016	103.5494	102.883194	102.2255431	101.5762808	100.9352472	100.3022864	99.6772467	99.05997995	98.45034177

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160212A00044	2/12/2016	1.93	2/13/2023	2/12/2016	109.18743	107.4299359	105.7099367	104.0263005	102.3779437	100.7638259	99.18294741	97.6343475	96.11710226
160216A00002	2/16/2016	1.88	2/16/2022	2/16/2016	103.63288	102.960382	102.2965954	101.6413486	100.9944776	100.3558225	99.72522727	99.10254014	98.48761293
160119A00029	1/19/2016	3.39	1/20/2032	1/19/2016	166.9054	151.7640404	138.161348	125.9315631	114.927625	105.0189766	96.08963468	88.03649334	80.76783379
160119A00030	1/19/2016	3.44	1/18/2033	1/19/2016	173.18018	156.2124172	141.1084605	127.6517661	115.6520616	104.9420351	95.37445603	86.81967051	79.16341984
160120A00010	1/20/2016	1.99	10/20/2021	1/20/2016	101.78718	101.469015	101.152848	100.8386594	100.5264306	100.2161433	99.90777936	99.60132079	99.29674995
160129A00066	1/29/2016	3.04	1/29/2031	1/29/2016	159.44649	145.9962749	133.8090815	122.7590107	112.7333431	103.6310997	95.36176284	87.84414262	81.00537142
160129A00067	1/29/2016	2.53	1/29/2026	1/29/2016	127.74308	122.1956255	116.9226258	111.9089994	107.1405818	102.6040606	98.28691965	94.17738635	90.26438362
160129A00068	1/29/2016	1.97	1/30/2023	1/29/2016	109.25933	107.5424129	105.8615549	104.2156984	102.6038236	101.02495	99.47813462	97.96247006	96.47708293
151229A00081	12/29/2015	3.76	12/31/2035	12/29/2015	194.74587	171.7989171	151.9074435	134.6423793	119.6372286	106.5786479	95.19848464	85.26704361	76.58738662
160104A00014	1/4/2016	2.49	1/4/2023	1/4/2016	109.46059	107.8219916	106.2167974	104.6440695	103.1029035	101.5924281	100.1118038	98.66022089	97.23689846
160113A00030	1/13/2016	2.52	1/13/2025	1/13/2016	121.90569	117.7601474	113.779223	109.9554548	106.2817619	102.7514239	99.35806091	96.09561355	92.9583253
160119A00019	1/19/2016	2.95	1/19/2027	1/19/2016	134.45032	127.5275882	121.0079338	114.8657083	109.0770329	103.6196652	98.472878	93.61734796	89.03505341
160119A00027	1/19/2016	3.25	1/18/2030	1/19/2016	153.62964	142.0060209	131.366802	121.6230042	112.6941416	104.5073685	96.99671781	90.10241785	83.77028097
160119A00028	1/19/2016	3.34	1/21/2031	1/19/2016	160.68289	147.2999503	135.1650928	124.1545526	114.1574683	105.074472	96.81644305	89.30340186	82.46352923
151223A00066	12/23/2015	2.34	12/23/2022	12/23/2015	109.24187	107.6371753	106.0646581	104.5234331	103.0126449	101.5314689	100.0791096	98.65479949	97.25779802
151223A00070	12/23/2015	2.57	12/26/2023	12/23/2015	115.90492	113.091787	110.3623191	107.713525	105.1425408	102.6466226	100.2231412	97.86957626	95.58351096
151223A00072	12/23/2015	2.81	12/23/2025	12/23/2015	128.57476	123.1314729	117.9520964	113.022418	108.3290687	103.8594667	99.60176662	95.54481257	91.67809416
151223A00077	12/23/2015	3.57	12/24/2035	12/23/2015	194.9604	171.7886272	151.7135925	134.2994939	119.1741784	106.0195497	94.56346195	84.5728645	75.8479997
151229A00079	12/29/2015	3	12/30/2025	12/29/2015	128.83008	123.3807623	118.1960151	113.261562	108.5639766	104.0906242	99.82961166	95.76973949	91.90045758
151229A00080	12/29/2015	3.49	12/30/2030	12/29/2015	161.83737	148.4890573	136.3768918	125.3790532	115.3863419	106.3008125	98.03456135	90.50864898	83.65214349
151106A00011	11/6/2015	3.1	1/15/2026	11/6/2015	129.57771	124.0575472	118.8073345	113.8123961	109.0589322	104.5339648	100.2252839	96.1213977	92.21148635
151109A00020	11/9/2015	2.79	11/9/2023	11/9/2015	115.29003	112.6425887	110.0698276	107.5692178	105.1383331	102.774843	100.476509	98.24117996	96.0667881
151116A00025	11/16/2015	3.04	11/14/2025	11/16/2015	128.2318	122.9551534	117.9277933	113.1366414	108.569372	104.2143658	100.0606656	96.09793568	92.31642296
151211A00004	12/11/2015	2.48	12/15/2023	12/11/2015	115.4886	112.7156214	110.0241722	107.4113739	104.8744676	102.4108087	100.0178614	97.69319394	95.43447292
151211A00055	12/11/2015	2.62	12/11/2024	12/11/2015	121.76937	117.7337227	113.854638	110.1251915	106.5388017	103.0892134	99.77047978	96.57694538	93.50323008
151223A00065	12/23/2015	2.15	12/23/2021	12/23/2015	102.94083	102.4332078	101.9305886	101.4329007	100.9400719	100.4520309	99.96870835	99.49003582	99.01594637
150826A00038	8/26/2015	2.94	8/26/2026	8/26/2015	133.19816	126.7855136	120.7232715	114.9903475	109.5670395	104.434934	99.57681428	94.97657585	90.61914823
150902A00002	9/2/2015	2.25	9/2/2021	9/2/2015	101.06134	100.8813791	100.7020596	100.5233771	100.3453282	100.1679096	99.99111792	99.81494995	99.63940238
150923A00041	9/23/2015	2.23	9/23/2022	9/23/2015	107.72217	106.3451716	105.0032323	103.6950225	102.4192829	101.1748162	99.96048355	98.77520052	97.6179343
150930A00011	9/30/2015	2.06	9/30/2021	9/30/2015	101.48123	101.2210552	100.9622065	100.7046745	100.4484492	100.1935209	99.93987973	99.68751604	99.43642026
151002A00041	10/2/2015	1.76	10/4/2021	10/2/2015	101.49034	101.218404	100.9479311	100.6789064	100.4113181	100.1451548	99.88040491	99.61705734	99.35510088
151002A00075	10/2/2015	2.04	10/3/2022	10/2/2015	107.62581	106.2238162	104.857017	103.5240905	102.2237842	100.9549068	99.71632448	98.50695767	97.32577759
150817A00073	8/17/2015	2.06	8/17/2021	8/17/2015	100.78354	100.6488386	100.5145148	100.3805656	100.2469895	100.1137848	99.98094991	99.84848334	99.71638346

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150817A00097	8/17/2015	3.1	8/17/2026	8/17/2015	132.97374	126.6303331	120.6312421	114.9558736	109.5849808	104.5005678	99.68580059	95.1249258	90.80319516
150817A00099	8/17/2015	3.19	8/17/2027	8/17/2015	139.1588	131.3476584	124.0312794	117.1755988	110.7490804	104.722514	99.06883106	93.76293673	88.78155516
150824A00072	8/24/2015	2.14	8/24/2022	8/24/2015	107.10343	105.8268054	104.5804866	103.3634046	102.1745402	101.0129208	99.87761806	98.76774561	97.68245632
150824A00097	8/24/2015	2.67	8/25/2025	8/24/2015	126.02577	121.0481785	116.2966508	111.759629	107.4262186	103.2861436	99.32970761	95.54775751	91.93164944
150825A00007	8/25/2015	2.46	8/25/2022	8/25/2015	107.3512	106.0722152	104.823612	103.604317	102.4133074	101.2496075	100.112286	99.00045364	97.91326065
150720A00011	7/20/2015	2.69	7/20/2023	7/20/2015	113.50604	111.217903	108.9882649	106.8152272	104.6969658	102.6317298	100.6178379	98.6536748	96.73768809
150720A00012	7/20/2015	2.99	7/21/2025	7/20/2015	126.90389	122.0229701	117.3592579	112.9018775	108.6405591	104.5656027	100.667843	96.93861718	93.36973406
150721A00027	7/21/2015	3.74	7/22/2030	7/21/2015	161.74013	149.0269791	137.4406319	126.8744863	117.232574	108.4284474	100.3841893	93.02952914	86.30105639
150727A00013	7/27/2015	3.04	7/28/2025	7/27/2015	126.53149	121.6554751	116.9968577	112.5447238	108.288775	104.2192859	100.3270686	96.60343999	93.04019074
150803A00053	8/3/2015	2.49	8/3/2022	8/3/2015	107.00475	105.7978608	104.6181131	103.4645988	102.3364504	101.232838	100.152968	99.09608031	98.06144716
150814A00004	8/14/2015	2.32	8/15/2022	8/14/2015	107.16313	105.914792	104.6954445	103.5040835	102.3397537	101.201543	100.0885796	99.00003043	97.9350986
150601A00916	6/1/2015	7.27	4/5/2030	6/1/2015	194.20431	180.449073	167.8422919	156.2800331	145.6683681	135.9223551	126.9651315	118.7271021	111.1452138
150601A00930	6/1/2015	7.1	8/30/2030	6/1/2015	196.76554	182.2479868	168.9911118	156.8765061	145.7975585	135.6582202	126.3719024	117.8604956	110.0534941
150610A00017	6/10/2015	2.9	6/15/2023	6/10/2015	113.0134	110.8448107	108.7294608	106.6656971	104.6519339	102.6866457	100.7683642	98.89567573	97.06721888
150623A00025	6/23/2015	2.65	6/30/2022	6/23/2015	106.57144	105.4743755	104.3998376	103.3471362	102.3156108	101.3046275	100.3135775	99.34187576	98.38895987
150630A00008	6/30/2015	2.41	6/30/2022	6/30/2015	106.45446	105.3560787	104.2802822	103.2263827	102.1937172	101.1816491	100.189567	99.21688359	98.26303428
150715A00009	7/15/2015	2.67	7/15/2022	7/15/2015	106.86437	105.7183399	104.596846	103.4991039	102.4243648	101.3719108	100.3410539	99.3311339	98.34151753
150601A00696	6/1/2015	2.83	3/13/2025	6/1/2015	123.28627	118.9313902	114.755531	110.7502606	106.9075986	103.2199901	99.68027993	96.28168868	93.01779036
150601A00731	6/1/2015	2.4	4/29/2022	6/1/2015	105.19961	104.302241	103.4201295	102.5528928	101.700157	100.861561	100.0367554	99.22540228	98.42717472
150601A00733	6/1/2015	2.72	5/1/2025	6/1/2015	124.26188	119.7084385	115.3478254	111.1708772	107.1689115	103.3337011	99.65744823	96.13275947	92.75262291
150601A00734	6/1/2015	2.92	5/1/2025	6/1/2015	124.42327	119.8845863	115.5376208	111.3732787	107.3829456	103.5584577	99.89207647	96.37646361	93.00465877
150601A00737	6/1/2015	2.68	12/31/2024	6/1/2015	122.16634	118.057835	114.1111316	110.3189564	106.6744069	103.1709285	99.80229508	96.56259057	93.44619161
150601A00768	6/1/2015	2.34	5/13/2022	6/1/2015	105.39281	104.4512857	103.5265444	102.6181403	101.7256431	100.8486375	99.98672255	99.13951112	98.30662914
150601A00531	6/1/2015	3.28	7/24/2024	6/1/2015	121.02149	117.4676006	114.0383849	110.7287268	107.5337527	104.4488193	101.4695004	98.59157559	95.81101924
150601A00616	6/1/2015	2.72	9/30/2022	6/1/2015	108.26496	106.8643842	105.4999382	104.1702387	102.8739715	101.6098878	100.3768004	99.17357971	97.99915054
150601A00644	6/1/2015	2.64	6/30/2022	6/1/2015	106.52367	105.4268764	104.3526034	103.3001629	102.2688949	101.2581655	100.2673658	99.29591088	98.34323853
150601A00648	6/1/2015	2.71	12/30/2022	6/1/2015	109.66404	108.0384786	106.445857	104.8852547	103.3557876	101.8566037	100.3868813	98.94582819	97.53267969
150601A00665	6/1/2015	3.82	1/14/2033	6/1/2015	177.52349	160.3146634	144.9870493	131.3227364	119.1301937	108.2409505	98.50671041	89.79683943	81.99617787
150601A00667	6/1/2015	3.88	1/16/2036	6/1/2015	196.12099	173.0040556	152.9700455	135.5852071	120.479173	107.3353999	95.88308937	85.89035721	77.15845293
150601A00405	6/1/2015	4.63	1/17/2034	6/1/2015	195.37011	175.4892983	157.9219307	142.3820721	128.6207008	116.4207659	105.5929261	95.97187613	87.41317713
150601A00512	6/1/2015	3.79	7/16/2029	6/1/2015	155.06638	144.0867188	133.9847301	124.6851787	116.119667	108.2259778	100.9474853	94.23262521	88.03441779
150601A00514	6/1/2015	3.07	11/15/2024	6/1/2015	122.83061	118.8628265	115.0456957	111.3726877	107.8375954	104.434513	101.1578194	98.00216322	94.9624479
150601A00515	6/1/2015	2.95	1/16/2024	6/1/2015	117.16695	114.2716592	111.4639256	108.7405537	106.0984875	103.5348032	101.0467015	98.6315022	96.28663782

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00522	6/1/2015	4.52	7/25/2030	6/1/2015	169.24386	156.1686656	144.2449879	133.3642322	123.4286163	114.3500414	106.0490854	98.45410564	91.50043857
150601A00530	6/1/2015	3.08	7/24/2024	6/1/2015	120.88803	117.3239942	113.8852843	110.5667452	107.3634685	104.2707776	101.2842153	98.39953217	95.61267517
150519A00013	5/19/2015	2.98	5/19/2025	5/19/2015	125.13696	120.5243249	116.1087324	111.8807275	107.8313582	103.952147	100.2350629	96.67249598	93.25723252
150601A00148	6/1/2015	3.45	7/30/2021	6/1/2015	100.6015	100.5175857	100.4338163	100.3501874	100.2666987	100.1833498	100.1001405	100.0170703	99.93413895
150601A00149	6/1/2015	3.45	7/30/2021	6/1/2015	100.6015	100.5175857	100.4338163	100.3501874	100.2666987	100.1833498	100.1001405	100.0170703	99.93413895
150601A00182	6/1/2015	3.85	7/18/2022	6/1/2015	108.14395	106.9809166	105.8429308	104.7291905	103.638926	102.5713997	101.525905	100.501764	99.49832644
150601A00222	6/1/2015	2.2	9/27/2022	6/1/2015	107.54785	106.1619012	104.8115103	103.4953236	102.2120546	100.9604806	99.73943873	98.54782252	97.38457822
150601A00404	6/1/2015	4.29	1/17/2029	6/1/2015	156.05358	145.7287133	136.1812831	127.3482058	119.1718476	111.5995239	104.5830496	98.07833257	92.04500548
150407A00009	4/7/2015	2.03	4/7/2022	4/7/2015	104.63823	103.8094613	102.9937824	102.1908868	101.4004756	100.6222592	99.85595704	99.10129699	98.35801517
150407A00010	4/7/2015	2.21	4/10/2023	4/7/2015	110.82716	108.8783832	106.9739971	105.1126142	103.2929066	101.5136006	99.77347367	98.07135213	96.40610837
150422A00017	4/22/2015	2.16	4/22/2022	4/22/2015	104.90373	104.0291687	103.1691511	102.323315	101.4913117	100.672804	99.86746536	99.0749799	98.29504167
150422A00019	4/22/2015	2.62	4/22/2025	4/22/2015	123.21453	118.7297324	114.4336954	110.3174533	106.3725177	102.5908483	98.96482622	95.48723014	92.15121271
150512A00029	5/12/2015	3.03	5/12/2025	5/12/2015	125.23402	120.6425799	116.2463396	112.0359786	108.0026679	104.1380443	100.434183	96.88357227	93.47909023
150519A00012	5/19/2015	2.44	5/19/2022	5/19/2015	105.61808	104.6568813	103.7131411	102.7863868	101.8761627	100.9820292	100.1035623	99.24035277	98.39200539
150206A00017	2/6/2015	2.05	2/7/2022	2/6/2015	103.66034	103.0138412	102.3753872	101.7448318	101.1220293	100.506837	99.89911619	99.29873121	98.70554978
150220A00020	2/20/2015	2.42	2/18/2022	2/20/2015	104.01908	103.339162	102.6681172	102.0057747	101.3519659	100.7065265	100.0692966	99.44012016	98.8188451
150220A00021	2/20/2015	2.72	2/20/2024	2/20/2015	116.8168	113.8230561	110.9223403	108.1111443	105.3861216	102.7440757	100.1819523	97.6968318	95.28592203
150317A00012	3/17/2015	2.46	3/18/2024	3/17/2015	116.95223	113.8607545	110.8677722	107.9694692	105.1622074	102.4425172	99.80708867	97.2527626	94.77652228
150319A00012	3/19/2015	3.13	3/19/2029	3/19/2015	147.64773	137.4185639	127.9823701	119.2732103	111.2309746	103.8008364	96.93276064	90.58106033	84.70399661
150401A00008	4/1/2015	2.62	4/1/2025	4/1/2015	122.89457	118.4855635	114.2600964	110.2094149	106.3252423	102.599749	99.02552507	95.5955548	92.3031927
150105A00026	1/5/2015	2.54	1/5/2024	1/5/2015	115.98785	113.1424154	110.3823929	107.7046949	105.1063687	102.5845872	100.1366428	97.75994112	95.45199577
150116A00040	1/16/2015	2.07	1/18/2022	1/16/2015	103.28408	102.6991363	102.1208142	101.5490001	100.9835844	100.42446	99.8715222	99.32466859	98.78379904
150121A00004	1/21/2015	1.97	1/24/2022	1/21/2015	103.37909	102.7753435	102.178638	101.5888507	101.0058616	100.4295537	99.85981251	99.29652616	98.73958537
150123A00010	1/23/2015	2.02	1/31/2022	1/23/2015	103.52495	102.8998943	102.2823628	101.6722177	101.0693274	100.4735631	99.88479927	99.30291306	98.72778466
150130A00050	1/30/2015	1.87	1/31/2022	1/30/2015	103.43419	102.8094525	102.1922324	101.5823962	100.979812	100.3843513	99.79588845	99.21430074	98.63946834
150203A00005	2/3/2015	2.11	2/3/2022	2/3/2015	103.56667	102.9333021	102.3076627	101.6896069	101.0789977	100.475701	99.87958618	99.2905256	98.70839464
140908A00065	9/8/2014	2.63	2/28/2022	9/8/2014	104.33779	103.6266668	102.9252098	102.2332236	101.5505174	100.8769056	100.2122076	99.55624742	98.90885375
140929A00098	9/29/2014	2.62	9/29/2021	9/29/2014	101.60752	101.3499748	101.0937303	100.8387772	100.5851056	100.332706	100.081569	99.83168501	99.58304482
141015A00020	10/15/2014	2.13	10/15/2021	10/15/2014	101.77325	101.4691994	101.1669737	100.8665606	100.5679437	100.2711068	99.97603381	99.68270904	99.39111683
141015A00025	10/15/2014	2.48	10/17/2022	10/15/2014	108.18218	106.7645637	105.3775264	104.0200801	102.6912832	101.3902343	100.1160702	98.86796374	97.64512181
141017A00020	10/17/2014	2.28	10/18/2021	10/17/2014	101.86953	101.5566556	101.245719	100.936698	100.6295749	100.324332	100.020952	99.71941788	99.41971266
141208A00008	12/8/2014	3.02	12/16/2024	12/8/2014	122.75654	118.7015961	114.8040396	111.0568988	107.4535487	103.9876936	100.6533487	97.44482273	94.35670226
140815A00029	8/15/2014	2.56	10/15/2021	8/15/2014	101.87438	101.5704437	101.2683273	100.9680188	100.6695019	100.3727605	100.0777787	99.78454086	99.49303139

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
140815A00032	8/15/2014	3.59	10/15/2029	8/15/2014	155.30754	143.9727943	133.5690466	124.0144554	115.2347963	107.1627127	99.73704595	92.90223532	86.60777778
140820A00026	8/20/2014	2.94	8/19/2024	8/20/2014	121.01356	117.3645904	113.8462555	110.4530744	107.1798339	104.0215732	100.9735697	98.03132616	95.19055797
140827A00037	8/27/2014	2.55	8/30/2021	8/27/2014	101.06251	100.8910432	100.7201576	100.5498488	100.3801137	100.2109495	100.0423534	99.87432257	99.7068542
140827A00038	8/27/2014	3.07	8/30/2024	8/27/2014	121.11024	117.4375414	113.8970232	110.4831066	107.1904857	104.0141135	100.9491874	97.99113558	95.13560379
140908A00064	9/8/2014	2.57	11/30/2021	9/8/2014	102.69668	102.2577	101.8224618	101.3909161	100.9630162	100.538716	100.1179704	99.70073493	99.28696591
131113A00036	11/13/2013	3.14	11/15/2021	11/13/2013	102.65057	102.2553295	101.8631364	101.47396	101.0877654	100.7045183	100.3241851	99.94673241	99.57212754
131217A00024	12/17/2013	4.34	1/2/2029	12/17/2013	156.71848	146.4235823	136.8996746	128.084504	119.9211697	112.3576335	105.3462805	98.84352057	92.80942907
140313A00030	3/13/2014	3.27	3/15/2024	3/13/2014	119.24693	116.1319483	113.1157184	110.194425	107.3644346	104.6222815	101.9646586	99.38840893	96.89051736
140521A00019	5/21/2014	3.43	5/22/2028	5/21/2014	146.69311	137.5600077	129.0674363	121.1669873	113.8141517	106.9679876	100.590817	94.64794993	89.10743306
140626A00036	6/26/2014	3.55	6/26/2029	6/26/2014	154.73025	143.7651243	133.6744963	124.3836361	115.8245815	107.9354894	100.6600553	93.94699058	87.74955128
140710A00027	7/10/2014	2.8	7/17/2023	7/10/2014	113.69199	111.4108815	109.187925	107.0212378	104.9090131	102.8495163	100.8410812	98.88210697	96.97105478
130821A00018	8/21/2013	3.37	8/30/2022	8/21/2013	108.69521	107.389077	106.1143155	104.8698049	103.6544777	102.4673159	101.3073485	100.1736485	99.06533077
130904A00036	9/4/2013	3.57	9/15/2023	9/4/2013	116.54465	114.0458386	111.6143118	109.2477366	106.9438793	104.7006034	102.5158645	100.3877051	98.31425051
130904A00039	9/4/2013	4.19	9/15/2028	9/4/2013	154.89012	145.0192065	135.8639015	127.3681222	119.4804846	112.1538849	105.345121	99.0145479	93.12576621
130926A00008	9/26/2013	2.91	9/30/2021	9/26/2013	101.72358	101.462722	101.2032018	100.9450045	100.6881198	100.4325379	100.178249	99.92524312	99.67351079
130926A00009	9/26/2013	4	10/2/2028	9/26/2013	153.66318	143.7724631	134.6039922	126.100801	118.2107288	110.8859858	104.082764	97.76088341	91.88347307
131106A00003	11/6/2013	3.57	11/15/2023	11/6/2013	117.35737	114.6645435	112.0480211	109.5052092	107.0336138	104.6308406	102.29459	100.0226527	97.81290615
130508A00013	5/8/2013	2.23	5/15/2023	5/8/2013	111.43751	109.3758617	107.3628736	105.397103	103.4771571	101.6016932	99.76941694	97.97908004	96.22947842
130513A00007	5/13/2013	2.54	5/15/2023	5/13/2013	111.75063	109.6913289	107.6805299	105.7167926	103.7987314	101.9250106	100.0943425	98.30548494	96.5572398
130517A00013	5/17/2013	2.07	5/17/2022	5/17/2013	105.35154	104.3963441	103.4584218	102.5373054	101.6325462	100.7437111	99.87038248	99.01215695	98.16864513
130531A00021	5/31/2013	3.22	5/30/2028	5/31/2013	145.18515	136.0765944	127.6098169	119.7361253	112.4107678	105.5925919	99.24373701	93.32935559	87.81735876
130606A00013	6/6/2013	2.94	6/15/2023	6/6/2013	113.09583	110.9263817	108.8101826	106.7455867	104.7310078	102.7649198	100.845854	98.97239639	97.143185
130712A00004	7/12/2013	2.82	7/15/2021	7/12/2013	100.27626	100.2343872	100.1925628	100.1507912	100.1090722	100.0674058	100.0257919	99.98423024	99.94272087
130117A00011	1/17/2013	2.18	1/30/2023	1/17/2013	109.60802	107.8880878	106.2042698	104.555508	102.9407809	101.3591065	99.80954035	98.29117368	96.80313177
130211A00017	2/11/2013	3.27	2/15/2028	2/11/2013	142.51795	133.9418026	125.9468475	118.4904804	111.5334446	105.0395502	98.97541834	93.31024839	88.01560529
130212A00016	2/12/2013	2.13	2/15/2022	2/12/2013	103.77882	103.1087751	102.4473715	101.7944382	101.1498132	100.5133386	99.8848604	99.26422852	98.6512966
130314A00027	3/14/2013	2.38	3/15/2023	3/14/2013	110.70778	108.8386354	107.0109133	105.2233051	103.4745571	101.7634683	100.0888878	98.4497119	96.84488191
130405A00007	4/5/2013	2.91	4/17/2028	4/5/2013	142.11046	133.2690322	125.0428029	117.3856513	110.2551474	103.6122404	97.42097228	91.64821747	86.26344556
130424A00004	4/24/2013	2.46	4/24/2025	4/24/2013	123.23504	118.7254224	114.4062601	110.2684907	106.3035345	102.5032648	98.85998115	95.36638453	92.01555434
121116A00006	11/16/2012	2.64	11/13/2025	11/16/2012	126.30674	121.0774287	116.095568	111.3481655	106.8229809	102.508475	98.39376674	94.46859178	90.72326453
121116A00021	11/16/2012	2.35	11/17/2025	11/16/2012	125.79299	120.5374232	115.5319639	110.7634211	106.219364	101.8880779	97.75851907	93.82027306	90.06351534
121116A00022	11/16/2012	2.78	11/16/2029	11/16/2012	149.87334	138.5707657	128.2141842	118.7192956	110.0097179	102.0162102	94.67597137	87.93201198	81.73258907
121121A00003	11/21/2012	2.3	11/30/2022	11/21/2012	108.59147	107.0643188	105.5664844	104.0971945	102.6557018	101.2412845	99.85324527	98.49091023	97.1536279

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
130107A00002	1/7/2013	3.22	1/18/2028	1/7/2013	141.71111	133.2649096	125.385625	118.032102	111.1663868	104.7534598	98.76099438	93.15913604	87.92030088
130117A00010	1/17/2013	1.98	1/31/2022	1/17/2013	103.50075	102.8757765	102.258328	101.6482653	101.0454566	100.4497733	99.86108972	99.27928311	98.70423364
120709A00015	7/9/2012	2.5	7/15/2022	7/9/2012	106.68109	105.5361316	104.4156943	103.3189932	102.2452798	101.1938367	100.1639762	99.15503848	98.16639059
120709A00016	7/9/2012	3.2	7/15/2027	7/9/2012	138.73269	131.0500908	123.8481346	117.0941396	110.7578126	104.811066	99.22784524	93.98397183	89.05699823
120726A00001	7/26/2012	2.36	8/1/2022	7/26/2012	106.82346	105.6240294	104.4514334	103.3047819	102.1832212	101.085935	100.0121419	98.96109361	97.93207352
120824A00023	8/24/2012	2.4	8/30/2022	8/24/2012	107.36504	106.0700651	104.8062104	103.5723683	102.3674796	101.1905346	100.04057	98.91666624	97.81794524
120907A00023	9/7/2012	2.05	9/15/2022	9/7/2012	107.3591	106.0103097	104.6952557	103.4126829	102.1613995	100.9402713	99.74821843	98.58421192	97.44727091
120907A00024	9/7/2012	2.31	9/16/2024	9/7/2012	119.31505	115.6034674	112.0277802	108.5821477	105.2610265	102.0591491	98.97150776	95.99333995	93.1201142
120306A00004	3/6/2012	2.95	3/15/2023	3/6/2012	111.47707	109.6052533	107.7748231	105.9844729	104.2329524	102.5190636	100.8416585	99.19963619	97.59194016
120315A00021	3/15/2012	3.12	3/15/2022	3/15/2012	104.96759	104.2085024	103.4603966	102.7230325	101.9961796	101.279614	100.5731182	99.87648081	99.18949618
120330A00009	3/30/2012	2.98	3/30/2022	3/30/2012	105.15435	104.3489394	103.5558409	102.7747773	102.0054765	101.2476741	100.5011139	99.76554718	99.04073246
120411A00013	4/11/2012	3.59	4/15/2027	4/11/2012	139.84736	132.4565782	125.5098064	118.977925	112.8338764	107.0525116	101.6104444	96.48591903	91.65868758
120503A00014	5/3/2012	2.4	5/16/2022	5/3/2012	105.6333	104.679803	103.7434798	102.8238737	101.9205399	101.033049	100.1609866	99.30395293	98.46156166
120515A00020	5/15/2012	2.28	5/16/2022	5/15/2012	105.52463	104.5716707	103.6358823	102.7168044	101.8139921	100.9270164	100.0554629	99.19893192	98.35703731
120112A00014	1/12/2012	3.43	1/15/2032	1/12/2012	169.72123	154.319515	140.4834121	128.0441823	116.8521391	106.774402	97.69293043	89.50279574	82.11066268
120113A00013	1/13/2012	3.87	1/15/2032	1/13/2012	172.88249	157.4281067	143.5340419	131.0328671	119.7759923	109.6314539	100.4819748	92.2232592	84.76249369
120119A00010	1/18/2012	2.43	1/31/2022	1/18/2012	103.77301	103.147102	102.5287191	101.91773	101.3140028	100.7174088	100.1278222	99.54512008	98.96918258
120126A00006	1/26/2012	2.93	1/31/2022	1/26/2012	104.01285	103.3869178	102.7684994	102.1574616	101.5536728	100.9570049	100.3673325	99.78453329	99.20848764
120127A00019	1/27/2012	3.87	1/30/2032	1/27/2012	172.97605	157.4652722	143.525357	130.9872359	119.700916	109.533239	100.3659105	92.093769	84.62326513
120130A00009	1/30/2012	2.79	1/31/2022	1/30/2012	103.92818	103.3025345	102.6844064	102.0736563	101.4701529	100.8737679	100.2843761	99.70185507	99.12608532
110810A00020	8/10/2011	2.86	8/16/2021	8/10/2011	100.87208	100.7400911	100.6084647	100.4771986	100.3462912	100.2157412	100.0855469	99.95570688	99.82621965
110824A00004	8/24/2011	3.11	8/30/2023	8/24/2011	115.17035	112.7386069	110.3713491	108.0663768	105.8215876	103.6349685	101.5045909	99.42860694	97.40524483
111006A00022	10/6/2011	3.08	10/15/2021	10/6/2011	102.03006	101.7258117	101.4233931	101.1227837	100.8239672	100.5269276	100.231649	99.93811566	99.64631202
111031A00013	10/31/2011	2.82	11/1/2021	10/31/2011	102.29691	101.942815	101.591164	101.2419342	100.8951006	100.5506387	100.2085243	99.86873336	99.53124238
111201A00005	12/1/2011	3.16	12/15/2021	12/1/2011	103.24278	102.7582944	102.2783642	101.8029245	101.3319124	100.865266	100.4029248	99.94482914	99.49092062
120112A00013	1/12/2012	2.76	1/16/2024	1/12/2012	116.76166	113.8718407	111.0694534	108.3513036	105.7143397	103.1556413	100.672413	98.26197801	95.9217721
100923A00051	9/23/2010	3.4	9/30/2021	9/23/2010	101.82585	101.5650804	101.3056443	101.0475273	100.7907193	100.5352106	100.2809912	100.0280516	99.77638216
100930A00008	9/30/2010	3.82	9/30/2025	9/30/2010	131.18025	125.9872598	121.033154	116.305515	111.7926491	107.4835405	103.3678072	99.43566105	95.67786877
110103A00009	1/3/2011	3.99	1/3/2022	1/3/2011	104.09412	103.5505506	103.0126576	102.4803547	101.9535551	101.4321738	100.9161273	100.405334	99.89971392
110302A00007	3/2/2011	4.86	3/16/2026	3/2/2011	139.59469	133.6208615	127.9452178	122.5511046	117.4229035	112.545956	107.9064987	103.4916032	99.28911997
110505A00022	5/5/2011	4.59	5/15/2026	5/5/2011	139.45099	133.2682431	127.4033792	121.838324	116.5561292	111.5408918	106.7776845	102.2524909	97.952145
110805A00013	8/5/2011	3.43	8/16/2021	8/5/2011	100.93356	100.8016368	100.6700767	100.5388752	100.4080307	100.2775418	100.1474069	100.0176247	99.88819362
081205A00033	12/5/2008	4.77	12/7/2023	12/5/2008	120.88415	118.0749534	115.3470183	112.6975098	110.1237122	107.6230211	105.1929381	102.8310654	100.5351017

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
081209A00008	12/9/2008	4.87	12/15/2023	12/9/2008	121.32603	118.485382	115.7275864	113.0497284	110.4490157	107.9227714	105.4684285	103.0835248	100.7656976
081211A00029	12/11/2008	4.57	12/15/2023	12/11/2008	120.5431	117.7126635	114.9648489	112.2967459	109.7055692	107.1886488	104.7434242	102.3674393	100.0583376
081219A00069	12/19/2008	4.26	12/22/2023	12/19/2008	119.88161	117.0374378	114.2769701	111.5972382	108.9953986	106.4687261	104.0146088	101.6305417	99.31412241
091210A00005	12/10/2009	5.08	12/16/2024	12/10/2009	130.4469	126.2523418	122.219215	118.3403954	114.6091141	111.0189377	107.56375	104.237734	101.0353561
100824A00009	8/24/2010	3.91	9/2/2025	8/24/2010	131.06265	125.9695195	121.1068602	116.462891	112.0265098	107.7872456	103.735219	99.86110466	96.15609657
060308A00014	3/8/2006	5.44	3/16/2026	3/8/2006	142.5887	136.5414995	130.795186	125.3329882	120.1391704	115.1989636	110.4984996	106.0247504	101.765472
060908A00017	9/8/2006	5.27	9/15/2021	9/8/2006	101.9493	101.7308478	101.5133463	101.2967892	101.0811701	100.866483	100.6527217	100.4398802	100.2279524
061220A00034	12/20/2006	5.07	12/30/2021	12/20/2006	104.56051	104.0274474	103.4998239	102.9775574	102.4605666	101.9487719	101.4420951	100.9404599	100.4437911
061221A00005	12/21/2006	5.28	12/30/2021	12/21/2006	104.62563	104.0929015	103.5656028	103.0436504	102.5269633	102.015462	101.5090689	101.0077076	100.5113035
071231A00068	12/31/2007	4.93	12/30/2022	12/31/2007	113.4237	111.7635651	110.1370683	108.5432686	106.9812611	105.4501738	103.9491662	102.4774276	101.0341759
080910A00065	9/10/2008	5.03	9/15/2023	9/10/2008	119.59472	117.0671625	114.6073363	112.212895	109.8815971	107.6112984	105.3999469	103.2455776	101.1463083
090429A00044	4/29/2009	4.1	4/29/2024	4/29/2014	101.32254	101.150408	100.9788633	100.8078994	100.6375135	100.4677027	100.294616	99.93210485	99.06170843
100517A00013	5/17/2010	3.71	5/19/2025	5/18/2015	101.28539	101.1123541	100.9399086	100.7680512	100.5967789	100.4260889	100.2217873	99.47297848	98.07427217
100707A00014	7/7/2010	3.19	7/7/2025	7/7/2015	101.19669	101.0237099	100.8513209	100.6795199	100.5083041	100.3376704	100.0037264	98.80036476	97.12605892
111215A00019	12/15/2011	2.53	12/15/2026	12/15/2021	103.1564	102.6433686	102.1355364	101.632823	101.1331431	100.4360362	98.80913243	96.55321537	94.16634624
130416A00025	4/16/2013	2.27	4/18/2028	4/16/2018	101.04312	100.8696499	100.6967782	100.5244974	100.3528047	99.7436489	97.38161329	94.48637607	91.58077845
140416A00025	4/14/2014	3.56	4/16/2029	4/14/2021	101.12907	101.0447133	100.9210424	100.7479402	100.5754296	100.3506951	98.57586093	94.98174157	90.95846327
210108A00007	1/8/2021	1.65	1/8/2036	1/8/2026	121.97177	116.8746831	111.3459409	104.2517887	96.05112106	87.91523847	80.37663997	73.57543775	67.4973504
210225A00010	2/25/2021	2.02	2/25/2041	2/25/2026	123.23847	118.013032	112.5770122	105.8341284	97.97431469	90.07241171	82.71681164	76.07026401	70.13010951
210405A00013	4/5/2021	1.82	4/7/2036	4/5/2026	121.10869	116.1918121	111.2132582	105.5485681	99.29510744	93.05172473	87.14617046	81.6867316	76.68427845
201118A00017	11/18/2020	1.66	11/18/2036	11/18/2027	128.49862	121.1237275	113.3478377	104.3751171	94.93713627	85.9613439	77.82024298	70.57603885	64.17505918
201118A00018	11/18/2020	1.85	11/18/2036	11/18/2027	128.68597	121.3417339	113.6361323	104.7669906	95.40539482	86.47878009	78.36447971	71.13337078	64.73718594
201202A00016	12/2/2020	1.32	12/3/2035	12/2/2025	117.78275	113.2439996	108.4343272	102.6852945	96.41191431	90.2861506	84.57482684	79.3310627	74.53840169
201202A00017	12/2/2020	1.32	12/3/2035	12/2/2025	117.78275	113.2439996	108.4343271	102.6852944	96.41191395	90.28615008	84.57482617	79.33106192	74.53840081
201229A00003	12/29/2020	1.28	12/30/2030	12/30/2025	118.36868	113.6248161	108.6942853	102.9685834	96.72275262	90.55504825	84.73345815	79.3314162	74.34818771
201230A00018	12/30/2020	1.52	12/28/2035	12/28/2027	127.79766	120.3490822	112.509576	103.6074098	94.37520999	85.63854136	77.71014623	70.63330309	64.35453684
200612A00001	6/12/2020	0.75	6/12/2030	6/12/2025	113.42216	109.8081587	106.1300897	102.0938761	97.8680668	93.73779151	89.80795055	86.10015222	82.6094921
201022A00008	10/22/2020	1.02	10/22/2035	10/22/2025	116.68739	112.3089415	107.5747448	101.8103995	95.53723793	89.45522018	83.80467116	78.62388242	73.89055465
201029A00008	10/29/2020	0.92	10/29/2030	10/29/2025	114.24255	110.3572462	106.4158511	102.1625079	97.77858277	93.5209759	89.48184183	85.67860082	82.1046695
201030A00025	10/30/2020	2.02	10/28/2050	10/30/2025	122.71709	117.8262609	112.4758888	104.5068812	94.22578695	83.95880741	74.81729332	66.97488474	60.30696781
201116A00019	11/16/2020	1.32	11/15/2030	11/16/2025	118.5426	113.8001248	108.8994781	103.2410374	97.06393601	90.94530242	85.15872516	79.78078256	74.81380062
201118A00015	11/18/2020	1.66	11/18/2036	11/18/2027	128.49862	121.1237275	113.3478377	104.3751171	94.93713627	85.9613439	77.82024298	70.57603885	64.17505918
200423A00009	4/23/2020	1.59	4/23/2030	4/23/2025	118.76804	114.5246234	110.2806131	105.3168912	99.39603889	93.16361172	87.10321343	81.40117464	76.10245496

	Parallel-Shift Sensitivity Analysis												
6/30/2021					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	118.76803	114.5246122	110.2806054	105.3168878	99.39604069	93.16361911	87.10322623	81.4011925	76.10247747
200430A00021	4/30/2020	1.2	4/30/2030	4/30/2025	114.38051	110.7804118	107.1907793	103.3238287	99.22993602	95.17314192	91.28379779	87.59943254	84.12238323
200505A00010	5/5/2020	0.89	5/6/2030	5/5/2025	113.88222	110.2709986	106.6340168	102.673559	98.50519073	94.40269915	90.48668628	86.78560898	83.29778775
200512A00023	5/12/2020	1.78	5/11/2035	5/12/2025	121.98065	117.5594692	112.5368762	106.0266004	98.62439977	91.26526662	84.37576704	78.08122392	72.38431929
200609A00003	6/9/2020	1.66	6/8/2035	6/9/2025	119.41019	115.0339593	110.3869249	104.1598469	96.48818941	88.6362229	81.27239906	74.58401454	68.57793663
200309A00013	3/9/2020	1.1	3/8/2030	3/9/2025	113.45265	110.0532837	106.6397024	102.884604	98.85230979	94.84142252	90.99549028	87.35165033	83.91233698
200316A00030	3/16/2020	1.35	3/15/2030	3/16/2025	114.81645	111.378737	107.9913784	104.3612145	100.4138149	96.40803172	92.52296026	88.82275473	85.32196745
200316A00032	3/16/2020	1.35	3/15/2030	3/16/2025	114.81645	111.3787378	107.9913788	104.3612141	100.4138134	96.40802885	92.52295608	88.82274934	85.32196096
200318A00015	3/18/2020	1.69	3/18/2030	3/18/2023	108.88345	107.1384068	105.4314806	103.6364525	101.0283136	97.45436539	93.59457974	89.81970701	86.22469118
200326A00035	3/26/2020	1.68	3/26/2030	3/26/2025	115.39036	111.9488434	108.5782504	105.0104868	101.1285671	97.15284974	93.27315159	89.56733414	86.05533398
200423A00008	4/23/2020	1.59	4/23/2030	4/23/2025	118.76804	114.5246234	110.2806131	105.3168912	99.39603889	93.16361172	87.10321343	81.40117464	76.10245496
200108A00009	1/8/2020	2.4	1/8/2035	1/8/2025	119.6567	115.867064	112.184589	108.1822557	103.2315965	97.60191259	91.8836309	86.41036569	81.30449555
200108A00040	1/8/2020	2.52	1/8/2030	1/8/2025	119.93802	116.0882557	112.346013	108.3495986	103.6197916	98.36071252	92.99944537	87.79340198	82.85769011
200110A00012	1/10/2020	2.57	1/10/2035	1/10/2025	119.37975	115.6783849	112.0723774	108.1478873	103.3866261	98.04536738	92.62282254	87.40944844	82.5165574
200115A00023	1/15/2020	2.16	1/15/2030	1/15/2025	116.42316	113.0890612	109.8545216	106.5293712	102.8983142	99.08021253	95.27900742	91.60296936	88.09613058
200115A00025	1/15/2020	2.1	1/15/2025	1/15/2023	108.71624	107.0943639	105.5059059	103.9460229	102.3023986	100.2387774	97.7655871	95.16607535	92.58870299
200306A00021	3/6/2020	1.16	3/6/2030	3/6/2025	113.65232	110.2491512	106.843396	103.1114801	99.09237229	95.08304287	91.23199513	87.58091363	84.13357191
191007A00013	10/7/2019	2	10/5/2029	10/7/2024	115.03379	111.9341133	108.9199133	105.7897826	102.3082921	98.605656	94.90688468	91.33084637	87.91776949
191028A00015	10/28/2019	2.49	10/27/2034	10/28/2024	118.51219	115.0579721	111.69795	108.07277	103.5920297	98.43333083	93.11341904	87.96128003	83.10497896
191031A00036	10/31/2019	2.9	10/31/2039	10/31/2024	120.87662	117.1170962	113.4241381	109.2585431	103.7447263	97.21608217	90.49434943	84.08076078	78.16154436
191031A00037	10/31/2019	2.59	10/30/2034	10/31/2024	119.0424	115.4327705	111.9193455	108.1171746	103.4937766	98.27120416	92.94050191	87.80077848	82.96530807
191220A00029	12/20/2019	2.57	12/19/2031	12/20/2024	118.27733	114.8177465	111.4656023	107.9937376	104.0461142	99.71373528	95.29742118	90.99492431	86.89253027
200102A00020	1/2/2020	2.78	1/3/2040	1/2/2025	121.50846	117.6076831	113.803374	109.5096456	103.8583187	97.20415899	90.3709299	83.8628577	77.86490126
190807A00041	8/7/2019	2.27	8/7/2034	7/7/2024	116.66551	113.4848443	110.3809773	106.9496485	102.5367417	97.39375833	92.11217591	87.01545526	82.23079719
190807A00044	8/7/2019	2.27	8/7/2034	8/7/2024	117.3921	114.0439853	110.7756043	107.1655783	102.6204382	97.42096711	92.12061976	87.01817491	82.23168988
190827A00044	8/27/2019	1.9	8/27/2029	8/27/2024	114.87825	111.8473222	108.9025567	105.8611249	102.4729457	98.84634913	95.2073735	91.67821589	88.30458773
190930A00079	9/30/2019	2.04	10/1/2029	9/30/2024	115.60002	112.4862407	109.4655032	106.3710268	102.9561288	99.30832126	95.64096781	92.07635836	88.66485963
190930A00083	9/30/2019	2.04	10/1/2029	9/30/2024	115.60002	112.4862407	109.4655032	106.3710267	102.9561284	99.3083204	95.64096654	92.07635671	88.66485765
191007A00012	10/7/2019	2	10/5/2029	10/7/2024	115.03379	111.9341171	108.9199159	105.7897834	102.3082899	98.60565008	94.906875	91.33083315	87.91775301
190301A00015	3/1/2019	3.86	3/1/2034	3/2/2026	133.02186	127.4268995	122.0580797	116.5279931	110.2890472	103.4225401	96.35313272	89.43953317	82.90409158
190409A00016	4/9/2019	2.91	4/9/2029	4/9/2024	117.30936	114.3559954	111.4933426	108.6117486	105.2922368	101.3341111	97.01254232	92.64007747	88.37749463
190409A00017	4/9/2019	3.01	4/9/2029	4/9/2024	118.17084	115.1093501	112.1424753	109.1457056	105.6335567	101.3619636	96.64485582	91.84753271	87.16449393
190430A00020	4/30/2019	3.41	4/28/2034	4/28/2026	136.01346	129.91065	123.8022435	117.1056821	109.6341769	101.8008438	94.06829126	86.7293411	79.92377465

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190520A00018	5/20/2019	3.7	5/20/2044	5/20/2024	120.7793	117.5001701	114.3249124	111.0281579	106.4803254	100.0204105	92.5356327	85.04841178	78.08036879
190530A00044	5/30/2019	2.85	5/30/2034	5/30/2024	117.5787	114.5393731	111.5917845	108.5425484	104.785386	100.1838008	95.19088193	90.21579561	85.44659059
180712A00016	7/12/2018	3.66	7/12/2033	7/12/2028	141.98925	134.1369864	126.7536608	119.5967068	112.5096776	105.5780282	98.95105818	92.71898521	86.92563329
181212A00026	12/12/2018	3.22	12/12/2028	12/12/2023	115.55035	113.0547501	110.6318051	108.2582151	105.7735116	102.9738805	99.9101093	96.74722868	93.60576117
190111A00040	1/11/2019	3.74	1/11/2034	1/11/2024	118.96929	116.0859642	113.2886675	110.5097939	107.21232	102.7156612	97.23407737	91.38524808	85.61153832
190116A00015	1/16/2019	3.61	1/17/2034	1/16/2024	117.38833	114.6793383	112.0501044	109.435078	106.4165951	102.5722464	98.10964837	93.43341148	88.81534451
190204A00054	2/4/2019	3.98	2/6/2034	2/2/2024	119.77886	116.8195694	113.9501199	111.0716645	107.5544266	102.7661126	96.99744736	90.89471199	84.87131251
190222A00023	2/22/2019	3.66	2/22/2034	2/22/2026	135.51125	129.7678935	124.1909717	118.1789762	111.2031787	103.6087271	95.95858219	88.62219058	81.77831985
180130A00087	1/30/2018	2.92	1/31/2028	1/30/2023	109.72973	108.1786326	106.6596304	105.1698498	103.6310181	101.711561	99.27315425	96.56115376	93.78694862
180302A00003	3/2/2018	3.89	3/2/2033	3/2/2023	113.41076	111.5139814	109.6597846	107.8343871	105.7138918	102.314185	97.45799815	91.86603711	86.16543007
180315A00030	3/15/2018	3.76	3/15/2033	3/17/2025	127.02768	122.6619303	118.4623216	114.2134591	109.3083589	103.5297869	97.24949347	90.8988641	84.76545621
180504A00024	5/4/2018	3.62	5/4/2028	5/4/2023	114.40106	112.2574615	110.1653595	108.1158507	105.9298574	103.0291202	99.20112466	94.81984615	90.27300015
180627A00005	6/27/2018	3.63	6/30/2033	6/30/2023	114.69949	112.5163617	110.3885506	108.2953298	105.9609432	102.8179221	98.85457962	94.49586498	90.08363477
180703A00033	7/3/2018	3.4	7/3/2028	7/3/2023	113.01336	110.9871649	109.0114823	107.0782818	105.0791545	102.744499	100.0367557	97.12766447	94.18381752
170809A00042	8/9/2017	2.35	8/9/2027	8/9/2022	106.85658	105.6658158	104.5028728	103.365649	102.1692413	100.4612975	98.09029205	95.44873847	92.78818675
171004A00022	10/4/2017	2.74	10/4/2027	10/4/2022	108.48084	107.108087	105.7602913	104.4329516	102.9510118	100.6396103	97.39832816	93.76689967	90.10003431
171005A00047	10/5/2017	3.29	10/5/2032	10/5/2022	109.38434	107.9800794	106.6013579	105.2407794	103.5818707	100.480073	95.83844604	90.60342258	85.39100425
171016A00037	10/16/2017	3.39	10/18/2032	10/16/2022	109.60701	108.1887718	106.7963301	105.4212806	103.7009801	100.3459341	95.26610322	89.5276034	83.82614568
180105A00005	1/5/2018	3.07	1/5/2028	1/5/2023	109.95775	108.4040045	106.8824079	105.3906342	103.8649986	101.99985	99.62874314	96.95275773	94.19825529
180105A00006	1/5/2018	3.07	1/5/2028	1/5/2023	109.95774	108.404003	106.8824066	105.3906333	103.864998	101.9998505	99.62874564	96.9527627	94.19826288
170411A00031	4/11/2017	3.39	4/12/2032	4/11/2022	106.48613	105.5156533	104.5632036	103.6281329	102.6525577	100.9544161	97.82158349	93.894694	89.82664067
170515A00052	5/15/2017	3.78	5/15/2042	5/15/2024	122.82136	119.4342138	116.1331486	112.6249281	108.0710612	102.1080565	95.32438737	88.43087955	81.85914132
170519A00006	5/19/2017	3	5/19/2032	5/19/2022	106.26144	105.2905363	104.3376952	103.4019771	102.3801839	100.3792198	96.89720498	92.79266627	88.63224355
170705A00037	7/5/2017	2.85	7/6/2032	7/6/2027	128.82496	123.0839124	117.6340511	112.3349698	107.1088502	102.0198061	97.14726923	92.53613992	88.20124052
170721A00021	7/21/2017	2.95	7/21/2032	7/21/2022	107.86017	106.6104217	105.3903222	104.195885	102.8272479	100.3688296	96.64325371	92.43127386	88.21387494
170802A00074	8/2/2017	2.92	8/2/2027	8/2/2022	107.62161	106.3753207	105.1586151	103.9692652	102.6982316	100.6933227	97.6381397	94.09816711	90.49064497
160711A00011	7/11/2016	1.66	7/13/2026	7/11/2021	100.93604	100.7631027	100.5907536	100.4189932	100.2440116	99.39214846	97.27520903	94.97040608	92.70067017
161006A00023	10/6/2016	2.49	10/6/2031	10/6/2021	102.65963	102.2265022	101.7970499	101.3712253	100.892187	99.11016571	95.42055855	91.31365959	87.28488013
161012A00009	10/12/2016	2.56	10/14/2031	10/12/2021	102.68939	102.2561605	101.8266099	101.4006878	100.9347775	99.28765663	95.6844899	91.59789171	87.57247241
161012A00020	10/11/2016	2.96	10/14/2031	10/11/2023	115.45712	112.9050712	110.4211309	107.8417257	104.2882058	99.25309169	93.38749549	87.40331623	81.63759392
161118A00013	11/18/2016	2.96	11/18/2026	11/18/2021	102.88674	102.4487677	102.0145295	101.5839729	101.1544067	100.3691911	97.90629696	94.32944426	90.50287486
170113A00025	1/13/2017	3.59	1/13/2032	1/13/2022	104.38687	103.7710529	103.1625764	102.5613125	101.9633581	101.085837	98.7947395	95.27316032	91.37369405
150202A00006	2/2/2015	1.92	2/3/2025	2/3/2020	100.9776	100.805151	100.6332885	100.4620121	100.2913187	100.013958	98.77646934	97.10636085	95.40878468

	Parallel-Shift Sensitivity Analysis												
6/30/2021					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	104.78286	104.0907987	103.4080276	102.7343584	102.0650279	101.1544359	99.12777364	96.10697908	92.7733413
150417A00033	4/17/2015	1.78	4/18/2022	4/17/2020	100.95409	100.7815872	100.6096742	100.4383475	100.2676042	100.0907963	99.65063998	98.96597105	98.26669561
151223A00007	12/23/2015	3.76	12/23/2030	12/23/2022	111.36357	109.7508282	108.1706527	106.6127367	104.7809295	101.6991374	97.19051224	91.97117206	86.64250197
160506A00054	5/10/2016	3.31	5/12/2036	5/10/2021	106.67568	105.6559049	104.6553921	103.6729214	102.5270572	99.6967282	94.65892463	88.96129358	83.40812287
160506A00056	5/10/2016	3.77	5/10/2041	5/10/2021	107.11996	106.0955835	105.0905559	104.1040052	102.9799982	99.9931351	94.11735064	87.2868339	80.66804363
140508A00011	5/8/2014	2.32	5/8/2024	5/8/2019	101.04306	100.8710161	100.6995625	100.5286926	100.3584035	100.1837768	99.59134649	98.36131215	97.00473424
140723A00038	7/23/2014	2.3	7/23/2024	7/23/2019	101.04045	100.8682834	100.6966999	100.5257008	100.3552832	100.1790486	99.51976627	98.20682761	96.7769021
140822A00012	8/22/2014	3.7	8/22/2034	8/23/2021	101.2671	101.0930707	100.9196354	100.7467906	100.5745334	100.2400597	97.60140757	93.20898388	88.5577119
141110A00008	11/10/2014	2.31	11/12/2024	11/12/2019	101.04356	100.8711543	100.6993378	100.5281068	100.3574585	100.1740639	99.41481585	97.96054361	96.39122435
141119A00005	11/19/2014	2.53	11/19/2024	11/19/2019	101.05701	100.8848389	100.7132534	100.5422498	100.371825	100.1952757	99.50743921	98.09130229	96.533089
150108A00029	1/8/2015	3.16	1/9/2035	1/10/2022	104.26377	103.6230544	102.9900665	102.3646626	101.7081677	99.89746508	95.56001145	90.34963701	85.20257148
110701A00011	7/1/2011	3.87	7/1/2026	7/1/2011	119.92037	116.7536427	113.7113681	110.7875579	107.9765602	105.2730356	102.6719371	100.1684925	97.75818737
110719A00017	7/19/2011	3.68	7/20/2026	7/19/2011	119.3521	116.1991437	113.170168	110.2592034	107.4606155	104.769082	102.1795721	99.68732923	97.28785398
110810A00009	8/10/2011	2.36	8/10/2021	8/10/2011	100.60833	100.5076521	100.4071866	100.3069315	100.2068861	100.1070496	100.0074213	99.90800075	99.8087871
110909A00006	9/9/2011	2.26	9/9/2026	9/9/2011	115.56331	112.4121872	109.3883324	106.4854749	103.6977006	101.019429	98.44539252	95.97061664	93.59040131
111115A00005	11/15/2011	2.26	11/15/2021	11/15/2011	101.49207	101.238595	100.9866268	100.7361495	100.4871486	100.2396099	99.99351927	99.74886281	99.50562684
111220A00025	12/20/2011	2.17	12/20/2021	12/20/2011	101.74398	101.442213	101.1426226	100.8451825	100.5498671	100.2566514	99.96551069	99.67642066	99.38935745
210611A00009	6/11/2021	0.61	6/11/2024	6/11/2021	111.37208	108.2763188	105.2850353	102.3941078	99.59959964	96.89775195	94.28497446	91.75783703	89.31306147
210611A00007	6/11/2021	0.61	6/11/2024	6/11/2021	111.37208	108.2763188	105.2850353	102.3941078	99.59959964	96.89775195	94.28497446	91.75783703	89.31306147
210611A00008	6/11/2021	0.61	6/11/2024	6/11/2021	111.48213	108.3543038	105.3323299	102.412029	99.58940771	96.86065337	94.22212435	91.67034152	89.20197995
210512A00009	5/12/2021	0.66	5/10/2024	5/12/2021	111.23853	108.2339314	105.3279143	102.5167031	99.79668453	97.16440334	94.61655476	92.1499769	89.76164382
210512A00011	5/12/2021	1.16	5/12/2026	5/12/2021	119.39393	114.1871488	109.2462484	104.556179	100.1028214	95.87292446	91.85404766	88.03450698	84.40332523
210512A00012	5/12/2021	1.16	5/12/2026	5/12/2021	119.39393	114.1871488	109.2462484	104.556179	100.1028214	95.87292446	91.85404766	88.03450698	84.40332523
210611A00010	6/11/2021	1.02	6/11/2026	6/11/2021	118.92474	113.652826	108.6544275	103.9138117	99.41623591	95.14787925	91.09577981	87.24777691	83.5924573
210611A00012	6/11/2021	1.02	6/11/2026	6/11/2021	118.92474	113.652826	108.6544275	103.9138117	99.41623591	95.14787925	91.09577981	87.24777691	83.5924573
210611A00011	6/11/2021	1.02	6/11/2026	6/11/2021	118.92474	113.652826	108.6544275	103.9138117	99.41623591	95.14787925	91.09577981	87.24777691	83.5924573
210412A00008	4/12/2021	0.66	4/12/2024	4/12/2021	110.98579	108.0633068	105.2348034	102.4966574	99.84540826	97.27775286	94.79053696	92.38074734	90.04550442
210412A00009	4/12/2021	0.37	4/12/2022	4/12/2021	103.24378	102.4206681	101.6107287	100.8136482	100.0291213	99.25685272	98.49655603	97.74795386	97.01077732
210420A00035	4/20/2021	1.92	4/20/2034	4/20/2021	137.46694	126.8682183	117.3239095	108.7158781	100.9402647	93.90565878	87.53151822	81.74679907	76.48876658
210423A00001	4/23/2021	1.72	4/23/2036	4/23/2021	136.17187	125.8047146	116.4907187	108.1081073	100.5504037	93.72438455	87.54832253	81.95047466	76.86777974
210423A00003	4/23/2021	1.31	4/23/2031	4/23/2021	122.66759	116.4349425	110.6390677	105.2444051	100.218594	95.53216324	91.15825243	87.07236124	83.25212485
210512A00008	5/12/2021	0.66	5/10/2024	5/12/2021	111.23853	108.2339314	105.3279143	102.5167031	99.79668453	97.16440334	94.61655476	92.1499769	89.76164382
210319A00008	3/19/2021	0.63	3/19/2024	3/19/2021	110.68435	107.8335339	105.0728196	102.3987292	99.80794851	97.29731633	94.86381653	92.50456985	90.21682654

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
210319A00009	3/19/2021	1.1	3/19/2026	3/19/2021	118.64197	113.6071772	108.823182	104.2759886	99.95246438	95.84028435	91.92787656	88.20437124	84.65955385
210319A00012	3/19/2021	0.83	12/19/2024	3/19/2021	113.74427	110.0781148	106.553382	103.1638109	99.90345859	96.76667758	93.74809932	90.84261877	88.04537999
210331A00007	3/31/2021	1.25	3/31/2031	3/31/2021	121.18844	115.1054039	109.4443266	104.1711703	99.25493507	94.66736525	90.3826865	86.37736978	82.6299194
210408A00007	4/8/2021	1.05	4/8/2031	4/8/2021	121.10604	114.9528636	109.2308474	103.904892	98.94305618	94.31625077	89.99796289	85.96400904	82.19231337
210412A00007	4/12/2021	0.66	4/12/2024	4/12/2021	110.98579	108.0633068	105.2348034	102.4966574	99.84540826	97.27775286	94.79053696	92.38074734	90.04550442
210107A00009	1/7/2021	0.54	1/5/2024	1/7/2021	109.77388	107.1439071	104.5922639	102.1161349	99.71282341	97.37974694	95.11443168	92.91450713	90.77770104
210107A00010	1/7/2021	0.54	1/5/2024	1/7/2021	109.77388	107.1439071	104.5922639	102.1161349	99.71282341	97.37974694	95.11443168	92.91450713	90.77770104
210212A00004	2/12/2021	1.1	2/12/2036	2/12/2021	129.88602	120.1047905	111.3071153	103.3803748	96.22596183	89.75742887	83.89889068	78.58364745	73.75299724
210212A00006	2/12/2021	0.77	2/12/2026	2/12/2021	117.0227	112.0615372	107.3446809	102.8587056	98.5909973	94.5297037	90.66368333	86.98245892	83.47617383
210212A00007	2/12/2021	0.76	2/12/2026	2/12/2021	116.71002	111.8367938	107.2022872	102.7934094	98.59786755	94.60410959	90.80127534	87.17915083	83.72812608
210217A00005	2/17/2021	0.83	2/14/2031	2/17/2021	119.515	113.5437973	107.9846721	102.8045545	97.97330996	93.46345853	89.24992165	85.30979492	81.62214377
201203A00007	12/3/2020	0.58	12/1/2023	12/3/2020	109.55965	107.0296406	104.572343	102.18524	99.86591724	97.61205877	95.42144194	93.29193323	91.22148409
201207A00009	12/7/2020	1.01	12/7/2027	12/7/2020	123.00057	116.0192005	109.4935831	103.3913614	97.68264363	92.33980243	87.33729228	82.6514822	78.26050279
201207A00021	12/7/2020	1.85	12/7/2050	12/7/2020	165.91279	141.3600782	121.4341097	105.1662221	91.80380828	80.75993089	71.57509982	63.88819056	57.41425229
201221A00022	12/21/2020	0.51	12/19/2025	12/21/2020	115.50169	110.9124593	106.5405872	102.3745192	98.40338082	94.6169321	91.00552731	87.56007709	84.27201333
201228A00013	12/28/2020	0.84	12/30/2030	12/28/2020	118.38298	112.5904411	107.1904811	102.1521178	97.44707459	93.04952707	88.93587286	85.08452426	81.47572163
210107A00008	1/7/2021	0.54	1/5/2024	1/7/2021	109.77388	107.1439071	104.5922639	102.1161349	99.71282341	97.37974694	95.11443168	92.91450713	90.77770104
200814A00003	8/14/2020	0.96	8/14/2035	8/14/2020	127.79505	118.4924152	110.0962918	102.5059326	95.63277654	89.39887694	83.73554449	78.58217321	73.88522326
200818A00012	8/18/2020	0.97	8/18/2027	8/18/2020	121.98908	115.3558215	109.1379966	103.3071639	97.83698934	92.70307452	87.88280351	83.35520319	79.10081507
200910A00006	9/10/2020	0.96	9/10/2027	9/10/2020	122.07786	115.3779528	109.1013446	103.2187984	97.70326342	92.5296961	87.67489948	83.11737697	78.83719834
201029A00004	10/29/2020	1.49	10/29/2038	10/29/2020	152.44992	133.755063	117.7999256	104.1526007	92.45242136	82.39780205	73.73621437	66.25591427	59.77910641
201103A00005	11/3/2020	0.89	11/4/2030	11/3/2020	118.52942	112.7807178	107.4184681	102.4124023	97.7348802	93.36064094	89.26658152	85.43155667	81.83619888
201110A00003	11/10/2020	1.12	11/10/2027	11/10/2020	123.55407	116.6227091	110.1388085	104.070954	98.39009422	93.06935453	88.08386281	83.41059061	79.02820757
200623A00028	6/23/2020	1.23	6/23/2038	6/23/2020	135.07158	123.3407619	112.9524045	103.7326092	95.53184258	88.22131644	81.68993474	75.84171099	70.59358146
200709A00018	7/9/2020	0.59	7/7/2023	7/9/2020	108.24108	106.1199251	104.052153	102.0360595	100.0700095	98.15243186	96.28181637	94.45671093	92.67571887
200709A00019	7/9/2020	0.77	7/9/2025	7/9/2020	115.3688	111.0578964	106.9360716	102.9939684	99.22274471	95.61404319	92.15996233	88.85302876	85.68617157
200716A00004	7/16/2020	0.97	7/16/2027	7/16/2020	121.77507	115.2387751	109.1069007	103.3520997	97.94901994	92.87414874	88.10566967	83.62333138	79.40832721
200724A00011	7/24/2020	1.41	7/26/2038	7/24/2020	150.58944	132.3191361	116.6975812	103.3117915	91.81616748	81.92111089	73.38362252	65.9995267	59.59703262
200806A00004	8/6/2020	0.3	3/6/2024	8/6/2020	105.77706	104.2388659	102.7384599	101.2745901	99.84605422	98.45170013	97.09042305	95.76116331	94.46290402
200605A00018	6/5/2020	0.91	6/5/2025	6/5/2020	115.66049	111.4387181	107.3980693	103.5297848	99.82557343	96.27758782	92.87839823	89.62096805	86.49863086
200608A00001	6/8/2020	1.34	6/7/2030	6/8/2020	129.23312	120.4258524	112.3478661	104.9331242	98.12196467	91.8604508	86.09979182	80.79582443	75.90854939
200610A00006	6/10/2020	1.11	6/10/2027	6/10/2020	122.41046	115.9456348	109.8747816	104.1716645	98.8119282	93.7729572	89.03374232	84.57475865	80.37785322
200612A00004	6/12/2020	1.42	6/12/2040	6/12/2020	140.19911	126.1175008	113.8572906	103.1532508	93.781742	85.55383422	78.30961275	71.91345989	66.2501392

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200616A00005	6/16/2020	0.74	6/17/2030	6/16/2020	117.89912	112.4098734	107.275987	102.4705934	97.9690808	93.74888782	89.78931789	86.07137176	82.57759614
200618A00004	6/18/2020	0.7	6/18/2030	6/18/2020	117.68476	112.205393	107.0807545	102.284022	97.79062741	93.57804927	89.62562768	85.91439707	82.42693516
200512A00018	5/12/2020	0.85	5/12/2025	5/12/2020	114.67837	110.6947179	106.8774423	103.2186624	99.71091468	96.34712745	93.12059818	90.02497218	87.05422272
200512A00020	5/12/2020	0.86	5/12/2025	5/12/2020	115.24972	111.1066895	107.1386798	103.3373593	99.69483488	96.20362878	92.85665482	89.64719569	86.56888185
200512A00021	5/12/2020	0.86	5/12/2025	5/12/2020	115.24972	111.1066895	107.1386798	103.3373593	99.69483488	96.20362878	92.85665482	89.64719569	86.56888185
200514A00008	5/14/2020	1.23	5/14/2030	5/14/2020	128.14211	119.4572027	111.4870634	104.1673798	97.44000668	91.25234318	85.55677455	80.31017352	75.47345372
200520A00009	5/20/2020	1.63	5/20/2038	5/20/2020	152.97069	134.928549	119.457575	106.1625447	94.71190833	84.82715826	76.27402918	68.85520256	62.40425181
200522A00009	5/22/2020	0.96	5/22/2030	5/22/2020	118.69596	113.0465131	107.7658197	102.8258238	98.20083509	93.86731281	89.80367071	85.99010127	82.40841659
200512A00001	5/12/2020	1.17	5/12/2027	5/12/2020	122.57291	116.1815123	110.1747346	104.5272825	99.21565586	94.21801151	89.51403802	85.08484085	80.91283646
200512A00010	5/12/2020	1.48	5/10/2030	5/12/2020	133.09573	123.2998759	114.3395165	106.1379615	98.62596704	91.7409772	85.4264454	79.63122779	74.30904076
200512A00011	5/12/2020	1.48	5/10/2030	5/12/2020	133.09573	123.2998759	114.3395165	106.1379615	98.62596704	91.7409772	85.4264454	79.63122779	74.30904076
200512A00013	5/12/2020	1.17	5/12/2027	5/12/2020	122.57291	116.1815123	110.1747346	104.5272825	99.21565586	94.21801151	89.51403802	85.08484085	80.91283646
200512A00014	5/12/2020	1.17	5/12/2027	5/12/2020	122.57291	116.1815123	110.1747346	104.5272825	99.21565586	94.21801151	89.51403802	85.08484085	80.91283646
200512A00017	5/12/2020	0.85	5/12/2025	5/12/2020	114.67837	110.6947179	106.8774423	103.2186624	99.71091468	96.34712745	93.12059818	90.02497218	87.05422272
200424A00022	4/24/2020	1.39	4/24/2030	4/24/2020	129.34323	120.6359028	112.6409384	105.2945836	98.53916683	92.32249033	86.59728116	81.32070049	76.45390409
200428A00009	4/28/2020	1.08	4/29/2030	4/28/2020	118.57548	113.1752016	108.1178963	103.3780829	98.93238661	94.75934855	90.83925493	87.15398267	83.68685964
200429A00030	4/29/2020	1.41	4/29/2030	4/29/2020	131.23968	121.9115695	113.3660239	105.5319643	98.34516025	91.74753656	85.68655267	80.11464739	74.98874209
200430A00027	4/30/2020	1.31	4/30/2035	4/30/2020	128.92263	119.798202	111.5412969	104.0576856	97.26429183	91.08778302	85.46335032	80.33364945	75.6478807
200501A00002	5/1/2020	1.3	5/1/2035	5/1/2020	128.9748	119.7936331	111.4900204	103.9681675	97.14367201	90.94207705	85.29762063	80.15215054	75.45418217
200501A00009	5/4/2020	0.67	5/1/2025	5/4/2020	108.38815	106.1706583	104.0236602	101.9443245	99.92995377	97.97797853	96.08595051	94.25153593	92.47250931
200406A00037	4/6/2020	0.9	4/6/2023	4/6/2020	107.87155	106.0151129	104.2006569	102.4268538	100.6924343	98.99618192	97.33693026	95.71356027	94.12499788
200413A00009	4/13/2020	0.77	4/13/2027	4/13/2020	112.6197	109.2024399	105.9364645	102.8136863	99.82651457	96.96781894	94.23089863	91.60945337	89.09755669
200413A00013	4/13/2020	1.19	4/12/2030	4/13/2020	119.15452	113.7285884	108.6471948	103.884747	99.41776769	95.22470385	91.28575472	87.58271705	84.0988447
200414A00009	4/14/2020	0.82	4/14/2025	4/14/2020	108.55514	106.379512	104.2719471	102.2297452	100.25033	98.33124701	96.47015677	94.66482834	92.91313364
200414A00024	4/14/2020	1.37	4/14/2027	4/14/2020	123.5909	117.23494	111.2570011	105.632417	100.3382665	95.35323979	90.65751665	86.23265403	82.06148306
200421A00026	4/21/2020	1.34	4/19/2030	4/21/2020	128.89635	120.2252686	112.2628998	104.945864	98.21682711	92.02389475	86.32006662	81.06274883	76.21331706
200406A00029	4/6/2020	1.61	4/5/2030	4/6/2020	134.02408	124.2655269	115.3313014	107.1463082	99.64271374	92.75920294	86.44031877	80.63587216	75.30041429
200406A00030	4/6/2020	1.61	4/5/2030	4/6/2020	134.02408	124.2655269	115.3313014	107.1463082	99.64271374	92.75920294	86.44031877	80.63587216	75.30041429
200406A00032	4/6/2020	1.09	4/4/2025	4/6/2020	115.83416	111.7808365	107.8950542	104.1688629	100.5947424	97.1655759	93.87462623	90.71551237	87.68218829
200406A00033	4/6/2020	1.09	4/4/2025	4/6/2020	115.83415	111.7808277	107.8950488	104.1688607	100.5947432	97.16557951	93.8746325	90.71552114	87.6821994
200406A00035	4/6/2020	1.05	4/4/2025	4/6/2020	114.57629	110.8364418	107.2475478	103.8025303	100.4946931	97.31769656	94.26553653	91.33252381	88.51326552
200406A00036	4/6/2020	1.09	4/4/2025	4/6/2020	115.83415	111.7808277	107.8950488	104.1688607	100.5947432	97.16557951	93.8746325	90.71552114	87.6821994
200327A00094	3/27/2020	1.6	3/27/2030	3/27/2020	130.90259	122.1688036	114.1440078	106.7651231	99.97507036	93.72216815	87.9595922	82.64489156	77.73955566

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200330A00047	3/30/2020	1.5	3/30/2035	3/30/2020	130.44814	121.2706571	112.9609613	105.4252875	98.58091002	92.35475797	86.68221198	81.50605916	76.77558441
200330A00058	3/30/2020	1.49	3/29/2030	3/30/2020	129.9945	121.3101377	113.3313748	105.9953859	99.24532699	93.02973338	87.30198032	82.01980075	77.14485361
200330A00079	3/30/2020	1.51	3/30/2035	3/30/2020	130.53644	121.3527319	113.0374037	105.4966221	98.64760526	92.41723279	86.74084156	81.56117994	76.82749846
200406A00014	4/6/2020	1.33	4/6/2035	4/6/2020	130.54272	121.2605791	112.8635682	105.2553216	98.35090061	92.07534964	86.3624434	81.15360018	76.3969379
200406A00027	4/6/2020	1.31	4/5/2030	4/6/2020	129.92709	121.1845113	113.1557635	105.777037	98.99061691	92.74426791	86.9906832	81.68699227	76.79432027
200317A00043	3/17/2020	1.29	3/15/2030	3/17/2020	120.36916	114.9193756	109.813619	105.0264806	100.5346377	96.31666913	92.35288618	88.62518044	85.11688555
200318A00012	3/18/2020	1.68	3/18/2033	3/18/2020	134.22488	124.6214673	115.9088089	107.9935424	100.7928947	94.23340314	88.2498028	82.78405326	77.78448719
200319A00035	3/19/2020	1.72	3/18/2033	3/19/2020	134.59022	124.9606481	116.2242144	108.2873136	101.0669529	94.48947457	88.4894402	83.0086548	77.9953133
200323A00090	3/23/2020	1.55	3/23/2027	3/23/2020	115.37466	111.7113774	108.2161581	104.8797491	101.6934798	98.64921949	95.7393394	92.95667842	90.29451114
200326A00032	3/26/2020	1.49	3/26/2030	3/26/2020	120.57817	115.1383031	110.0409948	105.2609981	100.7751339	96.56210928	92.60235051	88.87785169	85.37203815
200327A00084	3/27/2020	1.1	3/27/2025	3/27/2020	115.25417	111.3752941	107.6542418	104.0835841	100.6562893	97.36570245	94.20552235	91.16978009	88.25281908
200309A00082	3/9/2020	1.18	3/8/2030	3/9/2020	129.84821	120.4157563	111.7758696	103.8567793	96.59360917	89.92767999	83.80588543	78.1801339	73.00684922
200309A00083	3/9/2020	0.82	3/9/2023	3/9/2020	107.41306	105.6401006	103.9060011	102.2095454	100.54957	98.92495989	97.33464568	95.77760149	94.25284257
200309A00084	3/9/2020	1.06	3/9/2027	3/9/2020	121.43546	115.2656813	109.4580865	103.9892914	98.83755569	93.98265694	89.40577547	85.08938917	81.0171767
200311A00015	3/11/2020	1.26	3/11/2027	3/11/2020	122.65362	116.4291515	110.5701105	105.0528922	99.85555282	94.95768147	90.34028402	85.98567682	81.87738875
200311A00026	3/11/2020	1.34	3/11/2030	3/11/2020	130.27332	121.1217143	112.7286677	105.025986	97.95200103	91.45090846	85.47217889	79.97003113	74.90296086
200317A00009	3/17/2020	1.61	3/16/2035	3/17/2020	131.41949	122.1742603	113.8031558	106.2117356	99.31667621	93.04437805	87.32975315	82.11517301	77.34955342
200306A00048	3/6/2020	1.04	3/6/2035	3/6/2020	127.83858	118.8017069	110.6219042	103.2063428	96.47314745	90.35001802	84.77303415	79.68561703	75.03762698
200306A00050	3/6/2020	0.87	3/6/2030	3/6/2020	118.16284	112.8128179	107.8005045	103.1009608	98.69129476	94.5504801	90.65919117	86.9996531	83.55550638
200306A00057	3/6/2020	0.92	3/8/2027	3/6/2020	120.4071	114.5874309	109.103244	103.9330784	99.05697186	94.4563484	90.11391354	86.01355854	82.1402722
200306A00058	3/6/2020	1.06	3/6/2030	3/6/2020	118.32175	112.9839288	107.9821827	103.2917463	98.88988532	94.75571424	90.87003334	87.21518039	83.77489659
200309A00034	3/9/2020	0.96	3/9/2035	3/9/2020	127.14085	118.1530132	110.0176207	102.6423386	95.94573214	89.85589053	84.30923778	79.24950009	74.62680825
200309A00081	3/9/2020	1.18	3/8/2030	3/9/2020	129.84823	120.4157681	111.7758744	103.856778	96.5936026	89.92766883	83.80587029	78.18011535	73.00682776
200206A00038	2/6/2020	1.78	2/6/2023	2/6/2020	108.64531	106.949267	105.2889942	103.6634329	102.0715618	100.5123993	98.98500205	97.48846257	96.02190786
200212A00013	2/12/2020	1.98	2/12/2027	2/12/2020	126.74612	120.4376949	114.4943973	108.8929565	103.6117115	98.63049388	93.93051681	89.49427252	85.30543829
200220A00026	2/20/2020	2.22	2/21/2040	2/20/2020	149.73288	135.0757656	122.2840026	111.0898724	101.2670645	92.62391305	84.99778645	78.25042769	72.26407689
200221A00012	2/21/2020	2.14	2/21/2040	2/21/2020	148.64947	134.1002133	121.4025989	110.2908777	100.5404005	91.96090847	84.39096414	77.69332576	71.75109832
200227A00046	2/27/2020	1.52	3/1/2027	2/27/2020	114.24741	110.8875912	107.6726076	104.5949006	101.6473634	98.82331158	96.11645443	93.52086935	91.03097765
200303A00028	3/3/2020	1.54	3/4/2030	3/3/2020	130.26625	121.6144711	113.6612861	106.344887	99.60931613	93.403876	87.68260581	82.40381262	77.52965152
200206A00027	2/6/2020	2.15	2/6/2030	2/6/2020	138.49086	128.6301525	119.5871144	111.2885197	103.6681051	96.66587117	90.22745823	84.30358736	78.84955954
200206A00031	2/6/2020	2.15	2/6/2030	2/6/2020	138.49086	128.6301525	119.5871144	111.2885197	103.6681051	96.66587117	90.22745823	84.30358736	78.84955954
200206A00032	2/6/2020	2.15	2/6/2030	2/6/2020	138.49087	128.6301598	119.5871186	111.2885212	103.6681043	96.66586831	90.22745364	84.30358129	78.84955221
200206A00033	2/6/2020	2.15	2/6/2030	2/6/2020	138.49086	128.6301525	119.5871144	111.2885197	103.6681051	96.66587117	90.22745823	84.30358736	78.84955954

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200206A00034	2/6/2020	1.84	2/6/2025	2/6/2020	118.14576	114.196476	110.4044173	106.7623914	103.2635788	99.90151229	96.67005641	93.56338828	90.57597964
200206A00035	2/6/2020	1.78	2/6/2023	2/6/2020	108.64531	106.949267	105.2889942	103.6634329	102.0715618	100.5123993	98.98500205	97.48846257	96.02190786
200110A00043	1/10/2020	2.32	1/10/2030	1/10/2020	139.78111	129.9215627	120.873043	112.5634664	104.9275538	97.906151	91.44562273	85.49730984	80.01704262
200110A00053	1/10/2020	1.99	1/10/2025	1/10/2020	118.39081	114.5126866	110.7864071	107.2051501	103.7624389	100.4521242	97.26836601	94.20561572	91.25860007
200115A00013	1/15/2020	2.18	1/15/2030	1/15/2020	131.60756	123.8428597	116.6651026	110.0246771	103.8764977	98.17956817	92.89658665	87.99359093	83.43963976
200116A00012	1/16/2020	2.16	1/19/2027	1/16/2020	127.56983	121.300283	115.3897527	109.8155922	104.5567086	99.59344612	94.90748087	90.48172315	86.30022784
200130A00046	1/30/2020	1.81	1/29/2027	1/30/2020	115.00126	111.6684213	108.4774502	105.4210261	102.492262	99.68467542	96.99216227	94.40897187	91.92968408
200206A00008	2/6/2020	1.64	2/6/2025	2/6/2020	117.34931	113.5369785	109.875161	106.3569892	102.9759557	99.72588876	96.60093303	93.59553105	90.70440621
200103A00002	1/3/2020	2.07	1/3/2030	1/3/2020	135.5529	126.7036731	118.5577345	111.0538089	104.1363267	97.75486343	91.86363564	86.42104845	81.38929001
200109A00006	1/9/2020	1.95	1/9/2030	1/9/2020	123.47468	117.990338	112.8462924	108.0178048	103.4821429	99.21839993	95.20733514	91.43122895	87.87375203
200109A00008	1/9/2020	1.95	1/9/2030	1/9/2020	123.47466	117.9903286	112.8462866	108.0178021	103.482143	99.21840262	95.20734007	91.43123588	87.87376073
200110A00037	1/10/2020	2.32	1/10/2030	1/10/2020	139.78111	129.9215627	120.873043	112.5634664	104.9275538	97.906151	91.44562273	85.49730984	80.01704262
200110A00038	1/10/2020	2.32	1/10/2030	1/10/2020	139.78111	129.9215627	120.873043	112.5634664	104.9275538	97.906151	91.44562273	85.49730984	80.01704262
200110A00039	1/10/2020	2.32	1/10/2030	1/10/2020	139.78111	129.9215627	120.873043	112.5634664	104.9275538	97.906151	91.44562273	85.49730984	80.01704262
191203A00010	12/3/2019	2.21	12/3/2029	12/3/2019	138.38322	128.7094026	119.8233073	111.6556619	104.1436588	97.23031969	90.86392506	84.99750322	79.5883708
191203A00011	12/3/2019	2.21	12/3/2029	12/3/2019	138.38322	128.7094026	119.8233073	111.6556619	104.1436588	97.23031969	90.86392506	84.99750322	79.5883708
191203A00013	12/3/2019	1.93	12/3/2024	12/3/2019	117.71042	113.9571816	110.3470319	106.8737238	103.5313137	100.3141498	97.21685573	94.23431569	91.36166022
191206A00005	12/6/2019	2.18	12/7/2026	12/6/2019	127.23481	121.099589	115.3091854	109.8422575	104.6789007	99.80053989	95.18983388	90.83058686	86.707667
191209A00005	12/9/2019	2.22	12/10/2029	12/9/2019	135.20135	126.4701865	118.4264329	111.0107399	104.1692345	97.85298678	92.01752981	86.622429	81.63089493
191224A00002	12/24/2019	2.17	12/24/2029	12/24/2019	123.57153	118.1543701	113.0696292	108.2933908	103.8036534	99.58016538	95.60427415	91.85878807	88.32785184
191112A00022	11/12/2019	2.36	11/13/2029	11/12/2019	139.52376	129.8437167	120.9466528	112.7641526	105.2341456	98.3002859	91.91139587	86.02096653	80.58670886
191112A00023	11/12/2019	2.36	11/13/2029	11/12/2019	139.52376	129.8437205	120.9466551	112.7641536	105.2341454	98.30028482	91.91139398	86.02096396	80.58670572
191112A00024	11/12/2019	2.09	11/12/2024	11/12/2019	118.02143	114.3225734	110.762467	107.3351446	104.0349321	100.8564292	97.79449416	94.84423023	92.00097268
191113A00013	11/13/2019	2.17	11/13/2026	11/13/2019	126.9103	120.8578473	115.141741	109.7414064	104.6376331	99.81247852	95.24917818	90.93206215	86.84647825
191122A00003	11/22/2019	2.32	11/22/2039	11/22/2019	161.5195	143.1505879	127.4086288	113.8799674	102.2199771	92.14104602	83.4027275	75.80365116	69.17487132
191203A00009	12/3/2019	2.21	12/3/2029	12/3/2019	138.38322	128.7094026	119.8233073	111.6556619	104.1436588	97.23031969	90.86392506	84.99750322	79.5883708
191011A00027	10/11/2019	1.84	10/11/2029	10/11/2019	122.29781	117.0218885	112.0648414	107.4040479	103.0186764	98.88953093	94.99891167	91.3304872	87.8691792
191015A00025	10/15/2019	2.01	10/15/2029	10/15/2019	122.34039	117.081076	112.1388418	107.4912443	103.1176104	98.99888691	95.11750233	91.45724106	88.00312912
191031A00025	10/31/2019	1.91	10/31/2024	10/31/2019	109.59143	107.6735269	105.8096118	103.9977085	102.2359313	100.522478	98.85562547	97.23372546	95.65520091
191101A00004	11/1/2019	1.91	11/1/2029	11/1/2019	133.67316	125.0836677	117.1651348	109.8601398	103.1165104	96.88681735	91.12791852	85.80054888	80.8689518
191101A00005	11/1/2019	1.83	11/2/2026	11/1/2019	125.77216	119.7724597	114.1054309	108.7507835	103.6895665	98.90407614	94.37776709	90.0951712	86.04182187
191105A00012	11/5/2019	2.07	11/3/2034	11/5/2019	136.23206	126.8336957	118.3069556	110.5594162	103.5093422	97.08436599	91.22034044	85.86033999	80.95378994
191004A00023	10/4/2019	2.02	10/4/2029	10/4/2019	136.07253	126.6979767	118.0747983	110.1378462	102.8279871	96.09151351	89.8796169	84.14791527	78.85602833

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191004A00025	10/4/2019	1.74	10/4/2024	10/4/2019	116.31629	112.7678795	109.349508	106.0555758	102.8807634	99.82001696	96.86853215	94.0217404	91.27529526
191004A00026	10/4/2019	1.74	10/4/2024	10/4/2019	116.31629	112.7678795	109.349508	106.0555758	102.8807634	99.82001696	96.86853215	94.0217404	91.27529526
191008A00007	10/8/2019	1.67	10/9/2029	10/8/2019	121.43673	116.1978654	111.2756294	106.6475642	102.2929849	98.192831	94.32952715	90.68685698	87.24984835
191008A00014	10/8/2019	1.85	10/8/2026	10/8/2019	124.7089	118.8400733	113.2928834	108.0478114	103.0866372	98.39234367	93.94903013	89.74183253	85.75684991
191009A00009	10/9/2019	1.8	10/9/2026	10/9/2019	114.36419	111.1969078	108.1592587	105.2447757	102.4473674	99.76128987	97.18112471	94.70175794	92.31836096
190926A00002	9/30/2019	2.01	9/29/2034	9/30/2019	135.30518	126.0837708	117.7080716	110.0893465	103.149019	96.8174294	91.03275283	85.74005604	80.8904744
190930A00026	9/30/2019	1.95	9/30/2024	9/30/2019	116.46065	113.0264643	109.7166218	106.5257833	103.4488799	100.4810962	97.61785548	94.8548062	92.18780875
190930A00028	9/30/2019	1.95	9/30/2024	9/30/2019	116.46064	113.0264569	109.7166165	106.5257799	103.4488783	100.4810963	97.61785732	94.85480965	92.18781373
191004A00017	10/4/2019	2.02	10/4/2029	10/4/2019	136.07255	126.6979946	118.0748085	110.1378498	102.8279849	96.0915062	89.87960521	84.14789979	78.8560096
191004A00019	10/4/2019	2.02	10/4/2029	10/4/2019	136.07254	126.6979871	118.0748043	110.1378484	102.827986	96.09150942	89.87961021	84.1479063	78.85601739
191004A00022	10/4/2019	2.02	10/4/2029	10/4/2019	136.07255	126.6979913	118.0748067	110.1378492	102.8279854	96.09150758	89.87960735	84.14790258	78.85601294
190905A00024	9/5/2019	2.08	9/5/2029	9/5/2019	136.3116	127.0050921	118.4381112	110.5470639	103.274181	96.56695169	90.37761724	84.66271589	79.38267394
190905A00025	9/5/2019	2.08	9/5/2029	9/5/2019	136.3116	127.0050921	118.4381112	110.5470639	103.274181	96.56695168	90.37761722	84.66271586	79.38267391
190910A00044	9/10/2019	2.02	9/10/2026	9/10/2019	125.36796	119.5550877	114.0566982	108.8539078	103.9290812	99.26573759	94.84846812	90.66285995	86.6954259
190911A00016	9/11/2019	1.9	9/11/2029	9/11/2019	122.39951	117.1713873	112.2564489	107.6326563	103.2797049	99.17887232	95.31288409	91.66579105	88.22285851
190913A00018	9/13/2019	2.11	9/11/2026	9/13/2019	115.1058	111.9669705	108.9549206	106.0634036	103.2865276	100.6187331	98.05477242	95.58968974	93.21880282
190925A00009	9/25/2019	2	9/25/2026	9/25/2019	124.10045	118.5799893	113.354832	108.4072911	103.7208521	99.28008318	95.07055771	91.07878243	87.29213143
190829A00032	8/29/2019	1.69	8/28/2026	8/29/2019	114.11041	111.0376934	108.087766	105.2546317	102.5326335	99.91643163	97.40098303	94.98152302	92.65354789
190829A00039	8/29/2019	1.85	8/29/2034	8/29/2019	133.72627	124.6684351	116.4365846	108.9445243	102.1158739	95.88287557	90.18535362	84.96980584	80.18861055
190905A00018	9/5/2019	1.85	9/5/2029	9/5/2019	132.69458	124.2973477	116.5462103	109.3865904	102.7688507	96.64782166	90.98237397	85.73503503	80.87164346
190905A00019	9/5/2019	2.08	9/5/2029	9/5/2019	136.3116	127.0050921	118.4381112	110.5470639	103.274181	96.56695168	90.37761722	84.66271586	79.38267391
190905A00021	9/5/2019	2.08	9/5/2029	9/5/2019	136.3116	127.0050921	118.4381112	110.5470639	103.274181	96.56695169	90.37761724	84.66271589	79.38267394
190905A00023	9/5/2019	2.08	9/5/2029	9/5/2019	136.3116	127.0050921	118.4381112	110.5470639	103.274181	96.56695169	90.37761724	84.66271589	79.38267394
190813A00051	8/13/2019	2.19	8/13/2029	8/13/2019	137.03968	127.7571571	119.207111	111.326976	104.0598799	97.35409181	91.16253124	85.44232556	80.15441242
190813A00052	8/13/2019	2.24	8/13/2029	8/13/2019	137.47708	128.1703078	119.5977486	111.6966996	104.4101603	97.68628333	91.4778812	85.74198369	80.43943919
190813A00057	8/13/2019	1.9	8/13/2024	8/13/2019	116.22425	112.826496	109.5487941	106.3861568	103.3338378	100.3873184	97.54229492	94.79466707	92.14052663
190813A00064	8/13/2019	1.9	8/13/2024	8/13/2019	116.22425	112.826496	109.5487941	106.3861568	103.3338378	100.3873184	97.54229492	94.79466707	92.14052663
190813A00067	8/13/2019	1.9	8/13/2024	8/13/2019	116.22425	112.826496	109.5487941	106.3861568	103.3338378	100.3873184	97.54229492	94.79466707	92.14052663
190826A00032	8/26/2019	1.72	8/24/2029	8/26/2019	121.30567	116.1753073	111.3495632	106.8071827	102.5285636	98.49561977	94.69165315	91.10123724	87.71011138
190708A00030	7/8/2019	2.57	7/2/2029	7/8/2019	139.90848	130.5834465	121.9844916	114.0503661	106.7253247	99.95859978	93.70393194	87.9191465	82.56577243
190708A00032	7/8/2019	2.58	7/2/2029	7/8/2019	139.99538	130.6656459	122.0623141	114.1241173	106.7952862	100.0250311	93.76707234	87.97921687	82.62297673
190712A00016	7/12/2019	2.39	7/12/2029	7/12/2019	123.60891	118.4526695	113.5990048	109.0270252	104.717454	100.6524903	96.81568525	93.19183012	89.76685407
190718A00012	7/18/2019	2.55	7/18/2029	7/18/2019	136.49212	128.0443876	120.2350366	113.011031	106.324061	100.1300941	94.38897258	89.0640521	84.12187491

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190731A00013	7/31/2019	2.23	7/22/2022	7/31/2019	103.5693	102.9408936	102.3221781	101.7129035	101.11283	100.5217263	99.93936946	99.3655441	98.80004239
190802A00011	8/2/2019	2.01	8/2/2029	8/2/2019	122.7424	117.5524168	112.6705066	108.0751765	103.7466091	99.66651886	95.81802307	92.18552407	88.75460252
190702A00068	7/2/2019	2.69	7/1/2039	7/2/2019	173.96478	152.7825967	134.747096	119.3522351	106.1773869	94.87239319	85.14531466	76.75237567	69.4897002
190702A00071	7/2/2019	2.69	7/1/2039	7/2/2019	173.96462	152.7824926	134.747034	119.3522076	106.1773876	94.87241685	85.14535704	76.75243321	69.48976998
190708A00025	7/8/2019	2.21	7/1/2024	7/8/2019	116.68145	113.3938786	110.2191104	107.1526121	104.1900596	101.3273285	98.56048296	95.88576599	93.29959032
190708A00026	7/8/2019	2.21	7/1/2024	7/8/2019	116.68145	113.3938786	110.2191104	107.1526121	104.1900596	101.3273285	98.56048296	95.88576599	93.29959032
190708A00028	7/8/2019	2.57	7/2/2029	7/8/2019	139.90844	130.5834216	121.9844742	114.0503555	106.7253203	99.95860109	93.70393846	87.91915777	82.56578805
190708A00029	7/8/2019	2.57	7/2/2029	7/8/2019	139.90848	130.5834465	121.9844916	114.0503661	106.7253247	99.95859978	93.70393194	87.9191465	82.56577243
190605A00023	6/5/2019	2.64	6/5/2029	6/5/2019	140.19326	130.932618	122.3866766	114.495682	107.2052017	100.4656197	94.23168682	88.46211403	83.11920655
190605A00024	6/5/2019	2.64	6/5/2029	6/5/2019	140.19324	130.9326035	122.3866669	114.4956767	107.2052003	100.4656219	94.23169204	88.462122	83.11921696
190605A00025	6/5/2019	2.64	6/5/2029	6/5/2019	140.19324	130.9326035	122.3866669	114.4956767	107.2052003	100.4656219	94.23169204	88.462122	83.11921696
190605A00027	6/5/2019	2.64	6/5/2029	6/5/2019	140.19324	130.9326035	122.3866669	114.4956767	107.2052003	100.4656219	94.23169204	88.462122	83.11921696
190619A00010	6/19/2019	2.04	6/17/2022	6/19/2019	103.26551	102.6853452	102.1134265	101.5495594	100.9935556	100.4452328	99.90441468	99.37093056	98.84461526
190620A00033	6/20/2019	2.1	6/20/2029	6/20/2019	122.76486	117.6779064	112.887503	108.3733056	104.1165281	100.0998144	96.30711959	92.72360155	89.33552234
190506A00025	5/6/2019	3.03	5/4/2029	5/6/2019	143.1586	133.8328484	125.2184691	117.2566386	109.8937138	103.080748	96.77305654	90.92982422	85.51375164
190506A00026	5/6/2019	3.03	5/4/2029	5/6/2019	143.1586	133.8328484	125.2184691	117.2566386	109.8937138	103.080748	96.77305654	90.92982422	85.51375164
190510A00049	5/10/2019	2.58	5/8/2026	5/10/2019	115.32827	112.4278237	109.6367847	106.9500682	104.3628688	101.8706384	99.46907136	97.15408922	94.92182748
190515A00035	5/15/2019	2.82	2/15/2029	5/15/2019	140.4342	131.4710544	123.1768607	115.4973816	108.3830788	101.7886804	95.67279101	89.99753983	84.72826187
190529A00061	5/29/2019	2.46	5/29/2026	5/29/2019	115.22957	112.2826689	109.448499	106.7217617	104.0974487	101.5708229	99.13740199	96.79294261	94.53342623
190605A00007	6/5/2019	2.47	6/5/2026	6/5/2019	126.69432	121.1123596	115.8187635	110.7970082	106.0316068	101.508037	97.21267559	93.13273837	89.25622403
190403A00014	4/3/2019	3.05	4/3/2029	4/3/2019	141.52866	132.6488309	124.4324921	116.8254808	109.7783739	103.2460451	97.18726767	91.56435625	86.34284302
190403A00015	4/3/2019	3.05	4/3/2029	4/3/2019	141.52867	132.6488382	124.432497	116.8254836	109.7783748	103.2460443	97.18726547	91.56435281	86.3428385
190404A00015	4/4/2019	2.88	4/3/2026	4/4/2019	128.0096	122.5678908	117.3986314	112.4865302	107.8172515	103.3773454	99.1541878	95.13592415	91.31141798
190411A00022	4/11/2019	2.68	4/11/2022	4/11/2019	104.02364	103.3678891	102.7215634	102.0844472	101.4563351	100.8370278	100.226332	99.62406023	99.03003044
190501A00015	5/1/2019	2.78	5/1/2029	5/1/2019	125.05494	119.9452321	115.1298303	110.5887626	106.3035765	102.2572091	98.43387332	94.81895333	91.39890941
190502A00016	5/2/2019	2.87	5/1/2026	5/2/2019	128.40445	122.8655853	117.6074676	112.6143074	107.8712872	103.3644949	99.08086392	95.00811742	91.13471673
190327A00035	3/27/2019	2.68	3/27/2034	3/27/2019	139.75952	130.5892627	122.2311718	114.602805	107.6308636	101.2501097	95.40241684	90.03593933	85.10438433
190329A00067	3/29/2019	2.61	3/29/2024	3/29/2019	115.60328	112.7741148	110.0334708	107.3779356	104.8042534	102.3093197	99.89017281	97.54398636	95.26806151
190401A00017	4/1/2019	2.55	4/1/2022	4/1/2019	104.78662	103.9886606	103.2029327	102.4291554	101.6670571	100.916374	100.1768508	99.44823917	98.73029852
190402A00005	4/2/2019	2.77	4/2/2032	4/2/2019	141.68221	132.2079301	123.5522436	115.6351675	108.3851931	101.7383268	95.63724965	90.03057492	84.87219337
190403A00010	4/3/2019	3.08	4/3/2029	4/3/2019	143.17979	133.9442755	125.4068891	117.5102719	110.2021004	103.4346194	97.16421908	91.35105231	85.9586902
190403A00013	4/3/2019	3.05	4/3/2029	4/3/2019	141.52865	132.6488228	124.4324863	116.825477	109.778372	103.2460449	97.18726908	91.5643591	86.34284718
190313A00044	3/13/2019	2.7	6/13/2022	3/13/2019	106.23018	105.2025223	104.1948889	103.2066928	102.237374	101.2863937	100.3532337	99.43739502	98.53839721

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190315A00017	3/15/2019	2.88	3/15/2034	3/15/2019	141.4737	132.1917187	123.7317257	116.0102922	108.9532394	102.494545	96.57538283	91.14328256	86.15139288
190315A00019	3/15/2019	2.88	3/15/2034	3/15/2019	141.47364	132.1916705	123.7316913	116.0102703	108.9532289	102.4945448	96.57539195	91.14330015	86.15141813
190315A00023	3/15/2019	2.88	3/15/2034	3/15/2019	141.47365	132.1916763	123.7316958	116.0102737	108.9532311	102.4945459	96.57539198	91.14329915	86.15141614
190315A00029	3/15/2019	2.88	3/15/2034	3/15/2019	141.47367	132.1916916	123.7317068	116.0102807	108.9532345	102.4945459	96.57538894	91.14329331	86.15140775
190322A00008	3/22/2019	2.64	3/20/2026	3/22/2019	115.24548	112.396836	109.6540784	107.0123517	104.4670595	102.0138494	99.64859811	97.36739816	95.16654472
190227A00033	2/27/2019	2.65	2/27/2026	2/27/2019	115.46037	112.6474522	109.9378449	107.3268558	104.8100438	102.3832019	100.0423425	97.78368475	95.60364238
190305A00015	3/5/2019	3.32	3/5/2029	3/5/2019	143.37745	134.4818765	126.2445511	118.6122299	111.5362812	104.9722647	98.87954683	93.22095449	87.96246131
190305A00017	3/5/2019	3.12	3/5/2026	3/5/2019	127.4418	122.3411984	117.4882365	112.8693265	108.4717105	104.2834038	100.2931437	96.4903411	92.86503621
190308A00016	3/8/2019	3.18	3/8/2034	3/8/2019	163.46604	148.4679568	135.130152	123.2525113	112.660427	103.2013997	94.7421099	87.16589374	80.37056336
190308A00026	3/8/2019	3.18	3/8/2034	3/8/2019	163.46604	148.4679568	135.130152	123.2525113	112.660427	103.2013997	94.7421099	87.16589374	80.37056336
190313A00039	3/13/2019	2.7	6/13/2022	3/13/2019	106.23018	105.2025223	104.1948889	103.2066928	102.237374	101.2863937	100.3532337	99.43739502	98.53839721
190205A00020	2/5/2019	3.32	2/5/2029	2/5/2019	142.99028	134.1981235	126.0508186	118.4966633	111.4883973	104.9827961	98.94030457	93.32470623	88.10282344
190205A00021	2/5/2019	3.32	2/5/2029	2/5/2019	142.99028	134.1981235	126.0508186	118.4966633	111.4883973	104.9827961	98.94030457	93.32470623	88.10282344
190205A00022	2/5/2019	3.32	2/5/2029	2/5/2019	142.99028	134.1981235	126.0508186	118.4966633	111.4883973	104.9827961	98.94030457	93.32470623	88.10282344
190205A00023	2/5/2019	3.32	2/5/2029	2/5/2019	142.99028	134.1981235	126.0508186	118.4966633	111.4883973	104.9827961	98.94030457	93.32470623	88.10282344
190205A00025	2/5/2019	2.88	2/7/2022	2/5/2019	104.08008	103.438237	102.804346	102.1782554	101.5598218	100.9489049	100.345368	99.74907767	99.15990376
190207A00003	2/7/2019	2.68	2/7/2024	2/7/2019	115.4911	112.7900544	110.1702805	107.6287817	105.1626932	102.7692762	100.4459114	98.19009304	95.99942258
190118A00006	1/18/2019	3.14	1/18/2034	1/18/2019	143.17123	133.899019	125.438205	117.7073583	110.6339804	104.1534593	98.20815098	92.74657353	87.72270039
190129A00073	1/29/2019	3.11	1/29/2029	1/29/2019	125.62148	120.7007114	116.0529213	111.6602169	107.5060182	103.5749551	99.85277123	96.32623487	92.98305857
190131A00013	1/31/2019	3.48	1/31/2034	1/31/2019	168.29672	152.3556351	138.203573	125.6237664	114.4271007	104.4484328	95.54342259	87.5857986	80.46499647
190131A00023	1/31/2019	3.02	1/30/2034	1/31/2019	142.14848	132.9418714	124.5409867	116.8649545	109.8417775	103.4072915	97.50425238	92.08153628	87.09343717
190205A00017	2/5/2019	3.36	2/5/2029	2/5/2019	143.31457	134.5058677	126.3431197	118.7745451	111.7528065	105.2346086	99.18033159	93.55369908	88.32147861
190205A00019	2/5/2019	2.94	2/5/2024	2/5/2019	116.49615	113.6684279	110.9265415	108.267317	105.6877235	103.1848633	100.7559648	98.39837612	96.10955899
190103A00020	1/3/2019	3.12	1/5/2026	1/3/2019	127.99888	122.8196403	117.8885069	113.1921665	108.7180917	104.4544928	100.3902711	96.51497359	92.81875262
190104A00006	1/4/2019	2.83	1/5/2026	1/4/2019	115.27622	112.5254409	109.8739183	107.3172192	104.8511406	102.4716972	100.1751091	97.95778901	95.81633193
190104A00034	1/4/2019	3.18	1/4/2029	1/4/2019	135.28115	128.1255137	121.4562279	115.236164	109.4312728	104.0103088	98.94458251	94.20773697	89.77554447
190104A00035	1/4/2019	3.1	1/5/2026	1/4/2019	127.39625	122.3221702	117.4897887	112.8861716	108.4991493	104.3172677	100.3297425	96.52641611	92.89771768
190104A00038	1/4/2019	3.25	1/4/2029	1/4/2019	142.01288	133.3591014	125.3342392	117.8883382	110.9756883	104.5544458	98.58628599	93.03608888	87.87165465
190111A00038	1/11/2019	2.63	1/11/2022	1/11/2019	103.43103	102.8809154	102.3367481	101.7984323	101.2658732	100.7389781	100.2176565	99.70181951	99.19138043
181129A00005	11/29/2018	3.21	11/29/2023	11/29/2018	116.10653	113.4787271	110.9259185	108.4455221	106.0350572	103.6921435	101.4144965	99.1999231	97.04631734
181214A00030	12/14/2018	3.47	12/14/2033	12/14/2018	170.0047	153.9889941	139.7596663	127.101731	115.8274308	105.7726434	96.79377933	88.76510234	81.57641239
181218A00040	12/18/2018	3.23	6/18/2030	12/18/2018	130.79167	124.7270942	119.0540318	113.7429531	108.7668009	104.1007671	99.72208952	95.60986889	91.74490272
181218A00086	12/18/2018	3.06	10/18/2023	12/18/2018	114.43261	112.0468337	109.7258696	107.4675175	105.2696662	103.1302914	101.0474521	99.0192856	97.04400434

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
181218A00089	12/18/2018	3.05	6/19/2023	12/18/2018	112.55886	110.5140265	108.5189711	106.5721535	104.6720874	102.8173434	101.0065461	99.23837171	97.51154555
181226A00030	12/26/2018	2.91	12/26/2028	12/26/2018	125.18928	120.3224797	115.7236931	111.3754722	107.261641	103.3671974	99.67821894	96.18177797	92.86586356
181105A00015	11/5/2018	3.57	11/5/2025	11/5/2018	129.21537	124.1827567	119.3827083	114.80319	110.4328504	106.2609825	102.2774834	98.47281702	94.83797943
181115A00044	11/15/2018	3.26	11/15/2023	11/15/2018	115.90708	113.3295827	110.8242276	108.388572	106.0202734	103.7170821	101.4768371	99.29746227	97.17696197
181116A00006	11/16/2018	3.18	11/17/2025	11/16/2018	115.65575	112.993719	110.4249069	107.9452567	105.5509148	103.2382235	101.0037091	98.84407182	96.75617554
181119A00008	11/19/2018	3.23	11/17/2023	11/19/2018	115.27838	112.8022142	110.3950804	108.0546393	105.7786434	103.5649347	101.4114411	99.31617212	97.27721517
181128A00004	11/28/2018	3.08	11/28/2023	11/28/2018	116.13969	113.508005	110.9514897	108.4675525	106.0537047	103.7075586	101.4268228	99.20929764	97.05287089
181128A00011	11/28/2018	3.27	11/28/2023	11/28/2018	116.24161	113.6144377	111.0621623	108.5822024	106.1720833	103.8294304	101.5519645	99.33749748	97.18392813
180924A00033	9/24/2018	3.08	9/22/2023	9/24/2018	114.39625	112.0763893	109.8184059	107.6201509	105.47957	103.3946989	101.363658	99.3846484	97.45594729
180925A00013	9/25/2018	3.41	9/25/2028	9/25/2018	125.90661	121.1886956	116.7223656	112.491709	108.4819502	104.6793571	101.0711601	97.64547776	94.39124894
180925A00116	9/25/2018	3.28	9/25/2028	9/25/2018	126.05905	121.3199447	116.8341621	112.5856507	108.5595026	104.741865	101.1198578	97.68149901	94.41563538
181003A00019	10/3/2018	3.44	10/3/2025	10/3/2018	128.08498	123.1822902	118.5027334	114.034786	109.7675903	105.6909147	101.795113	98.07108689	94.5102516
181003A00032	10/3/2018	3.23	10/3/2025	10/3/2018	115.49715	112.8888816	110.3705239	107.9382045	105.5882504	103.3171739	101.1216614	98.99856382	96.94488679
181010A00025	10/10/2018	3.48	10/10/2030	10/10/2018	134.38024	127.8984688	121.850047	116.2012054	110.9210949	105.98151	101.3566433	97.02286406	92.95851915
180906A00032	9/6/2018	3.24	9/5/2025	9/6/2018	126.73139	121.9520911	117.3871056	113.0255216	108.8570524	104.8719954	101.0611953	97.41600936	93.92827561
180907A00013	9/7/2018	3.27	9/8/2025	9/7/2018	126.45179	121.7473361	117.2530634	112.9582807	108.8529098	104.9274448	101.1729163	97.580857	94.14327087
180913A00012	9/13/2018	3.31	9/13/2033	9/13/2018	143.47752	134.4281374	126.1516195	118.5721652	111.6221105	105.2409932	99.37473124	93.97490029	88.99809782
180913A00033	9/13/2018	3.31	9/13/2033	9/13/2018	143.47753	134.4281406	126.1516216	118.5721664	111.6221109	105.240993	99.37473051	93.97489915	88.99809634
180913A00062	9/13/2018	3.05	9/13/2023	9/13/2018	114.22932	111.883366	109.5997292	107.3762629	105.2109156	103.1017247	101.0468111	99.04437546	97.09269357
180914A00049	9/14/2018	3.37	9/14/2033	9/14/2018	143.97806	134.8971586	126.5918134	118.9859602	112.0116987	105.608356	99.72166154	94.30302211	89.30888396
180718A00008	7/18/2018	3.37	7/18/2028	7/18/2018	141.94355	133.4820098	125.6105533	118.2843277	111.4621366	105.1061219	99.18147551	93.65617818	88.50076127
180809A00031	8/9/2018	2.98	8/9/2021	8/9/2018	100.74458	100.63264	100.5209634	100.4095473	100.2983905	100.1874923	100.0768517	99.96646778	99.85633957
180809A00032	8/9/2018	3.08	8/9/2023	8/9/2018	113.91516	111.6413217	109.4261144	107.2675973	105.1639097	103.1132675	101.1139589	99.16434155	97.26283839
180809A00034	8/9/2018	3.08	8/9/2023	8/9/2018	113.91516	111.6413217	109.4261144	107.2675973	105.1639097	103.1132675	101.1139589	99.16434155	97.26283839
180813A00045	8/13/2018	2.89	8/13/2025	8/13/2018	114.47455	111.9801397	109.5692451	107.2383599	104.9841525	102.8034555	100.693256	98.6506877	96.67302208
180905A00017	9/5/2018	3.43	9/6/2033	9/5/2018	167.62633	152.3158828	138.6785949	126.5169593	115.6580404	105.950285	97.26076125	89.47276798	82.48376324
180702A00040	7/2/2018	2.9	7/2/2021	7/2/2018	100.03676	100.0311896	100.0256225	100.0200602	100.014503	100.0089507	100.0034033	99.99786089	99.99232339
180712A00044	7/12/2018	3.44	7/12/2033	7/12/2018	142.57566	133.7422403	125.6517934	118.2324686	111.4200296	105.1569868	99.39183715	94.07839468	89.17520066
180713A00031	7/13/2018	3.06	7/14/2025	7/13/2018	114.25019	111.815147	109.4601694	107.1819517	104.9773465	102.8433596	100.7771408	98.77597667	96.83728247
180716A00062	7/16/2018	2.91	7/16/2025	7/16/2018	114.24889	111.807958	109.4474583	107.1640569	104.954586	102.8160325	100.7455287	98.74034443	96.79787957
180717A00021	7/17/2018	3.34	7/17/2028	7/17/2018	138.342	130.729712	123.6307913	117.0069485	110.8229774	105.0464887	99.64766905	94.59906235	89.87537036
180717A00026	7/17/2018	3.24	7/16/2025	7/17/2018	124.80241	120.4148027	116.2160199	112.1967886	108.3483434	104.6623987	101.1311198	97.74709494	94.50331072
180517A00024	5/17/2018	3.46	5/17/2033	5/17/2018	143.53631	134.7258615	126.6493341	119.2364258	112.4242121	106.1563177	100.3821851	95.05642981	90.13827105

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
180605A00031	6/5/2018	3.37	6/5/2030	6/5/2018	131.59034	125.4894167	119.7822935	114.4392708	109.4331387	104.7389486	100.3338088	96.19670085	92.30831214
180615A00021	6/15/2018	3.02	6/15/2023	6/15/2018	112.39389	110.3685952	108.3923181	106.4635413	104.5808094	102.7427222	100.9479323	99.19514236	97.48310318
180628A00068	6/28/2018	3.12	6/28/2028	6/28/2018	133.93469	127.2457089	120.9863244	115.1254695	109.6345256	104.4871128	99.65890242	95.12744532	90.87201612
180628A00078	6/28/2018	2.73	6/28/2023	6/28/2018	107.03176	105.8811264	104.7539625	103.6495679	102.5672725	101.5064321	100.4664278	99.4466641	98.44656831
180702A00022	7/2/2018	2.84	6/30/2023	7/2/2018	112.56833	110.4957408	108.4743967	106.5026831	104.5790457	102.7019911	100.8700828	99.08193959	97.33623231
180322A00044	3/22/2018	3.18	3/22/2033	3/22/2018	140.72093	132.2016537	124.383116	117.19899	110.58983	104.5023084	98.88853963	93.70548316	88.9144161
180402A00013	4/2/2018	2.99	4/3/2028	4/2/2018	132.31789	125.8787787	119.8421783	114.1796932	108.8651202	103.874264	99.18477124	94.77597898	90.62877655
180403A00014	4/3/2018	3.11	4/3/2025	4/3/2018	123.81208	119.5686659	115.4994012	111.5960472	107.8508112	104.2563188	100.8055879	97.49200538	94.30930473
180410A00002	4/10/2018	3.14	4/11/2033	4/10/2018	140.68172	132.1056133	124.2393966	117.015471	110.3732957	104.2585959	98.62266605	93.4217566	88.61653101
180420A00011	4/20/2018	2.74	4/20/2023	4/20/2018	106.47997	105.4260517	104.3927622	103.3794903	102.3856511	101.410683	100.4540467	99.51522334	98.59371451
180517A00018	5/17/2018	3.46	5/17/2033	5/17/2018	143.53632	134.7258673	126.6493381	119.2364282	112.4242132	106.1563176	100.3821841	95.05642805	90.13826864
180206A00048	2/6/2018	2.72	2/6/2023	2/6/2018	110.1335	108.4338777	106.7700414	105.1409306	103.5455241	101.9828402	100.4519354	98.95190238	97.48186808
180215A00034	2/15/2018	2.9	2/15/2023	2/15/2018	110.59459	108.8622496	107.1667818	105.5070723	103.8820536	102.2907007	100.7320292	99.20509282	97.7089819
180220A00107	2/20/2018	3.13	2/20/2025	2/20/2018	122.29053	118.3661613	114.5967604	110.9752304	107.494844	104.1492238	100.9323217	97.83839925	94.86201
180305A00030	3/5/2018	3.12	3/5/2025	3/5/2018	123.40822	119.2598445	115.2787443	111.4571411	107.7876668	104.2633424	100.8775538	97.62403091	94.49682689
180309A00011	3/9/2018	3.19	3/10/2025	3/9/2018	123.76368	119.5914305	115.5879178	111.7452654	108.0560184	104.5131167	101.1098711	97.83994133	94.69731547
180322A00040	3/22/2018	3.16	3/21/2031	3/22/2018	139.3396	131.210585	123.7160459	116.7995139	110.4100019	104.5014357	99.032147	93.9644225	89.26410075
180104A00041	1/4/2018	3.08	1/4/2033	1/4/2018	160.78487	146.5238247	133.7547931	122.3092357	112.0386827	102.8122397	94.51441397	87.04321992	80.30852743
180125A00027	1/25/2018	2.69	1/24/2025	1/25/2018	112.75705	110.4731621	108.2609164	106.1174767	104.0401371	102.0263186	100.0735626	98.17952346	96.34196352
180126A00011	1/26/2018	2.72	1/26/2028	1/26/2018	121.55781	117.4024754	113.4513409	109.6924185	106.1145204	102.707197	99.46068307	96.3658479	93.41414999
180202A00027	2/2/2018	3.02	2/3/2025	2/2/2018	122.54244	118.5088742	114.6348884	110.91321	107.3369457	103.8995569	100.5948389	97.41690208	94.36015385
180206A00045	2/6/2018	2.71	2/6/2023	2/6/2018	110.01001	108.328838	106.6830174	105.0714948	103.4932617	101.9473489	100.432825	98.94879385	97.49439359
180206A00046	2/6/2018	2.72	2/6/2023	2/6/2018	110.1335	108.4338767	106.7700406	105.1409301	103.5455237	101.98284	100.4519354	98.95190253	97.48186839
171207A00025	12/7/2017	2.91	12/7/2027	12/7/2017	134.66675	127.4520469	120.6978353	114.3718189	108.4441407	102.8871889	97.67541544	92.78517205	88.19455873
171207A00026	12/7/2017	2.93	12/7/2027	12/7/2017	135.85791	128.3887688	121.4013018	114.8615369	108.7380772	103.0018945	97.6261389	92.58596405	87.85836767
171219A00009	12/19/2017	2.3	12/19/2024	12/19/2017	111.09576	109.0536372	107.0712062	105.1462254	103.276552	101.4601397	99.69503374	97.97936646	96.31135222
171219A00067	12/19/2017	2.72	12/20/2027	12/19/2017	132.91521	126.0516051	119.621014	113.593172	107.9400998	102.6359226	97.65670048	92.9802735	88.58611965
180104A00023	1/4/2018	2.91	1/4/2028	1/4/2018	130.77899	124.4721125	118.5517371	112.9912574	107.7660603	102.8533678	98.23208995	93.88269031	89.78706265
180104A00024	1/4/2018	2.98	1/4/2028	1/4/2018	135.44902	128.1269176	121.2768753	114.865436	108.8616967	103.2371036	97.96526065	93.02175549	88.38399979
171013A00024	10/13/2017	2.47	10/15/2024	10/13/2017	118.19247	114.7153988	111.3647003	108.1349976	105.0211748	102.018366	99.12194083	96.32749154	93.63082082
171109A00016	11/9/2017	2.94	11/9/2032	11/9/2017	158.13721	144.2861345	131.8682154	120.7234395	110.7106191	101.7050818	93.59665288	86.28789336	79.69256128
171204A00009	12/4/2017	2.23	12/4/2024	12/4/2017	110.71637	108.7274483	106.7956546	104.9188705	103.0950707	101.3223207	99.59877181	97.92265649	96.29228447
171204A00024	12/4/2017	2.71	12/4/2024	12/4/2017	120.48347	116.676385	113.0141037	109.4903012	106.0989672	102.8343863	99.69112153	96.66399958	93.74809621

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
171207A00022	12/7/2017	2.45	12/7/2022	12/7/2017	108.71783	107.2044533	105.7204469	104.2650283	102.8374378	101.436942	100.0628329	98.7144266	97.3910624
171207A00024	12/7/2017	2.93	12/7/2027	12/7/2017	135.85791	128.3887688	121.4013018	114.8615369	108.7380772	103.0018945	97.6261389	92.58596405	87.85836767
170829A00066	8/29/2017	2.11	8/29/2024	8/29/2017	117.55171	114.0844417	110.7409947	107.5161604	104.4049842	101.402753	98.50498122	95.70739866	93.00593817
170901A00030	9/1/2017	1.82	9/1/2022	9/1/2017	106.54594	105.3042189	104.0920725	102.9084457	101.7523339	100.6227797	99.51886931	98.43973095	97.38453187
170921A00052	9/21/2017	2.21	9/21/2022	9/21/2017	107.27795	105.9531736	104.6615867	103.4019442	102.1730661	100.9738302	99.80316813	98.66006276	97.54354462
170921A00053	9/21/2017	2.22	9/21/2022	9/21/2017	107.35256	106.0160727	104.7131612	103.4425724	102.2031104	100.993638	99.81307284	98.66038404	97.5345894
170921A00055	9/21/2017	2.82	9/21/2027	9/21/2017	133.17226	126.2355991	119.72954	113.6245657	107.8933584	102.5106212	97.45291623	92.69851792	88.22727767
170921A00057	9/21/2017	2.79	9/21/2027	9/21/2017	131.36139	124.8170736	118.6715587	112.8977907	107.4707171	102.3671257	97.5654987	93.04587892	88.78974745
170710A00079	7/10/2017	2.76	7/12/2032	7/10/2017	135.41132	127.6716807	120.5359423	113.9497189	107.8640076	102.2346167	97.02165737	92.18909237	87.70433507
170711A00010	7/11/2017	2.38	7/12/2027	7/11/2017	118.80567	115.0493175	111.4653305	108.0442029	104.7770228	101.6554343	98.67159867	95.8181594	93.08820861
170713A00021	7/13/2017	3.25	7/13/2037	7/13/2017	177.38744	157.8205834	140.8898704	126.2101617	113.4555063	102.3496878	92.6583328	84.18231301	76.75222245
170727A00003	7/27/2017	1.97	7/29/2024	7/27/2017	109.28014	107.5031984	105.7736066	104.0897045	102.4499026	100.8526799	99.29658015	97.78020835	96.30222794
170802A00013	8/2/2017	2.5	8/2/2024	8/2/2017	117.98444	114.5918751	111.3180073	108.1579548	105.1070665	102.1609118	99.31526882	96.56611304	93.90960661
170804A00005	8/4/2017	1.94	8/5/2024	8/4/2017	109.45161	107.6273426	105.852557	104.1254912	102.4444637	100.8078658	99.21415781	97.66186587	96.14957819
170619A00092	6/16/2017	2.79	6/16/2027	6/16/2017	131.88375	125.2641936	119.0409131	113.1877295	107.6803389	102.4961663	97.61423347	93.01503777	88.68044054
170619A00095	6/16/2017	2.79	6/16/2027	6/16/2017	131.88378	125.264218	119.0409314	113.1877421	107.6803462	102.4961685	97.614231	93.01503086	88.68042945
170619A00096	6/16/2017	2.79	6/16/2027	6/16/2017	131.88378	125.264218	119.0409314	113.1877421	107.6803462	102.4961685	97.614231	93.01503086	88.68042945
170619A00097	6/16/2017	2.74	6/16/2027	6/16/2017	130.05524	123.8059312	117.9241033	112.3857167	107.1684438	102.2515351	97.61569981	93.24299487	89.11672393
170619A00101	6/16/2017	2.74	6/16/2027	6/16/2017	130.05524	123.8059312	117.9241033	112.3857167	107.1684438	102.2515351	97.61569981	93.24299487	89.11672393
170707A00007	7/7/2017	2.65	7/8/2024	7/7/2017	118.11348	114.7885033	111.5779122	108.4770905	105.4816353	102.5873477	99.79022249	97.08643724	94.47234328
170524A00037	5/24/2017	2.46	5/24/2024	5/24/2017	116.27173	113.2211415	110.2705893	107.4162148	104.6543271	101.9813986	99.39405682	96.88907696	94.46337409
170526A00017	5/26/2017	2.16	5/28/2024	5/26/2017	108.64399	107.0192157	105.4351671	103.8904753	102.3838288	100.9139712	99.47969785	98.07985366	96.71333044
170602A00019	6/2/2017	2.42	6/3/2024	6/2/2017	116.87928	113.6826573	110.5928418	107.6056568	104.7171114	101.9233935	99.22086056	96.60603118	94.07557676
170602A00030	6/2/2017	1.88	6/2/2022	6/2/2017	105.31977	104.3377407	103.3741971	102.4286222	101.5005151	100.5893936	99.69479291	98.81626521	97.95337873
170615A00006	6/15/2017	2.15	6/17/2024	6/15/2017	108.86522	107.1910142	105.5596136	103.9695635	102.4194682	100.9079909	99.43385033	97.99581811	96.59271621
170619A00089	6/16/2017	2.79	6/16/2027	6/16/2017	131.88378	125.264218	119.0409314	113.1877421	107.6803462	102.4961685	97.614231	93.01503086	88.68042945
170407A00001	4/6/2017	2.97	4/6/2027	4/6/2017	130.63865	124.5438435	118.7973608	113.3769496	108.2619162	103.4330051	98.87229046	94.56307619	90.48980463
170504A00012	5/4/2017	2.28	5/4/2026	5/4/2017	115.16569	112.2138856	109.3751494	106.6441664	104.0159082	101.4856192	99.04879945	96.70118953	94.43875565
170504A00049	5/4/2017	2.63	5/6/2024	5/4/2017	117.11727	113.9961667	110.976817	108.0553424	105.2280301	102.4913293	99.841843	97.27632042	94.79165004
170511A00011	5/11/2017	2.41	5/11/2027	5/11/2017	118.43893	114.7954652	111.3152337	107.9894185	104.8097491	101.7684613	98.85826228	96.07229912	93.40412903
170518A00027	5/18/2017	2.11	5/18/2022	5/18/2017	105.21806	104.2765335	103.3519657	102.4439017	101.5519012	100.6755395	99.81440675	98.96810743	98.13625952
170524A00027	5/24/2017	2.32	5/24/2027	5/24/2017	118.12584	114.4912894	111.0196217	107.7020378	104.5302816	101.4966026	98.59372136	95.81479751	93.15340034
170406A00029	4/6/2017	3.01	4/6/2027	4/6/2017	132.40249	125.9570844	119.8864604	114.1664488	108.7745799	103.6899553	98.89312904	94.36599774	90.09170064

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					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	132.40249	125.9570844	119.8864604	114.1664488	108.7745799	103.6899553	98.89312904	94.36599774	90.09170064
170406A00033	4/6/2017	3.01	4/6/2027	4/6/2017	132.40249	125.9570804	119.8864576	114.1664471	108.7745792	103.6899555	98.89313004	94.36599947	90.09170302
170406A00034	4/6/2017	3.01	4/6/2027	4/6/2017	132.40249	125.9570804	119.8864576	114.1664471	108.7745792	103.6899555	98.89313004	94.36599947	90.09170302
170406A00036	4/6/2017	3.07	4/6/2032	4/6/2017	135.74014	128.1836411	121.2032223	114.7481062	108.772445	103.2348018	98.09769381	93.32718525	88.89252529
170406A00037	4/6/2017	3.07	4/6/2032	4/6/2017	135.74013	128.1836355	121.2032185	114.7481041	108.7724444	103.2348024	98.0976954	93.32718771	88.89252848
170322A00033	3/22/2017	3.61	3/24/2042	3/22/2017	177.50285	158.3118886	141.7759763	127.4825184	115.0878524	104.3051089	94.894303	86.65423041	79.41582633
170330A00060	3/30/2017	2.06	3/30/2022	3/30/2017	104.44485	103.6557009	102.8785641	102.1131681	101.3592478	100.6165457	99.88481224	99.1638051	98.45328906
170406A00023	4/6/2017	2.24	4/6/2022	4/6/2017	104.64333	103.8293619	103.028126	102.2393226	101.4626631	100.6978682	99.94466672	99.20279598	98.47200107
170406A00024	4/6/2017	2.61	4/8/2024	4/6/2017	116.43158	113.440851	110.54546	107.7417294	105.0261476	102.3953644	99.84618164	97.37554528	94.98053773
170406A00026	4/6/2017	2.61	4/8/2024	4/6/2017	116.43158	113.440851	110.54546	107.7417294	105.0261476	102.3953644	99.84618164	97.37554528	94.98053773
170406A00027	4/6/2017	2.61	4/8/2024	4/6/2017	116.43158	113.440851	110.54546	107.7417294	105.0261476	102.3953644	99.84618164	97.37554528	94.98053773
170309A00042	3/9/2017	2.18	3/11/2024	3/9/2017	108.65404	107.073797	105.5323947	104.0285401	102.5609973	101.1285815	99.73015684	98.36463394	97.03096731
170313A00045	3/13/2017	3.22	3/15/2032	3/13/2017	136.45293	128.9161887	121.9499629	115.5043026	109.5340718	103.9984503	98.8604887	94.08671275	89.64677032
170317A00039	3/17/2017	2.73	3/18/2024	3/17/2017	116.46801	113.5352314	110.6944853	107.9422333	105.2751029	102.6898776	100.1834874	97.75300156	95.39562059
170317A00040	3/17/2017	2.74	3/18/2024	3/17/2017	116.70381	113.7317031	110.8531735	108.0646177	105.3626013	102.7438485	100.2052333	97.74377152	95.35661273
170317A00041	3/17/2017	2.73	3/18/2024	3/17/2017	116.46801	113.5352314	110.6944853	107.9422333	105.2751029	102.6898776	100.1834874	97.75300156	95.39562059
170317A00044	3/17/2017	3.11	3/17/2027	3/17/2017	131.20331	125.1389609	119.418344	114.0196547	108.9226048	104.1083083	99.55917598	95.25881867	91.19195814
170224A00009	2/24/2017	2.39	2/24/2023	2/24/2017	109.86305	108.1150293	106.4046159	104.7306593	103.0920558	101.4877462	99.91671382	98.3779824	96.87061383
170301A00031	3/1/2017	2.11	3/1/2024	3/1/2017	108.31173	106.7804856	105.2861739	103.8275852	102.4035592	101.0129836	99.65479118	98.32795799	97.03150097
170303A00004	3/3/2017	2.8	3/4/2024	3/3/2017	116.66396	113.7321093	110.8915036	108.1386745	105.4703147	102.8832673	100.3745172	97.94118427	95.58051537
170307A00013	3/7/2017	2.33	3/7/2024	3/7/2017	108.65683	107.0801889	105.5422162	104.0416255	102.5771892	101.1477301	99.75211993	98.38927588	97.05815904
170309A00014	3/9/2017	2.58	3/9/2027	3/9/2017	118.54013	114.9950048	111.6048775	108.3615538	105.2573382	102.2849972	99.43772864	96.70913303	94.09318658
170309A00016	3/9/2017	2.39	3/8/2024	3/9/2017	108.97672	107.3921092	105.8464329	104.3383988	102.8667684	101.4303542	100.028018	98.65866766	97.32125552
170126A00004	1/26/2017	2.13	1/26/2022	1/26/2017	103.45981	102.857937	102.2631101	101.675206	101.094104	100.5196862	99.95183742	99.39044516	98.83539945
170201A00016	2/1/2017	2.49	2/1/2024	2/1/2017	115.71613	112.8903566	110.1504282	107.4931757	104.9155708	102.4147178	99.98784679	97.63230743	95.34556254
170207A00055	2/7/2017	2.36	2/8/2027	2/7/2017	117.55438	114.0888519	110.7729731	107.5989186	104.559336	101.6473104	98.85633478	96.18028326	93.61338621
170221A00028	2/21/2017	2.31	2/18/2022	2/21/2017	103.90522	103.2328583	102.569236	101.9141861	101.2675427	100.6291446	99.99883425	99.37645839	98.76186749
170221A00033	2/21/2017	2.31	2/18/2022	2/21/2017	103.90522	103.2328583	102.569236	101.9141861	101.2675427	100.6291446	99.99883425	99.37645839	98.76186749
170224A00008	2/24/2017	2.18	2/24/2022	2/24/2017	103.9189	103.2289929	102.5482785	101.8765773	101.2137111	100.5595059	99.91379257	99.27640631	98.64718649
170105A00012	1/5/2017	2.68	1/5/2024	1/5/2017	115.42131	112.6836085	110.027223	107.4492284	104.9468285	102.5173453	100.1582137	97.86697559	95.64127464
170106A00030	1/6/2017	2.39	1/6/2027	1/6/2017	117.4149	114.0038337	110.7382096	107.61051	104.6136652	101.7410217	98.98631465	96.34364231	93.80744268
170112A00015	1/12/2017	2.32	1/12/2027	1/12/2017	117.18595	113.7811746	110.5215954	107.3997052	104.4084454	101.5411725	98.79163127	96.15392935	93.62251342
170120A00028	1/20/2017	2.34	1/20/2022	1/20/2017	103.42775	102.8438966	102.2666777	101.6959832	101.1317026	100.5737278	100.021953	99.47627516	98.93659314

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
170124A00017	1/24/2017	2.82	1/23/2032	1/24/2017	134.3034	126.9683977	120.1824535	113.8980072	108.0720413	102.665609	97.64341947	92.97346701	88.62670112
170126A00003	1/26/2017	2.86	1/26/2027	1/26/2017	130.11326	124.2041366	118.6239262	113.3521561	108.3697474	103.6589127	99.20306176	94.98671398	90.99541787
161214A00034	12/14/2016	2.65	12/14/2026	12/14/2016	117.49847	114.14446	110.9313464	107.8519408	104.8994798	102.0675936	99.35027981	96.74187999	94.23705744
161222A00013	12/22/2016	2.93	12/22/2026	12/22/2016	130.10209	124.2806443	118.7786682	113.5765587	108.656029	104.0000119	99.59257158	95.41882241	91.46485419
161227A00073	12/27/2016	2.83	12/28/2026	12/27/2016	126.74799	121.5615446	116.6491145	111.9942216	107.5814851	103.3965372	99.42595098	95.65717315	92.0784623
161229A00018	12/29/2016	2.46	12/29/2026	12/29/2016	117.40688	114.0450032	110.8247246	107.7388084	104.7804404	101.9432035	99.22105211	96.60828796	94.09953764
161229A00019	12/29/2016	2.46	12/29/2026	12/29/2016	117.40688	114.0449974	110.8247202	107.7388055	104.7804388	101.9432032	99.22105298	96.60828994	94.09954067
170105A00010	1/5/2017	2.61	1/5/2027	1/5/2017	117.60984	114.2030481	110.9411827	107.8167695	104.822778	101.9525908	99.19997592	96.55906206	94.02431507
161014A00029	10/14/2016	2.51	10/15/2031	10/14/2016	131.46559	124.452827	117.9538047	111.9249176	106.3266428	101.1231274	96.28182013	91.77314368	87.57020036
161102A00014	11/2/2016	1.99	11/2/2023	11/2/2016	112.73869	110.2316666	107.7943881	105.4245183	103.1198122	100.8781131	98.69734842	96.57552579	94.51072959
161116A00006	11/16/2016	2.39	11/16/2026	11/16/2016	116.42755	113.1534297	110.0150831	107.0056688	104.1187385	101.3482151	98.68836871	96.13379464	93.6793924
161128A00006	11/28/2016	1.93	11/29/2021	11/28/2016	102.40623	101.9767124	101.5508149	101.1284948	100.7097071	100.2944074	99.88255244	99.47409924	99.06900576
161202A00001	12/2/2016	2.65	12/1/2023	12/2/2016	114.81228	112.1851949	109.6334285	107.1543734	104.7455309	102.4045039	100.1289923	97.91678771	95.76577005
161207A00014	12/7/2016	2.75	12/8/2031	12/7/2016	133.56715	126.3294842	119.6296761	113.4214601	107.6629551	102.3162177	97.34684304	92.7236083	88.41815512
161004A00070	10/4/2016	1.92	10/4/2023	10/4/2016	112.18621	109.7683433	107.4163825	105.1280276	102.9010757	100.7334199	98.6230444	96.56801949	94.56649708
161005A00016	10/5/2016	2.32	10/6/2031	10/5/2016	129.20387	122.3371285	115.9721319	110.0663877	104.5813731	99.48213518	94.73693339	90.31692091	86.19585923
161005A00031	10/5/2016	1.43	10/5/2021	10/5/2016	101.02903	100.8300061	100.6318769	100.434634	100.2382711	100.0427819	99.8481602	99.65439971	99.46149435
161012A00011	10/12/2016	1.53	10/12/2023	10/12/2016	107.18242	105.7276526	104.3052568	102.9142545	101.5537043	100.2227011	98.92037372	97.64588382	96.39842419
161014A00019	10/14/2016	2.39	10/15/2031	10/14/2016	129.66255	122.771235	116.3834909	110.4566679	104.9521007	99.83470676	95.07262839	90.63691239	86.50122373
161014A00026	10/14/2016	2.16	10/14/2031	10/14/2016	129.16043	122.2701745	115.884697	109.9611534	104.4607097	99.34813787	94.59145435	90.16159735	86.03213821
160908A00034	9/8/2016	2.17	9/8/2026	9/8/2016	124.08575	118.7673246	113.7279671	108.9512038	104.4216364	100.1248632	96.04740888	92.17665867	88.50079865
160908A00035	9/8/2016	2.3	9/8/2031	9/8/2016	128.8577	122.0636484	115.7624454	109.9126324	104.476602	99.42020957	94.71242856	90.32504289	86.23237164
160908A00036	9/8/2016	2.3	9/8/2031	9/8/2016	128.85771	122.0636606	115.7624536	109.9126368	104.4766031	99.4202076	94.71242384	90.32503568	86.23236217
160908A00037	9/8/2016	1.4	9/8/2023	9/8/2016	107.14174	105.6570782	104.2069068	102.790122	101.4056628	100.0525121	98.72969386	97.43627177	96.17134672
160923A00009	9/23/2016	2.24	9/23/2031	9/23/2016	128.47176	121.6974341	115.4145917	109.5818814	104.1617947	99.12027675	94.42638361	90.05197477	85.97143857
160930A00025	9/30/2016	1.66	9/30/2027	9/30/2016	116.61385	112.8258784	109.2158949	105.7738672	102.4904043	99.35671268	96.36455457	93.50620859	90.77443397
160908A00027	9/8/2016	2.21	9/8/2026	9/8/2016	125.43083	119.8251887	114.5185388	109.4930707	104.7321456	100.220208	95.94270852	91.88603294	88.03743628
160908A00028	9/8/2016	2.21	9/8/2026	9/8/2016	125.43083	119.8251887	114.5185388	109.4930707	104.7321456	100.220208	95.94270852	91.88603294	88.03743628
160908A00030	9/8/2016	2.21	9/8/2026	9/8/2016	125.43082	119.8251839	114.5185357	109.493069	104.7321453	100.2202089	95.94271055	91.88603599	88.03744026
160908A00031	9/8/2016	2.21	9/8/2026	9/8/2016	125.43082	119.8251839	114.5185357	109.493069	104.7321453	100.2202089	95.94271055	91.88603599	88.03744026
160908A00032	9/8/2016	2.17	9/8/2026	9/8/2016	124.08575	118.7673246	113.7279671	108.9512038	104.4216364	100.1248632	96.04740888	92.17665867	88.50079865
160908A00033	9/8/2016	2.17	9/8/2026	9/8/2016	124.08575	118.7673246	113.7279671	108.9512038	104.4216364	100.1248632	96.04740888	92.17665867	88.50079865
160908A00019	9/8/2016	1.87	9/8/2023	9/8/2016	111.5965	109.2856203	107.0360334	104.8456414	102.7124348	100.6344899	98.60996498	96.63709569	94.71419104

	Parallel-Shift Sensitivity Analysis												
6/30/2021					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	125.43083	119.8251887	114.5185388	109.4930707	104.7321456	100.220208	95.94270852	91.88603294	88.03743628
160908A00023	9/8/2016	2.21	9/8/2026	9/8/2016	125.43082	119.8251839	114.5185357	109.493069	104.7321453	100.2202089	95.94271055	91.88603599	88.03744026
160908A00024	9/8/2016	2.21	9/8/2026	9/8/2016	125.43082	119.8251839	114.5185357	109.493069	104.7321453	100.2202089	95.94271055	91.88603599	88.03744026
160908A00025	9/8/2016	2.21	9/8/2026	9/8/2016	125.43082	119.8251839	114.5185357	109.493069	104.7321453	100.2202089	95.94271055	91.88603599	88.03744026
160908A00026	9/8/2016	2.21	9/8/2026	9/8/2016	125.43082	119.8251839	114.5185357	109.493069	104.7321453	100.2202089	95.94271055	91.88603599	88.03744026
160906A00027	9/6/2016	2.03	9/8/2031	9/6/2016	128.10109	121.3217405	115.0354263	109.200586	103.7795243	98.73802309	94.04499568	89.6721767	85.59384539
160907A00041	9/7/2016	1.83	9/7/2023	9/7/2016	111.61398	109.2823489	107.0126542	104.8027749	102.6506803	100.5544267	98.51215314	96.52207652	94.58248803
160907A00049	9/7/2016	1.41	9/9/2024	9/7/2016	108.71755	106.8587527	105.0513518	103.2934892	101.5833918	99.91936443	98.29978554	96.72310372	95.18783394
160908A00015	9/8/2016	1.87	9/8/2023	9/8/2016	111.5965	109.2856203	107.0360334	104.8456414	102.7124348	100.6344899	98.60996498	96.63709569	94.71419104
160908A00016	9/8/2016	1.87	9/8/2023	9/8/2016	111.5965	109.2856203	107.0360334	104.8456414	102.7124348	100.6344899	98.60996498	96.63709569	94.71419104
160908A00017	9/8/2016	1.87	9/8/2023	9/8/2016	111.5965	109.2856203	107.0360334	104.8456414	102.7124348	100.6344899	98.60996498	96.63709569	94.71419104
160810A00028	8/10/2016	2.19	8/10/2026	8/10/2016	125.68382	120.0069208	114.6316955	109.5403245	104.7161448	100.1435659	95.80799466	91.69576607	87.79407871
160810A00029	8/10/2016	2.17	8/10/2026	8/10/2016	124.912	119.4020893	114.182407	109.2358892	104.5465765	100.099534	95.88077947	91.8772169	88.07657557
160810A00030	8/10/2016	2.24	8/11/2031	8/10/2016	128.25811	121.5496283	115.324248	109.5416083	104.1650735	99.16135911	94.50020059	90.15405739	86.09784762
160810A00035	8/10/2016	2.1	8/10/2026	8/10/2016	123.45059	118.2259703	113.2721497	108.5733449	104.1147888	99.88265652	95.86400044	92.04668883	88.41934996
160812A00006	8/12/2016	2.16	8/12/2026	8/12/2016	124.58859	119.3015075	114.2891467	109.5354598	105.0254291	100.7449981	96.68100429	92.82111731	89.15378109
160824A00019	8/24/2016	1.98	8/25/2031	8/24/2016	127.57378	120.8758725	114.6615883	108.8904293	103.5256433	98.5338477	93.88469502	89.55057525	85.50634844
160719A00026	7/19/2016	1.87	7/20/2026	7/19/2016	113.96449	110.9532178	108.0603613	105.2802227	102.6074202	100.0368696	97.56376585	95.18356537	92.89197031
160801A00002	8/1/2016	1.58	8/3/2026	8/1/2016	113.77706	110.7146765	107.7745816	104.9508114	102.2377371	99.63004452	97.1227147	94.7110054	92.3904338
160802A00026	8/2/2016	1.84	8/2/2023	8/2/2016	111.16087	108.9361619	106.7686049	104.6563217	102.5975108	100.5904437	98.63346204	96.72497329	94.86344814
160810A00022	8/10/2016	1.53	8/10/2021	8/10/2016	100.59746	100.4828793	100.3685746	100.2545434	100.1407846	100.0272972	99.91408017	99.80113259	99.68845343
160810A00025	8/10/2016	2.17	8/10/2026	8/10/2016	124.912	119.4020893	114.182407	109.2358892	104.5465765	100.099534	95.88077947	91.8772169	88.07657557
160810A00027	8/10/2016	2.13	8/10/2026	8/10/2016	123.60152	118.3715347	113.4126009	108.7089261	104.2457294	100.0091737	95.98629918	92.16496323	88.53378363
160629A00066	6/29/2016	2.61	6/30/2036	6/29/2016	163.22917	146.1075023	131.1740705	118.1256712	106.7033152	96.68552527	87.88268107	80.13224541	73.29473101
160705A00008	7/5/2016	1.7	7/6/2026	7/5/2016	119.73281	115.1882005	110.868206	106.7601497	102.8521499	99.13306341	95.59243569	92.22045403	89.00790451
160705A00010	7/5/2016	1.68	7/5/2023	7/5/2016	110.45201	108.3147667	106.2310894	104.1992729	102.2176814	100.284743	98.39894651	96.55883881	94.76302199
160711A00004	7/11/2016	1.51	7/13/2026	7/11/2016	113.37382	110.3701672	107.4848694	104.7122222	102.0468373	99.48362467	97.01777438	94.64473876	92.36021645
160713A00015	7/13/2016	1.57	7/13/2026	7/13/2016	113.54963	110.5413383	107.6515838	104.8746535	102.2051509	99.63797824	97.16831798	94.79161551	92.50356288
160719A00012	7/19/2016	1.32	7/19/2021	7/19/2016	100.26576	100.2128159	100.1599421	100.1071404	100.0544106	100.0017526	99.94916619	99.89665123	99.8442076
160608A00028	6/8/2016	2.36	6/8/2026	6/8/2016	125.21109	119.8589956	114.7806142	109.9603318	105.3835111	101.0364247	96.90619339	92.98072947	89.24868383
160608A00029	6/8/2016	2.36	6/8/2026	6/8/2016	125.21109	119.8589956	114.7806142	109.9603318	105.3835111	101.0364247	96.90619339	92.98072947	89.24868383
160608A00030	6/8/2016	2.36	6/8/2026	6/8/2016	125.21109	119.8589956	114.7806142	109.9603318	105.3835111	101.0364247	96.90619339	92.98072947	89.24868383
160608A00033	6/8/2016	2.44	6/9/2031	6/8/2016	129.09144	122.4487353	116.2773268	110.5383878	105.1966272	100.2199394	95.57909422	91.24745785	87.20074351

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160608A00034	6/8/2016	2.44	6/9/2031	6/8/2016	129.09141	122.4487142	116.2773121	110.5383789	105.1966235	100.2199406	95.57909981	91.24746747	87.20075682
160616A00029	6/16/2016	1.58	6/16/2026	6/16/2016	113.37901	110.4235254	107.5829044	104.8516768	102.2246727	99.69700528	97.26405384	94.92144704	92.66504783
160608A00021	6/8/2016	1.91	6/8/2023	6/8/2016	110.45508	108.4139735	106.4221861	104.4782061	102.5805805	100.7279107	98.91885027	97.15210215	95.42641691
160608A00022	6/8/2016	1.91	6/8/2023	6/8/2016	110.45508	108.4139735	106.4221861	104.4782061	102.5805805	100.7279107	98.91885027	97.15210215	95.42641691
160608A00023	6/8/2016	2.36	6/8/2026	6/8/2016	125.2111	119.8590046	114.7806205	109.9603356	105.3835126	101.0364241	96.90619078	92.98072503	89.2486777
160608A00024	6/8/2016	2.36	6/8/2026	6/8/2016	125.21109	119.8589956	114.7806142	109.9603318	105.3835111	101.0364247	96.90619339	92.98072947	89.24868383
160608A00025	6/8/2016	2.36	6/8/2026	6/8/2016	125.21109	119.8589956	114.7806142	109.9603318	105.3835111	101.0364247	96.90619339	92.98072947	89.24868383
160608A00027	6/8/2016	2.36	6/8/2026	6/8/2016	125.21109	119.8589956	114.7806142	109.9603318	105.3835111	101.0364247	96.90619339	92.98072947	89.24868383
160524A00101	5/24/2016	2.98	5/23/2031	5/24/2016	150.33385	138.7651086	128.2576889	118.7061317	110.0160695	102.1030055	94.89123032	88.31286271	82.30699956
160603A00014	6/3/2016	1.74	6/3/2026	6/3/2016	113.8376	110.8710024	108.0196536	105.2780629	102.641046	100.1037027	97.66139898	95.3097511	93.04460994
160603A00029	6/3/2016	2.18	6/3/2031	6/3/2016	128.41653	121.7844996	115.6241754	109.8966135	104.5664254	99.60142337	94.97230766	90.65238613	86.61732314
160606A00018	6/6/2016	1.74	6/5/2026	6/6/2016	113.83803	110.8713036	108.0198364	105.2781392	102.6410265	100.1035973	97.66121674	95.30950027	93.04429806
160608A00019	6/8/2016	2.36	6/8/2026	6/8/2016	125.21109	119.8589956	114.7806142	109.9603318	105.3835111	101.0364247	96.90619339	92.98072947	89.24868383
160608A00020	6/8/2016	2.36	6/8/2026	6/8/2016	125.21109	119.8589956	114.7806142	109.9603318	105.3835111	101.0364247	96.90619339	92.98072947	89.24868383
160428A00028	4/28/2016	2	4/28/2026	4/28/2016	114.14948	111.2708761	108.5010866	105.8350469	103.267968	100.7953183	98.41280793	96.11637413	93.90216762
160504A00022	5/4/2016	2	5/4/2023	5/4/2016	110.23624	108.2786215	106.366252	104.4978068	102.6720122	100.8876396	99.14350376	97.43846106	95.77140761
160511A00015	5/11/2016	2.42	5/11/2026	5/11/2016	125.19369	119.9183807	114.9090126	110.1506388	105.6292291	101.3316122	97.24541857	93.35902809	89.66152016
160511A00016	5/11/2016	2.48	5/12/2031	5/11/2016	129.04851	122.4641868	116.3434449	110.648369	105.3444699	100.4003511	95.78740879	91.4795634	87.45301804
160523A00086	5/23/2016	2.2	5/26/2026	5/23/2016	123.96321	118.8948984	114.0805811	109.5059554	105.1576072	101.0229479	97.090159	93.34814091	89.7864653
160524A00028	5/24/2016	2.06	5/24/2023	5/24/2016	110.63853	108.6194559	106.6482807	104.7235666	102.8439299	101.0080374	99.2146046	97.46239299	95.75020859
160413A00020	4/13/2016	2.48	4/13/2026	4/13/2016	125.21921	120.017918	115.075496	110.377486	105.9103243	101.6612792	97.6183946	93.77043851	90.10685476
160413A00021	4/13/2016	2.48	4/13/2026	4/13/2016	125.21921	120.017918	115.075496	110.377486	105.9103243	101.6612792	97.6183946	93.77043851	90.10685476
160413A00033	4/13/2016	2.32	4/13/2026	4/13/2016	121.22767	116.800833	112.583058	108.5629987	104.7299997	101.0740472	97.58572624	94.25618152	91.07708028
160414A00042	4/13/2016	2.48	4/13/2026	4/13/2016	125.21921	120.017918	115.075496	110.377486	105.9103243	101.6612792	97.6183946	93.77043851	90.10685476
160421A00016	4/21/2016	2.26	4/21/2026	4/21/2016	123.883	118.904171	114.1707263	109.6690386	105.3863174	101.3105513	97.43045684	93.73542942	90.21549917
160427A00004	4/27/2016	2.09	4/27/2026	4/27/2016	113.98539	111.1182312	108.3592269	105.7033553	103.1458651	100.6822601	98.3082831	96.01990208	93.81329638
160401A00005	4/1/2016	2.02	4/3/2023	4/1/2016	109.84264	107.9774685	106.1543116	104.3718259	102.6287293	100.9237942	99.25584406	97.62375129	96.02643413
160404A00019	4/4/2016	2.48	4/4/2031	4/4/2016	128.82085	122.3028034	116.2401913	110.5960266	105.3366437	100.4313761	95.85226747	91.57381222	87.57272279
160412A00029	4/12/2016	2.48	4/14/2031	4/12/2016	128.82211	122.3036308	116.2406604	110.5961979	105.3365693	100.4311011	95.8518307	91.57324693	87.57205741
160413A00014	4/13/2016	2.55	4/14/2031	4/13/2016	129.25621	122.7158619	116.6325393	110.9691267	105.6918376	100.7698959	96.17524514	91.88228896	87.86765694
160413A00016	4/13/2016	2.55	4/14/2031	4/13/2016	129.25621	122.7158621	116.6325394	110.9691267	105.6918376	100.7698958	96.17524506	91.88228885	87.86765681
160413A00018	4/13/2016	1.78	4/13/2026	4/13/2016	113.532	110.6698132	107.9157667	105.2648335	102.7122551	100.2535291	97.88439313	95.60081052	93.39895681
160212A00047	2/12/2016	1.94	2/12/2026	2/12/2016	113.10975	110.3622106	107.7153054	105.1644785	102.7054155	100.3340282	98.04644104	95.838979	93.70815535

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160301A00012	3/1/2016	2.02	3/1/2023	3/1/2016	109.36521	107.5977499	105.868587	104.176543	102.5204847	100.8993256	99.31202294	97.75757581	96.23502286
160303A00035	3/3/2016	2.14	3/3/2026	3/3/2016	114.32105	111.4043685	108.59781	105.8962418	103.294813	100.7889348	98.37426416	96.04668893	93.80231367
160307A00024	3/7/2016	2.17	3/6/2026	3/7/2016	113.94979	111.1338685	108.4225701	105.8111	103.294919	100.869729	98.53145808	96.276247	94.10043666
160328A00038	3/28/2016	2.54	3/30/2026	3/28/2016	124.19225	119.2757241	114.5986185	110.1476953	105.9105328	101.8754706	98.03155807	94.36850636	90.87664423
160329A00017	3/29/2016	2.48	3/30/2026	3/29/2016	123.90975	119.0025526	114.3343557	109.8919445	105.6629179	101.6356351	97.79916376	94.14323248	90.65818625
160209A00008	2/9/2016	2.45	2/10/2031	2/9/2016	128.25202	121.8692323	115.9257531	110.386409	105.2191402	100.3947051	95.88641202	91.66987859	87.72281497
160210A00049	2/10/2016	1.78	2/10/2026	2/10/2016	113.10623	110.3515539	107.6979887	105.1409457	102.6760817	100.2992821	98.00664681	95.79447766	93.65926652
160210A00051	2/10/2016	2.28	2/10/2031	2/10/2016	128.149	121.7484698	115.7895714	110.2368648	105.0580582	100.2237046	95.70692956	91.4831885	87.53004731
160210A00054	2/10/2016	1.78	2/10/2026	2/10/2016	113.10624	110.3515601	107.6979931	105.1409483	102.6760826	100.2992815	98.0066447	95.79447416	93.65926172
160211A00038	2/11/2016	1.83	2/11/2026	2/11/2016	112.81507	110.0747197	107.4347333	104.8905714	102.4379309	100.0727347	97.79111761	95.58941446	93.46414783
160212A00006	2/12/2016	1.57	2/13/2023	2/12/2016	104.70835	103.7622721	102.8340095	101.9230441	101.0288799	100.1510406	99.2890682	98.4425224	97.61097958
160115A00011	1/15/2016	2.18	1/15/2026	1/15/2016	113.55661	110.8460364	108.2333058	105.7140453	103.2841101	100.9395701	98.67669778	96.49195598	94.38198699
160119A00072	1/19/2016	2.77	1/21/2031	1/19/2016	131.58395	124.7067791	118.3178325	112.3768422	106.8472047	101.6956232	96.89178562	92.40807461	88.21930887
160126A00004	1/26/2016	2.52	1/26/2026	1/26/2016	125.88705	120.7355078	115.8334683	111.1673865	106.724527	102.4929146	98.46128458	94.6190364	90.95619063
160201A00016	2/1/2016	2.1	2/2/2026	2/1/2016	113.56478	110.8064252	108.1490731	105.5881573	103.1193486	100.7385447	98.44185704	96.22559771	94.08626787
160203A00017	2/3/2016	2.07	2/3/2023	2/3/2016	109.0445	107.359807	105.7104942	104.0955149	102.5138641	100.9645759	99.44672163	97.95940769	96.5017743
160209A00006	2/9/2016	1.91	2/9/2026	2/9/2016	113.02865	110.2832744	107.6384399	105.0895985	102.63244	100.2628803	97.97704803	95.77127167	93.64206796
151223A00036	12/23/2015	2.64	12/23/2025	12/23/2015	117.82327	114.3986409	111.1141707	107.9629878	104.9386043	102.0348922	99.24606078	96.56663646	93.99144302
151223A00078	12/23/2015	2.28	12/23/2025	12/23/2015	113.97648	111.2974175	108.7138371	106.2215139	103.8164436	101.4948283	99.25306354	97.08772789	94.9955717
151228A00013	12/28/2015	2.27	12/29/2025	12/28/2015	113.95212	111.2732399	108.689853	106.1977385	103.7928901	101.4715081	99.22998653	97.0649024	94.97300482
151229A00026	12/29/2015	2.28	12/29/2025	12/29/2015	113.97812	111.2986302	108.7146556	106.221974	103.8165784	101.4946681	99.25263642	97.08705952	94.99468578
160104A00020	1/4/2016	2.47	1/4/2023	1/4/2016	109.23036	107.6270458	106.0563361	104.517314	103.0090968	101.5308336	100.0817046	98.66091948	97.2677158
160106A00042	1/6/2016	2.43	1/6/2026	1/6/2016	114.21481	111.4891705	108.8618879	106.3285668	103.8850422	101.5273649	99.25178891	97.05475972	94.93290295
151201A00004	12/1/2015	2.44	12/1/2022	12/1/2015	108.64061	107.1394257	105.6670681	104.2227773	102.8058156	101.4154708	100.0510547	98.71190259	97.39737184
151204A00011	12/4/2015	2.28	12/4/2025	12/4/2015	113.97127	111.2935797	108.7112454	106.2200556	103.816015	101.4953338	99.2544152	97.08984462	94.99837891
151209A00024	12/9/2015	2.22	12/9/2025	12/9/2015	113.81683	111.1424183	108.563268	106.0751679	103.6741259	101.3563551	99.11826171	96.95643392	94.8676313
151210A00011	12/10/2015	2.16	12/12/2022	12/10/2015	104.8729	104.0120712	103.1669479	102.3370828	101.5220423	100.72141	99.93478568	99.16178442	98.40203596
151215A00039	12/15/2015	2.46	12/15/2025	12/15/2015	114.05531	111.3815062	108.8027743	106.3149163	103.9139545	101.596115	99.35781593	97.19565681	95.10640746
151216A00006	12/16/2015	2.3	12/16/2021	12/16/2015	102.83209	102.3496122	101.8716859	101.3982464	100.9292307	100.4645766	100.0042233	99.54811105	99.09618126
151113A00035	11/13/2015	1.8	11/14/2022	11/13/2015	104.33922	103.5259046	102.7272514	101.9428337	101.1722452	100.4150956	99.67101029	98.93962879	98.22060466
151118A00025	11/18/2015	2.4	11/18/2022	11/18/2015	108.21587	106.7823579	105.3757254	103.9952734	102.6403273	101.3102353	100.0043674	98.72211419	97.46288669
151118A00037	11/18/2015	2.75	11/18/2025	11/18/2015	121.54095	117.4253866	113.4907476	109.7278747	106.1281278	102.6833521	99.38584851	96.22834539	93.20397241
151120A00019	11/20/2015	2.72	11/20/2030	11/20/2015	130.08873	123.7574105	117.8528245	112.34147	107.1927597	102.3787457	97.87387261	93.65475571	89.69998067

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
151124A00007	11/24/2015	1.98	11/23/2022	11/24/2015	104.38325	103.5692906	102.7700084	101.9849783	101.2137935	100.4560633	99.71141272	98.97948089	98.25992099
151125A00037	11/25/2015	2.41	11/25/2025	11/25/2015	113.66239	111.0459238	108.5211035	106.0839375	103.7306364	101.4576031	99.2614218	97.13884764	95.08679683
151006A00050	10/6/2015	2.21	10/6/2022	10/6/2015	104.30816	103.5382683	102.7827193	102.0410668	101.3128879	100.5977779	99.89534892	99.20522916	98.52706211
151013A00033	10/13/2015	2.23	10/14/2025	10/13/2015	112.99856	110.4457308	107.9809332	105.6003809	103.3004768	101.0778052	98.92912096	96.85133975	94.84152899
151029A00008	10/29/2015	2.28	10/29/2025	10/29/2015	113.12695	110.5702538	108.1017688	105.7177007	103.4144444	101.1885764	99.03684409	96.95615589	94.94357235
151030A00004	10/30/2015	2.48	10/30/2025	10/30/2015	120.85331	116.7927664	112.9092381	109.1938411	105.6381864	102.2343529	98.97485866	95.85263376	92.86099568
151030A00026	10/30/2015	3.29	10/30/2030	10/30/2015	147.97849	137.6929017	128.2832382	119.6677919	111.7729749	104.5324721	97.88648334	91.78104812	86.1674443
151102A00024	11/2/2015	2.37	11/2/2022	11/2/2015	108.06845	106.6570853	105.2714417	103.9108766	102.574764	101.2624981	99.97349267	98.70718007	97.46301084
150925A00034	9/25/2015	2.36	9/25/2025	9/25/2015	113.08776	110.5802612	108.1579401	105.8171718	103.5545179	101.3667112	99.25064601	97.20336909	95.22207083
150929A00076	9/29/2015	2.28	9/29/2025	9/29/2015	112.89383	110.3903422	107.971909	105.6349118	103.3759161	101.1916587	99.07903789	97.03510402	95.05705107
150929A00083	9/29/2015	2.09	9/29/2025	9/29/2015	112.79236	110.2850935	107.8631768	105.5229757	103.2610374	101.0740818	98.9589909	96.91280043	94.93269048
150929A00087	9/29/2015	2.09	9/29/2025	9/29/2015	112.79236	110.2850935	107.8631768	105.5229757	103.2610374	101.0740818	98.9589909	96.91280043	94.93269048
151001A00023	10/1/2015	2.02	10/1/2025	10/1/2015	112.8419	110.2872612	107.8208551	105.4388785	103.1377204	100.913952	98.7643162	96.68571781	94.67521422
151005A00084	10/5/2015	2.25	10/5/2022	10/5/2015	107.61322	106.2373971	104.8951717	103.5853169	102.306661	101.0580889	99.83853803	98.64699598	97.48249705
150814A00029	8/14/2015	2.39	8/14/2025	8/14/2015	112.91784	110.4629725	108.0901353	105.7958941	103.5769822	101.4302933	99.35287281	97.34190928	95.39472624
150824A00033	8/24/2015	2.22	8/25/2025	8/24/2015	112.51536	110.0684539	107.7033537	105.4166284	103.2050183	101.0654245	98.99489899	96.990637	95.0499684
150824A00050	8/24/2015	2.03	8/25/2025	8/24/2015	112.41574	109.9651515	107.5966588	105.3068091	103.0923254	100.9500925	98.87714738	96.87067112	94.9279805
150825A00008	8/25/2015	2.82	8/25/2025	8/25/2015	122.92886	118.6021147	114.4639282	110.5048756	106.7160611	103.0890865	99.61602051	96.28936959	93.10205096
150828A00018	8/28/2015	1.7	8/29/2022	8/28/2015	103.3333	102.703201	102.0828906	101.4721183	100.8706396	100.2782185	99.69462778	99.11964798	98.55306743
150911A00007	9/10/2015	2.51	9/9/2022	9/10/2015	107.54344	106.2374447	104.9634052	103.7201547	102.506584	101.3216367	100.1643058	99.03363138	97.92869751
150803A00040	8/3/2015	3.01	8/2/2030	8/3/2015	130.05466	123.9146441	118.1775024	112.8123837	107.7910592	103.0876799	98.67855889	94.54197495	90.65799534
150803A00041	8/3/2015	3.01	8/2/2030	8/3/2015	130.0546	123.9146014	118.1774714	112.8123634	107.7910486	103.0876782	98.67856535	94.54198882	90.65801599
150803A00042	8/3/2015	3.01	8/2/2030	8/3/2015	130.05463	123.9146204	118.1774848	112.8123717	107.7910524	103.0876779	98.67856129	94.54198142	90.65800557
150804A00022	8/4/2015	2.37	8/4/2022	8/4/2015	106.77741	105.5875518	104.4243765	103.2869933	102.1745491	101.0862284	100.0212509	98.97886952	97.95836897
150805A00015	8/5/2015	2.29	8/5/2022	8/5/2015	106.84539	105.6500261	104.4815721	103.3391259	102.2218243	101.1288419	100.0593892	99.01271036	97.98808191
150812A00052	8/14/2015	2.13	8/14/2025	8/14/2015	112.65131	110.1963552	107.8236049	105.5296039	103.3110728	101.1648937	99.08810127	97.07787395	95.13152611
150729A00041	7/29/2015	2.44	7/29/2025	7/29/2015	112.79897	110.3936572	108.0674921	105.8171963	103.6396565	101.5319108	99.4911402	97.5146609	95.59991658
150803A00033	8/3/2015	3.41	8/2/2030	8/3/2015	148.10053	138.0257403	128.7908155	120.3189497	112.5408387	105.3939059	98.82161244	92.77284096	87.20134609
150803A00036	8/3/2015	3.41	8/2/2030	8/3/2015	148.10053	138.0257403	128.7908155	120.3189497	112.5408387	105.3939059	98.82161244	92.77284096	87.20134609
150803A00037	8/3/2015	3.41	8/2/2030	8/3/2015	148.1005	138.0257155	128.7907983	120.3189392	112.5408341	105.3939064	98.8216173	92.77284962	87.20135801
150803A00038	8/3/2015	3.41	8/2/2030	8/3/2015	148.10053	138.0257403	128.7908155	120.3189497	112.5408387	105.3939059	98.82161244	92.77284096	87.20134609
150803A00039	8/3/2015	3.01	8/2/2030	8/3/2015	130.05462	123.9146134	118.1774801	112.812369	107.7910515	103.0876785	98.6785633	94.54198465	90.65800987
150624A00077	6/24/2015	2.54	6/24/2022	6/24/2015	106.17687	105.1296534	104.1033901	103.0974499	102.1112306	101.1441536	100.1956629	99.2652239	98.35232227

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150701A00056	7/1/2015	2.34	7/1/2025	7/1/2015	112.90389	110.4925993	108.1607096	105.9049392	103.7221631	101.6094084	99.56384583	97.5827816	95.66365005
150714A00003	7/14/2015	3.76	7/12/2030	7/14/2015	135.2126	128.8497235	122.9024768	117.3391768	112.1308241	107.2508528	102.6749096	98.380653	94.34757299
150722A00033	7/22/2015	2.47	7/22/2025	7/22/2015	112.86705	110.4607774	108.1336599	105.8824208	103.7039475	101.595279	99.55359669	97.57621738	95.66058514
150722A00035	7/22/2015	2.92	7/22/2025	7/22/2015	122.92208	118.6801735	114.619904	110.7323557	107.0091059	103.4421934	100.0240905	96.74767659	93.60621372
150729A00028	7/29/2015	2.25	7/29/2025	7/29/2015	112.70162	110.2926838	107.9631677	105.7097804	103.5293921	101.4190252	99.37584647	97.3971585	95.48039246
150604A00039	6/4/2015	2.82	6/4/2030	6/4/2015	129.39399	123.3724422	117.7405853	112.4689667	107.5306047	102.9007643	98.55675465	94.47774503	90.64459923
150615A00024	6/15/2015	2.26	6/16/2025	6/15/2015	112.4793	110.1240286	107.8450985	105.6393903	103.5039365	101.4359127	99.43262947	97.49152477	95.61015724
150617A00017	6/17/2015	2.27	6/17/2025	6/17/2015	112.50251	110.1466833	107.8672182	105.6609959	103.5250479	101.4565487	99.45280801	97.51126294	95.6294713
150617A00018	6/17/2015	2.45	6/17/2025	6/17/2015	112.57501	110.2231959	107.9474612	105.7447056	103.611977	101.5464651	99.54549388	97.60651366	95.72709469
150617A00030	6/17/2015	2.91	6/16/2025	6/17/2015	122.42843	118.291741	114.3286346	110.5307744	106.8902699	103.3996529	100.0518523	96.84017113	93.75826424
150617A00036	6/17/2015	2.44	6/15/2022	6/17/2015	105.93599	104.9167301	103.9173579	102.9372922	101.9759749	101.032869	100.1074581	99.19924505	98.30775134
150414A00037	4/14/2015	2.34	4/14/2025	4/14/2015	111.84422	109.6030134	107.4319243	105.3281644	103.2890801	101.3121432	99.39494367	97.53518372	95.7306713
150420A00012	4/20/2015	2.07	4/20/2022	4/20/2015	104.73827	103.8807824	103.0374022	102.2077778	101.3915741	100.5884665	99.7981411	99.02029374	98.25462997
150427A00014	4/27/2015	2.98	4/27/2035	4/27/2015	144.15343	133.9552382	124.7264539	116.3617989	108.7684515	101.8644758	95.57745825	89.84332512	84.6053143
150529A00055	5/29/2015	1.78	5/31/2022	5/29/2015	102.8333	102.2983742	101.7705002	101.2495199	100.7352829	100.2276438	99.72646116	99.23159823	98.7429221
150603A00012	6/3/2015	2.77	6/3/2030	6/3/2015	129.10955	123.1012404	117.481762	112.2217274	107.2942146	102.6745437	98.34007395	94.27002075	90.44529025
150603A00032	6/3/2015	2.21	6/3/2025	6/3/2015	112.36075	110.0089106	107.7332545	105.5306671	103.3981897	101.3330061	99.33243428	97.39391957	95.51502724
150224A00010	2/24/2015	2.34	2/24/2025	2/24/2015	113.09764	110.5859463	108.1560093	105.80444	103.5280193	101.3236866	99.18853088	97.11978192	95.11480247
150227A00011	2/27/2015	2.33	2/27/2025	2/27/2015	117.79934	114.3577444	111.0478334	107.8636559	104.7995702	101.8502263	99.01054908	96.27572183	93.64117147
150311A00003	3/11/2015	2.72	3/31/2025	3/11/2015	120.71295	116.8222676	113.0877423	109.502062	106.0583091	102.7499361	99.57074214	96.51485289	93.57670033
150318A00003	3/18/2015	2.04	3/18/2022	3/18/2015	102.92168	102.4041229	101.8929086	101.387911	100.8890041	100.3960658	99.90897696	99.42762215	98.95188889
150320A00019	3/20/2015	2.25	3/20/2025	3/20/2015	117.75857	114.2697765	110.9161724	107.691567	104.5900947	101.6061982	98.73461003	95.97033483	93.30863372
150410A00021	4/10/2015	2.27	4/10/2025	4/10/2015	111.69009	109.4522647	107.284434	105.1838195	103.1477719	101.1737675	99.25940057	97.40237716	95.60050911
150115A00031	1/15/2015	1.42	1/18/2022	1/15/2015	101.77255	101.4258119	101.0819804	100.7410141	100.4028734	100.0675194	99.73491413	99.40502022	99.07780105
150203A00012	2/3/2015	1.61	2/3/2022	2/3/2015	102.01032	101.6230545	101.2394041	100.8593113	100.4827218	100.1095823	99.73984086	99.37344642	99.01034908
150203A00027	2/3/2015	2.26	2/4/2030	2/3/2015	125.33631	119.7163982	114.4481762	109.5058779	104.8658383	100.5063072	96.40728024	92.55034629	88.91854941
150213A00014	2/13/2015	2.41	2/13/2025	2/13/2015	111.81862	109.668185	107.5828827	105.5601887	103.5977001	101.6931251	99.84427687	98.04906783	96.3055046
150219A00016	2/19/2015	2.68	2/19/2025	2/19/2015	120.4814	116.6081548	112.8869092	109.3107116	105.8729726	102.5674457	99.38820685	96.32963581	93.38639818
150223A00017	2/23/2015	1.77	2/23/2022	2/23/2015	103.7698	103.0671473	102.3738974	101.6898612	101.0148561	100.3487042	99.69123246	99.04227218	98.40165905
141015A00027	10/15/2014	2.01	10/15/2021	10/15/2014	101.7251	101.4232832	101.1232758	100.825062	100.5286254	100.2339502	99.94102049	99.64982071	99.36033543
141015A00029	10/15/2014	2.32	10/15/2024	10/15/2014	116.33799	113.2313657	110.2339539	107.34118	104.5486893	101.8523382	99.24818198	96.73246421	94.30160621
141017A00022	10/17/2014	2.78	10/17/2024	10/17/2014	118.80535	115.3872735	112.092576	108.916027	105.8526538	102.8977253	100.0467381	97.29540464	94.63964083
141107A00027	11/7/2014	1.98	11/8/2021	11/7/2014	101.39932	101.1501437	100.9024065	100.6560983	100.4112058	100.1677156	99.92561457	99.68488994	99.44552892

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
141203A00039	12/3/2014	3.6	12/4/2034	12/3/2014	149.46383	139.0255245	129.5631175	120.9722823	113.1608535	106.0473146	99.55948343	93.63336874	88.21217478
150114A00029	1/14/2015	1.99	1/14/2022	1/14/2015	101.9263	101.5811007	101.2387646	100.8992533	100.5625285	100.2285524	99.89728772	99.56869825	99.24274824
140821A00030	8/21/2014	2.27	8/21/2024	8/21/2014	110.04703	108.2115234	106.4258505	104.6882377	102.9969893	101.3504831	99.7471669	98.18555452	96.66422273
140821A00040	8/21/2014	3.41	8/21/2031	8/21/2014	156.66291	144.5776633	133.6155624	123.6631046	114.6189616	106.3926041	98.9030923	92.07800741	85.85250828
140908A00080	9/8/2014	2.51	3/8/2024	9/8/2014	113.94167	111.4492015	109.0311769	106.6848137	104.4074592	102.19658	100.049756	97.96467439	95.93912355
140917A00030	9/17/2014	3.23	9/17/2029	9/17/2014	142.57734	133.8822991	125.8458411	118.4127683	111.5328653	105.1604171	99.25377988	93.77499459	88.68943998
140924A00057	9/24/2014	3.25	9/25/2028	9/24/2014	141.99467	133.5932898	125.7843676	118.5220997	111.7644955	105.4730358	99.61236644	94.15002059	89.05616667
140925A00039	9/25/2014	2.02	9/27/2021	9/25/2014	100.96955	100.7986955	100.628509	100.4589824	100.2901114	100.1218919	99.95431982	99.78739114	99.62110181
140428A00015	4/28/2014	2.35	4/29/2024	4/28/2014	109.18013	107.5440733	105.9490957	104.3938175	102.8769135	101.3971138	99.95320152	98.54400951	97.16841835
140618A00019	6/18/2014	3.08	6/18/2024	6/18/2014	110.67035	108.9227062	107.220605	105.5624725	103.9468055	102.3721647	100.8371713	99.34050359	97.88089455
140703A00026	7/3/2014	3.11	7/3/2024	7/3/2014	118.40088	115.2615873	112.228031	109.2959884	106.4614368	103.7205381	101.0696296	98.50521453	96.02395359
140717A00027	7/17/2014	3.14	7/17/2026	7/17/2014	127.6056	122.4377284	117.5314412	112.8717678	108.4446794	104.2370283	100.2364878	96.43149583	92.81120351
140730A00035	7/30/2014	2.67	1/30/2023	7/30/2014	105.5923	104.6784648	103.7816247	102.9012878	102.0369824	101.1882555	100.3546717	99.53581228	98.73127448
140730A00037	7/30/2014	2.83	1/30/2024	7/30/2014	109.11186	107.6157574	106.1550019	104.72845	103.3350074	101.973624	100.6432923	99.34304484	98.07195257
130422A00020	4/22/2013	1.98	4/22/2025	4/22/2013	111.06207	108.8358729	106.6793486	104.5897269	102.564371	100.6007683	98.69652394	96.84935433	95.05708092
130614A00018	6/14/2013	2.83	6/14/2023	6/14/2013	106.96909	105.8232152	104.7006104	103.6005908	102.5224943	101.4656845	100.4295495	99.41350097	98.41697256
131018A00006	10/18/2013	3.28	10/20/2025	10/18/2013	125.55265	121.1061597	116.857311	112.7960541	108.9129123	105.1989443	101.6457109	98.2452438	94.9900163
140219A00005	2/19/2014	3.13	2/20/2029	2/19/2014	126.75709	121.7215714	116.9687644	112.4799325	108.2377299	104.2260899	100.4301215	96.83601531	93.43095704
140313A00028	3/13/2014	2.86	3/13/2024	3/13/2014	115.2832	112.6852625	110.1659106	107.7221823	105.3512529	103.0504264	100.8171281	98.64889832	96.543386
140318A00003	3/17/2014	3.08	3/18/2024	3/17/2014	117.9927	115.0074937	112.1162038	109.3152166	106.6010836	103.9705152	101.420373	98.9476605	96.54951615
120808A00006	8/8/2012	2.06	8/9/2027	8/8/2012	117.86893	114.0918294	110.4900822	107.0539129	103.7741655	100.6422606	97.65015493	94.79030476	92.05563079
120820A00009	8/20/2012	2.4	8/22/2022	8/20/2012	106.9242	105.7102114	104.5244215	103.3658491	102.2335581	101.1266553	100.0442874	98.9856393	97.94993162
120820A00011	8/20/2012	2.4	8/22/2022	8/20/2012	106.9242	105.7102112	104.5244213	103.3658489	102.233558	101.1266553	100.0442874	98.98563936	97.94993173
121016A00013	10/16/2012	1.64	10/14/2022	10/16/2012	103.89819	103.1306749	102.3772833	101.6375851	100.91117	100.197645	99.49663319	98.80777318	98.13071807
121114A00020	11/14/2012	1.74	11/14/2022	11/14/2012	107.33049	105.9309553	104.5575114	103.2094814	101.8862126	100.5870744	99.31145722	98.05877169	96.8284478
130206A00009	2/6/2013	2.83	2/7/2028	2/6/2013	129.82251	123.6408102	117.8376377	112.3868275	107.2641938	102.4473665	97.91564349	93.64985714	89.63225121
120330A00013	3/30/2012	2.98	4/2/2024	3/30/2012	116.32208	113.526055	110.8171639	108.1920574	105.6475409	103.1805676	100.7882301	98.46775332	96.2164868
120517A00021	5/17/2012	1.85	5/17/2024	5/17/2012	108.609	106.936497	105.3067863	103.718413	102.1699813	100.660154	99.18764976	97.75124016	96.34974712
120806A00014	8/6/2012	1.77	8/8/2022	8/6/2012	103.51413	102.842657	102.18224	101.5325803	100.8933871	100.2643806	99.64529145	99.03586023	98.43583709
120806A00015	8/6/2012	2.38	8/6/2027	8/6/2012	118.44998	114.6659556	111.0571844	107.6139205	104.3270317	101.1879599	98.18868074	95.32166681	92.57985332
120807A00025	8/7/2012	1.82	8/8/2022	8/7/2012	103.54663	102.8749478	102.2143263	101.5644655	100.9250744	100.2958731	99.67659219	99.06697218	98.46676316
120807A00026	8/7/2012	2.42	8/9/2027	8/7/2012	118.59666	114.8078248	111.1944816	107.7468646	104.4558289	101.3128045	98.30975581	95.43914511	92.69389788
011115A00014	11/15/2001	5.19	11/16/2021	11/15/2001	103.5008	103.1002297	102.7027759	102.308402	101.9170719	101.5287505	101.143403	100.7609951	100.3814931

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
020918A00047	9/18/2002	4.72	9/19/2022	9/18/2002	106.50372	105.680217	104.874776	104.0867405	103.3154871	102.5604229	101.8209832	101.09663	100.3868504
030605A00010	6/5/2003	3.97	6/5/2023	6/5/2003	111.69431	110.0572626	108.4577977	106.8947642	105.3670577	103.873616	102.4134169	100.9854768	99.58884837
050812A00050	8/12/2005	4.97	8/12/2025	8/12/2005	118.81556	116.2422383	113.7610258	111.3678166	109.0587223	106.8300565	104.6783228	102.6002036	100.5925498
050823A00085	8/23/2005	4.78	8/25/2025	8/23/2005	129.99741	125.6766957	121.5424484	117.5853737	113.7967009	110.1681499	106.691901	103.360566	100.1671613
050823A00088	8/23/2005	4.78	8/25/2025	8/23/2005	129.9975	125.6767741	121.5425131	117.5854254	113.7967404	110.1681779	106.6919182	103.3605728	100.1671584
210514A00007	5/14/2021	0.95	5/15/2028	5/14/2021	115.11361	111.022678	107.1406342	103.4547648	99.95323344	96.62501113	93.45981557	90.44805539	87.58077887
210514A00010	5/14/2021	1.34	5/14/2031	5/14/2021	122.56703	116.4096886	110.6830664	105.3520444	100.3846765	95.75187684	91.42714213	87.38630364	83.60730413
970806A00017	8/1/1997	7.02	7/23/2026	8/1/1997	128.19435	124.9716811	121.8729186	118.892173	116.023884	113.262796	110.6039396	108.0426136	105.5743687
970806A00018	8/1/1997	6.7	10/23/2026	8/1/1997	128.64264	125.2486385	121.9905836	118.8617771	115.8559066	112.967017	110.1894879	107.5180122	104.9475764
970806A00059	8/1/1997	8.25	9/22/2025	8/1/1997	147.73547	142.5108912	137.5167221	132.7412688	128.1735128	123.8030635	119.6201175	115.6154215	111.7802381
200331A00056	3/31/2020	0.96	3/29/2030	3/31/2020	118.40612	113.1119389	108.150058	103.4960099	99.1273378	95.02341161	91.16526633	87.53545567	84.11791943
200401A00011	4/1/2020	0.68	4/3/2023	4/1/2020	104.22932	103.2035803	102.1978382	101.2115001	100.2439967	99.29478154	98.36332998	97.44913783	96.5517205
200402A00050	4/6/2020	0.73	4/5/2024	4/6/2020	106.35831	104.7749134	103.2310966	101.7255272	100.2569299	98.82408276	97.42581499	96.06100394	94.72857279
200428A00018	4/28/2020	1.33	4/27/2035	4/28/2020	128.33643	119.4906322	111.4750983	104.2003572	97.58746577	91.56668959	86.07635386	81.0618464	76.47475062
200521A00005	5/21/2020	0.75	5/21/2030	5/21/2020	117.6419	112.269491	107.240379	102.5288822	98.11145371	93.96649049	90.07415893	86.41623718	82.97597258
210409A00010	4/9/2021	1.05	4/9/2031	4/9/2021	120.7876	114.7444858	109.1217575	103.8853379	99.00421123	94.45012248	90.19731165	86.22227485	82.50355013
200316A00008	3/16/2020	1.31	3/15/2030	3/16/2020	119.30046	114.0098563	109.0497199	104.3958113	100.0258741	95.91945628	92.05775137	88.42345393	85.00062903
200317A00022	3/17/2020	0.97	3/17/2022	3/17/2020	101.98752	101.5516442	101.1204131	100.6937454	100.2715611	99.853782	99.4403318	99.03113614	98.62612242
200317A00024	3/17/2020	1.09	3/17/2025	3/17/2020	108.90091	106.777962	104.7201566	102.7249438	100.7898936	98.91268919	97.09112116	95.32308142	93.60655784
200326A00037	3/26/2020	1.78	3/26/2035	3/26/2020	131.77134	122.8148227	114.6910264	107.3108989	100.5957997	94.47620038	88.89055473	83.7843171	79.10908824
200327A00004	3/27/2020	0.63	3/28/2022	3/27/2020	101.85812	101.4189593	100.984549	100.554803	100.1296379	99.70897229	99.29272687	98.88082427	98.47318902
200330A00010	3/30/2020	0.61	3/30/2022	3/30/2020	101.8523	101.4124909	100.9774482	100.5470887	100.1213286	99.70008575	99.28328032	98.87083436	98.4626719
200203A00046	2/3/2020	1.98	2/3/2040	2/3/2020	144.87772	131.7417598	120.2086962	110.0559021	101.094246	93.16275393	86.12415989	79.86119395	74.27347957
200210A00007	2/10/2020	1.78	2/10/2025	2/10/2023	115.6182	112.3103188	109.1273159	106.0636178	103.1139376	100.2732579	97.53681567	94.90008712	92.35877435
200225A00049	2/25/2020	1.79	2/24/2040	2/25/2020	142.7604	129.7616035	118.3525096	108.3120015	99.45226883	91.61349166	84.65941433	78.47365251	72.95660733
200310A00067	3/10/2020	0.94	3/10/2025	3/10/2020	108.5939	106.4755838	104.4222699	102.4314122	100.5005866	98.62748189	96.80989403	95.04571995	93.33295228
200311A00027	3/11/2020	1.52	3/9/2035	3/11/2020	129.70737	120.8500442	112.8180952	105.5231325	98.88711336	92.84104575	87.32386584	82.28146215	77.66582675
200311A00028	3/11/2020	1.04	3/12/2024	3/11/2020	107.02887	105.3945736	103.8015204	102.2482975	100.7335552	99.25600207	97.81440147	96.40756897	95.03436958
191114A00014	11/14/2019	1.9	11/14/2023	11/14/2019	107.0373	105.6742697	104.3419282	103.039312	101.7654988	100.519603	99.30077438	98.1081957	96.94108163
191115A00029	11/15/2019	2.07	11/15/2029	11/15/2019	122.25671	117.0826307	112.219519	107.6453411	103.3398085	99.2842268	95.46135854	91.85529953	88.45136606
191216A00013	12/16/2019	1.95	12/16/2024	12/16/2019	110.00136	108.0048436	106.0663327	104.1836558	102.3547389	100.5776014	98.85035074	97.17117832	95.53835484
191231A00021	12/31/2019	1.9	2/28/2023	12/31/2019	104.53953	103.6833641	102.8428376	102.0175018	101.2069248	100.4106914	99.62840281	98.85967541	98.10414017
191231A00027	12/31/2019	1.9	4/28/2023	12/31/2019	104.53093	103.6749296	102.8345692	102.0093947	101.1989744	100.4028934	99.62075285	98.85216938	98.09677412

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200130A00027	1/31/2020	1.79	1/31/2025	1/31/2020	109.91228	107.8687699	105.8857744	103.9609915	102.0922251	100.277379	98.51445175	96.80153166	95.1367919
190520A00020	5/20/2019	2.39	5/20/2026	5/20/2019	115.2036	112.3013794	109.5095521	106.8229442	104.2366639	101.7460835	99.34682432	97.03474067	94.8059063
190628A00007	6/28/2019	2.28	6/28/2034	6/28/2019	135.41188	126.7168799	118.7901425	111.5533352	104.9368786	98.87890084	93.32432206	88.22405382	83.5342988
190813A00019	8/13/2019	2.13	8/13/2021	8/13/2019	100.60974	100.5048212	100.4001363	100.2956824	100.1914587	100.0874645	99.98369896	99.88016129	99.77685071
190823A00009	8/23/2019	1.8	8/23/2029	8/23/2019	121.22593	116.2089827	111.4869168	107.0392823	102.8472121	98.89329215	95.16143922	91.63678966	88.30559821
191114A00012	11/14/2019	1.89	11/15/2021	11/14/2019	101.39814	101.1451026	100.8935701	100.6435251	100.3949532	100.1478402	99.90217199	99.6579348	99.41511492
191114A00013	11/14/2019	1.9	11/14/2022	11/14/2019	104.29401	103.4856488	102.6918136	101.9120825	101.1460538	100.3933417	99.65357572	98.92639949	98.2114704
181220A00006	12/20/2018	2.93	12/20/2022	12/20/2018	105.37509	104.5159118	103.6723732	102.8440297	102.0304504	101.2312208	100.4459428	99.67423348	98.91572448
190102A00015	1/2/2019	2.97	1/3/2034	1/2/2019	139.42637	130.8377758	122.9824181	115.7878171	109.1893661	103.1294118	97.55645048	92.42442293	87.69209468
190102A00020	1/2/2019	2.97	1/3/2034	1/2/2019	139.42607	130.8375645	122.9822772	115.7877366	109.1893373	103.1294272	97.5565036	92.42450817	87.69220719
190102A00022	1/2/2019	2.97	1/3/2034	1/2/2019	139.42588	130.8374238	122.9821858	115.7876869	109.1893228	103.1294422	97.55654331	92.42456851	87.69228465
190102A00024	1/2/2019	2.97	1/3/2034	1/2/2019	139.42598	130.8375015	122.9822373	115.7877161	109.189333	103.1294362	97.55652357	92.42453711	87.69224339
190327A00030	3/27/2019	2.9	3/27/2036	3/27/2019	143.24634	133.0459342	123.8446753	115.5298611	108.0026849	101.1764062	94.97477497	89.33067358	84.18494431
180716A00046	7/16/2018	2.9	7/16/2025	7/16/2018	113.70357	111.3627154	109.0972533	106.9041137	104.780374	102.7232526	100.7301003	98.79839365	96.92572757
180725A00034	7/25/2018	2.79	7/25/2022	7/25/2018	103.97255	103.342917	102.7230061	102.1125643	101.5113504	100.919132	100.3356847	99.76079217	99.1942454
180725A00035	7/25/2018	2.85	7/25/2023	7/25/2018	107.3774	106.1889162	105.0251053	103.8852312	102.7685826	101.6744765	100.6022561	99.55128998	98.5209709
180928A00077	9/28/2018	2.85	9/28/2021	9/28/2018	101.13141	100.9592888	100.7878453	100.6170732	100.4469681	100.2775258	100.108742	99.94061267	99.77313352
181029A00097	10/29/2018	3.53	10/27/2028	10/29/2018	138.96278	131.4052866	124.3646359	117.801523	111.6798724	105.9665525	100.631119	95.64558277	90.98419845
181211A00042	12/11/2018	3.7	12/11/2028	12/11/2023	141.11963	133.215674	125.8612229	119.01381	112.6345076	106.6876132	101.1403647	95.96268235	91.12693452
170705A00028	7/5/2017	1.86	7/6/2021	7/5/2017	100.09291	100.0762032	100.0595121	100.0428376	100.0261799	100.0095388	99.99291442	99.97630664	99.95971544
170705A00029	7/5/2017	1.98	7/5/2022	7/5/2017	103.38489	102.7637085	102.1519804	101.5494642	100.9559297	100.3711549	99.79492535	99.22703398	98.66728075
170929A00046	9/29/2017	2.49	9/30/2027	9/29/2017	118.63664	114.8823612	111.3022578	107.8865868	104.6262305	101.5126481	98.53783479	95.69428473	92.9749561
171206A00020	12/6/2017	2.62	12/6/2027	12/6/2017	119.75642	115.8266007	112.0850978	108.5210672	105.1243785	101.8855589	98.79574557	95.84664256	93.0304803
180126A00018	1/26/2018	2.34	1/26/2023	1/26/2018	105.26613	104.3608073	103.4722826	102.6000682	101.7436989	100.9027275	100.0767244	99.26527615	98.46798533
180529A00057	5/29/2018	3.09	5/30/2028	5/29/2018	127.84085	122.5150956	117.497921	112.7685199	108.3076405	104.0974605	100.1214717	96.36437445	92.81198186
170130A00043	1/30/2017	2.64	1/29/2027	1/30/2017	117.31731	113.9592296	110.7471366	107.6733273	104.7305661	101.9120517	99.21138835	96.62255842	94.13989763
170130A00046	1/30/2017	2.52	1/30/2026	1/30/2017	114.2051	111.4990512	108.8935971	106.3841133	103.9662214	101.6357765	99.38885258	97.2217296	95.13088119
170313A00041	3/13/2017	3.21	3/15/2032	3/13/2017	134.52644	127.4377578	120.8735127	114.7884295	109.1415533	103.8958075	99.01759633	94.47645206	90.24471929
170315A00005	3/15/2017	2.1	3/15/2022	3/15/2017	102.46467	102.0279698	101.5959087	101.1684047	100.745378	100.3267509	99.91244759	99.50239399	99.09651788
170612A00024	6/12/2017	1.72	6/13/2022	6/12/2017	103.07217	102.4955752	101.9271397	101.3666708	100.813983	100.2688969	99.73123883	99.20084068	98.6775397
170616A00003	6/16/2017	1.91	6/17/2024	6/16/2017	108.85979	107.1519853	105.4886218	103.8681694	102.2891607	100.7501907	99.24991328	97.78703853	96.36032975
160928A00042	9/28/2016	3.05	9/29/2036	9/28/2021	146.4801	135.4740456	125.6059655	116.7406009	108.7602444	101.562308	95.05724899	89.1667964	83.822431
160928A00044	9/28/2016	2.89	9/29/2036	9/28/2023	145.02734	134.1069197	124.3172122	115.5237035	107.6093431	100.4721253	94.02302429	88.18422826	82.8876269

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160930A00032	9/30/2016	2.15	9/30/2031	9/30/2016	126.98218	120.4944466	114.4703287	108.87118	103.6619189	98.81067435	94.28846758	90.06892819	86.12803965
160930A00033	9/30/2016	1.8	9/30/2026	9/30/2016	113.96266	110.8977633	107.9559652	105.1312211	102.4178253	99.81039359	97.30384339	94.89337432	92.57445063
170130A00036	1/30/2017	3.11	1/31/2033	1/30/2017	136.34288	128.5544143	121.3915652	114.7959427	108.7151594	103.1021687	97.91467845	93.1146327	88.66775426
170130A00039	1/30/2017	2.74	1/31/2028	1/30/2017	120.42696	116.3910989	112.5560724	108.9099125	105.4414558	102.1402873	98.996685	96.00156877	93.14645361
150601A01051	6/1/2015	4.91	2/7/2025	6/1/2015	129.00296	124.9485955	121.0526545	117.3079433	113.7076446	110.2452923	106.9147505	103.7101948	100.6260945
160928A00029	9/28/2016	2.52	9/29/2036	9/28/2016	141.66783	130.945441	121.3369702	112.7096282	104.9478838	97.95107795	91.63137969	85.91203945	80.72589239
160928A00030	9/28/2016	2.52	9/29/2036	9/28/2016	141.66783	130.945441	121.3369702	112.7096282	104.9478838	97.95107795	91.63137969	85.91203945	80.72589239
160928A00032	9/28/2016	2.52	9/29/2036	9/28/2016	141.66783	130.945441	121.3369702	112.7096282	104.9478838	97.95107795	91.63137969	85.91203945	80.72589239
160928A00033	9/28/2016	2.46	9/29/2036	9/28/2016	141.12305	130.4327688	120.8536878	112.2532916	104.5162959	97.54225946	91.24354543	85.5435764	80.37534085
160928A00041	9/28/2016	3.26	9/29/2036	9/30/2019	148.38684	137.2683983	127.2974542	118.3377788	110.2708024	102.9931727	96.4146689	90.45641708	85.0493614
150601A01015	6/1/2015	5.61	10/28/2025	6/1/2015	136.35544	131.4525265	126.7694599	122.2950319	118.0186697	113.930396	110.0207921	106.2809637	102.7025087
150601A01016	6/1/2015	5.73	10/28/2025	6/1/2015	136.85547	131.9416877	127.2481201	122.7635444	118.4773726	114.3796133	110.4608344	106.7121288	103.125082
150601A01040	6/1/2015	5.4	10/2/2026	6/1/2015	142.13709	136.0783314	130.3392649	124.9008594	119.7453382	114.8560868	110.2175699	105.815254	101.6355371
150601A01041	6/1/2015	5.99	10/2/2036	6/1/2015	183.53404	169.1859698	156.333758	144.8001378	134.4306372	125.0904675	116.6618545	109.0417494	102.1398647
150601A01047	6/1/2015	5.35	12/30/2024	6/1/2015	129.74637	125.794491	121.9932717	118.3360492	114.8164948	111.4285963	108.1666396	105.0251928	101.99909
150601A01048	6/1/2015	5.27	1/3/2025	6/1/2015	129.55248	125.5924362	121.783768	118.1197608	114.5940398	111.2005497	107.9335366	104.7875315	101.7573341
150601A00997	6/1/2015	5.46	9/30/2022	6/1/2015	111.5513	110.1715767	108.8269273	107.5160175	106.23758	104.9904107	103.7733642	102.5853509	101.4253332
150601A01005	6/1/2015	5.82	3/10/2025	6/1/2015	132.32019	128.1804999	124.2042354	120.3838563	116.7122237	113.1825742	109.7884973	106.5239148	103.3830608
150601A01008	6/1/2015	5.08	4/15/2025	6/1/2015	116.7208	114.5079555	112.3630692	110.2834695	108.2666136	106.3100778	104.411551	102.5688286	100.7798067
150601A01011	6/1/2015	5.05	9/8/2025	6/1/2015	118.34245	115.8712112	113.4819459	111.171229	108.9358028	106.7725702	104.6785852	102.6510443	100.6872787
150601A01012	6/1/2015	5.43	9/15/2023	6/1/2015	119.63049	117.2211333	114.8756676	112.5918919	110.3677	108.201077	106.0900941	104.0329045	102.027739
150601A01013	6/1/2015	5.21	9/29/2023	6/1/2015	119.46411	117.0153385	114.632433	112.3130883	110.0550995	107.8563594	105.7148528	103.6286514	101.5959096
150601A00971	6/1/2015	6.42	6/20/2033	6/1/2015	168.19984	157.6809472	148.0488905	139.2180026	131.1116641	123.6612828	116.8053917	110.4888555	104.66217
150601A00976	6/1/2015	6.8	9/22/2033	6/1/2015	172.07222	161.3669262	151.5702237	142.5933879	134.3571841	126.7907827	119.830803	113.4204717	107.5088828
150601A00978	6/1/2015	6.32	11/24/2033	6/1/2015	161.82892	152.4352813	143.8162744	135.8973011	128.6116925	121.8998027	115.7082123	109.989027	104.69926
150601A00988	6/1/2015	4.57	3/22/2024	6/1/2015	111.40968	109.8715968	108.3708884	106.9063171	105.4767011	104.0809074	102.7178495	101.3864851	100.0858138
150601A00993	6/1/2015	5.37	6/9/2034	6/1/2015	164.77225	153.7165267	143.6586467	134.4956516	126.1361715	118.4990337	111.5120455	105.1109313	99.23840181
150601A00994	6/1/2015	5.86	6/24/2022	6/1/2015	109.50851	108.4412975	107.3953885	106.370142	105.3649464	104.3792136	103.4123788	102.4638987	101.5332508
150601A00952	6/1/2015	6.34	2/13/2032	6/1/2015	161.01504	152.0016687	143.6725226	135.9678066	128.8334666	122.2205971	116.0849133	110.3862808	105.0882961
150601A00953	6/1/2015	6.6	6/10/2032	6/1/2015	165.18704	155.6557425	146.8683087	138.758009	131.2646848	124.3340506	117.9170772	111.969444	106.4510523
150601A00955	6/1/2015	5.84	7/15/2032	6/1/2015	152.22972	144.254218	136.8751374	130.0402117	123.7022491	117.8186004	112.3506861	107.2635762	102.525616
150601A00960	6/1/2015	6.49	12/16/2032	6/1/2015	158.33896	149.8091951	141.9358004	134.6595948	127.927308	121.6909407	115.9072009	110.5370049	105.545034
150601A00964	6/1/2015	5.25	1/6/2033	6/1/2015	150.60301	142.3428935	134.725771	127.6931596	121.192458	115.1763073	109.6020272	104.4311165	99.62881085

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00966	6/1/2015	4.84	2/3/2023	6/1/2015	107.0967	106.212695	105.3451184	104.4934943	103.657367	102.8362989	102.0298694	101.2376737	100.4593229
150601A00939	6/1/2015	5.79	1/17/2031	6/1/2015	149.44817	142.0706803	135.1969948	128.7871251	122.804595	117.2161067	111.9912409	107.102187	102.5235007
150601A00943	6/1/2015	6.44	5/9/2031	6/1/2015	156.74099	148.6212134	141.0770464	134.061282	127.5309819	121.447062	115.7739188	110.4790942	105.5329747
150601A00946	6/1/2015	6.28	8/22/2031	6/1/2015	157.36189	148.9774809	141.2020381	133.9844912	127.2784886	121.0419261	115.2365269	109.8274663	104.7830351
150601A00947	6/1/2015	6.19	8/20/2021	6/1/2015	101.39839	101.2555161	101.1130632	100.971028	100.8294085	100.688203	100.5474096	100.4070264	100.2670516
150601A00948	6/1/2015	6.04	10/22/2031	6/1/2015	148.91845	141.6435348	134.8793586	128.583746	122.7183912	117.2484747	112.1423195	107.371083	102.9084813
150601A00950	6/1/2015	6.76	12/18/2031	6/1/2015	161.75718	153.0021729	144.8966124	137.3848	130.4163009	123.945406	117.9306541	112.3344062	107.1224648
150601A00919	6/1/2015	7.41	6/7/2030	6/1/2015	156.77385	149.4504781	142.6012137	136.1902931	130.1849471	124.5551278	119.2732629	114.3140342	109.6541773
150601A00927	6/1/2015	6.08	8/7/2030	6/1/2015	144.48956	138.1855182	132.279944	126.7430488	121.547532	116.6683553	112.082538	107.768973	103.7082599
150601A00928	6/1/2015	5.94	8/21/2030	6/1/2015	143.96256	137.6489134	131.7360377	126.1938547	120.9948113	116.1136454	111.5271781	107.2141269	103.1549358
150601A00929	6/1/2015	5.91	8/30/2030	6/1/2015	149.05305	141.8707998	135.1660117	128.9017952	123.0444155	117.5630014	112.4292825	107.6173514	103.103449
150601A00931	6/1/2015	7.13	9/20/2030	6/1/2015	156.66782	149.1459361	142.1232536	135.5612354	129.4246392	123.6812136	118.3014223	113.2581967	108.5267116
150601A00935	6/1/2015	6.46	11/21/2030	6/1/2015	153.4181	145.9118187	138.9120979	132.3792251	126.2769329	120.5720757	115.2343387	110.235976	105.5515744
150601A00899	6/1/2015	7.07	6/14/2029	6/1/2015	142.49961	137.0869413	131.9769795	127.1495183	122.585869	118.268737	114.1821074	110.3111411	106.6420801
150601A00900	6/1/2015	6.06	6/28/2024	6/1/2015	115.37128	113.6041652	111.8826337	110.2051224	108.5701371	106.9762464	105.422079	103.9063204	102.4277102
150601A00905	6/1/2015	6.14	10/29/2029	6/1/2015	145.17353	138.8770101	132.9615939	127.4002871	122.1682222	117.2424794	112.6019207	108.2270382	104.0998177
150601A00906	6/1/2015	6.2	11/1/2029	6/1/2015	145.92517	139.5409336	133.5461833	127.9131268	122.6161769	117.6317646	112.9381648	108.5153399	104.3447964
150601A00912	6/1/2015	5.96	11/30/2029	6/1/2015	144.74221	138.3883656	132.4229271	126.8181357	121.5484409	116.5903097	111.9220525	107.5236663	103.3766914
150601A00918	6/1/2015	5.62	4/28/2025	6/1/2015	118.85206	116.5177214	114.2558982	112.063725	109.9384741	107.8775458	105.8784618	103.9388582	102.0564795
150601A00875	6/1/2015	7.14	9/29/2028	6/1/2015	143.91317	138.4761156	133.3299083	128.4561572	123.8377825	119.4589084	115.3047705	111.3616298	107.6166944
150601A00883	6/1/2015	6.21	11/30/2028	6/1/2015	140.20777	134.8105238	129.7073929	124.8794519	120.3091459	115.9801782	111.8774113	107.9867765	104.2951909
150601A00888	6/1/2015	5.92	3/1/2029	6/1/2015	140.5151	134.8747226	129.55351	124.5302015	119.785123	115.3000566	111.058122	107.0436698	103.2421824
150601A00889	6/1/2015	6.55	3/2/2029	6/1/2015	144.64257	138.7365471	133.1673586	127.9124615	122.9509977	118.263658	113.832556	109.6411135	105.673956
150601A00893	6/1/2015	6.49	4/6/2029	6/1/2015	144.38669	138.4760794	132.9045153	127.6491571	122.6888833	118.0041511	113.5768675	109.3902714	105.4288269
150601A00897	6/1/2015	6.15	5/28/2029	6/1/2015	142.8059	136.9281412	131.3900362	126.1685281	121.2423101	116.5916799	112.198407	108.045613	104.1176617
150601A00851	6/1/2015	7.12	4/30/2027	6/1/2015	135.0006	130.880811	126.9446505	123.1822641	119.5844026	116.1423792	112.8480315	109.693686	106.6721253
150601A00864	6/1/2015	7.37	3/31/2028	6/1/2015	142.10207	137.0621423	132.2775522	127.7329326	123.4139576	119.3072681	115.400399	111.681714	108.1403439
150601A00865	6/1/2015	6	4/3/2028	6/1/2015	133.07387	128.6892266	124.5195895	120.5522672	116.7754165	113.1779825	109.7496411	106.4807453	103.3622757
150601A00868	6/1/2015	7.08	6/5/2028	6/1/2015	142.00549	136.8298064	131.9223649	127.2666898	122.8474468	118.6503545	114.662105	110.8702904	107.2633363
150601A00871	6/1/2015	6.74	7/31/2028	6/1/2015	141.33579	136.081197	131.1028838	126.3836778	121.9076058	117.6598033	113.6264294	109.7945894	106.1522639
150601A00872	6/1/2015	7.42	7/31/2028	6/1/2015	143.78946	138.5194571	133.5247269	128.7882273	124.2941026	120.0275942	115.9749576	112.1233853	108.4609364
150601A00736	6/1/2015	2.87	5/1/2030	6/1/2015	126.77755	121.2367543	116.0424731	111.1691889	106.5934808	102.2938368	98.25048406	94.44523579	90.86135236
150601A00739	6/1/2015	2.35	5/6/2025	6/1/2015	111.44851	109.2743458	107.1681309	105.1271639	103.1488733	101.2308088	99.37063487	97.56612422	95.81515221

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00772	6/1/2015	1.84	5/13/2022	6/1/2015	102.49186	102.0250092	101.564012	101.1087415	100.6590793	100.2149101	99.77612227	99.34260714	98.91425921
150601A00832	6/1/2015	7.17	8/28/2025	6/1/2015	122.85886	120.3385811	117.9010302	115.5427754	113.2605527	111.0512582	108.9119384	106.8397819	104.8321116
150601A00847	6/1/2015	6.59	1/31/2022	6/1/2015	105.94668	105.3419964	104.7444559	104.1539351	103.57031	102.9934595	102.4232651	101.8596112	101.3023849
150601A00848	6/1/2015	6.36	2/18/2022	6/1/2015	103.34321	102.9990373	102.658064	102.3202451	101.9855318	101.6538766	101.3252329	100.9995549	100.6767982
150601A00624	6/1/2015	2.48	12/8/2021	6/1/2015	102.8044	102.3439046	101.8875531	101.4352907	100.9870624	100.5428144	100.1024935	99.66604774	99.23342596
150601A00660	6/1/2015	2.26	1/5/2022	6/1/2015	103.1819	102.6387991	102.1014314	101.5697095	101.0435447	100.5228499	100.00754	99.49753178	98.99274351
150601A00678	6/1/2015	2.12	1/30/2025	6/1/2015	110.3116	108.2955191	106.3393094	104.4406856	102.5974702	100.8075851	99.0690461	97.37995819	95.73851066
150601A00690	6/1/2015	2.34	2/28/2025	6/1/2015	110.87863	108.8242976	106.8316507	104.8983152	103.0220271	101.2006266	99.43205247	97.71433678	96.04559988
150601A00714	6/1/2015	1.67	4/1/2022	6/1/2015	102.12532	101.7169883	101.3131798	100.9138074	100.5187899	100.1280481	99.74150486	99.35908511	98.98071558
150601A00732	6/1/2015	1.91	4/29/2022	6/1/2015	102.44498	101.992915	101.5463411	101.1051495	100.669232	100.2384838	99.81280272	99.39208947	98.97624754
150601A00527	6/1/2015	2.5	7/26/2024	6/1/2015	109.5025	107.7900362	106.1228692	104.4994132	102.9181553	101.3776472	99.87650195	98.41339099	96.98704101
150601A00529	6/1/2015	2.08	7/28/2021	6/1/2015	100.01605	100.0132573	100.0104669	100.0076789	100.0048933	100.0021102	99.99932945	99.99655112	99.9937752
150601A00543	6/1/2015	2.23	8/8/2024	6/1/2015	109.40135	107.6684899	105.981888	104.3399149	102.7410147	101.1836982	99.66653963	98.18817383	96.74729263
150601A00555	6/1/2015	2.13	9/2/2021	6/1/2015	100.59109	100.4884695	100.3861611	100.2841653	100.1824807	100.0811057	99.98003894	99.87927883	99.77882393
150601A00557	6/1/2015	2.03	9/2/2021	6/1/2015	100.51939	100.427706	100.3362856	100.245132	100.154244	100.0636203	99.97325967	99.88316093	99.79332286
150601A00558	6/1/2015	2.51	8/30/2024	6/1/2015	109.80437	108.0341605	106.3118195	104.6356476	103.0040189	101.4153781	99.86823672	98.36116959	96.89281184
150601A00477	6/1/2015	3.21	6/1/2029	6/1/2015	130.48232	124.6525416	119.1731487	114.0197393	109.1698	104.602545	100.2987715	96.24072848	92.41199735
150601A00496	6/1/2015	2.27	6/27/2024	6/1/2015	109.13724	107.4706863	105.8474614	104.2660715	102.7250861	101.2231355	99.75890761	98.33114504	96.93864232
150601A00505	6/1/2015	2.07	7/8/2021	6/1/2015	100.05337	100.0440651	100.0347743	100.025493	100.0162212	100.0069588	99.99770577	99.98846219	99.97922801
150601A00508	6/1/2015	1.97	7/8/2021	6/1/2015	100.03835	100.0315505	100.0247553	100.0179668	100.0111851	100.0044102	99.99764195	99.99088043	99.98412562
150601A00509	6/1/2015	2.52	7/8/2024	6/1/2015	109.37589	107.6947926	106.0576085	104.4628172	102.908965	101.3946596	99.91856782	98.47941165	97.07596618
150601A00526	6/1/2015	2	7/28/2021	6/1/2015	100.21841	100.1798652	100.1413801	100.102956	100.0645927	100.0262901	99.98804796	99.94986624	99.91174479
150601A00425	6/1/2015	2.64	2/21/2024	6/1/2015	108.42148	106.9588936	105.5312226	104.137334	102.7761381	101.4465902	100.1476876	98.87846801	97.6380074
150601A00426	6/1/2015	3.37	2/21/2029	6/1/2015	125.53804	120.794528	116.3117015	112.0725266	108.0612205	104.2631518	100.6647484	97.25341346	94.0174478
150601A00448	6/1/2015	2.61	4/26/2024	6/1/2015	108.93267	107.3642427	105.8349457	104.3434616	102.8885333	101.4689556	100.0835736	98.73127955	97.41101089
150601A00459	6/1/2015	2.42	5/16/2024	6/1/2015	108.79501	107.2011046	105.6474257	104.1326151	102.6553715	101.2144481	99.80864965	98.43683017	97.09789031
150601A00473	6/1/2015	2.22	5/31/2024	6/1/2015	108.8584	107.2336966	105.6505402	104.107519	102.6032766	101.1365135	99.70598476	98.31049671	96.94890474
150601A00475	6/1/2015	3.04	6/1/2029	6/1/2015	124.96008	120.0582842	115.4347177	111.0706581	106.9487956	103.0531178	99.3688029	95.88212306	92.58035562
150601A00270	6/1/2015	3.12	3/21/2031	6/1/2015	150.95683	139.7235237	129.4978525	120.1814164	111.6860324	103.9326165	96.85019427	90.37502489	84.44982361
150601A00390	6/1/2015	2.39	5/20/2022	6/1/2015	104.24525	103.5266444	102.8191312	102.122436	101.4362926	100.7604436	100.0946404	99.43864264	98.79221801
150601A00395	6/1/2015	2.86	1/3/2024	6/1/2015	108.28581	106.900202	105.5465678	104.2238862	102.9311817	101.6675183	100.4319971	99.22375475	98.04196193
150601A00396	6/1/2015	3.61	1/3/2029	6/1/2015	126.0941	121.4227303	117.0038108	112.821096	108.8595152	105.1050821	101.5448089	98.16662799	94.95932036
150601A00410	6/1/2015	2.68	1/24/2024	6/1/2015	108.22563	106.8096886	105.4268778	104.0761386	102.756451	101.4668365	100.2063556	98.97410641	97.76922232

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150601A00411	6/1/2015	3.38	1/24/2029	6/1/2015	125.3304	120.643696	116.2121803	112.0193196	108.0497863	104.2893623	100.7248506	97.34399476	94.1354052
150601A00030	6/1/2015	5.28	11/26/2027	6/1/2015	149.24862	141.7051287	134.6309034	127.9935348	121.7630423	115.9116745	110.4137318	105.2454037	100.3846199
150601A00033	6/1/2015	5.96	12/24/2025	6/1/2015	139.862	134.608754	129.5997763	124.8221867	120.2638605	115.9133782	111.7599804	107.7935259	104.0044528
150601A00035	6/1/2015	5.73	4/1/2038	6/1/2015	177.06685	163.4389412	151.2743219	140.3914369	130.633365	121.8642512	113.9662853	106.8371369	100.3877753
150601A00038	6/1/2015	5.77	6/2/2023	6/1/2015	118.08152	115.9681705	113.9052941	111.8913587	109.9248878	108.00446	106.1287065	104.2963086	102.5059958
150601A00165	6/1/2015	2.66	6/4/2032	6/1/2015	132.29907	125.1667416	118.5738205	112.4728276	106.8209011	101.5793094	96.71302184	92.19032648	87.98249027
150601A00261	6/1/2015	3.19	2/11/2033	6/1/2015	153.4102	141.3676667	130.5170588	120.728229	111.8861963	103.8892839	96.64749887	90.081117	84.11944726
150601A00011	6/1/2015	5.17	8/3/2022	6/1/2015	109.88476	108.6843086	107.5105816	106.3626897	105.2397823	104.1410462	103.0657029	102.0130072	100.9822454
150601A00018	6/1/2015	4.91	9/5/2025	6/1/2015	133.11698	128.3488639	123.7909911	119.4327396	115.2640964	111.2756145	107.4583774	103.8039656	100.3044258
150601A00019	6/1/2015	5.64	10/3/2022	6/1/2015	111.94222	110.5443113	109.1810114	107.8510377	106.5531663	105.2862331	104.0491301	102.8408018	101.6602422
150601A00022	6/1/2015	5.43	10/26/2037	6/1/2015	172.32794	159.3240256	147.68832	137.2544958	127.8783379	119.4346085	111.8143791	104.9227562	98.67694298
150601A00023	6/1/2015	5.46	10/30/2037	6/1/2015	184.12471	168.5999901	154.8050347	142.5217542	131.5618028	121.7622803	112.982083	105.0988041	98.00609611
150601A00024	6/1/2015	5.58	11/8/2022	6/1/2015	112.62029	111.1638664	109.7343134	108.3309435	106.9530919	105.6001158	104.2713938	102.9663245	101.6843264
140414A00009	4/14/2014	2.32	4/30/2024	4/14/2014	111.3657	109.2923545	107.2757468	105.3139248	103.4050129	101.5472118	99.7387955	97.97810735	96.26355708
140911A00033	9/11/2014	3.02	9/13/2027	9/11/2014	124.92402	120.0547561	115.451318	111.0968184	106.9755636	103.0729638	99.37544822	95.87038677	92.54601878
141124A00024	11/24/2014	2.27	11/30/2021	11/24/2014	102.63149	102.1847854	101.7419003	101.3027842	100.8673895	100.4356688	100.0075762	99.58306592	99.1620934
141126A00006	11/26/2014	2.41	11/30/2021	11/26/2014	102.65721	102.210411	101.7674259	101.3282055	100.8927021	100.4608689	100.0326597	99.60802912	99.18693263
150601A00001	6/1/2015	5.43	6/15/2037	6/1/2015	181.70424	166.7248843	153.3798176	141.4670899	130.811768	121.2621014	112.6862588	104.9695474	98.01203997
150601A00005	6/1/2015	4.84	6/9/2025	6/1/2015	131.14199	126.67789	122.4013881	118.3034777	114.3756378	110.6098022	106.9983332	103.5339964	100.2099368
130624A00019	6/24/2013	3.4	6/26/2023	6/24/2013	113.79051	111.6333612	109.5296974	107.4778399	105.4761721	103.5231395	101.617247	99.75705623	97.94118277
130913A00018	9/13/2013	3.72	9/13/2028	9/13/2013	126.8457	122.0742696	117.5660404	113.3037434	109.2713899	105.4541641	101.8383282	98.41113637	95.16075536
130925A00035	9/25/2013	1.53	6/25/2025	9/25/2013	113.06832	110.210878	107.4547225	104.7954683	102.2289477	99.75120171	97.35846839	95.04717173	92.81391116
140311A00039	3/11/2014	3.06	3/11/2024	3/11/2014	115.8623	113.1735836	110.5658772	108.0361243	105.5814113	103.1989576	100.8861081	98.64032657	96.45918924
140314A00026	3/14/2014	2.99	3/14/2024	3/14/2019	117.05693	114.1816884	111.3952031	108.6940876	106.0751093	103.5351844	101.0713697	98.68085472	96.36095489
140325A00012	3/25/2014	3.61	3/26/2029	3/25/2019	129.76524	124.3191273	119.189819	114.3554035	109.7956766	105.4919914	101.4271272	97.58516954	93.95140134
121214A00014	12/14/2012	2.16	12/14/2027	12/14/2017	119.72828	115.5332122	111.5505635	107.767498	104.17205	100.7530637	97.50013279	94.40354485	91.45423063
121217A00009	12/17/2012	2.02	12/17/2027	12/17/2012	119.31194	115.0876936	111.0775985	107.2686933	103.6489004	100.2069606	96.93237185	93.81533361	90.8466949
121220A00023	12/20/2012	1.82	12/20/2022	12/20/2012	107.65778	106.2059017	104.7822052	103.385929	102.0163381	100.6727237	99.3544018	98.06071192	96.79101641
130206A00004	2/6/2013	2.14	2/7/2028	2/6/2013	119.26938	115.1568689	111.2517071	107.5413815	104.0142332	100.6593947	97.46673086	94.42678362	91.53072244
130207A00012	2/7/2013	2.9	2/7/2033	2/7/2013	136.9387	128.6821805	121.1044868	114.1408434	107.733273	101.8298313	96.38393173	91.35375094	86.70170359
130624A00017	6/24/2013	3.4	6/26/2023	6/24/2013	113.79051	111.6333612	109.5296974	107.4778399	105.4761721	103.5231395	101.617247	99.75705623	97.94118277
120827A00052	8/27/2012	2.01	8/27/2027	8/27/2012	117.46235	113.6889574	110.1002861	106.6855157	103.4345428	100.3379313	97.38686333	94.57309444	91.88891213
120907A00005	9/7/2012	1.76	9/7/2022	9/7/2012	104.05412	103.2660127	102.4947109	101.7396237	101.0001864	100.2758604	99.56613272	98.8705136	98.18853572

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
120907A00026	9/7/2012	1.71	9/7/2022	9/7/2012	106.03656	104.8684366	103.7282794	102.6150764	101.5278616	100.4657149	99.42775949	98.4131591	97.42111579
120907A00032	9/7/2012	1.86	9/9/2024	9/7/2012	113.17426	110.488312	107.8938531	105.387072	102.964348	100.622238	98.35746603	96.16691408	94.04761284
121120A00010	11/20/2012	1.93	11/22/2027	11/20/2012	118.53968	114.4310572	110.5283704	106.8192931	103.2923311	99.9367604	96.74256972	93.70040884	90.80154044
121120A00011	11/20/2012	2.22	11/22/2027	11/20/2012	126.09998	120.2908174	114.8276794	109.6872484	104.8479251	100.2896897	95.993977	91.94356341	88.12246197
120410A00005	4/10/2012	2.35	4/12/2027	4/10/2012	119.79885	115.7943872	111.9756503	108.3323407	104.8548041	101.5339908	98.36141293	95.32910611	92.42959355
120614A00013	6/14/2012	1.89	6/14/2022	6/14/2012	105.68649	104.6329345	103.6001822	102.5876198	101.5946604	100.6207397	99.66531494	98.72786364	97.80788297
120614A00015	6/14/2012	1.89	6/14/2022	6/14/2012	105.68649	104.6329345	103.6001822	102.5876198	101.5946604	100.6207397	99.66531494	98.72786364	97.80788298
120621A00009	6/21/2012	3.18	6/21/2032	6/21/2012	146.8215	136.4454253	127.0149721	118.4335343	110.6151226	103.483133	96.96926359	91.01256081	85.55858172
120716A00025	7/16/2012	1.83	7/18/2022	7/17/2017	103.24065	102.6221786	102.0162063	101.4223375	100.8401895	100.2693954	99.70960396	99.16047813	98.62169463
120827A00048	8/27/2012	2.01	8/27/2027	8/27/2012	117.46235	113.6889544	110.1002842	106.6855148	103.4345429	100.3379322	97.386865	94.57309678	91.88891506
111128A00006	11/28/2011	3.03	11/28/2031	11/28/2011	134.23027	127.1099374	120.5188496	114.4111644	108.7454222	103.4840938	98.59317798	94.0418445	89.802114
120119A00015	1/19/2012	2.27	1/19/2024	1/19/2012	112.64996	110.3105398	108.0374775	105.8284112	103.6810806	101.5933219	99.56306314	97.58831912	95.66718753
120210A00004	2/10/2012	1.98	2/10/2022	2/10/2012	103.69775	103.0337076	102.3780605	101.7306544	101.0913348	100.4599509	99.83635566	99.22040564	98.61196092
120210A00005	2/10/2012	1.64	2/10/2022	2/10/2012	103.47694	102.8151375	102.1617061	101.5164878	100.8793288	100.2500786	99.62859067	99.01472217	98.40833362
120217A00007	2/17/2012	2.25	2/20/2024	2/17/2012	113.10532	110.6621709	108.2901692	105.9866979	103.749261	101.575473	99.46305384	97.40982272	95.4136932
120315A00002	3/14/2012	2.56	3/15/2027	3/14/2022	120.0913	116.1716479	112.4317003	108.8614559	105.4515532	102.193224	99.0782509	96.09892856	93.24802805
070518A00023	5/18/2007	5.46	5/18/2027	5/18/2007	131.07333	126.7751442	122.676447	118.7661405	115.0338266	111.4697594	108.0647995	104.8103725	101.6984305
080220A00035	2/20/2008	4.65	2/22/2022	2/20/2008	105.64795	104.9489498	104.2592203	103.5785758	102.9068374	102.2438309	101.5893866	100.9433392	100.3055275
080423A00066	4/23/2008	4.41	4/24/2023	4/23/2008	111.16544	109.6924904	108.2506531	106.8390412	105.4567964	104.1030916	102.7771297	101.4781414	100.2053851
110414A00007	4/14/2011	3.95	1/21/2025	4/14/2011	117.50833	114.834196	112.2462707	109.7411166	107.3154562	104.966165	102.6902628	100.4849068	98.34738368
110824A00006	8/24/2011	2.69	8/24/2026	8/24/2011	117.04666	113.8485281	110.7864794	107.8534771	105.0429057	102.3485407	99.76452233	97.28533156	94.90576784
111007A00007	10/7/2011	3.92	10/7/2031	10/7/2011	154.58835	143.5396224	133.486294	124.3291493	115.979552	108.3582509	101.394331	95.02428683	89.19120466
061013A00024	10/13/2006	5.53	10/15/2021	10/13/2006	102.76351	102.4578341	102.1539912	101.8519642	101.5517365	101.253292	100.9566149	100.6616893	100.3684996
081219A00006	12/19/2008	3.88	12/22/2023	12/19/2008	119.2921	116.4469841	113.6858242	111.005638	108.4035672	105.876873	103.4229304	101.0392222	98.7233346
110706A00009	7/6/2011	3.93	7/6/2021	7/6/2011	100.12752	100.1107811	100.0940612	100.077358	100.0606716	100.0440019	100.0273488	100.0107124	99.99409267
110706A00010	7/6/2011	3.93	7/6/2021	7/6/2011	100.12752	100.1107811	100.0940612	100.077358	100.0606716	100.0440019	100.0273488	100.0107124	99.99409267
110805A00021	8/5/2011	3.36	8/5/2021	8/5/2011	100.70866	100.6078896	100.507326	100.406971	100.3068239	100.2068841	100.1071508	100.0076235	99.90830142
110927A00009	9/27/2011	3.07	9/27/2021	9/27/2011	101.68401	101.4320271	101.1812937	100.9317999	100.6835366	100.4364947	100.1906651	99.94603906	99.70260773
200131A00031	1/31/2020	1.74	1/31/2024	1/31/2020	113.78243	110.8962328	108.0984834	105.3859126	102.7553936	100.2039364	97.72868076	95.32688964	92.99594298
191002A00042	1/13/2020	1.76	1/13/2023	1/13/2020	108.43567	106.7793369	105.1571205	103.5680446	102.0111715	100.4855987	98.99045661	97.52490766	96.08814446
191002A00043	2/3/2020	1.75	2/3/2023	2/3/2020	108.72599	107.0049797	105.320235	103.6706868	102.0553043	100.4730965	98.92311065	97.40443021	95.91617308
191002A00044	2/3/2020	1.75	2/3/2023	2/3/2020	108.72599	107.0049797	105.320235	103.6706868	102.0553043	100.4730965	98.92311065	97.40443021	95.91617308
191002A00045	2/14/2020	1.75	2/14/2023	2/14/2020	108.89702	107.1388467	105.4182373	103.7340546	102.0852113	100.4706633	98.88940775	97.34048079	95.8229556

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
191002A00046	2/14/2020	1.75	2/14/2023	2/14/2020	108.89702	107.1388467	105.4182373	103.7340546	102.0852113	100.4706633	98.88940775	97.34048079	95.8229556
200131A00029	1/31/2020	1.78	10/31/2024	1/31/2020	117.52953	113.7193984	110.0527577	106.5234621	103.1256631	99.85379175	96.70254418	93.6668674	90.74194616
190904A00040	9/4/2019	1.73	6/22/2022	9/4/2019	105.49386	104.4277925	103.3831683	102.3593502	101.3557215	100.3716896	99.40668484	98.46015968	97.53158724
190904A00043	9/4/2019	1.72	12/15/2022	9/4/2019	107.95177	106.3849499	104.8490627	103.3432709	101.8667651	100.418764	98.99851374	97.6052865	96.23837932
190904A00044	9/4/2019	1.72	12/30/2022	9/4/2019	108.17043	106.5571337	104.9765535	103.4277743	101.9099183	100.4221394	98.96362168	97.53357838	96.13125022
190917A00030	1/10/2020	2.03	1/10/2023	1/10/2020	108.82425	107.17341	105.556453	103.972418	102.4203784	100.8994419	99.40874874	97.94747058	96.51480869
190917A00033	1/10/2020	2.03	1/10/2023	1/10/2020	108.82425	107.17341	105.556453	103.972418	102.4203784	100.8994419	99.40874874	97.94747058	96.51480869
191002A00038	1/13/2020	1.76	1/13/2023	1/13/2020	108.43567	106.7793369	105.1571205	103.5680446	102.0111715	100.4855987	98.99045661	97.52490766	96.08814446
190829A00078	8/29/2019	1.8	12/15/2023	8/29/2019	113.31402	110.5778959	107.9222394	105.3442075	102.8410801	100.4102501	98.04921714	95.75558311	93.52704697
190829A00080	8/29/2019	1.8	12/29/2023	8/29/2019	113.50509	110.7229763	108.0239064	105.4049085	102.8631334	100.3958518	98.00044833	95.67441627	93.41535195
190830A00020	8/31/2020	1.67	8/31/2023	8/31/2020	111.53876	109.1529541	106.8305663	104.5694297	102.3674754	100.2227223	98.13327269	96.09730794	94.1130844
190904A00034	9/4/2019	1.74	6/1/2022	9/4/2019	105.18395	104.1847552	103.2044514	102.2425067	101.2984094	100.3716669	99.46180419	98.56836374	97.69090427
190904A00036	9/4/2019	1.74	6/8/2022	9/4/2019	105.29412	104.2725692	103.2707542	102.2881075	101.324083	100.3781553	99.44981852	98.53858548	97.6439869
190904A00037	9/4/2019	1.73	6/15/2022	9/4/2019	105.39443	104.3505495	103.3272586	102.3239533	101.3400525	100.3749972	99.42825009	98.4992939	97.58763071
190829A00017	8/29/2019	1.8	8/29/2023	8/29/2019	111.80865	109.4257207	107.1059985	104.8473302	102.6476582	100.5050121	98.41750424	96.38332529	94.40074043
190829A00028	8/29/2019	1.78	8/29/2024	8/29/2019	116.71185	113.1154852	109.6491103	106.3072318	103.0846232	99.97631317	96.9775712	94.08389409	91.29099339
190829A00072	8/29/2019	1.81	12/15/2022	8/29/2019	108.08889	106.5209684	104.9840024	103.4771513	101.9996049	100.5505816	99.12932695	97.73511261	96.36723517
190829A00073	8/29/2019	1.81	3/15/2023	8/29/2019	109.43841	107.5854429	105.7734996	104.0012881	102.2675682	100.5711517	98.91089985	97.2857205	95.6945659
190829A00075	8/29/2019	1.8	6/15/2023	8/29/2019	110.74636	108.6016087	106.5096105	104.4687323	102.4774023	100.5341079	98.63739361	96.78585776	94.97815062
190829A00076	8/29/2019	1.81	6/30/2023	8/29/2019	110.98874	108.7941982	106.6547623	104.5686866	102.5342953	100.5499776	98.61418459	96.72542614	94.88226847
190805A00031	8/5/2020	1.77	8/4/2023	8/5/2020	111.3936	109.0903	106.8467021	104.6608357	102.5308094	100.4548094	98.43109516	96.45799597	94.53390753
190815A00040	8/15/2019	1.86	8/15/2023	8/15/2019	111.74788	109.4076276	107.1286492	104.9088912	102.7463887	100.6392587	98.58569553	96.58396715	94.63241144
190815A00041	8/15/2019	1.86	8/15/2024	8/15/2019	116.79909	113.2448468	109.8178208	106.5126875	103.3243833	100.2480887	97.27921453	94.41338972	91.64644896
190826A00046	8/26/2019	1.77	8/26/2024	8/26/2019	116.63918	113.0533508	109.5968765	106.2642987	103.0504275	99.95032562	96.95929442	94.07286036	91.28676269
190829A00013	8/29/2019	1.78	8/29/2024	8/29/2019	116.71185	113.1154852	109.6491103	106.3072318	103.0846232	99.97631317	96.9775712	94.08389409	91.29099339
190829A00016	8/29/2019	1.82	8/29/2022	8/29/2019	106.64694	105.3598167	104.103589	102.8771573	101.6794718	100.5095316	99.36638175	98.24911064	97.15684761
190621A00039	6/21/2019	2.21	6/17/2024	6/21/2019	117.12086	113.7470697	110.4887994	107.341443	104.3006077	101.3621005	98.52191821	95.77623737	93.12140535
190722A00047	11/22/2019	2.03	11/22/2021	11/22/2019	102.335	101.9201823	101.5087304	101.1006011	100.6957543	100.2941503	99.89575042	99.50051623	99.10841011
190722A00051	11/22/2019	2.03	11/22/2021	11/22/2019	102.335	101.9201823	101.5087304	101.1006011	100.6957543	100.2941503	99.89575042	99.50051623	99.10841011
190722A00054	12/19/2019	2.02	12/20/2021	12/19/2019	102.78682	102.2889507	101.7959001	101.307602	100.8239879	100.3449906	99.870544	99.40058341	98.93504532
190722A00056	12/19/2019	2.02	12/20/2021	12/19/2019	102.78682	102.2889507	101.7959001	101.307602	100.8239879	100.3449906	99.870544	99.40058341	98.93504532
190726A00014	7/26/2019	2.23	7/24/2024	7/26/2019	117.72449	114.2237251	110.8462286	107.5869322	104.4410095	101.403862	98.47110652	95.63856402	92.90224836
190604A00019	6/4/2019	2.27	6/4/2024	6/4/2019	117.11483	113.7838159	110.5654708	107.4553565	104.4492398	101.5430779	98.73300813	96.01533931	93.38654283

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190607A00040	6/7/2019	2.12	6/7/2022	6/7/2019	105.64639	104.6260833	103.6254197	102.6438338	101.6807841	100.7357491	99.80822706	98.89773447	98.00380558
190607A00041	6/7/2019	2.12	6/7/2022	6/7/2019	105.64639	104.6260833	103.6254197	102.6438338	101.6807841	100.7357491	99.80822706	98.89773447	98.00380558
190621A00034	6/21/2019	2.17	6/15/2023	6/21/2019	111.50891	109.3561403	107.2562874	105.2077113	103.2088356	101.2581434	99.35417463	97.4955238	95.68083721
190621A00035	6/21/2019	2.19	12/15/2023	6/21/2019	114.33183	111.58243	108.9137982	106.3230847	103.8075605	101.3646095	98.99172282	96.68649428	94.44661496
190621A00037	6/21/2019	2.21	5/15/2024	6/21/2019	116.63434	113.3743015	110.2226222	107.175114	104.2277747	101.3767788	98.61846802	95.94934321	93.36605664
190515A00030	5/15/2019	2.49	5/15/2024	5/15/2019	117.49436	114.2212875	111.0569012	107.9970048	105.0375855	102.1748075	99.40500267	96.7246625	94.13043022
190515A00032	5/15/2019	2.49	5/15/2024	5/15/2019	117.49436	114.2212875	111.0569012	107.9970048	105.0375855	102.1748075	99.40500267	96.7246625	94.13043022
190520A00048	5/20/2019	2.53	5/20/2024	5/20/2019	117.69486	114.4029107	111.2207351	108.1440785	105.1688707	102.2912219	99.50741334	96.8138887	94.2072462
190523A00035	5/23/2019	2.34	11/23/2021	5/23/2019	102.47813	102.0600502	101.6453863	101.2340921	100.8261267	100.4214496	100.0200212	99.62180246	99.22675495
190530A00048	5/30/2019	2.41	5/31/2022	5/30/2019	105.80355	104.8042487	103.8237642	102.8615663	101.9171475	100.9900186	100.0797083	99.18576236	98.30774261
190530A00049	5/30/2019	2.44	5/30/2023	5/30/2019	111.79926	109.6938834	107.6390842	105.633331	103.6751505	101.763124	99.89588462	98.07211504	96.2905455
190329A00012	3/29/2019	2.61	3/29/2024	3/29/2019	117.11401	113.9958657	110.9777687	108.0558054	105.2262512	102.4855566	99.83033647	97.25736164	94.76354986
190405A00040	4/3/2020	3.12	4/5/2030	4/3/2020	153.59207	141.6716714	130.7840174	120.833719	111.7346859	103.4091762	95.78694504	88.80448442	82.40434397
190422A00030	4/22/2019	2.93	12/22/2025	4/22/2019	128.30453	122.8962815	117.7494667	112.8500467	108.1848118	103.741328	99.50788705	95.4734604	91.62765587
190426A00023	4/26/2019	2.91	6/24/2026	4/26/2019	131.081	124.9707441	119.1845796	113.7035906	108.5100607	103.5873943	98.92003997	94.49341933	90.29386099
190501A00014	5/1/2019	2.62	5/1/2024	5/1/2019	117.67249	114.4410743	111.315598	108.2920253	105.3664925	102.5353038	99.79492289	97.14196531	94.57319095
190501A00024	5/1/2019	2.62	5/1/2024	5/1/2019	117.67249	114.4410743	111.315598	108.2920253	105.3664925	102.5353038	99.79492289	97.14196531	94.57319095
190315A00039	3/15/2019	2.64	9/15/2021	3/15/2019	101.36373	101.1464	100.9300105	100.7145589	100.5000388	100.2864444	100.0737694	99.86200798	99.65115417
190318A00016	3/19/2019	2.7	3/18/2022	3/19/2019	104.71736	103.9502066	103.1942795	102.4493375	101.7151422	100.9914621	100.2780723	99.57475424	98.88129548
190318A00017	3/19/2019	2.7	3/18/2022	3/19/2019	104.71736	103.9502066	103.1942795	102.4493375	101.7151422	100.9914621	100.2780723	99.57475424	98.88129548
190325A00022	3/25/2019	2.55	11/25/2022	3/25/2019	108.87446	107.360423	105.8751966	104.4180229	102.9881734	101.5849447	100.2076567	98.85565208	97.52829522
190327A00027	3/27/2019	2.66	1/15/2025	3/27/2019	121.87233	117.7366125	113.7649583	109.9499303	106.2844768	102.7619047	99.37585984	96.12030721	92.98951314
190328A00077	3/28/2019	2.46	9/28/2021	3/28/2019	101.54954	101.2949406	101.0416135	100.7895511	100.5387441	100.289183	100.0408587	99.79376199	99.54788386
190221A00011	2/21/2019	2.81	8/23/2021	2/21/2019	100.97949	100.8278322	100.6766362	100.5259038	100.3756331	100.2258217	100.0764677	99.92756891	99.77912326
190221A00012	2/21/2019	2.83	8/23/2022	2/21/2019	107.75732	106.4820891	105.2369866	104.0209539	102.8329817	101.6721065	100.5374088	99.42801015	98.34307119
190311A00068	3/25/2019	2.76	9/26/2022	3/25/2019	108.29265	106.9047566	105.552348	104.2340809	102.9486745	101.6949116	100.4716342	99.27774036	98.11218057
190311A00072	3/25/2019	2.79	9/25/2023	3/25/2019	114.53438	112.0348359	109.603299	107.2373781	104.9347922	102.693361	100.5109993	98.38571152	96.31558763
190311A00073	3/14/2019	2.81	3/14/2024	3/14/2019	117.45371	114.3775337	111.3987716	108.5136712	105.7186547	103.0103093	100.3853779	97.84075067	95.37345733
190311A00076	3/14/2019	2.88	9/16/2024	3/14/2019	120.74676	117.024215	113.4374336	109.9806053	106.6482065	103.4349878	100.3359582	97.34637021	94.46170628
181227A00001	12/27/2018	2.92	12/27/2021	12/27/2018	103.35601	102.835915	102.3210475	101.8113304	101.3066867	100.8070409	100.3123192	99.82244881	99.33735876
190122A00017	1/22/2019	2.94	5/2/2022	1/22/2019	105.74778	104.8385589	103.9449433	103.066537	102.2029542	101.3538221	100.51878	99.69747952	98.88958345
190122A00018	1/22/2019	2.98	12/1/2022	1/22/2019	109.61583	108.0776857	106.5691147	105.0893371	103.6375973	102.2131656	100.8153371	99.44343062	98.09678783
190123A00059	1/23/2019	2.95	1/24/2022	1/23/2019	103.89192	103.2872249	102.689561	102.0988103	101.5148534	100.9375734	100.3668563	99.80259047	99.24466692

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190206A00009	2/12/2019	2.84	2/11/2022	2/12/2019	104.16385	103.5043889	102.8532743	102.2103464	101.5754514	100.9484394	100.3291639	99.71748244	99.11325573
190206A00010	2/12/2019	2.84	2/11/2022	2/12/2019	104.16385	103.5043889	102.8532743	102.2103464	101.5754514	100.9484394	100.3291639	99.71748244	99.11325573
181016A00019	10/18/2018	3.32	10/16/2023	10/18/2018	116.17408	113.5902951	111.0778464	108.6342865	106.25727	103.9445497	101.6939709	99.50346726	97.3710563
181029A00051	2/5/2019	3.69	2/5/2029	2/5/2019	151.78956	141.5590137	132.1069602	123.3697022	115.2890888	107.8120006	100.889889	94.4783598	88.5367974
181031A00070	3/1/2019	3.77	3/1/2029	3/1/2019	152.92977	142.5571957	132.9796216	124.131511	115.9530789	108.389754	101.3916974	94.91336756	88.9131282
181203A00039	12/3/2018	3.27	12/1/2023	12/3/2018	116.89727	114.1585766	111.498896	108.9154883	106.4057268	103.9670914	101.5971638	99.29362271	97.05423929
181206A00018	12/6/2018	3.13	12/6/2023	12/6/2018	116.62609	113.875122	111.2039821	108.6098868	106.0901672	103.6422635	101.2637202	98.95218058	96.70538245
181220A00041	12/20/2018	3.36	12/18/2026	12/20/2018	136.46306	129.5933729	123.1170925	117.0095727	111.2478379	105.8104622	100.6774569	95.83016688	91.25117462
180911A00007	9/11/2018	3.12	9/8/2023	9/11/2018	115.00594	112.5546477	110.1688479	107.8462849	105.5848047	103.3823457	101.2369344	99.14668029	97.10977156
180912A00017	9/12/2018	3.13	9/12/2023	9/12/2018	115.10193	112.6368377	110.2378727	107.9027511	105.6292878	103.4153924	101.2590637	99.15838538	97.11152151
180919A00013	9/19/2018	3.14	9/19/2022	9/19/2018	108.64764	107.2798461	105.9464625	104.6462031	103.3778442	102.1402218	100.9322279	99.75280721	98.60095402
180925A00033	9/25/2018	3.26	9/25/2023	9/25/2018	115.64633	113.1335335	110.6890256	108.3104116	105.9954021	103.7418086	101.5475379	99.41058728	97.32903925
181001A00031	10/1/2018	3.23	9/29/2023	10/1/2018	115.64945	113.1239068	110.6672842	108.2771519	105.9511892	103.6871781	101.482998	99.33662006	97.24610261
181003A00023	10/3/2018	3.17	4/4/2022	10/3/2018	105.39987	104.5780828	103.769102	102.9726265	102.1883677	101.4160463	100.6553909	99.9061387	99.16803453
180713A00024	7/13/2018	2.96	7/13/2021	7/13/2018	100.2412	100.2049447	100.1687318	100.1325623	100.0964361	100.060353	100.0243129	99.98831593	99.95236184
180726A00046	7/26/2018	3.2	12/26/2023	7/26/2018	117.16435	114.3432603	111.6057865	108.9489466	106.3698851	103.8658661	101.4342677	99.07257618	96.77838101
180727A00017	7/27/2018	3.16	7/27/2023	7/27/2018	114.32099	112.0091259	109.7565792	107.5614154	105.4217741	103.3358699	101.301989	99.31848535	97.38377768
180821A00029	8/21/2018	3.01	8/21/2023	8/21/2018	114.43275	112.0438025	109.7175892	107.4520009	105.2450146	103.0946921	100.9991755	98.95668347	96.96550684
180910A00037	9/10/2018	3.03	9/9/2022	9/10/2018	108.31808	106.9847162	105.6841402	104.4151526	103.1766124	101.967433	100.786579	99.63306301	98.50594333
180910A00039	9/10/2018	3.03	9/9/2022	9/10/2018	108.31808	106.9847162	105.6841402	104.4151526	103.1766124	101.967433	100.786579	99.63306301	98.50594333
180615A00039	6/15/2018	3.49	6/15/2028	6/15/2018	146.14238	136.9955158	128.4944435	120.590013	113.2370605	106.3940685	100.022853	94.08827991	88.55800659
180618A00036	6/18/2018	3.89	6/18/2048	6/18/2018	272.81948	220.3068841	179.4488115	147.5210858	122.4556914	102.6792405	86.99192895	74.47666616	64.43073664
180621A00031	6/21/2018	3.07	6/21/2023	6/21/2018	113.47495	111.2824154	109.1441308	107.0584053	105.0236099	103.0381777	101.1006011	99.20942918	97.36326523
180621A00068	6/21/2018	3.32	6/23/2025	6/21/2018	127.17717	122.4034714	117.8381876	113.4710759	109.2924582	105.2931823	101.4645903	97.79848911	94.287123
180625A00012	6/25/2018	3.07	6/23/2023	6/25/2018	113.51203	111.3127279	109.167999	107.0761311	105.0354811	103.0444689	101.1015745	99.20533509	97.35434254
180709A00081	7/9/2018	3.05	7/7/2023	7/9/2018	113.72428	111.4793239	109.2909557	107.1573744	105.0768456	103.0477027	101.068344	99.13722913	97.25287669
180518A00048	5/25/2018	3.65	5/18/2028	5/25/2018	146.91572	137.8454934	129.4082245	121.556271	114.2458172	107.4365456	101.0913404	95.17601812	89.65908175
180518A00071	5/25/2018	3.56	5/18/2026	5/25/2018	134.0521	127.9938512	122.2494855	116.8010731	111.6318039	106.7259083	102.0685874	97.64594874	93.44494585
180529A00072	5/29/2018	3	5/30/2023	5/29/2018	112.92671	110.8097386	108.7435732	106.7266783	104.7575741	102.8348355	100.9570897	99.12301342	97.33133137
180612A00031	6/12/2018	3.04	6/13/2022	6/12/2018	106.65433	105.6098875	104.5858893	103.581735	102.5968516	101.6306877	100.6827132	99.75241733	98.83930872
180613A00046	6/13/2018	3	1/13/2022	6/13/2018	103.71646	103.1449465	102.5797381	102.0207276	101.4678134	100.9208959	100.3798778	99.84466376	99.31516067
180613A00047	6/13/2018	3.17	1/12/2024	6/13/2018	117.38442	114.5075536	111.7172115	109.0102538	106.3836776	103.8346088	101.3602949	98.95809956	96.62549668
180328A00042	3/28/2018	2.95	3/28/2023	3/28/2018	111.71076	109.7978026	107.9278189	106.0994259	104.3113023	102.5621835	100.8508587	99.17616753	97.53699783

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					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	111.83771	109.9053773	108.0167066	106.1703045	104.3648366	102.5990253	100.8716465	99.18152653	97.52753988
180404A00018	4/4/2018	2.89	4/4/2022	4/4/2018	105.18017	104.3593461	103.5513139	102.7557766	101.972446	101.2010426	100.4412956	99.69294205	98.95572711
180515A00022	5/15/2018	3.19	5/15/2023	5/15/2018	113.03033	110.9581251	108.934677	106.9585378	105.0283147	103.1426651	101.3002946	99.49995477	97.74044124
180518A00042	5/25/2018	3.42	5/19/2025	5/25/2018	126.99065	122.340372	117.8883316	113.6250214	109.5414442	105.629079	101.8798539	98.28611931	94.84062432
180518A00046	5/25/2018	3.62	5/18/2027	5/25/2018	140.59085	133.0596147	125.9867813	119.3419849	113.0970282	107.2257129	101.7036878	96.50830993	91.61851595
180130A00064	1/30/2018	2.75	1/30/2023	1/30/2018	110.32348	108.6013052	106.9152213	105.2641644	103.6471159	102.0630961	100.5111628	98.99040927	97.49996269
180131A00022	1/31/2018	2.96	1/30/2025	1/31/2018	123.26218	119.0525219	115.0111278	111.1303016	107.4027497	103.8215539	100.3801497	97.07230602	93.89210618
180201A00022	2/1/2018	2.99	2/3/2025	2/1/2018	123.44665	119.2196546	115.1620264	111.2660016	107.5242195	103.9296999	100.4758204	97.15629605	93.96516003
180312A00014	3/12/2018	3	3/13/2023	3/12/2018	111.53025	109.6639343	107.8387793	106.0534895	104.3068249	102.5975974	100.9246679	99.28694416	97.68337777
180316A00031	3/16/2018	2.96	12/16/2022	3/16/2018	109.85915	108.2740366	106.7202552	105.1969501	103.7032996	102.2385111	100.8018195	99.39248625	98.00979824
180328A00015	3/28/2018	2.93	3/28/2023	3/28/2018	111.67422	109.7616128	107.8919666	106.0639047	104.276106	102.5273061	100.8162943	99.14191043	97.50304245
171222A00037	12/22/2017	2.71	12/29/2023	12/22/2017	115.91848	113.1044092	110.374128	107.7246328	105.153052	102.6566346	100.2327447	97.87885555	95.59254433
171228A00023	12/28/2017	2.69	3/29/2024	12/28/2017	117.34826	114.2267217	111.2053109	108.2801143	105.4474049	102.7036304	100.0454035	97.46949259	94.97281312
171228A00024	12/28/2017	2.71	6/28/2024	12/28/2017	118.88815	115.4503742	112.1312788	108.926089	105.8302502	102.8394173	99.94944401	97.15637215	94.45642224
180104A00016	1/4/2018	2.56	1/4/2023	1/4/2018	109.57134	107.9318255	106.3257309	104.7521187	103.2100844	101.6987562	100.2172941	98.76488781	97.34075628
180123A00067	1/23/2018	2.67	1/23/2023	1/23/2018	110.07082	108.3713783	106.7072891	105.077523	103.4810926	101.9170482	100.3844757	98.88249506	97.41025873
180130A00063	1/30/2018	2.63	1/31/2022	1/30/2018	103.8314	103.2060964	102.5883	101.9778788	101.3747016	100.77864	100.1895688	99.60736567	99.03191124
171016A00016	10/16/2017	2.23	10/17/2022	10/16/2017	107.8444	106.429219	105.0445745	103.6894787	102.3629913	101.0642119	99.79227854	98.54636508	97.32567954
171110A00007	11/10/2017	2.38	11/10/2022	11/10/2017	108.37225	106.9079913	105.4708432	104.0601116	102.6751293	101.3152508	99.97985179	98.66832802	97.38009467
171110A00008	11/10/2017	2.65	11/12/2024	11/10/2017	120.84349	116.9352998	113.1751441	109.5566295	106.0736765	102.7204995	99.49159068	96.38170513	93.38584697
171110A00019	5/4/2018	2.46	5/4/2023	5/4/2018	111.41255	109.3900304	107.4144573	105.4844563	103.5987057	101.7559308	99.95490201	98.19443231	96.47337612
171219A00031	12/19/2017	2.42	12/20/2021	12/19/2017	102.98109	102.482661	101.9890563	101.500208	101.0160476	100.5365076	100.0615222	99.59102645	99.12495687
171219A00032	12/19/2017	2.42	12/20/2021	12/19/2017	102.98109	102.482661	101.9890563	101.500208	101.0160476	100.5365076	100.0615222	99.59102645	99.12495687
170727A00020	7/27/2017	1.94	7/27/2021	7/27/2017	100.42442	100.3490888	100.2738767	100.1987839	100.1238099	100.0489545	99.97421752	99.8995986	99.8250975
170814A00034	8/14/2017	2.1	8/15/2022	8/14/2017	106.75775	105.5143158	104.2997328	103.1130062	101.9531859	100.8193648	99.71067599	98.62629076	97.56541653
170816A00030	8/16/2017	1.95	8/16/2021	8/16/2017	100.73952	100.6078174	100.4764792	100.345499	100.2148753	100.0846067	99.95469159	99.82512861	99.69591625
170822A00023	8/23/2017	3.95	8/23/2028	8/23/2017	150.98748	141.4104158	132.5225367	124.2702806	116.604532	109.4802298	102.8560118	96.69389177	90.95896653
170908A00021	9/8/2017	1.96	9/8/2022	9/8/2017	106.9748	105.6536018	104.3648802	103.1074499	101.8801823	100.6820022	99.51188506	98.36885404	97.25197709
170918A00051	12/18/2017	2.24	12/19/2022	12/18/2017	108.80839	107.2227433	105.6686212	104.1451598	102.651528	101.1869248	99.7505768	98.34173782	96.9596873
170614A00019	6/14/2017	2.48	6/13/2025	6/14/2017	123.39763	118.736612	114.2785478	110.0135207	105.9321497	102.0255603	98.28535436	94.70358196	91.27271488
170622A00045	6/22/2017	2.76	6/22/2027	6/22/2017	135.45633	127.9567027	120.9235431	114.325367	108.1329751	102.3192755	96.85912127	91.72916093	86.90770134
170628A00044	10/9/2018	2.12	10/8/2021	10/9/2018	101.62783	101.3444536	101.0626626	100.7824453	100.5037883	100.2266785	99.95110322	99.67704949	99.40450473
170703A00022	7/3/2017	2.86	7/3/2026	7/3/2017	130.94535	124.8073105	118.9964193	113.4934903	108.2805595	103.3408056	98.6584707	94.21878769	90.00791267

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					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	136.92325	129.3283649	122.2079424	115.5297901	109.264069	103.3831058	97.86122491	92.67459402	87.80108255
170726A00025	7/26/2017	2.14	7/26/2022	7/26/2017	106.47589	105.2974961	104.1450826	103.017798	101.9148273	100.8353906	99.77874078	98.74416227	97.73096907
170405A00031	4/5/2017	2.22	4/4/2022	4/5/2017	104.65447	103.8359403	103.030178	102.2368858	101.455776	100.6865696	99.928996	99.18279292	98.44770578
170412A00019	4/12/2017	2.56	4/12/2024	4/12/2017	117.18933	114.0256229	110.9643871	108.001654	105.1336391	102.3567301	99.66747792	97.06258786	94.53891164
170518A00008	5/18/2018	3.06	5/18/2028	5/18/2018	142.35047	133.4428205	125.1598358	117.4543839	110.2831173	103.606155	97.38678802	91.59121246	86.18828579
170519A00019	5/19/2017	2	11/19/2021	5/19/2017	102.27433	101.8683714	101.4656403	101.0660971	100.669704	100.2764236	99.88621942	99.49905532	99.11489581
170531A00055	5/31/2017	2.13	5/31/2022	5/31/2017	105.53804	104.5401143	103.5609889	102.6001324	101.6570377	100.7312158	99.82219602	98.92952423	98.05276274
170609A00052	6/11/2018	2.9	6/9/2027	6/11/2018	136.19831	128.722862	121.7091994	115.1263531	108.9455897	103.140236	97.68552164	92.55843344	87.73758242
170327A00077	3/27/2019	2.74	3/27/2024	3/27/2019	117.4623	114.3453581	111.3282153	108.4069788	105.5779406	102.8375661	100.1824843	97.60947912	95.11548041
170327A00078	3/27/2019	3.04	3/27/2026	3/27/2019	130.37287	124.5879766	119.0964563	113.8817437	108.9283102	104.2215916	99.74792151	95.49447052	91.44918963
170327A00079	3/27/2019	3.19	3/29/2027	3/27/2019	137.01234	129.7669124	122.9551904	116.5487676	110.5212585	104.8481436	99.50662644	94.47550223	89.73503795
170327A00080	3/27/2019	3.43	3/27/2029	3/27/2019	150.40522	140.0365793	130.4714707	121.6430082	113.4902306	105.9575438	98.99421949	92.55394458	86.59441379
170404A00002	4/4/2017	2.42	4/4/2023	4/4/2017	110.85833	108.9322521	107.049765	105.209477	103.4100602	101.6502428	99.92880571	98.24458028	96.59644519
170404A00003	4/4/2017	2.74	4/4/2025	4/4/2017	123.42893	118.9994951	114.754633	110.685552	106.7839346	103.0419112	99.45203231	96.00724371	92.70086235
161115A00021	11/15/2016	2.02	11/15/2021	11/15/2016	102.21745	101.823233	101.4320665	101.0439108	100.6587311	100.2764933	99.89716353	99.52070871	99.14709612
161118A00026	12/20/2016	3.03	12/21/2026	12/20/2016	134.51158	127.686814	121.2543163	115.1894472	109.4692416	104.0722869	98.97860995	94.16957303	89.62777769
161123A00035	11/23/2016	2.16	11/23/2021	11/23/2016	102.40445	101.9865598	101.5720782	101.1609652	100.7531799	100.3486818	99.94743144	99.54938964	99.15451804
161123A00037	11/23/2016	2.16	11/23/2021	11/23/2016	102.40445	101.9865598	101.5720782	101.1609652	100.7531799	100.3486818	99.94743144	99.54938964	99.15451804
161125A00002	11/25/2016	2.62	11/27/2023	11/25/2016	115.16265	112.459003	109.8331549	107.2824196	104.8042198	102.3960829	100.0556354	97.78059855	95.56878406
161221A00053	12/23/2016	3.05	12/23/2021	12/23/2016	103.34477	102.8364708	102.3331741	101.8348058	101.3412936	100.8525668	100.3685559	99.88919273	99.41441056
160729A00017	7/31/2017	2.47	7/31/2029	7/31/2017	143.6881	133.1271361	123.4244039	114.5055481	106.3030239	98.75544107	91.80697329	85.40682717	79.50876424
160801A00007	8/1/2016	1.47	8/2/2021	8/1/2016	100.47565	100.383526	100.2915684	100.1997813	100.1081644	100.0167172	99.92543925	99.83433005	99.74338915
160819A00015	10/12/2016	2.3	10/13/2026	10/12/2016	129.19807	122.7611137	116.6844376	110.9459476	105.5250284	100.4024321	95.56018005	90.9814719	86.65060212
160830A00068	11/30/2016	1.95	11/30/2023	11/30/2016	113.4941	110.8022397	108.1882271	105.6493615	103.1830549	100.7868241	98.45828612	96.19515347	93.99522967
161017A00007	10/17/2016	1.99	10/18/2023	10/17/2016	112.97206	110.4213826	107.9414449	105.5298293	103.1842145	100.902375	98.68217688	96.5215727	94.4185977
161017A00015	10/17/2016	1.68	10/18/2021	10/17/2016	101.65961	101.3474393	101.0371993	100.7288677	100.422427	100.1178597	99.81514863	99.5142767	99.21522714
160711A00016	7/11/2016	1.42	7/12/2021	7/11/2016	100.17115	100.1377271	100.1043447	100.0710013	100.0376969	100.0044313	99.97120455	99.93801651	99.90486714
160711A00020	8/24/2017	1.59	8/24/2022	8/24/2017	106.29507	105.026062	103.7871781	102.5773534	101.3955753	100.2408778	99.11233865	98.00907716	96.93025176
160711A00022	1/10/2018	1.91	1/10/2025	1/10/2018	118.9383	114.8728229	110.9686792	107.2185691	103.6155687	100.1531052	96.82493763	93.62513767	90.54807219
160712A00019	7/12/2017	2.32	7/12/2027	7/12/2017	132.77563	125.2897067	118.2747532	111.698665	105.5316912	99.74624904	94.31675454	89.21946768	84.43235015
160714A00018	9/6/2016	2.28	9/4/2026	9/6/2016	128.57197	122.2853761	116.3446251	110.7288013	105.4183743	100.3950964	95.64191056	91.14286648	86.88304185
160714A00024	9/20/2016	2.5	9/20/2028	9/20/2016	139.68094	130.4207353	121.8417439	113.8901634	106.5167189	99.67626131	93.32740025	87.43217135	81.95573515
160225A00024	2/25/2016	2.22	2/26/2024	2/25/2016	115.50265	112.50759	109.6062065	106.7949445	104.0704133	101.4293756	98.86873895	96.38554838	93.97697892

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
160303A00020	3/3/2016	2.97	3/3/2031	3/3/2016	159.20912	145.6322528	133.3423485	122.2099673	112.119343	102.9668746	94.65978846	87.11495447	80.25783728
160307A00029	3/7/2016	3.21	3/7/2031	3/7/2016	159.97886	146.4477943	134.1950136	123.0922177	113.0246378	103.8895469	95.59493745	88.05835051	81.20583871
160520A00017	9/20/2017	2.34	9/20/2024	9/20/2017	118.94261	115.2374478	111.6681065	108.2287448	104.9138143	101.7180435	98.63642133	95.66418238	92.79679299
160520A00018	9/20/2017	2.34	9/20/2024	9/20/2017	118.94261	115.2374478	111.6681065	108.2287448	104.9138143	101.7180435	98.63642133	95.66418238	92.79679299
160524A00015	11/25/2016	2.71	11/25/2026	11/25/2016	132.20608	125.5371975	119.2477338	113.3141345	107.7144218	102.428085	97.43597582	92.72021052	88.2640805
160211A00089	2/16/2016	3.91	2/16/2024	2/16/2016	120.08191	117.0559104	114.123295	111.2805649	108.5243782	105.8515418	103.259004	100.7438467	98.3032787
160212A00037	2/12/2016	3.03	2/12/2031	2/12/2016	157.60267	144.2835542	132.2177824	121.2801545	111.3586102	102.3527853	94.17273453	86.73780057	79.97561022
160222A00005	2/22/2016	2.79	2/22/2028	2/22/2016	139.05261	130.5692726	122.6645975	115.2959697	108.4241349	102.0129178	96.02896411	90.44150614	85.22214873
160222A00018	2/22/2016	2.59	2/23/2026	2/22/2016	127.57035	121.9627663	116.6357428	111.573681	106.7619427	102.186782	97.83528613	93.69531919	89.75547132
160222A00019	2/22/2016	3.09	2/21/2031	2/22/2016	158.41642	145.0193325	132.8850765	121.8872555	111.912765	102.8603308	94.63921419	87.16806554	80.3739075
160223A00012	2/23/2016	1.89	2/23/2023	2/23/2016	109.51951	107.7223587	105.9640783	104.2434812	102.5594244	100.9108112	99.29658885	97.71574657	96.16731317
160210A00041	2/10/2016	1.97	2/10/2023	2/10/2016	109.20682	107.4589014	105.7481293	104.0733932	102.4336246	100.8277974	99.25492548	97.7140608	96.20429147
160210A00042	2/10/2016	2.57	2/10/2026	2/10/2016	127.26777	121.7148882	116.4379393	111.4216903	106.651839	102.1149483	97.79838885	93.69028551	89.77946824
160210A00053	2/10/2016	1.99	2/10/2023	2/10/2016	109.24064	107.4924233	105.7813595	104.1063369	102.4662872	100.860184	99.28704103	97.74591008	96.23587915
160211A00034	2/11/2016	1.82	2/10/2023	2/11/2016	108.95318	107.2074874	105.4989034	103.8263149	102.1886547	100.5848977	99.01405888	97.47519122	95.96738382
160211A00036	2/11/2016	2.41	2/11/2026	2/11/2016	126.47406	120.9366202	115.6747535	110.6732316	105.917757	101.3948978	97.0920302	92.99728524	89.09949907
160211A00086	2/16/2016	2.8	2/16/2022	2/16/2016	104.23125	103.5565452	102.8905649	102.2331445	101.5841197	100.9433303	100.3106201	99.6858368	99.06883209
151211A00041	12/11/2017	2.71	3/13/2023	12/11/2017	111.01336	109.1518061	107.3313245	105.5506202	103.8084557	102.1036453	100.4350524	98.80158692	97.20220266
151214A00051	12/14/2015	2.92	12/15/2025	12/14/2015	128.20253	122.8186621	117.6940321	112.8147775	108.1678491	103.7409605	99.52253967	95.50168337	91.66811503
160209A00019	2/9/2016	2.52	2/9/2026	2/9/2016	126.99979	121.4569972	116.1895618	111.1822963	106.4209332	101.8920676	97.58309999	93.48218288	89.57817187
160209A00049	2/9/2016	1.92	2/9/2023	2/9/2016	109.10622	107.362434	105.6556603	103.9847968	102.3487807	100.7465912	99.17724686	97.63980441	96.13335636
160210A00021	2/10/2016	1.97	2/10/2023	2/10/2016	109.20682	107.4589014	105.7481293	104.0733932	102.4336246	100.8277974	99.25492548	97.7140608	96.20429147
160210A00036	2/10/2016	1.77	2/10/2023	2/10/2016	109.10278	107.3517214	105.6379425	103.9603291	102.3178073	100.7093455	99.13395268	97.59067603	96.07859924
150909A00003	9/9/2015	3.11	9/9/2025	9/9/2015	127.54203	122.5016174	117.6911525	113.0988087	108.7134422	104.5245467	100.5222128	96.69709056	93.04035373
151002A00038	10/2/2015	2.81	10/2/2025	10/2/2015	126.53018	121.4337641	116.5732642	111.9363795	107.5115315	103.2878134	99.25494663	95.40324012	91.72355314
151008A00025	10/8/2015	2.91	10/8/2025	10/8/2015	127.08696	121.9585173	117.068007	112.4030299	107.9519122	103.703654	99.64788657	95.77483171	92.07526452
151027A00021	10/27/2015	2.02	10/27/2021	10/27/2015	101.90974	101.5712083	101.2349268	100.9008706	100.5690177	100.2393463	99.9118351	99.5864628	99.26320855
151211A00037	12/11/2017	2.69	1/11/2023	12/11/2017	109.8973	108.2345429	106.6059362	105.0105044	103.447312	101.9154584	100.4140759	98.94232837	97.49940995
151211A00040	12/11/2017	2.7	2/13/2023	12/11/2017	110.49627	108.7272208	106.9958772	105.3011066	103.6418195	102.0169696	100.4255517	98.86659978	97.33918471
150601A00682	6/1/2015	2.3	2/9/2022	6/1/2015	103.76617	103.1141419	102.4702941	101.8344732	101.2065296	100.5863177	99.97369504	99.36852302	98.77066621
150601A00775	6/1/2015	2.28	11/12/2021	6/1/2015	102.25536	101.8697597	101.4870759	101.1072729	100.7303181	100.3561796	99.98482574	99.61622541	99.25034798
150601A00998	6/1/2015	5.37	10/25/2034	6/1/2015	212.22998	189.9693901	170.4100745	153.20303	138.0463504	124.6786382	112.8733667	102.4340536	93.19012479
150731A00016	7/31/2015	3.04	7/31/2025	7/31/2015	126.57952	121.6926862	117.0240702	112.5627051	108.2982374	104.2208906	100.3214297	96.59112754	93.02173459

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
150731A00020	7/31/2015	2.47	7/29/2022	7/31/2015	106.89495	105.7045689	104.5406188	103.4022238	102.2885496	101.1987976	100.1322034	99.08803487	98.0655904
150812A00040	8/12/2015	2.94	8/12/2025	8/12/2015	126.32337	121.4026131	116.7031275	112.2137086	107.9237888	103.8233942	99.90310778	96.15403457	92.56776964
150601A00188	6/1/2015	2.06	8/24/2021	6/1/2015	100.87824	100.7238882	100.5700185	100.4166278	100.2637139	100.1112745	99.95930742	99.80781051	99.65678155
150601A00356	6/1/2015	3.66	9/22/2023	6/1/2015	116.41507	113.902674	111.4582915	109.0795488	106.7641743	104.5099956	102.3149349	100.1770034	98.09429701
150601A00406	6/1/2015	3.71	1/17/2024	6/1/2015	118.7971	115.8857182	113.0621165	110.3230944	107.6655938	105.0866879	102.5835751	100.1535723	97.79410926
150601A00625	6/1/2015	3.96	12/9/2044	6/1/2015	249.65714	206.4970765	171.901966	144.0829912	121.6366185	103.459666	88.6834629	76.62273484	66.73586201
150601A00656	6/1/2015	2.59	12/17/2021	6/1/2015	102.99294	102.5032816	102.0182851	101.5378823	101.062008	100.5905983	100.1235903	99.66092249	99.20253447
150601A00677	6/1/2015	2.39	1/30/2025	6/1/2015	121.52612	117.3332451	113.3086803	109.4447098	105.7340168	102.169662	98.74506171	95.45396773	92.29044778
140923A00070	9/23/2014	2.88	9/23/2022	9/23/2014	108.39177	107.0128417	105.6689356	104.358728	103.0809629	101.8344462	100.6180415	99.43066709	98.27129252
140930A00104	9/30/2016	3.23	9/30/2021	9/30/2016	101.78213	101.5214355	101.2620739	101.004031	100.747297	100.4918619	100.2377159	99.98484933	99.73325266
141117A00011	11/17/2014	3.81	11/17/2034	11/17/2014	189.09227	168.3106769	150.109049	134.1491197	120.1387635	107.8254871	96.9908661	87.44578779	79.02637832
141215A00062	12/15/2014	2.65	12/16/2024	12/15/2014	121.96085	117.9052999	114.0076676	110.2609374	106.6584463	103.1938634	99.86117105	96.65464772	93.56885148
150115A00022	1/17/2017	2.56	1/16/2024	1/17/2017	115.80358	112.9356856	110.1544641	107.4567554	104.8395386	102.2999228	99.83514032	97.44254082	95.11958516
150211A00005	2/11/2015	2.35	2/15/2022	2/11/2015	103.92128	103.2507135	102.5887896	101.9353407	101.2902049	100.653224	100.0242441	99.40311492	98.78969016
130211A00026	2/11/2013	2.27	2/15/2023	2/11/2013	109.79953	108.0301211	106.2985376	104.6036367	102.9443219	101.3195402	99.72828047	98.16957073	96.64247661
130211A00035	2/11/2013	2.27	2/15/2023	2/11/2013	109.79953	108.0301211	106.2985376	104.6036367	102.9443219	101.3195402	99.72828047	98.16957073	96.64247661
130501A00021	5/1/2013	2.27	5/1/2023	5/1/2013	110.99715	108.9878396	107.0249925	105.1072543	103.2333223	101.4019399	99.61189461	97.86201588	96.15117375
140314A00003	3/14/2014	3.32	3/14/2024	3/14/2014	118.92381	115.8266151	112.8273467	109.922234	107.107683	104.3802653	101.7367091	99.17389035	96.68882508
140811A00047	8/11/2016	3.13	8/11/2021	8/11/2016	100.80009	100.6823641	100.564925	100.4477739	100.3309098	100.2143315	100.098038	99.98202825	99.86630109
140923A00069	9/23/2014	2.63	9/23/2021	9/23/2014	101.50355	101.2632454	101.0240889	100.7860684	100.5491757	100.3134028	100.0787418	99.84518488	99.61272415
111024A00013	10/24/2011	3.24	10/25/2021	10/24/2011	102.27696	101.9434145	101.6120506	101.2828448	100.9557759	100.6308233	100.3079663	99.98718479	99.66845871
111213A00004	12/13/2011	2.96	12/13/2021	12/13/2011	103.11053	102.632294	102.1584979	101.6890826	101.2239873	100.7631525	100.3065196	99.85403132	99.40563115
120419A00009	4/19/2012	2.76	4/19/2022	4/19/2012	105.3495	104.4820681	103.628908	102.7896651	101.9640006	101.1515868	100.3521064	99.56525203	98.79072624
120531A00008	5/31/2012	2.27	5/31/2022	5/31/2012	105.67079	104.6721815	103.6923765	102.7308494	101.7870926	100.8606172	99.95095218	99.0576433	98.18025267
120614A00005	6/14/2012	2.22	6/15/2022	6/14/2012	105.99534	104.946494	103.9183469	102.9102877	101.9217318	100.9521172	100.0009033	99.06756989	98.15161619
130211A00016	2/11/2013	2.27	2/15/2023	2/11/2013	109.79953	108.0301211	106.2985376	104.6036367	102.9443219	101.3195402	99.72828047	98.16957073	96.64247661
081028A00036	10/30/2008	4.22	10/30/2023		118.65352	115.9963156	113.4130208	110.9011469	108.4583227	106.0822661	103.7707497	101.5216567	99.3329676
180404A00037	4/6/2018	2.51	4/6/2028	4/6/2022	138.88638	130.2061115	122.2133411	115.1584298	109.3914379	105.0564583	102.0952523	100.230057	99.01313399
180406A00015	4/10/2018	2.61	4/10/2028	4/10/2023	139.70746	130.9829388	122.9425466	115.8214664	109.9596566	105.4764399	102.1684917	99.63730173	97.54673238
180925A00059	9/25/2018	3.01	9/25/2028	9/25/2023	145.39552	135.8472336	127.0683119	119.27009	112.7678683	107.6486228	103.6928667	100.5361029	97.87424208
181031A00046	11/2/2018	3.05	10/29/2021	8/2/2021	102.291	101.9459098	101.603147	101.2626851	100.9245009	100.5885721	100.2548757	99.92338897	99.59409045
181203A00046	12/4/2018	2.8	12/4/2023	9/3/2021	115.74051	113.0072637	110.3532248	107.7761196	105.2904389	103.015677	101.2294677	100.1849702	99.7523835
181210A00035	12/12/2018	2.65	1/16/2024	7/15/2021	116.04716	113.175979	110.3915476	107.6917513	105.1008346	102.7722744	101.0118721	100.0654966	99.91791886

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190104A00032	1/4/2019	2.33	1/4/2024	9/7/2021	115.00115	112.180744	109.4448483	106.7921812	104.2594633	102.0464758	100.5193876	99.99508358	99.96650529
190426A00017	4/26/2019	2.31	4/26/2022	7/26/2021	105.0986	104.2108951	103.3381389	102.4799594	101.6359983	100.8098091	100.1246472	99.92509712	99.85337868
190426A00018	4/26/2019	2.14	4/26/2024	7/26/2021	116.14596	112.9531979	109.8649882	106.8842924	104.0937375	101.7749159	100.3120515	99.9104359	99.83875403
190426A00024	4/26/2019	2.24	4/26/2022	7/26/2021	105.03927	104.1518374	103.2793558	102.4214477	101.5777578	100.7527756	100.087471	99.92005543	99.84834118
190509A00033	5/9/2019	2.41	5/9/2022	8/9/2021	105.41341	104.4841497	103.5712333	102.674234	101.7927451	100.9299864	100.1979159	99.89673543	99.7757786
190509A00063	5/9/2019	2.11	5/9/2024	8/9/2021	116.24172	113.0065234	109.8784148	106.8614251	104.0464619	101.7278683	100.297962	99.86455566	99.73782243
190510A00019	5/10/2019	2.39	5/10/2022	8/10/2021	105.41338	104.4810222	103.5651244	102.6652484	101.780984	100.9158167	100.1863844	99.8913866	99.76898538
190513A00033	5/13/2019	2.35	5/15/2023	5/13/2022	111.37656	109.3210309	107.3139283	105.3538625	103.4462733	101.6802892	100.2806041	99.22806375	98.33228778
190513A00065	5/13/2019	2.01	5/13/2022	8/13/2021	105.22938	104.2871752	103.3617927	102.4527837	101.5597528	100.6917858	100.047162	99.84895783	99.72652752
190516A00018	5/16/2019	2.03	5/16/2024	8/16/2021	116.09545	112.8404376	109.6938947	106.6614773	103.8458365	101.5593289	100.2053172	99.82802164	99.68998659
190516A00028	5/16/2019	2.03	5/16/2024	8/16/2021	116.09545	112.8404376	109.6938947	106.6614773	103.8458365	101.5593289	100.2053172	99.82802164	99.68998659
190522A00029	5/22/2019	2.41	5/22/2024	5/22/2023	117.35477	114.0616625	110.8786108	107.8031653	104.8814367	102.2941198	100.0978698	98.14634502	96.3228046
190523A00048	5/23/2019	2.32	5/23/2024	5/23/2023	117.0913	113.7990521	110.6169625	107.5429925	104.6301897	102.0674679	99.89590826	97.95940401	96.14349337
190523A00050	5/23/2019	2.3	5/23/2023	5/23/2022	111.40571	109.3256204	107.2950553	105.3125245	103.3784544	101.5689271	100.1652165	99.12866441	98.23054247
190529A00115	5/29/2019	1.92	5/29/2024	8/30/2021	115.93493	112.6414877	109.4591567	106.3967077	103.576297	101.3361364	100.0931379	99.77427627	99.61125526
190530A00057	5/30/2019	1.71	5/30/2024	8/30/2021	115.77108	112.4658526	109.2725469	106.2021187	103.3896287	101.1908233	100.0345125	99.75011047	99.58051886
190530A00092	5/30/2019	1.69	5/30/2024	8/30/2021	115.7086	112.4043302	109.211977	106.143103	103.3361572	101.1514106	100.0207574	99.74626434	99.57714796
190530A00108	5/30/2019	1.88	5/30/2024	8/30/2021	115.82391	112.5290268	109.3454445	106.2830628	103.4706905	101.2552492	100.0592465	99.75711382	99.58692412
190603A00067	6/3/2019	1.72	6/3/2024	9/3/2021	115.37845	112.0774975	108.8886731	105.827646	103.0547213	100.9571045	99.95997648	99.691043	99.51057539
190605A00032	6/5/2019	1.92	6/3/2022	9/3/2021	105.38766	104.3811838	103.3938461	102.4251081	101.4745882	100.5622758	99.96017221	99.73278864	99.55361982
190606A00030	6/6/2019	1.48	6/6/2024	9/7/2021	115.14439	111.826024	108.6211621	105.5512676	102.8014109	100.7843565	99.90976985	99.66680556	99.47965121
190606A00032	6/6/2019	1.75	6/6/2024	9/7/2021	115.51286	112.2000587	109.0000615	105.9276596	103.1385034	101.0136715	99.97484321	99.68643009	99.49701636
190606A00054	6/6/2019	1.8	6/6/2024	9/7/2021	115.6698	112.3545695	109.152161	106.075593	103.2712283	101.1090648	100.0083832	99.69754669	99.50640376
190607A00016	6/7/2019	1.75	6/7/2024	9/7/2021	115.52637	112.2100999	109.0068588	105.9315272	103.1401649	101.0138598	99.97359291	99.68280968	99.49070425
190607A00022	6/7/2019	1.5	6/7/2024	9/7/2021	115.22055	111.897727	108.68863	105.6138058	102.8543404	100.8183491	99.91764908	99.66648807	99.47640558
190607A00025	6/7/2019	1.48	6/7/2024	9/7/2021	115.15757	111.8357275	108.6276154	105.5547883	102.8026999	100.7840589	99.90790264	99.66245403	99.47259498
190610A00069	6/10/2019	2.04	6/10/2022	9/10/2021	105.61874	104.5892278	103.579719	102.5896302	101.6184891	100.6808405	100.0081874	99.73666587	99.53655071
190613A00024	6/13/2019	2.18	6/13/2024	6/13/2023	116.96634	113.608085	110.3644145	107.2348737	104.2915351	101.7288632	99.54918254	97.58576576	95.73290115
190702A00051	7/2/2019	1.46	7/2/2024	7/2/2021	115.42154	112.0140168	108.725995	105.5832169	102.7868774	100.7588736	99.99923293	99.97827196	99.97286055
190703A00023	7/3/2019	1.9	6/30/2022	9/30/2021	105.79539	104.7026913	103.6324554	102.5839937	101.5568903	100.5774192	99.93258612	99.64054479	99.38869392
190712A00038	7/12/2019	1.87	7/12/2021		100.18922	100.1557584	100.1223317	100.0889444	100.0555963	100.0222876	99.9890179	99.95578721	99.92259547
190712A00044	7/12/2019	1.73	7/12/2022	7/12/2021	105.93993	104.8066728	103.6975435	102.6117797	101.5491488	100.5474235	99.99256288	99.94322558	99.91012127
190712A00047	7/12/2019	1.54	7/12/2024	7/12/2021	115.8071	112.3624095	109.0391811	105.8600089	103.0136018	100.9051592	100.0010952	99.93690909	99.90381002

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
190725A00018	7/25/2019	1.78	7/25/2024	7/26/2021	116.25885	112.7786341	109.4217533	106.2065832	103.3040471	101.0977487	100.0223598	99.89503536	99.83165948
190725A00022	7/25/2019	1.7	7/25/2022	7/26/2021	106.11225	104.9370137	103.7876765	102.6633854	101.5640108	100.5335694	99.9783377	99.90121866	99.83772429
190731A00008	7/31/2019	1.53	7/31/2024	8/2/2021	116.01637	112.5092833	109.1275349	105.896003	103.0127861	100.8873485	99.97303793	99.86100722	99.77820949
190801A00025	8/1/2019	1.68	8/1/2024	8/2/2021	116.01882	112.5208337	109.1476544	105.9235443	103.0444166	100.9173992	99.97878455	99.86219554	99.77951203
190805A00014	8/5/2019	1.49	8/5/2024	8/5/2022	115.94633	112.4247926	109.0297478	105.7901905	102.9166595	100.7604642	99.2968666	98.14229398	97.08422835
190807A00035	8/7/2019	1.45	8/7/2024	8/9/2021	115.32886	111.8235373	108.4446362	105.2334526	102.4452631	100.5332559	99.90256487	99.78793064	99.68634983
190807A00056	8/7/2019	1.49	8/7/2024	8/9/2021	115.46202	111.9545167	108.5733397	105.3564431	102.5482493	100.5947326	99.91174522	99.79202822	99.69044337
190809A00026	8/9/2019	1.52	8/9/2024	8/9/2021	115.58613	112.0704127	108.681381	105.4549671	102.6285091	100.6421174	99.91472719	99.78236626	99.67256312
190812A00020	8/12/2019	1.47	8/12/2024	8/12/2021	115.4553	111.9324378	108.5370252	105.3095446	102.5019714	100.5630536	99.89696215	99.76368971	99.64568355
190812A00026	8/12/2019	1.48	8/12/2024	8/12/2021	115.48874	111.9653315	108.5693441	105.3404233	102.5278379	100.5785644	99.89943753	99.76487982	99.64687237
190812A00027	8/12/2019	1.71	8/12/2024	8/12/2022	116.25792	112.7218884	109.3129586	106.0551016	103.1412024	100.91832	99.39640162	98.20790768	97.1290196
190814A00019	8/14/2019	1.46	8/14/2024	8/16/2021	115.44574	111.9168504	108.5158705	105.2844936	102.4782577	100.5477508	99.89290568	99.75809816	99.63735974
190820A00068	8/20/2019	1.39	8/20/2024	8/20/2021	115.2816	111.7368524	108.321576	105.0852392	102.3052309	100.4436422	99.86486503	99.71739249	99.57753387
190821A00024	8/21/2019	1.65	8/21/2024	8/22/2022	116.17002	112.6075015	109.1740442	105.8982812	102.9895408	100.7959782	99.29351882	98.10368744	97.01351093
190821A00046	8/21/2019	1.44	8/21/2024	8/23/2021	115.46192	111.9111063	108.4897957	105.2428056	102.4340251	100.5168224	99.87611614	99.72445502	99.58459038
190823A00023	8/23/2019	1.37	8/23/2024	8/23/2021	115.24923	111.6957504	108.2724886	105.0316141	102.257517	100.4144013	99.8550143	99.70062557	99.55258112
190828A00011	8/28/2019	1.1	8/28/2024	8/30/2021	114.90772	111.3317714	107.8887575	104.6486233	101.9392935	100.2537171	99.82270647	99.6612264	99.50206199
190828A00021	8/28/2019	1.36	8/28/2024	8/30/2021	115.27367	111.7043206	108.2663657	105.014141	102.2370791	100.4001162	99.84527951	99.68044738	99.52149666
190830A00028	8/30/2019	1.39	8/30/2024	8/30/2021	115.39894	111.8213229	108.3754106	105.1128038	102.3150291	100.4420262	99.84624333	99.67148809	99.50435067
190909A00021	9/9/2019	1.2	9/9/2024	9/9/2021	115.39034	111.7678701	108.2807137	104.9904839	102.2027377	100.3904203	99.80452874	99.59790042	99.40359898
190911A00012	9/11/2019	1.27	9/11/2024	9/13/2021	115.65539	112.0219734	108.5239636	105.2154085	102.3826816	100.4863159	99.82292094	99.60685374	99.40969574
190917A00040	9/17/2019	1.63	9/17/2024	9/17/2021	116.4446	112.7914622	109.2735712	105.9252604	102.9751771	100.84502	99.89923846	99.61842288	99.40149908
190924A00014	9/24/2019	1.54	9/24/2024	9/24/2021	116.22122	112.5492427	109.0144021	105.6593257	102.7382025	100.6875899	99.84396583	99.56887954	99.33378708
191008A00020	10/8/2019	1.58	10/8/2024	10/11/2022	116.53289	112.8114328	109.2301574	105.8312605	102.8615229	100.6409179	99.06192324	97.76026576	96.55248372
191008A00028	10/11/2019	1.08	10/8/2024	7/8/2021	115.30937	111.5955176	108.0251717	104.6848935	101.9316752	100.2514498	99.96547249	99.9434279	99.92140565
191011A00020	10/11/2019	1.53	10/11/2024	7/12/2021	116.39275	112.6644157	109.0770877	105.677966	102.7330663	100.6818682	99.97125363	99.93791374	99.9132356
191017A00012	10/17/2019	1.43	10/17/2022	7/19/2021	106.94893	105.5372075	104.1560165	102.8044171	101.4902882	100.3526986	99.95954511	99.91533623	99.87118337
191029A00020	10/29/2019	1.51	10/31/2022	8/2/2021	107.1836	105.7556795	104.3537432	102.9771975	101.6328762	100.4412989	99.94618742	99.85934498	99.77654864
191121A00031	11/21/2019	1.54	11/21/2024	11/21/2022	117.4904	113.5975307	109.8560464	106.3093232	103.2019459	100.842617	99.12084956	97.68149233	96.34111008
191209A00045	12/9/2019	1.56	12/9/2024	12/9/2022	117.79326	113.8361433	110.0352315	106.4364692	103.2878732	100.8864404	99.11218303	97.62071815	96.23291189
191211A00013	12/11/2019	1.57	12/11/2024	12/12/2022	117.8556	113.8908982	110.0828961	106.4769495	103.3198353	100.9098561	99.13020753	97.63636646	96.24761079
200128A00045	1/28/2020	1.45	1/28/2025	7/28/2021	117.39126	113.2981797	109.3752202	105.7065315	102.6289459	100.5783041	99.93377483	99.85191027	99.77475499
200130A00029	1/30/2020	1.3	1/30/2023	7/30/2021	108.14684	106.4395447	104.7681298	103.1319177	101.5576953	100.2884143	99.92481242	99.84189201	99.75911013

Classification | Public

	Parallel-Shift Sensitivity Analysis												
6/30/2021					Price								
REFERENCE	DATE	Rate	DATE	Call/Put	-400	-300	-200	-100	Base	100	200	300	400
200131A00023	1/31/2020	1.56	1/31/2025	1/31/2023	117.85195	113.7408069	109.7995157	106.0984353	102.9322102	100.547463	98.72893222	97.14234191	95.64240477
200207A00008	2/7/2020	1.35	2/7/2025	2/7/2023	117.72301	113.5740719	109.5990792	105.8820097	102.7365802	100.3796849	98.56291024	96.9618771	95.44292855
200221A00040	2/21/2020	1.28	2/21/2025	8/23/2021	117.01945	112.8513074	108.8632602	105.1759321	102.1854061	100.3396628	99.84570317	99.70187694	99.56203865
200221A00041	2/21/2020	1.53	2/21/2025	2/21/2023	118.00478	113.8177375	109.8070365	106.0530212	102.8636229	100.4582458	98.59611623	96.95535303	95.40040573
200221A00045	2/21/2020	1.03	2/21/2025	8/23/2021	116.63755	112.4605786	108.4677061	104.8041462	101.8994859	100.2097947	99.83032639	99.68910174	99.54904402
200227A00018	2/27/2020	0.99	2/27/2025	2/28/2022	116.54956	112.3534289	108.3444851	104.6790452	101.8000441	100.0770007	99.20770974	98.54435549	97.90635929
200227A00024	2/27/2020	0.85	2/27/2025	8/27/2021	115.99362	111.8083358	107.8152497	104.206111	101.4635333	100.0453656	99.78073493	99.62110178	99.46198477
200227A00025	2/27/2020	1.09	2/27/2025	2/27/2023	116.94666	112.7428151	108.7234343	105.0220694	102.0072605	99.78795825	98.01515748	96.39694683	94.83956592
200228A00090	2/28/2020	1	2/28/2025	8/30/2021	115.99408	111.821623	107.8399133	104.2363584	101.4882018	100.0528101	99.7820858	99.6226973	99.46382134
200228A00095	2/28/2020	1.15	2/28/2023	8/30/2021	108.06843	106.2723452	104.5153142	102.7978599	101.1868291	100.0759989	99.80780947	99.64837286	99.48944914
200228A00096	2/28/2020	1.28	2/28/2022	8/30/2021	103.41361	102.7060455	102.0081169	101.3196248	100.6410885	100.0521684	99.83357259	99.67405341	99.51504795
200303A00035	3/3/2020	0.81	3/3/2025	3/3/2023	115.8754	111.6795438	107.6798148	104.0804948	101.2739113	99.21321401	97.49743951	95.89130854	94.33328162
200306A00069	3/6/2020	0.58	3/6/2025	3/7/2022	114.98655	110.798958	106.8224129	103.3397214	100.8942238	99.62025833	98.87947045	98.21390821	97.56049644