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												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
201026A00001	10/26/2020	0.26	10/26/2021	10/26/2020	100.29486	100.2223532	100.1499591	100.0776783	100.0055107	99.93345602	99.86151397	99.78968429	99.71796674
201116A00006	11/16/2020	0.42	11/16/2021	11/16/2020	100.53915	100.4076954	100.2765999	100.1458605	100.0154757	99.88544403	99.75576406	99.62643432	99.49745336
201117A00004	11/17/2020	0.42	11/17/2021	11/17/2020	100.55061	100.4163369	100.2824358	100.1489052	100.0157436	99.88294939	99.75052109	99.61845715	99.48675604
210223A00013	2/23/2021	0.32	11/23/2021	2/23/2021	100.60434	100.4531487	100.3024248	100.1521614	100.0023565	99.85300797	99.70411368	99.55567159	99.40767962
210226A00016	2/26/2021	0.26	2/25/2022	2/26/2021	101.68796	101.2656421	100.8468173	100.4314454	100.0194839	99.61089097	99.20562537	98.80364665	98.40491496
210301A00007	3/1/2021	0.34	10/14/2021	3/1/2021	100.15787	100.1189138	100.0800012	100.0411362	100.0023186	99.96354852	99.92482574	99.88615019	99.84752179
210714A00022	7/14/2021	0.35	7/14/2022	7/14/2021	103.29074	102.4508755	101.6245815	100.8115343	100.0114174	99.22392449	98.44875865	97.68563231	96.93426677
210715A00016	7/15/2021	0.27	1/18/2022	7/15/2021	101.22594	100.9146575	100.6052972	100.2978409	99.99227103	99.68857018	99.38672115	99.08670698	98.78851091
210824A00006	8/24/2021	0.23	8/24/2022	8/24/2021	103.75471	102.7860858	101.8354012	100.902164	99.98589787	99.08614363	98.20245857	97.33441566	96.48160289
210524A00009	5/24/2021	0.29	12/1/2021	5/24/2021	100.68872	100.5149224	100.3417229	100.1691176	99.99710355	99.82567768	99.65483704	99.48457865	99.31489959
210604A00004	6/4/2021	0.23	6/3/2022	6/4/2021	102.80348	102.0882854	101.3829801	100.6873604	100.0012281	99.32439025	98.65665924	97.9978524	97.3477919
210623A00008	6/23/2021	0.38	6/23/2022	6/23/2021	103.06895	102.2935446	101.5297407	100.7772747	100.0358959	99.30536083	98.58543307	97.87588305	97.17648777
210624A00001	6/24/2021	0.39	6/24/2022	6/24/2021	103.08817	102.3096777	101.5428734	100.7874931	100.0432832	99.30999755	98.58739716	97.87524998	97.17333062
210701A00012	7/1/2021	0.38	7/1/2022	7/1/2021	103.16253	102.3626334	101.5750553	100.7995107	100.0357259	99.28343545	98.5423817	97.81231476	97.09299206
210713A00002	7/13/2021	0.33	3/14/2022	7/13/2021	101.87371	101.4018413	100.9343392	100.471142	100.0121904	99.55742604	99.10679182	98.66023151	98.21768998
210301A00008	3/1/2021	0.34	11/15/2021	3/1/2021	100.51873	100.3900925	100.2617992	100.1338478	100.0062369	99.87896524	99.75203133	99.62543383	99.49917138
210301A00011	3/1/2021	0.35	12/15/2021	3/1/2021	100.85755	100.6438707	100.4311073	100.2192557	100.00831	99.79826441	99.58911302	99.38085012	99.17347
210304A00003	3/4/2021	0.34	3/4/2022	3/4/2021	101.76289	101.3204857	100.8819178	100.4471336	100.0160845	99.58872248	99.16500039	98.74487189	98.32829144
210324A00001	3/24/2021	0.37	3/24/2022	3/24/2021	102.00864	101.5071865	101.0106472	100.518951	100.0320272	99.54980667	99.07222147	98.59920501	98.13069195
210330A00009	3/30/2021	0.32	11/30/2021	3/30/2021	100.68268	100.5117253	100.3413413	100.1715302	100.0022889	99.83361472	99.66550485	99.4979565	99.33096691
210413A00007	4/13/2021	0.25	4/13/2022	4/13/2021	102.22671	101.6652003	101.1098453	100.5605402	100.0171866	99.47968794	98.94794992	98.4218802	97.90138843
210622A00004	6/22/2021	2.42	6/20/2036	6/22/2026	124.98209	119.6682057	114.2351242	107.7886822	100.2027156	92.28183856	84.68766503	77.70312627	71.39846883
150601A00342	6/1/2015	3.97	8/26/2033	6/1/2015	141.80144	133.704094	126.2583264	119.4030976	113.0836701	107.2509118	101.8606777	96.87326378	92.25292495
150601A00439	6/1/2015	2.57	3/18/2024	6/1/2015	107.75841	106.4026429	105.0777992	103.7828982	102.5170034	101.2792158	100.0686721	98.88454318	97.72603202
150601A00440	6/1/2015	3.27	3/16/2029	6/1/2015	124.31064	119.7204182	115.377264	111.2653448	107.3699684	103.6774954	100.175256	96.85147458	93.69520018
150601A00450	6/1/2015	3.28	4/27/2029	6/1/2015	124.68427	120.0136628	115.5977276	111.4199418	107.4649919	103.718674	100.1678053	96.80014363	93.6043135
150601A00460	6/1/2015	3.05	5/16/2029	6/1/2015	123.87695	119.1976442	114.7751703	110.5927687	106.6349134	102.8872092	99.33630125	95.9697924	92.77616782
150601A00506	6/1/2015	3.14	7/6/2029	6/1/2015	124.66509	119.873879	115.3498414	111.0752884	107.0338444	103.2103429	99.59072904	96.16197014	92.91197385
180321A00015	3/21/2018	3.02	3/21/2025	3/21/2018	113.55868	111.2374179	108.9890931	106.8108214	104.6998566	102.6535803	100.6694955	98.74521919	96.87847734
180322A00030	3/22/2018	2.79	3/24/2025	3/22/2018	112.0199	109.9614709	107.9632052	106.0228361	104.1382043	102.307248	100.5279975	98.79857069	97.11716841
180329A00011	3/29/2018	2.77	3/29/2023	3/29/2018	105.2801	104.416069	103.5678234	102.7349121	101.9168991	101.1133654	100.3239082	99.54814039	98.78568946
180508A00038	5/8/2018	3.57	5/9/2033	5/8/2018	141.55492	133.0938754	125.321725	118.1738553	111.5923022	105.525016	99.92521342	94.75080474	89.9638868
180612A00012	6/12/2018	2.94	6/12/2023	6/12/2018	106.24891	105.2461349	104.2625508	103.2975993	102.3507404	101.4214554	100.5092462	99.61363394	98.73415802

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170406A00031	4/6/2017	3.01	4/6/2027	4/6/2017	130.85346	124.7243164	118.9387134	113.4752861	108.3141154	103.4366246	98.82548131	94.46450772	90.33859716
170417A00059	4/17/2017	2.14	4/18/2022	4/17/2017	103.24682	102.6752836	102.1101218	101.5512232	100.9984837	100.4518016	99.91107737	99.37621366	98.84711523
170518A00028	5/18/2017	2.45	5/20/2024	5/18/2017	115.19178	112.3635692	109.6220593	106.9640101	104.3863251	101.8860459	99.46034487	97.10651822	94.82197981
170830A00040	8/30/2017	1.84	8/30/2022	8/30/2017	102.84397	102.3130157	101.7890232	101.2718403	100.7613192	100.2573164	99.75969278	99.26831357	98.78304789
170921A00056	9/21/2017	2.82	9/21/2027	9/21/2017	131.68306	125.0641023	118.8420793	112.9907256	107.4856555	102.3042214	97.42538017	92.82957195	88.49860727
180302A00014	3/2/2018	2.69	3/2/2023	3/2/2018	104.95436	104.1362431	103.3328892	102.5438732	101.7687856	101.0072331	100.2588379	99.52323674	98.80008042
160608A00032	6/8/2016	2.36	6/8/2026	6/8/2016	123.83091	118.7748373	113.9662845	109.391605	105.0379849	100.8933906	96.9465157	93.18673294	89.60404895
160609A00075	6/9/2016	1.94	6/9/2026	6/9/2016	113.20183	110.4056613	107.7133404	105.1201132	102.6214756	100.2131623	97.89113263	95.65155679	93.49080359
160628A00006	6/28/2016	1.44	6/28/2023	6/28/2016	104.80465	103.8130924	102.8405682	101.8865141	100.9503933	100.0316901	99.12990935	98.24457497	97.37522936
161222A00035	12/22/2016	2.29	12/22/2023	12/22/2016	107.05045	105.7783892	104.5337982	103.3158353	102.1236894	100.9565818	99.81376471	98.69451947	97.59815541
161222A00036	12/22/2016	2.69	12/22/2026	12/22/2016	116.36946	113.2636105	110.2820318	107.4186366	104.667679	102.0237367	99.48169005	97.03670332	94.68420671
161222A00037	12/22/2016	3.08	12/22/2031	12/22/2016	131.92028	125.27022	119.0921622	113.3469338	107.998961	103.0159151	98.36839216	94.02962618	89.97523261
150601A00528	6/1/2015	3.08	7/27/2029	6/1/2015	124.56438	119.7422925	115.1907891	110.8918509	106.8288059	102.9862201	99.3497962	95.90628191	92.64338624
150601A00559	6/1/2015	3.06	8/31/2029	6/1/2015	124.75266	119.864689	115.2539665	110.9018466	106.7910898	102.9057477	99.23105753	95.75334541	92.45993818
150601A00684	6/1/2015	2.25	2/7/2025	6/1/2015	109.85254	107.9776127	106.1555332	104.3843674	102.6622663	100.9874628	99.35826748	97.77306435	96.23030732
160603A00015	6/3/2016	1.95	6/5/2023	6/3/2016	109.29159	107.513594	105.7742901	104.0724798	102.4070127	100.7767859	99.18074136	97.61786355	96.08717744
160608A00026	6/8/2016	2.36	6/8/2026	6/8/2016	123.83091	118.7748373	113.9662845	109.391605	105.0379849	100.8933906	96.9465157	93.18673294	89.60404895
160608A00031	6/8/2016	2.36	6/8/2026	6/8/2016	123.83091	118.7748373	113.9662845	109.391605	105.0379849	100.8933906	96.9465157	93.18673294	89.60404895
150601A00571	6/1/2015	2.5	9/23/2022	6/1/2015	103.13265	102.5946261	102.0674136	101.5506908	101.0441462	100.5474804	100.060406	99.58264613	99.11393495
200108A00015	12/18/2020	1.98	12/18/2023	12/18/2020	112.45748	110.0067982	107.622367	105.301881	103.0431362	100.8440247	98.7025296	96.61672006	94.5847468
200108A00016	12/18/2020	1.98	12/18/2023	12/18/2020	112.45748	110.0067982	107.622367	105.301881	103.0431362	100.8440247	98.7025296	96.61672006	94.5847468
200114A00017	1/11/2021	1.93	1/11/2024	1/11/2021	112.67508	110.1493388	107.693309	105.3045753	102.9808261	100.7198477	98.51952008	96.37781154	94.29277437
200114A00021	1/11/2021	1.93	1/11/2024	1/11/2021	112.67508	110.1493388	107.693309	105.3045753	102.9808261	100.7198477	98.51952008	96.37781154	94.29277437
200207A00007	2/7/2020	1.74	2/7/2023	2/7/2020	107.44755	105.9977788	104.5747106	103.1776709	101.8060058	100.4590829	99.13629012	97.83703506	96.56074426
200207A00013	2/12/2020	1.73	2/10/2023	2/12/2020	107.47933	106.0195624	104.5868373	103.1804699	101.7997941	100.4441656	99.11296132	97.80557817	96.52143246
210928A00010	9/28/2021	1.12	9/26/2025	9/28/2021	117.43035	112.8533447	108.4787818	104.2966464	100.2974732	96.47231362	92.81270485	89.31064058	85.95854395
210907A00007	9/7/2021	2.35	9/4/2037	9/7/2021	174.21438	150.7914436	130.8245026	113.7818641	99.21621319	86.75085639	76.06826389	66.90051794	59.02134253
210907A00011	9/7/2021	2.65	9/6/2041	9/7/2021	194.69443	163.4875057	137.8328022	116.7009702	99.25886002	84.83125918	72.87024755	62.93062322	54.65017309
210907A00004	9/7/2021	2.01	9/7/2033	9/7/2021	154.02374	137.7167533	123.2887063	110.5128691	99.19093123	89.14931251	80.23597002	72.3176315	65.27739567
210916A00003	9/16/2021	0.75	9/16/2024	9/16/2021	112.35845	109.0636865	105.8821788	102.8094091	99.84106745	96.97303988	94.2013985	91.52239181	88.93243576
210907A00010	9/7/2021	2.58	9/7/2040	9/7/2021	189.11435	159.9480701	135.7578879	115.6593411	98.92967922	84.97758942	73.31871204	63.55581723	55.36273654
210928A00009	9/28/2021	2.18	9/28/2033	9/28/2021	156.63403	140.0850431	125.4467809	112.4879298	101.0062815	90.82493785	81.78902978	73.76287611	66.62752084
210907A00013	9/9/2021	2.14	9/9/2025	9/9/2021	121.61989	117.0128552	112.606168	108.3900624	104.3552986	100.4931344	96.79529531	93.25394725	89.86167056

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210914A00017	9/14/2021	1.32	9/14/2028	9/14/2021	129.91094	121.3147689	113.337973	105.9328909	99.05575307	92.6663494	86.72772258	81.2058897	76.06958882
210907A00006	9/7/2021	2.1	9/7/2034	9/7/2021	159.04657	141.0254813	125.230339	111.3736706	99.20647746	88.51291924	79.1057536	70.82242192	63.52168735
210917A00004	9/17/2021	1.03	9/17/2025	9/17/2021	116.95204	112.4147441	108.0770006	103.9289931	99.96144515	96.16558337	92.53310753	89.05616231	85.7273111
210907A00015	9/9/2021	2.21	9/9/2026	9/9/2021	126.61952	120.6847248	115.0635275	109.7377344	104.6903038	99.90526348	95.3676389	91.06338525	86.97932524
210914A00015	9/14/2021	0.81	9/15/2025	9/14/2021	116.64323	112.1003626	107.7575628	103.6049827	99.63331452	95.83375536	92.19797748	88.71809988	85.38666185
210907A00008	9/7/2021	2.42	9/7/2038	9/7/2021	178.8913	153.6056233	132.2506323	114.1895828	98.89200908	85.91552282	74.89080431	65.509212	57.51254414
210914A00018	9/14/2021	1.43	9/14/2029	9/14/2021	134.49099	124.4323379	115.1895919	106.6925551	98.87739907	91.6860574	85.06567934	78.96813706	73.34958201
210916A00008	9/16/2021	1.48	9/15/2028	9/16/2021	129.83941	121.2972498	113.3688803	106.0071629	99.16880601	92.81403173	86.90627429	81.4119054	76.29998443
210917A00012	9/17/2021	1.2	9/11/2026	9/17/2021	121.15757	115.3563805	109.8641023	104.6627361	99.73542376	95.06636914	90.64076536	86.44472803	82.46523302
210907A00009	9/7/2021	2.5	9/7/2039	9/7/2021	183.83336	156.6414551	133.8850167	114.8103058	98.79543376	85.32672526	73.97941296	64.40185534	56.30262037
210914A00014	9/14/2021	0.97	9/14/2026	9/14/2021	120.83765	115.0049724	109.4843956	104.2576551	99.30765202	94.61836843	90.174794	85.96285726	81.96936209
210914A00011	9/16/2021	0.52	9/18/2023	9/16/2021	108.13505	106.0083461	103.9342452	101.9111132	99.93737652	98.01152142	96.1320911	94.29768321	92.50694742
210916A00009	9/16/2021	2.25	9/16/2036	9/16/2021	168.98405	147.3721804	128.7851901	112.781391	98.98570788	87.07934091	76.79107657	67.88997619	60.17921835
210908A00006	9/8/2021	0.36	9/8/2022	9/8/2021	103.94431	102.9300656	101.9354512	100.9599061	100.0028865	99.06386924	98.14235056	97.23784539	96.34988645
210826A00013	8/26/2021	1.97	2/28/2033	8/26/2021	151.54743	136.1054055	122.3749014	110.1570554	99.27703335	89.58102211	80.93360988	73.21550394	66.32154114
210914A00012	9/14/2021	1.18	9/14/2027	9/14/2021	125.48854	118.2968373	111.5570719	105.2386175	99.31307119	93.75408367	88.53720018	83.63971517	79.04053873
210928A00007	9/28/2021	0.88	9/27/2024	9/28/2021	112.88632	109.5479313	106.3254094	103.2140832	100.2094999	97.30741183	94.50376554	91.7946915	89.17649478
210917A00003	9/17/2021	0.8	9/17/2024	9/17/2021	112.52718	109.2265698	106.0395013	102.9614403	99.98806218	97.11523959	94.33903175	91.65567512	89.06157429
210907A00014	9/9/2021	2.45	9/9/2026	9/9/2021	127.92211	121.9538414	116.3004518	110.9436917	105.8664618	101.0527359	96.48748817	92.15662519	88.04692374
210928A00008	9/28/2021	1.35	9/28/2026	9/28/2021	122.14917	116.264656	110.6960883	105.4248896	100.4336739	95.70616061	91.22709865	86.98219594	82.95805414
210729A00006	7/29/2021	1.87	11/30/2032	7/29/2021	149.30794	134.3370837	120.9957677	109.0979356	98.47965724	88.99639492	80.52062107	72.93973929	66.15426875
210730A00009	7/30/2021	0.74	7/31/2024	7/30/2021	111.86305	108.7225796	105.6856404	102.7482748	99.90670157	97.15730361	94.49661996	91.92133816	89.42828708
210803A00005	8/5/2021	2.06	8/4/2026	8/5/2021	125.36092	119.579122	114.0974518	108.8988165	103.9671839	99.28750893	94.84566838	90.6283996	86.62324397
210823A00010	8/23/2021	0.36	8/23/2022	8/23/2021	103.75726	102.7932313	101.8469843	100.9180277	100.0058913	99.11012209	98.23028294	97.36595226	96.51672321
210826A00008	8/26/2021	0.89	2/26/2025	8/26/2021	114.44768	110.6033933	106.9075794	103.353726	99.93564582	96.64745481	93.48355551	90.43862153	87.50758294
210826A00009	8/26/2021	1.18	8/26/2026	8/26/2021	120.89344	115.152547	109.7147708	104.5626049	99.67964069	95.05049392	90.66073522	86.49682618	82.54605995
210714A00020	7/14/2021	0.9	3/14/2025	7/14/2021	114.64014	110.7413428	106.9949946	103.3943282	99.93291276	96.60463674	93.40369048	90.32454946	87.3619587
210719A00004	7/19/2021	1	4/20/2026	7/19/2021	118.7791	113.5045033	108.4916914	103.7263138	99.1948804	94.88470935	90.78387386	86.88115307	83.16598637
210719A00009	7/19/2021	1.04	7/17/2026	7/19/2021	119.78139	114.1975852	108.9031773	103.8816782	99.11762954	94.59653085	90.30477481	86.2295873	82.35897176
210721A00009	7/21/2021	1.7	7/21/2031	7/21/2021	142.4557	129.6785499	118.1434193	107.7232546	98.30459398	89.7860488	82.07696449	75.09623575	68.77125805
210729A00003	7/29/2021	1.11	7/29/2026	7/29/2021	120.2586	114.6247233	109.284222	104.2203746	99.4174978	94.86087462	90.53669	86.43197113	82.53453187
210729A00004	7/29/2021	1.74	7/29/2031	7/29/2021	142.98627	130.1540166	118.570791	108.1086878	98.65348466	90.10312108	82.36634926	75.36154105	69.01563146
210706A00014	7/6/2021	1.15	6/26/2026	7/6/2021	120.16373	114.6377413	109.3952528	104.420166	99.6973923	95.21278323	90.95306566	86.90578224	83.05923615

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210706A00015	7/6/2021	1.06	12/31/2025	7/6/2021	118.07958	113.1817771	108.5126715	104.0602853	99.81334262	95.76122462	91.89392652	88.202018	84.67660633
210707A00002	7/7/2021	1.12	6/26/2026	7/7/2021	120.00806	114.4859107	109.2471176	104.2755903	99.55624651	95.07494353	90.81841379	86.77420516	82.93062582
210707A00008	7/9/2021	2.44	7/7/2031	7/9/2021	150.65271	137.5132184	125.635368	114.8910326	105.1657296	96.3571037	88.37358487	81.13320021	74.56252301
210709A00005	7/9/2021	1.69	7/9/2031	7/9/2021	142.22726	129.504051	118.0143675	107.6322774	98.24530592	89.75293315	82.06526754	75.10187303	68.79073091
210709A00006	7/13/2021	2.4	7/11/2031	7/13/2021	150.25051	137.1166335	125.2456192	114.5090906	104.7923537	95.99287115	88.01891656	80.78838352	74.22773187
210629A00009	6/29/2021	1.14	12/31/2025	6/29/2021	118.45004	113.5440141	108.8669704	104.4069133	100.1525558	96.09326832	92.21903587	88.52041845	84.98851413
210629A00012	6/29/2021	1.14	12/29/2025	6/29/2021	118.43091	113.531686	108.8608646	104.4065003	100.1573465	96.10281127	92.23291408	88.53824666	85.00993634
210629A00014	6/29/2021	1.78	12/28/2029	6/29/2021	137.21162	126.7405356	117.1411629	108.3364005	100.2563564	92.83763316	86.02269233	79.75928361	73.99993288
210629A00015	6/29/2021	1.89	6/27/2031	6/29/2021	144.35545	131.5684797	120.0146218	109.5684408	100.1178756	91.56274627	83.81343756	76.78973454	70.41979231
210701A00007	7/1/2021	1.22	7/1/2026	7/1/2021	120.57612	115.0234591	109.7562577	104.7582745	100.0142882	95.51002741	91.23210559	87.16796021	83.30579718
210706A00006	7/6/2021	1.15	7/6/2026	7/6/2021	120.25794	114.6972387	109.4231609	104.4193914	99.67063833	95.1625617	90.88170881	86.81545379	82.95194185
210624A00003	6/24/2021	0.78	6/24/2024	6/24/2021	111.61826	108.5935105	105.6660184	102.8319903	100.0878099	97.4300301	94.85536317	92.36067217	89.94296262
210624A00004	6/24/2021	1.01	6/24/2025	6/24/2021	116.05553	111.8064941	107.7349048	103.8323057	100.0906964	96.5025081	93.06057706	89.75812005	86.58871143
210624A00005	6/24/2021	1.22	6/24/2026	6/24/2021	120.50709	114.9793022	109.7346785	104.7571654	100.0317105	95.5441979	91.28138398	87.23083789	83.38088674
210624A00025	6/24/2021	1.43	6/24/2027	6/24/2021	125.26246	118.3924288	111.9382815	105.8726463	100.1701042	94.80703774	89.76149265	85.01305141	80.54271701
210624A00026	6/24/2021	1.6	6/23/2028	6/24/2021	129.94853	121.6891177	114.0051994	106.8536898	100.1949566	93.99252282	88.21279883	82.82483834	77.80011663
210629A00005	6/29/2021	1.25	6/29/2026	6/29/2021	120.7127	115.1631776	109.8986289	104.9028482	100.1606507	95.65779862	91.38093686	87.31753221	83.45581784
210610A00012	6/11/2021	1.9	6/10/2026	6/11/2021	123.86206	118.2989381	113.0175022	108.0019392	103.2374126	98.7099993	94.40662847	90.31502365	86.42364988
210610A00014	6/11/2021	2.03	6/10/2026	6/11/2021	124.53003	118.9505823	113.6534288	108.6227217	103.8435982	99.30211093	94.98516581	90.88046436	86.97645076
210611A00006	6/11/2021	1.85	6/11/2031	6/11/2021	143.7354	131.0389173	119.562427	109.1823032	99.78804786	91.28083151	83.57220598	76.58296518	70.24213614
210623A00026	6/23/2021	0.78	6/24/2024	6/23/2021	111.61826	108.5935105	105.6660184	102.8319903	100.0878099	97.4300301	94.85536317	92.36067217	89.94296262
210623A00028	6/23/2021	1.22	6/23/2026	6/23/2021	120.49716	114.9729471	109.7315669	104.7569935	100.0342	95.54909334	91.2884511	87.23986178	83.39167027
210624A00002	6/24/2021	0.57	6/23/2023	6/24/2021	107.30281	105.4438635	103.626561	101.849573	100.111625	98.4114969	96.7480201	95.12007459	93.52658642
210518A00023	5/18/2021	1.17	5/18/2026	5/18/2021	119.89153	114.5001734	109.3798689	104.5155433	99.89304939	95.49910068	91.32121407	87.34765655	83.56739578
210525A00004	5/25/2021	1.02	12/19/2025	5/25/2021	117.78416	112.9310299	108.3030363	103.8884686	99.67629921	95.65613783	91.81819022	88.15322019	84.65251411
210526A00014	5/26/2021	1.01	12/19/2025	5/26/2021	117.73823	112.8861115	108.2590949	103.8454716	99.63421529	95.61493692	91.77784354	88.11370013	84.6137942
210526A00017	5/26/2021	2.13	5/26/2033	5/26/2021	154.60559	138.6558659	124.5023222	111.9327209	100.7609176	90.82353712	81.97708419	74.09543464	67.06765368
210526A00018	5/26/2021	1.11	5/26/2026	5/26/2021	119.66118	114.249834	109.1117204	104.2315853	99.59511091	95.18885442	91.00018965	87.0172525	83.22889046
210609A00003	6/9/2021	0.47	6/9/2023	6/9/2021	106.96957	105.1562145	103.3827524	101.6479393	99.95057919	98.28952562	96.66367933	95.07198573	93.51343252
210330A00022	3/30/2021	1.27	3/30/2026	3/30/2021	119.91163	114.6790852	109.7030848	104.9697254	100.4659309	96.17939822	92.09854803	88.21247796	84.51091956
210330A00024	3/30/2021	0.68	3/29/2024	3/30/2021	110.46355	107.7225316	105.0635352	102.4836234	99.97998087	97.54991073	95.19082874	92.90025779	90.67582278
210407A00012	4/7/2021	0.94	4/7/2025	4/7/2021	115.02268	111.0409283	107.2175499	103.5453873	100.017645	96.62787199	93.36994207	90.23803555	87.22662216
210407A00013	4/7/2021	1.23	4/7/2026	4/7/2021	119.79453	114.5385023	109.5412924	104.7888091	100.2678073	95.96582851	91.87115076	87.97274046	84.26020841

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210420A00009	4/20/2021	1.08	12/5/2025	4/20/2021	117.92859	113.1167891	108.5263594	104.1458899	99.96462405	95.97242083	92.15971545	88.517483	85.03720449
210420A00010	4/20/2021	1.08	12/12/2025	4/20/2021	117.99416	113.1586625	108.5465216	104.1461679	99.94670574	95.93786591	92.10996566	88.45387127	84.9609634
210318A00007	3/22/2021	1.41	3/21/2024	3/22/2021	112.29949	109.5588501	106.8993616	104.3181391	101.8124229	99.37956836	97.01704018	94.72240715	92.49333726
210319A00003	3/19/2021	0.95	3/19/2025	3/19/2021	114.8748	110.9559688	107.1909216	103.5728064	100.0951121	96.75165256	93.53654827	90.4442096	87.46932069
210324A00002	3/24/2021	2.06	3/24/2031	3/24/2021	145.19164	132.7119438	121.4050002	111.1544205	101.8559199	93.41600293	85.75079872	78.78502582	72.45107378
210324A00003	3/24/2021	1.18	3/24/2026	3/24/2021	119.41213	114.2107474	109.2636242	104.5570282	100.0780398	95.81450072	91.75496501	87.88865373	84.20541246
210330A00015	3/30/2021	0.47	3/30/2023	3/30/2021	106.21276	104.6157486	103.0510904	101.517886	100.0152685	98.54240223	97.09848143	95.68272888	94.29439464
210330A00021	3/30/2021	2.16	3/28/2031	3/30/2021	146.32803	133.7781787	122.4075281	112.0989928	102.7476766	94.25954368	86.55024445	79.54407351	73.17304436
210310A00003	3/15/2021	0.79	8/26/2024	3/15/2021	112.27158	109.0448964	105.9269965	102.9136294	100.0007335	97.18442782	94.46100323	91.82691371	89.27876822
210310A00014	3/11/2021	0.41	5/16/2022	3/11/2021	102.64451	101.9845641	101.3330664	100.6898581	100.0547818	99.42768403	98.80841499	98.19682877	97.59278302
210310A00015	3/11/2021	0.51	5/15/2023	3/11/2021	106.77191	105.0341958	103.3335697	101.6689131	100.0391546	98.44326507	96.88025598	95.34917712	93.84911479
210311A00007	3/11/2021	1.06	3/11/2026	3/11/2021	118.70537	113.562526	108.6693426	104.0124348	99.57920541	95.35779383	91.33702884	87.50638506	83.85594222
210312A00008	3/12/2021	1.13	3/12/2026	3/12/2021	119.05432	113.9001554	108.9962447	104.3291651	99.88628482	95.65571088	91.62624215	87.78732532	84.12901413
210315A00003	3/15/2021	1.13	3/13/2026	3/15/2021	119.06375	113.906133	108.9990805	104.3291501	99.88368676	95.65077633	91.61919798	87.7783803	84.11836033
210304A00006	3/4/2021	1.02	3/4/2026	3/4/2021	118.50074	113.3836497	108.5140215	103.8786457	99.4650828	95.26161775	91.2572135	87.44146838	83.80457629
210305A00005	3/9/2021	0.54	8/11/2023	3/9/2021	107.76982	105.7623006	103.8019415	101.8873572	100.0172074	98.19019971	96.40508779	94.66066922	92.9557837
210305A00006	3/8/2021	1.02	8/11/2025	3/8/2021	116.55248	112.143016	107.9227571	103.8826303	100.0140461	96.30886836	92.75938855	89.35830067	86.09867829
210308A00009	3/8/2021	0.62	3/8/2024	3/8/2021	110.09824	107.4261977	104.8323396	102.3139301	99.86834532	97.49306868	95.18568625	92.94388168	90.76543169
210309A00002	3/11/2021	0.77	7/25/2024	3/11/2021	111.89513	108.7722439	105.7519077	102.830184	100.0033117	97.26769534	94.61989716	92.05662901	89.57474496
210309A00004	3/11/2021	0.87	11/25/2024	3/11/2021	113.44701	109.916364	106.5134778	103.2329523	100.0696569	97.01871064	94.07546853	91.23550814	88.49461744
210226A00002	2/26/2021	0.86	2/26/2025	2/26/2021	114.33758	110.4952642	106.8013628	103.2493676	99.83309343	96.54665807	93.38446589	90.34119225	87.41176885
210226A00004	3/1/2021	1.04	12/5/2025	3/1/2021	117.74664	112.9388016	108.3522091	103.9754494	99.79777111	95.80903835	91.99969112	88.36070909	84.8835776
210302A00005	3/5/2021	0.92	9/10/2025	3/5/2021	116.41236	111.9093346	107.6035056	103.4852265	99.54537044	95.77530309	92.16685323	88.71228555	85.40427498
210302A00019	3/4/2021	1.06	3/4/2024	3/4/2021	111.19125	108.5173349	105.9212231	103.4002047	100.951681	98.57315935	96.26224813	94.01665189	91.83416699
210303A00006	3/4/2021	0.97	10/10/2025	3/4/2021	116.91025	112.299607	107.8947127	103.6853007	99.66167076	95.81465756	92.13559788	88.61630034	85.24901701
210304A00002	3/5/2021	0.93	7/10/2025	3/5/2021	115.8823	111.5862228	107.4712738	103.5287962	99.75060168	96.12894082	92.6564769	89.32626101	86.1317091
210225A00006	2/25/2021	0.98	2/25/2026	2/25/2021	118.24097	113.1534293	108.3109313	103.7004485	99.30971226	95.12716472	91.14191416	87.34369313	83.72281947
210225A00007	2/25/2021	1.79	8/23/2030	2/25/2021	139.86318	128.4218399	117.9992305	108.4994912	99.83623196	91.93155062	84.71516111	78.1236145	72.0996033
210225A00012	3/1/2021	0.91	8/25/2025	3/1/2021	116.22002	111.7729079	107.5184662	103.447366	99.5507825	95.82036155	92.24819209	88.82678022	85.54902505
210225A00013	3/1/2021	0.93	10/6/2025	3/1/2021	116.69956	112.1058366	107.7167193	103.5220138	99.51209355	95.67786124	92.01071693	88.50252784	85.14560044
210225A00015	3/1/2021	0.7	8/26/2024	3/1/2021	111.99217	108.7697669	105.6560384	102.6467373	99.73780541	96.92536536	94.20571121	91.57530005	89.03074385
210225A00016	3/1/2021	0.88	7/15/2025	3/1/2021	115.723	111.4145929	107.2883509	103.3355742	99.54803176	95.91793174	92.43789498	89.10093066	85.90041343
210224A00002	2/25/2021	0.88	11/3/2025	2/25/2021	116.72861	112.0464392	107.5760349	103.3066758	99.22824929	95.33120879	91.606539	88.04572307	84.64071202

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210224A00003	2/26/2021	0.9	12/3/2025	2/26/2021	117.09219	112.3049662	107.7379608	103.3798236	99.21986133	95.247992	91.45470595	87.83102968	84.36849225
210224A00004	2/26/2021	0.91	12/18/2025	2/26/2021	117.2701	112.431457	107.8172917	103.4159312	99.21638279	95.20828904	91.38188631	87.72796702	84.23784432
210224A00006	2/26/2021	0.88	10/21/2025	2/26/2021	116.61332	111.9745763	107.5441582	103.3116023	99.26702779	95.40110292	91.70501069	88.17041768	84.7894447
210224A00007	2/26/2021	0.68	10/21/2024	2/26/2021	112.47118	109.0659779	105.7810597	102.6114874	99.55255295	96.59977027	93.74886289	90.99575293	88.33655053
210225A00003	3/1/2021	0.93	9/24/2025	3/1/2021	116.58868	112.0358141	107.6842552	103.5240503	99.54579547	95.74059944	92.10005297	88.61619997	85.28151061
210218A00010	2/18/2021	1.72	2/18/2031	2/18/2021	141.13007	128.9746489	117.9555311	107.9607605	98.88992871	90.65293204	83.16886841	76.36505649	70.17616404
210218A00011	2/22/2021	0.85	10/24/2025	2/22/2021	116.50718	111.8613185	107.4244743	103.1861267	99.13634612	95.26575563	91.56549673	88.0271976	84.64294363
210219A00002	2/19/2021	0.32	2/22/2022	2/19/2021	101.6399	101.2268408	100.817129	100.4107254	100.0075903	99.60768423	99.2109686	98.81740532	98.42695694
210219A00004	2/19/2021	0.91	2/19/2026	2/19/2021	117.84452	112.7873464	107.9729336	103.3884183	99.02168706	94.86132588	90.89657599	87.11729298	83.5139086
210219A00008	2/22/2021	0.86	12/1/2025	2/22/2021	116.89314	112.1165815	107.5595496	103.2107416	99.05950879	95.09581052	91.31017525	87.69366481	84.23784099
210223A00014	2/23/2021	0.31	2/23/2022	2/23/2021	101.6472	101.2312281	100.8186494	100.4094237	100.0035105	99.60086958	99.20146155	98.80524761	98.41218958
210211A00007	2/11/2021	0.47	9/15/2023	2/11/2021	107.99966	105.8836935	103.8198547	101.8065266	99.84215663	97.92525061	96.05437053	94.22813183	92.44520108
210216A00011	2/17/2021	0.83	12/15/2025	2/17/2021	116.87716	112.0566613	107.4595138	103.0741276	98.88958083	94.89558158	91.08242689	87.4409654	83.96256234
210217A00008	2/18/2021	0.63	8/15/2024	2/18/2021	111.67133	108.4876492	105.4103466	102.4353062	99.55859166	96.77644005	94.0852533	91.48158995	88.96215748
210217A00009	2/18/2021	0.68	11/15/2024	2/18/2021	112.70822	109.2214258	105.8599912	102.6186609	99.49243637	96.47656029	93.56650305	90.75795023	88.04679088
210218A00006	2/18/2021	0.5	2/20/2024	2/18/2021	109.61971	107.0073321	104.4699989	102.0051368	99.61027316	97.28303449	95.02114203	92.82240726	90.68472781
210218A00009	2/19/2021	0.62	7/15/2024	2/19/2021	111.35091	108.2661419	105.2820853	102.3948398	99.60068342	96.89606269	94.27758386	91.74200446	89.28622543
210208A00002	2/10/2021	0.45	6/15/2023	2/10/2021	106.99894	105.1671139	103.3759077	101.6240406	99.9102838	98.23346005	96.59244112	94.9861451	93.41353395
210208A00004	2/11/2021	0.76	10/15/2025	2/11/2021	116.03392	111.4261379	107.0247677	102.8194704	98.80048394	94.95858656	91.28506338	87.77167584	84.41063288
210208A00006	2/9/2021	0.46	8/15/2023	2/9/2021	107.65461	105.6363454	103.6657556	101.7414257	99.86199394	98.02614746	96.23262034	94.48019161	92.76768334
210208A00008	2/11/2021	0.78	11/17/2025	2/11/2021	116.40716	111.6864808	107.1811391	102.8801399	98.77311616	94.85028694	91.10242091	87.52080192	84.0971971
210208A00015	2/10/2021	0.46	8/25/2023	2/10/2021	107.75806	105.7089889	103.7089524	101.7564753	99.85013871	97.98857561	96.17046857	94.3945476	92.65958813
210211A00005	2/11/2021	0.45	6/15/2023	2/11/2021	106.99894	105.1671139	103.3759077	101.6240406	99.9102838	98.23346005	96.59244112	94.9861451	93.41353395
210127A00009	1/27/2021	1.3	7/27/2029	1/27/2021	131.31096	121.6237746	112.7099385	104.5039818	96.94628432	89.98252241	83.56317435	77.64307393	72.18100764
210127A00010	1/27/2021	1.41	7/26/2030	1/27/2021	135.7398	124.5854815	114.421051	105.1538354	96.70025982	88.98491723	81.93973337	75.50322085	69.61981247
210129A00002	2/3/2021	0.59	7/25/2024	2/3/2021	111.35388	108.2390452	105.226559	102.3124912	99.49308691	96.76475695	94.1240695	91.5677421	89.09263425
210201A00001	2/1/2021	0.77	12/16/2025	2/1/2021	116.61074	111.7929229	107.1985445	102.8159928	98.63433437	94.64326665	90.83307715	87.19460594	83.71921058
210201A00003	2/2/2021	0.74	10/15/2025	2/2/2021	115.94614	111.3402121	106.9406343	102.7370714	98.71976389	94.87949205	91.20754319	87.6956808	84.33611575
210201A00007	2/3/2021	0.57	8/15/2024	2/3/2021	111.48707	108.3061849	105.2316064	102.2592218	99.38509697	96.60547125	93.91674864	91.31548969	88.79840383
210121A00014	1/22/2021	0.64	10/25/2024	1/22/2021	112.37693	108.9611044	105.6662845	102.4874832	99.41995071	96.45916171	93.60080322	90.84076323	88.17512
210121A00017	1/25/2021	0.48	5/25/2023	1/25/2021	106.8262	105.0589009	103.3297569	101.6376057	99.98132852	98.35985195	96.77214542	95.2172191	93.69412187
210121A00018	1/25/2021	0.5	8/25/2023	1/25/2021	107.83801	105.7881212	103.787283	101.83402	99.9269128	98.06459398	96.24574567	94.46909747	92.73342441
210122A00005	1/26/2021	0.6	7/15/2024	1/26/2021	111.29138	108.2074893	105.2242883	102.3378773	99.54453511	96.84070887	94.22300552	91.68818319	89.2331434

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210122A00006	1/25/2021	0.61	8/15/2024	1/25/2021	111.60991	108.4271611	105.3507665	102.3766114	99.50076009	96.71945045	94.02908508	91.4262232	88.90757293
210127A00008	1/27/2021	0.93	1/27/2027	1/27/2021	120.86135	114.6177153	108.7289084	103.1730373	97.92966912	92.9797248	88.30538243	83.88998834	79.71797482
210108A00008	1/11/2021	0.51	8/15/2023	1/11/2021	107.75306	105.7338047	103.7622407	101.8369557	99.95658721	98.11982199	96.32539358	94.57208051	92.85870436
210112A00003	1/12/2021	0.53	9/15/2023	1/12/2021	108.12333	106.0060659	103.9409519	101.9263741	99.96077905	98.04267199	96.17061418	94.34322038	92.55915653
210114A00004	1/14/2021	0.4	1/14/2022	1/14/2021	101.21647	100.9166917	100.6187023	100.3224809	100.0280117	99.73527922	99.44426798	99.15496278	98.86734855
210119A00005	1/20/2021	0.52	9/25/2023	1/20/2021	108.18835	106.039756	103.9448189	101.901854	99.90924116	97.96542237	96.06889881	94.21822832	92.41202272
210119A00007	1/20/2021	0.51	8/25/2023	1/20/2021	107.858	105.8079043	103.8068657	101.8534062	99.94610633	98.08359858	96.26456494	94.48773493	92.75188347
210121A00012	1/22/2021	0.64	10/15/2024	1/22/2021	112.28499	108.9009768	105.6360415	102.4853131	99.44415072	96.50813095	93.67303605	90.93484308	88.28971361
201216A00013	12/16/2020	0.59	12/16/2025	12/16/2020	116.4839	111.6482607	107.0374692	102.6398144	98.44427145	94.44045289	90.61856754	86.96938238	83.48418704
201218A00014	12/18/2020	0.57	12/18/2025	12/18/2020	116.40844	111.5681022	106.9531131	102.55172	98.3528607	94.34611312	90.52165449	86.87022267	83.38308056
201221A00014	12/21/2020	0.76	12/19/2025	12/21/2020	116.58999	111.7631525	107.1605622	102.7705477	98.58211716	94.58491406	90.7691764	87.12569865	83.64579635
201221A00015	12/21/2020	0.88	12/4/2026	12/21/2020	120.13432	114.084017	108.369751	102.9711037	97.86901419	93.04567684	88.48445119	84.16977908	80.08710813
201223A00012	12/23/2020	0.91	12/18/2026	12/23/2020	120.42038	114.3171236	108.5549842	103.1130984	97.97199853	93.11350818	88.52064911	84.17755521	80.06939318
201223A00013	12/23/2020	0.9	12/11/2026	12/23/2020	120.30563	114.2281002	108.489173	103.0682066	97.94593598	93.10436928	88.52669643	84.19720456	80.10120009
201210A00021	12/10/2020	0.89	12/10/2027	12/10/2020	124.26797	116.8203099	109.858364	103.3480031	97.25767867	91.55820938	86.22259089	81.22582166	76.54474387
201214A00002	12/14/2020	0.45	12/14/2022	12/14/2020	105.18626	103.8606763	102.5681736	101.307523	100.0775599	98.87717601	97.70531568	96.56097303	95.44318897
201215A00001	12/15/2020	0.76	12/15/2025	12/15/2020	116.55654	111.7430758	107.1527322	102.7739225	98.59573474	94.60788579	90.80068134	87.16497821	83.69214943
201216A00001	12/16/2020	0.49	7/14/2023	12/16/2020	107.36028	105.4392474	103.5621075	101.7275105	99.93416035	98.1808125	96.46627125	94.78938734	93.14905566
201216A00003	12/16/2020	0.59	7/1/2024	12/16/2020	111.13253	108.092959	105.1517565	102.3050659	99.54921142	96.88068971	94.29616041	91.79243699	89.36647833
201216A00004	12/16/2020	0.74	9/8/2025	12/16/2020	115.6242	111.1439908	106.8599003	102.7623373	98.84223318	95.09100843	91.50054305	88.06314969	84.77154821
201123A00010	11/25/2020	1.48	11/24/2025	11/25/2020	119.62897	114.8157903	110.2221888	105.8369273	101.6494131	97.64965474	93.828224	90.17622054	86.68523916
201123A00011	11/25/2020	1.41	11/24/2025	11/25/2020	119.31296	114.5066292	109.9196464	105.540785	101.3594613	97.36569262	93.55005876	89.90366726	86.41812034
201201A00002	12/1/2020	0.54	12/1/2023	12/1/2020	108.91751	106.5594259	104.2642059	102.0297012	99.853858	97.73470987	95.67037324	93.65904307	91.69898883
201203A00005	12/3/2020	0.78	12/3/2026	12/3/2020	120.49852	114.4097964	108.6598801	103.2281557	98.09537609	93.2435635	88.65591837	84.31673544	80.21132629
201204A00015	12/8/2020	1.07	12/8/2025	12/8/2020	117.91111	113.0901472	108.4913762	104.1033155	99.91515023	95.91668586	92.09830838	88.45094746	84.96604228
201210A00011	12/10/2020	0.41	12/10/2021	12/10/2020	100.81284	100.6133881	100.4147404	100.2168875	100.0198247	99.82354721	99.62805028	99.43332921	99.23937936
201118A00021	11/20/2020	0.97	11/20/2023	11/20/2020	109.77511	107.4408524	105.1680871	102.9547472	100.7988492	98.69849238	96.65185507	94.65719023	92.71282185
201119A00002	11/19/2020	0.5	11/18/2022	11/19/2020	104.9328	103.6912804	102.4788686	101.2945505	100.1373596	99.00637337	97.90071067	96.81952942	95.76202449
201119A00003	11/19/2020	0.56	11/17/2023	11/19/2020	108.81815	106.5040121	104.2507192	102.0562253	99.91857411	97.83589072	95.80637764	93.82831085	91.90003614
201119A00021	11/23/2020	2.22	11/21/2030	11/23/2020	145.44874	133.4137249	122.471516	112.5170236	103.4557756	95.20279746	87.68161245	80.82335109	74.56595873
201119A00023	11/23/2020	2.23	11/21/2030	11/23/2020	145.55357	133.513611	122.5667897	112.6079832	103.542697	95.28593577	87.7612038	80.89961421	74.63909641
201123A00009	11/25/2020	1.02	11/25/2024	11/25/2020	113.9545	110.4154442	107.0043676	103.7158713	100.5448167	97.48631565	94.535716	91.68858859	88.9407149
201116A00025	11/18/2020	1.96	11/15/2032	11/18/2020	150.32323	135.3508515	122.0008334	110.0886583	99.45167049	89.94638603	81.44614605	73.83906767	67.02625356

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
201117A00005	11/17/2020	0.5	11/17/2022	11/17/2020	104.92061	103.6823199	102.4729944	101.2916232	100.137247	99.00894982	97.90585684	96.82713185	95.7719753
201117A00006	11/17/2020	0.57	11/17/2023	11/17/2020	108.84064	106.5262458	104.272702	102.0779626	99.94007085	97.85715185	95.82740794	93.84911495	91.92061855
201117A00016	11/17/2020	0.52	11/18/2024	11/17/2020	112.70548	109.1968119	105.814851	102.5542601	99.40996595	96.37714102	93.45119014	90.62773754	87.90261475
201117A00017	11/17/2020	0.39	11/17/2023	11/17/2020	108.77038	106.4501401	104.1910321	101.9909966	99.84806428	97.76034816	95.72603928	93.74340282	91.81077435
201118A00009	11/18/2020	0.61	11/18/2025	11/18/2020	116.33643	111.5940676	107.0686992	102.7492159	98.62514401	94.68660361	90.92427141	87.32934585	83.89351472
201030A00019	10/30/2020	1.15	10/29/2027	10/30/2020	124.55405	117.2825975	110.4757934	104.1016246	98.13044351	92.53478299	87.28918457	82.37004152	77.75545473
201105A00003	11/6/2020	2.24	11/4/2030	11/6/2020	145.3248	133.3649175	122.4857743	112.5839223	103.5663206	95.34923808	87.85727821	81.02250997	74.78369382
201105A00016	11/9/2020	2.18	11/8/2027	11/9/2020	131.63784	124.1086104	117.0583631	110.4541036	104.2652851	98.46361076	93.02285598	87.91870595	83.1286067
201116A00009	11/16/2020	0.51	11/14/2022	11/16/2020	104.89568	103.667019	102.466878	101.2942755	100.1482734	99.02797548	97.93252559	96.86110512	95.81293106
201116A00021	11/16/2020	0.53	11/15/2024	11/16/2020	112.71032	109.211109	105.8379798	102.5856391	99.44904983	96.42341854	93.50418163	90.68699282	87.96771117
201116A00024	11/18/2020	2.36	11/15/2034	11/18/2020	163.77913	145.1751579	128.8892986	114.6190321	102.102786	91.11420947	81.45727174	72.96206436	65.48120244
201028A00013	10/28/2020	0.68	10/28/2024	10/28/2020	112.53642	109.1089041	105.8030363	102.6137887	99.53637629	96.56624123	93.69903996	90.9306319	88.25706849
201029A00002	10/29/2020	0.59	10/29/2025	10/29/2020	116.07258	111.4008686	106.9405299	102.6808699	98.61179854	94.72379018	91.00784869	87.45547486	84.058636
201030A00012	10/30/2020	0.63	10/30/2025	10/30/2020	116.25893	111.5801	107.1130312	102.8470046	98.77190727	94.87819258	91.15684475	87.59934629	84.19764746
201030A00016	10/30/2020	1.14	10/8/2027	10/30/2020	124.31529	117.1198772	110.3806897	104.0665339	98.14850559	92.59980906	87.39559248	82.51279736	77.93002026
201030A00017	10/30/2020	1.14	10/15/2027	10/30/2020	124.37233	117.1522853	110.3912354	104.0577134	98.1225704	92.55878944	87.34131902	82.44692012	77.85402612
201030A00018	10/30/2020	1.15	10/22/2027	10/30/2020	124.49677	117.2499781	110.4650463	104.1102376	98.15615188	92.5755454	87.34316149	82.43557568	77.83105356
201019A00006	10/19/2020	0.57	10/19/2023	10/19/2020	108.54102	106.3172845	104.1504213	102.0385877	99.98001534	97.97300665	96.01593096	94.10722151	92.24537233
201019A00007	10/19/2020	0.64	10/21/2024	10/19/2020	112.34015	108.9370514	105.6541871	102.4866148	99.42962857	96.47874386	93.62968596	90.87837864	88.22093361
201021A00011	10/21/2020	1.11	10/21/2027	10/21/2020	124.21912	116.9843062	110.2105714	103.8662368	97.92195735	92.35053981	87.12677371	82.22727692	77.63035392
201021A00012	10/21/2020	1.85	10/19/2035	10/21/2020	158.91714	139.3423972	122.3787395	107.6633848	94.88563264	83.77916394	74.1155096	65.69850781	58.359596
201028A00011	10/28/2020	0.91	4/28/2026	10/28/2020	118.40265	113.1108787	108.0829455	103.3043181	98.76134591	94.44119983	90.33181818	86.42185647	82.70064069
201028A00012	10/28/2020	0.8	7/28/2025	10/28/2020	115.50866	111.1643063	107.0049448	103.0217639	99.20641589	95.55099179	92.04799639	88.6903242	85.47123715
201015A00003	10/15/2020	0.75	10/15/2025	10/15/2020	115.99003	111.383175	106.982701	102.7782709	98.76012392	94.9190393	91.24630328	87.73367832	84.37337432
201015A00024	10/19/2020	1.53	10/18/2027	10/19/2020	127.0203	119.7074687	112.858561	106.4417946	100.4277225	94.78905216	89.50047666	84.53852022	79.88139658
201015A00025	10/19/2020	1.54	10/18/2027	10/19/2020	127.08757	119.77263	112.9217099	106.5030217	100.4871138	94.84668881	89.55643556	84.59287418	79.93421456
201015A00030	10/19/2020	2.39	10/18/2027	10/19/2020	132.80552	125.3113473	118.2893629	111.7073285	105.5353724	99.74580381	94.31294208	89.21296054	84.42374328
201015A00032	10/19/2020	2.33	10/19/2026	10/19/2020	127.79995	121.6990457	115.9266611	110.4633589	105.2909573	100.3924404	95.75187706	91.35434609	87.18586662
201019A00005	10/19/2020	0.79	10/20/2025	10/19/2020	116.20812	111.5810764	107.1618282	102.9399382	98.90555393	95.04936987	91.36259373	87.83691519	84.46447665
200923A00002	9/23/2020	2.17	9/22/2025	9/23/2020	121.92258	117.2654404	112.812604	108.5540194	104.4801837	100.5821103	96.85129836	93.27970354	89.85971111
200928A00009	9/28/2020	1.51	9/28/2032	9/28/2020	144.07413	129.6320883	116.7487917	105.2481398	94.9747268	85.79132229	77.57666567	70.22353775	63.63707356
201001A00011	10/1/2020	0.71	6/17/2025	10/1/2020	114.78171	110.5801336	106.5534772	102.6934386	98.99216225	95.44221429	92.03655656	88.76852283	85.63179655
201001A00012	10/1/2020	0.74	9/16/2025	10/1/2020	115.69572	111.1877458	106.8781975	102.7573199	98.81588813	95.04517765	91.43693413	87.98334564	84.67701646

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
201014A00002	10/14/2020	0.61	10/15/2024	10/14/2020	112.18726	108.8048164	105.5414052	102.3921611	99.35244455	96.41783354	93.58411155	90.84725686	88.20343217
201015A00002	10/15/2020	0.61	10/15/2024	10/15/2020	112.18726	108.8048164	105.5414052	102.3921611	99.35244455	96.41783354	93.58411155	90.84725686	88.20343217
200916A00016	9/16/2020	0.6	9/16/2024	9/16/2020	111.88314	108.595796	105.4215178	102.3557924	99.39431613	96.53298106	93.76786506	91.09522221	88.51147373
200916A00017	9/16/2020	0.54	9/15/2023	9/16/2020	108.14394	106.0264613	103.9611347	101.9463487	99.98054945	98.06224222	96.18998812	94.36240181	92.5781491
200916A00019	9/16/2020	0.42	9/16/2024	9/16/2020	111.78848	108.4913059	105.3077905	102.2333935	99.26377979	96.39481208	93.62254044	90.94319282	88.35316591
200916A00023	9/16/2020	0.42	9/16/2024	9/16/2020	111.78848	108.4913059	105.3077905	102.2333935	99.26377979	96.39481208	93.62254044	90.94319282	88.35316591
200922A00015	9/24/2020	1.09	9/24/2025	9/24/2020	117.28039	112.7131247	108.3476322	104.1739393	100.1826239	96.36477767	92.71197514	89.21624465	85.87004158
200923A00001	9/23/2020	2.27	9/22/2025	9/23/2020	122.35427	117.6881588	113.2266378	108.959646	104.8776692	100.9717102	97.23325814	93.65425891	90.22708859
200826A00036	8/28/2020	0.88	7/28/2023	8/28/2020	108.25278	106.2823259	104.3573595	102.4765466	100.638602	98.84228682	97.08640622	95.36980784	93.69137981
200826A00038	8/28/2020	1.11	8/28/2024	8/28/2020	113.2868	110.0383679	106.8995188	103.865961	100.9335983	98.09851698	95.3569769	92.70540265	90.14037533
200826A00039	8/28/2020	1.03	7/29/2024	8/28/2020	112.71921	109.571984	106.5282727	103.5841194	100.7357395	97.97951333	95.31197846	92.72982159	90.22987147
200826A00040	8/28/2020	0.92	10/27/2023	8/28/2020	109.38779	107.1311406	104.932576	102.7901962	100.7021792	98.66677678	96.68231039	94.74716806	92.85980108
200909A00001	9/9/2020	0.98	9/8/2028	9/9/2020	127.18726	118.7105946	110.8452512	103.5442147	96.76431035	90.4658696	84.61242859	79.1704544	74.10909571
200916A00015	9/16/2020	0.72	9/16/2025	9/16/2020	115.60976	111.1035625	106.7957369	102.676527	98.73671041	94.96756454	91.36083711	87.90871808	84.60381355
200824A00020	8/26/2020	1.57	8/26/2025	8/26/2020	119.0226	114.5151265	110.202396	106.0749948	102.1240111	98.34100825	94.71799716	91.2474098	87.92207494
200826A00019	8/26/2020	0.98	8/26/2026	8/26/2020	119.81686	114.103429	108.6920632	103.5653089	98.70680413	94.10120854	89.73413432	85.59208247	81.6623834
200826A00021	8/26/2020	0.83	8/26/2025	8/26/2020	115.89056	111.4470066	107.1961704	103.1287157	99.23580827	95.50908551	91.94062867	88.52293688	85.24890294
200826A00028	8/28/2020	1.08	8/28/2024	8/28/2020	113.19348	109.9464804	106.8090268	103.7768294	100.8457928	98.01200469	95.27172591	92.62138212	90.05755544
200826A00029	8/28/2020	1.16	11/27/2024	8/28/2020	114.45032	110.8966632	107.4716349	104.1697927	100.9859662	97.91523697	94.95292478	92.09457396	89.33594115
200826A00035	8/28/2020	0.78	8/28/2023	8/28/2020	108.43156	106.3666423	104.3512999	102.3840374	100.4634148	98.58804511	96.75659169	94.96776641	93.22032732
200729A00016	7/30/2020	0.5	4/1/2022	7/30/2020	102.16863	101.6432865	101.1233206	100.6086466	100.0991841	99.59485439	99.09558038	98.60128644	98.11189847
200730A00011	7/30/2020	1.15	7/28/2028	7/30/2020	126.84513	118.5773638	110.8948214	103.7532772	97.11205492	90.93372662	85.18383791	79.83065809	74.8449522
200730A00013	7/30/2020	0.74	1/30/2025	7/30/2020	113.61933	109.8826187	106.2871731	102.8269349	99.49613357	96.28927509	93.20112756	90.22670716	87.36126506
200806A00006	8/6/2020	0.76	8/6/2025	8/6/2020	115.42087	111.0500527	106.8664191	102.861018	99.02537297	95.3514536	91.83165012	88.458749	85.22591032
200818A00016	3/31/2021	0.57	4/1/2024	3/31/2021	110.20131	107.4545603	104.7902762	102.2054895	99.69736082	97.26317085	94.90031409	92.60629349	90.37871518
200818A00018	3/31/2021	0.57	4/1/2024	3/31/2021	110.20131	107.4545603	104.7902762	102.2054895	99.69736082	97.26317085	94.90031409	92.60629349	90.37871518
200611A00021	6/11/2020	0.72	6/11/2024	6/11/2020	111.31181	108.3323247	105.4475811	102.6539267	99.94788132	97.32612503	94.78548912	92.32294799	89.93561148
200611A00023	6/11/2020	0.64	6/12/2023	6/11/2020	107.30466	105.4791182	103.6938889	101.9477074	100.2393595	98.56768226	96.93156031	95.32992409	93.76174713
200629A00020	6/29/2020	1.4	6/28/2030	6/29/2020	135.38436	124.3426434	114.2739121	105.0875345	96.70176242	89.04281721	82.04407369	75.64533206	69.79216741
200629A00021	6/29/2020	1.21	6/29/2028	6/29/2020	127.06118	118.8816089	111.2752706	104.1990741	97.61339323	91.4817678	85.77063379	80.44907787	75.48861415
200629A00023	6/29/2020	0.95	6/29/2026	6/29/2020	119.15316	113.6421515	108.414684	103.4546198	98.7468359	94.27715357	90.03227323	85.99971445	82.16776042
200708A00011	7/10/2020	2.87	7/10/2031	7/10/2020	155.53529	142.1392958	130.0239753	119.0595524	109.1300526	100.1317693	91.97190673	84.56738048	77.84375478
200527A00016	5/27/2020	0.92	5/27/2025	5/27/2020	115.42328	111.2766639	107.3001573	103.4858054	99.82607808	96.31384214	92.94233764	89.70515585	86.59621863

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200528A00021	5/28/2020	0.63	5/26/2023	5/28/2020	107.09613	105.3234971	103.5891713	101.8919848	100.2308128	98.6045763	97.01223926	95.45280677	93.92532286
200529A00022	6/1/2020	0.98	6/1/2026	6/1/2020	119.05249	113.6366497	108.4953175	103.613112	98.97560164	94.56924013	90.38130705	86.39985248	82.61364579
200605A00005	6/5/2020	0.99	6/5/2025	6/5/2020	115.78726	111.6050157	107.5952765	103.749927	100.0612875	96.52208622	93.12543437	89.86480362	86.73400468
200611A00019	6/11/2020	0.88	12/11/2025	6/11/2020	117.07123	112.2591303	107.6694294	103.2906097	99.11182252	95.12284263	91.31402848	87.67628511	84.20102959
200611A00020	6/11/2020	0.81	6/11/2025	6/11/2020	115.12727	110.9383588	106.9230678	103.0731908	99.38096416	95.83903824	92.44045296	89.17861417	86.04727193
200521A00016	5/21/2020	2.18	5/21/2037	5/21/2020	170.0397	147.3695269	128.0014678	111.4344202	97.24572955	85.07856868	74.63139668	65.64915028	57.91587528
200521A00017	5/21/2020	2.22	5/21/2038	5/21/2020	173.91353	149.484158	128.8083916	111.2859291	96.4153778	83.77752495	73.02150931	63.85337737	56.02660262
200527A00012	5/27/2020	1.2	5/27/2027	5/27/2020	123.5513	116.8265444	110.5046672	104.559463	98.96656628	93.70331616	88.74862746	84.08287271	79.68777349
200527A00013	5/27/2020	1.13	11/25/2026	5/27/2020	121.4773	115.4205337	109.6981602	104.2899722	99.17709311	94.3418825	89.76784853	85.43956654	81.342604
200527A00014	5/27/2020	1.06	5/27/2026	5/27/2020	119.41569	114.0070987	108.8718223	103.9945918	99.36107567	94.95781959	90.77218675	86.79230359	83.00700919
200527A00015	5/27/2020	0.99	11/26/2025	5/27/2020	117.43587	112.6636979	108.1100679	103.763769	99.61423322	95.65149349	91.86614592	88.24931428	84.79261715
200515A00019	5/15/2020	0.59	5/15/2023	5/15/2020	106.90767	105.1687551	103.4669531	101.8011423	100.1702508	98.57324872	97.00914709	95.47699509	93.97587849
200515A00020	5/15/2020	0.82	5/15/2025	5/15/2020	114.92007	110.8203419	106.8876375	103.1142125	99.49272571	96.01621985	92.67809823	89.47210398	86.39230024
200515A00021	5/15/2020	1.12	5/17/2027	5/15/2020	122.96647	116.2914266	110.0148805	104.1110094	98.55579784	93.32690324	88.4035301	83.76631476	79.39721909
200518A00019	5/19/2020	0.9	5/19/2025	5/19/2020	115.2701	111.1512875	107.2006334	103.4103138	99.77292132	96.28143656	92.92920524	89.70991678	86.61758428
200521A00013	5/21/2020	2.09	5/21/2035	5/21/2020	161.45928	142.2835658	125.5896354	111.0420475	98.35229312	87.27202241	77.58727712	69.11357559	61.69172141
200521A00015	5/21/2020	2.14	5/21/2036	5/21/2020	165.87734	144.9618539	126.9240396	111.3509514	97.89087395	86.24397385	76.15441857	67.40372525	59.80514313
200429A00066	4/29/2020	0.8	4/28/2023	4/29/2020	107.0687	105.3780432	103.7227514	102.1017886	100.5141595	98.95890711	97.43511068	95.9418841	94.47837426
200430A00030	4/30/2020	0.96	4/30/2025	4/30/2020	115.32587	111.2650822	107.3680971	103.6273934	100.0358417	96.58668041	93.27349459	90.09019588	87.03100383
200504A00005	5/4/2020	0.6	5/4/2022	5/4/2020	102.61904	101.9948911	101.3782945	100.7691171	100.1672259	99.5724908	98.98478477	98.40398388	97.82996705
200504A00006	5/4/2020	0.94	5/5/2025	5/4/2020	115.29553	111.2197622	107.3089319	103.5554362	99.95207334	96.49201479	93.16878339	89.976233	86.90852952
200504A00007	5/4/2020	1.47	5/4/2028	5/4/2020	128.49761	120.4587953	112.9706771	105.9927514	99.48769573	93.42110332	87.7612411	82.47882831	77.54683481
200511A00006	5/11/2020	1.65	5/13/2030	5/11/2020	137.40877	126.4399424	116.4225192	107.2691435	98.90090258	91.24646842	84.2413329	77.82712345	71.95099077
200429A00054	4/29/2020	1.04	4/29/2025	4/29/2020	115.62494	111.5617383	107.6622744	103.9190369	100.3249049	96.87312443	93.5572875	90.37131207	87.30942347
200429A00057	4/29/2020	1.4	4/29/2027	4/29/2020	124.54287	117.8809059	111.6128538	105.7134099	100.1590233	94.92776926	89.99922829	85.35437477	80.97547465
200429A00061	4/29/2020	1.66	10/29/2029	4/29/2020	135.46791	125.2821657	115.9305168	107.3404417	99.44607297	92.18755606	85.51047205	79.36531806	73.70704006
200429A00062	4/29/2020	0.65	10/29/2021	4/29/2020	100.35231	100.2714741	100.1907741	100.1102064	100.0297706	99.94946639	99.86929352	99.78925167	99.70934053
200429A00064	4/29/2020	0.69	4/29/2022	4/29/2020	102.61108	102.001809	101.3997308	100.8047216	100.2166576	99.63541805	99.06088484	98.49294257	97.9314785
200429A00065	4/29/2020	0.74	10/28/2022	4/29/2020	104.94466	103.7692511	102.6199488	101.4958936	100.396262	99.32026564	98.26714995	97.23619208	96.22669932
200427A00018	4/27/2020	1.51	4/27/2028	4/27/2020	128.72622	120.7032903	113.2284106	106.2613738	99.76512692	93.70550409	88.05098729	82.77248778	77.84314695
200428A00002	4/28/2020	1.47	4/26/2030	4/28/2020	137.18389	126.203109	116.1738452	107.0088966	98.62946839	90.96432202	83.94901506	77.52522114	71.64012111
200428A00003	4/29/2020	1.01	4/29/2025	4/29/2020	115.50908	111.448052	107.5506956	103.8095037	100.2173575	96.76750541	93.45354158	90.26938598	87.20926588
200429A00004	5/1/2020	0.74	5/1/2023	5/1/2020	107.00433	105.3053416	103.642009	102.0132873	100.4181681	98.855682	97.3248966	95.82491479	94.35487303

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200429A00021	5/4/2020	0.97	4/29/2025	5/4/2020	115.3546	111.2964703	107.4019239	103.6634593	100.0739609	96.62668006	93.31521369	90.13348453	87.07572244
200429A00049	4/29/2020	1.25	4/29/2026	4/29/2020	120.1133	114.7774893	109.7072785	104.8880514	100.3060733	95.94843609	91.80300354	87.85836106	84.10376862
200423A00020	4/28/2020	0.68	4/15/2022	4/28/2020	102.43037	101.8630268	101.3019515	100.7470401	100.1981917	99.65530703	99.1182893	98.58704369	98.06147746
200423A00022	4/28/2020	0.76	2/15/2023	4/28/2020	106.17823	104.7118433	103.272899	101.8606929	100.4745431	99.11379053	97.77779757	96.46594754	95.17764373
200423A00026	4/28/2020	0.85	12/15/2023	4/28/2020	109.77881	107.3687858	105.0238894	102.7418581	100.5205299	98.357837	96.25180042	94.20052536	92.20219679
200423A00027	4/28/2020	0.88	4/15/2024	4/28/2020	111.17508	108.3720615	105.6540634	103.017985	100.4608615	97.97985537	95.57225016	93.23544432	90.96694556
200424A00014	4/28/2020	1.01	4/23/2025	4/28/2020	115.44883	111.4081037	107.5296321	103.8060048	100.2301906	96.79551943	93.49566101	90.32460579	87.27664654
200427A00017	4/27/2020	1.02	4/25/2025	4/27/2020	115.50741	111.459196	107.5737313	103.8435709	100.2616536	96.8212814	93.51609829	90.34007058	87.28746861
200421A00029	4/24/2020	0.72	12/15/2022	4/24/2020	105.53712	104.2059959	102.9081419	101.6423281	100.4073809	99.20218313	98.02567118	96.87683145	95.75469763
200421A00031	4/21/2020	0.84	4/19/2024	4/21/2020	111.10941	108.2948947	105.5660288	102.9196777	100.3528435	97.86265756	95.4463744	93.10136513	90.82511175
200421A00032	4/21/2020	1.31	4/21/2027	4/21/2020	123.9121	117.2952445	111.0686043	105.2071799	99.68770565	94.48851684	89.5894313	84.97164019	80.61760745
200422A00015	4/27/2020	0.73	12/22/2022	4/27/2020	105.63928	104.2851395	102.965393	101.678744	100.4239614	99.19987418	98.00536813	96.83938234	95.70090609
200423A00006	4/23/2020	0.82	4/23/2025	4/23/2020	115.30368	111.2501423	107.3597779	103.6251187	100.0390794	96.59493912	93.28632046	90.10716962	87.05173804
200423A00017	4/23/2020	1.82	4/23/2035	4/23/2020	159.83948	140.6839317	124.0109946	109.4853473	96.81850977	85.76209763	76.10207474	67.6538543	60.25811913
200417A00019	4/17/2020	0.77	4/17/2025	4/17/2020	115.05226	111.0226797	107.1547525	103.4411058	99.87474585	96.44903695	93.15768093	89.99469785	86.95440797
200421A00020	4/24/2020	0.83	3/15/2024	4/24/2020	110.71439	108.0129344	105.3910823	102.8460249	100.3750709	97.97564007	95.64525824	93.38155216	91.1822447
200421A00021	4/21/2020	0.56	4/21/2023	4/21/2020	106.81953	105.1480884	103.5114093	101.9084852	100.3383471	98.80006256	97.29273445	95.81549887	94.36752377
200421A00022	4/21/2020	0.74	4/21/2023	4/21/2020	106.88878	105.2205809	103.5870118	101.9870729	100.4198005	98.88426718	97.37958034	95.90488052	94.45933979
200421A00024	4/24/2020	0.8	10/16/2023	4/24/2020	109.00571	106.7857038	104.6222947	102.5136568	100.4580368	98.45375103	96.49918188	94.59277488	92.73303563
200421A00028	4/21/2020	0.56	4/21/2023	4/21/2020	106.81953	105.1480884	103.5114093	101.9084852	100.3383471	98.80006256	97.29273445	95.81549887	94.36752377
200417A00008	4/17/2020	0.96	4/17/2025	4/17/2020	115.19736	111.1804745	107.3243327	103.6216204	100.0653973	96.64907749	93.36640946	90.21145685	87.1785807
200417A00011	4/22/2020	0.68	7/15/2022	4/22/2020	103.57079	102.7266234	101.8961432	101.0790181	100.2749278	99.48356254	98.70462208	97.93781564	97.18286144
200417A00012	4/22/2020	0.71	12/15/2022	4/22/2020	105.52457	104.1935292	102.8957584	101.6300265	100.3951597	99.19004104	98.01360688	96.86484368	95.74278514
200417A00013	4/17/2020	0.74	4/17/2023	4/17/2020	106.84246	105.1865917	103.5649533	101.9765584	100.4204605	98.89574891	97.40154673	95.9370093	94.50132277
200417A00014	4/17/2020	0.96	4/17/2025	4/17/2020	115.19736	111.1804745	107.3243327	103.6216204	100.0653973	96.64907749	93.36640946	90.21145685	87.1785807
200417A00018	4/21/2020	0.67	7/25/2022	4/21/2020	103.67965	102.8047108	101.9444476	101.0984919	100.2664895	99.44809761	98.64298462	97.85082962	97.07132197
200415A00036	4/15/2020	0.91	10/15/2024	4/15/2020	113.16452	109.7664199	106.4877681	103.3236813	100.2695062	97.32080766	94.47335656	91.72311912	89.06624653
200415A00037	4/15/2020	0.97	4/15/2025	4/15/2020	115.21578	111.2049361	107.3543888	103.6568548	100.1054219	96.69353033	93.41495276	90.26377537	87.23438016
200415A00038	4/15/2020	1.37	4/15/2027	4/15/2020	124.2231	117.6174592	111.4002166	105.5465625	100.0333973	94.83920683	89.94394491	85.32892573	80.97672453
200417A00002	4/17/2020	0.96	4/17/2025	4/17/2020	115.19736	111.1804745	107.3243327	103.6216204	100.0653973	96.64907749	93.36640946	90.21145685	87.1785807
200417A00004	4/17/2020	0.86	4/17/2024	4/17/2020	111.14236	108.3335956	105.6101609	102.9689433	100.4069613	97.92136192	95.50941424	93.16850301	90.89612312
200417A00006	4/17/2020	0.74	4/17/2023	4/17/2020	106.84246	105.1865917	103.5649533	101.9765584	100.4204605	98.89574891	97.40154673	95.9370093	94.50132277
200415A00023	4/15/2020	1.71	4/15/2030	4/15/2020	137.70702	126.8241528	116.8773497	107.7813432	99.45903958	91.8406974	84.8631914	78.4693543	72.60738687

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200415A00024	4/15/2020	2.2	4/16/2035	4/15/2020	162.88362	143.7433763	127.0610431	112.5066869	99.79623854	88.68491378	78.96160721	70.44410936	62.97502365
200415A00026	4/15/2020	0.77	4/14/2023	4/15/2020	106.8559	105.2088724	103.595782	102.0156538	100.4675543	98.95058488	97.46388022	96.00660652	94.5779602
200415A00027	4/15/2020	0.86	4/15/2024	4/15/2020	111.12107	108.3187835	105.601496	102.9661118	100.4096665	97.92932323	95.52236594	93.18619355	90.91831423
200415A00031	4/15/2020	0.97	4/15/2025	4/15/2020	115.21578	111.2049361	107.3543888	103.6568548	100.1054219	96.69353033	93.41495276	90.26377537	87.23438016
200415A00033	4/15/2020	0.82	10/13/2023	4/15/2020	109.01596	106.8046753	104.6496134	102.5489658	100.500997	98.50403996	96.55649285	94.65681604	92.80352916
200414A00013	4/14/2020	0.55	4/14/2022	4/14/2020	102.40358	101.8385544	101.2797511	100.7270652	100.1803965	99.63964713	99.10472112	98.57552471	98.05196611
200414A00014	4/14/2020	0.76	4/12/2024	4/14/2020	111.22427	108.421085	105.7028954	103.0666029	100.5092463	98.02799122	95.62012429	93.28304661	91.01426833
200414A00015	4/14/2020	0.64	4/14/2023	4/14/2020	106.86784	105.2169622	103.6001512	102.0164363	100.4648786	98.94457431	97.45465323	95.99427702	94.56263784
200415A00003	4/15/2020	0.77	4/14/2023	4/15/2020	106.8559	105.2088724	103.595782	102.0156538	100.4675543	98.95058488	97.46388022	96.00660652	94.5779602
200415A00020	4/15/2020	0.86	4/15/2024	4/15/2020	111.12107	108.3187835	105.601496	102.9661118	100.4096665	97.92932323	95.52236594	93.18619355	90.91831423
200415A00021	4/15/2020	1.37	4/15/2027	4/15/2020	124.2231	117.6174592	111.4002166	105.5465625	100.0333973	94.83920683	89.94394491	85.32892573	80.97672453
200413A00003	4/13/2020	0.64	4/13/2023	4/13/2020	106.85614	105.2083539	103.5945355	102.0137168	100.4649633	98.94737548	97.46008693	96.00226304	94.57309945
200413A00004	4/13/2020	0.89	4/11/2025	4/13/2020	115.4515	111.4337699	107.5765369	103.872509	100.3147705	96.8967579	93.61224011	90.45529929	87.42031334
200413A00011	4/13/2020	0.94	4/12/2024	4/13/2020	111.30444	108.5089718	105.7980794	103.1686861	100.6178511	98.14275915	95.74071494	93.40913662	91.14555043
200413A00012	4/13/2020	0.64	4/13/2023	4/13/2020	106.85614	105.2083539	103.5945355	102.0137168	100.4649633	98.94737548	97.46008693	96.00226304	94.57309945
200413A00026	4/13/2020	0.82	4/13/2023	4/13/2020	106.92437	105.2797603	103.6689926	102.0911032	100.5451628	99.03027642	97.54558228	96.09024997	94.66347912
200413A00027	4/13/2020	0.94	4/12/2024	4/13/2020	111.30444	108.5089718	105.7980794	103.1686861	100.6178511	98.14275915	95.74071494	93.40913662	91.14555043
200407A00019	4/7/2020	1.06	4/8/2024	4/7/2020	111.58239	108.7956025	106.0928241	103.4710175	100.9272723	98.45880227	96.06293904	93.73712606	91.47891329
200408A00004	4/8/2020	0.76	4/8/2022	4/8/2020	102.39132	101.8446726	101.3038469	100.768748	100.2392852	99.71536992	99.19691514	98.68383582	98.17604866
200408A00011	4/8/2020	0.82	9/26/2022	4/8/2020	104.61492	103.5414337	102.4898185	101.4594076	100.4495653	99.45968114	98.48916877	97.53746441	96.60402604
200408A00013	4/13/2020	0.87	4/14/2023	4/13/2020	107.01647	105.3681011	103.7536864	102.172258	100.6228818	99.10465855	97.6167221	96.15823813	94.72840249
200409A00011	4/9/2020	0.7	4/7/2023	4/9/2020	106.88117	105.2511378	103.6544909	102.0902835	100.5576067	99.05558515	97.58337534	96.14016437	94.72516839
200409A00019	4/9/2020	0.58	4/8/2022	4/9/2020	102.34517	101.7980491	101.2567611	100.7212133	100.1913146	99.66697609	99.1481104	98.63463215	98.12645769
200406A00049	4/6/2020	0.92	4/6/2023	4/6/2020	106.99994	105.3756019	103.7844326	102.2254986	100.6978997	99.20076917	97.73327141	96.29460101	94.88398122
200406A00053	4/6/2020	1.13	4/7/2025	4/6/2020	115.74349	111.748445	107.9121638	104.2274731	100.6875635	97.28597064	94.01655546	90.87348611	87.85122065
200406A00059	4/6/2020	0.92	4/6/2023	4/6/2020	106.99994	105.3756019	103.7844326	102.2254986	100.6978997	99.20076917	97.73327141	96.29460101	94.88398122
200406A00060	4/6/2020	1.03	4/5/2024	4/6/2020	111.46856	108.69259	106.0001153	103.3881213	100.8537237	98.39416072	96.00678678	93.68906699	91.43857164
200407A00004	4/7/2020	0.99	4/7/2025	4/7/2020	115.79125	111.7800999	107.9287143	104.2298565	100.6766613	97.26261178	93.98151989	90.82750784	87.7949906
200407A00016	4/7/2020	0.8	4/7/2022	4/7/2020	102.39983	101.8561099	101.3181432	100.7858416	100.2591159	99.73787883	99.22204489	98.71153039	98.20625333
200403A00012	4/3/2020	0.55	4/15/2022	4/3/2020	102.41599	101.8479691	101.2862371	100.730686	100.1812141	99.63772185	99.10011203	98.56828939	98.04216074
200403A00015	4/3/2020	0.73	4/4/2022	4/3/2020	102.32475	101.7900982	101.2610146	100.7374096	100.2191985	99.70629821	99.19862753	98.69610679	98.19865797
200403A00017	4/3/2020	0.81	4/3/2023	4/3/2020	106.79057	105.1769127	103.5961054	102.0472244	100.5293834	99.04172812	97.5834353	96.15371099	94.75178934
200403A00018	4/3/2020	0.91	4/3/2024	4/3/2020	111.12658	108.3613576	105.6792054	103.0771282	100.5522615	98.10186202	95.72330191	93.41406275	91.17173047

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200403A00025	4/3/2020	0.91	4/3/2024	4/3/2020	111.12658	108.3613576	105.6792054	103.0771282	100.5522615	98.10186202	95.72330191	93.41406275	91.17173047
200406A00018	4/6/2020	0.65	4/18/2022	4/6/2020	102.50946	101.9322757	101.3615735	100.7972453	100.2391845	99.68728723	99.14145157	98.60157801	98.06756918
200402A00036	4/2/2020	0.71	4/2/2024	4/2/2020	110.98284	108.2139936	105.5284395	102.9231783	100.3953346	97.94215499	95.56100173	93.24934735	91.00476908
200402A00038	4/2/2020	0.84	4/2/2025	4/2/2020	115.17067	111.1870463	107.361705	103.6875041	100.157661	96.76573618	93.50561386	90.37148364	87.35782357
200402A00041	4/2/2020	1.03	4/2/2025	4/2/2020	115.31365	111.3424912	107.5287359	103.8652917	100.3454278	96.96275265	93.71119571	90.58498874	87.57864925
200402A00044	4/2/2020	1.65	4/2/2030	4/2/2020	136.98812	126.1833957	116.3052863	107.2696492	99.00038427	91.42862472	84.4920155	78.13406779	72.3035802
200402A00048	4/2/2020	0.71	4/2/2024	4/2/2020	110.98284	108.2139936	105.5284395	102.9231783	100.3953346	97.94215499	95.56100173	93.24934735	91.00476908
200403A00010	4/6/2020	0.8	4/6/2023	4/6/2020	106.81007	105.1873031	103.5976789	102.0402619	100.5141529	99.01848566	97.55242551	96.11516769	94.70593614
200402A00022	4/2/2020	0.96	4/2/2024	4/2/2020	111.24884	108.4850866	105.804282	103.2034372	100.679695	98.23031864	95.85268647	93.54428594	91.3027084
200402A00023	4/2/2020	1.11	4/2/2025	4/2/2020	115.61591	111.6391971	107.8200516	104.1513733	100.6264255	97.23881133	93.98245471	90.85158242	87.84070711
200402A00026	4/2/2020	1.28	4/2/2026	4/2/2020	119.99083	114.7466122	109.7598994	105.0167179	100.5039225	96.20914698	92.12075366	88.22778643	84.51992725
200402A00028	4/2/2020	0.71	4/4/2022	4/2/2020	102.3143	101.77968	101.2506281	100.7270544	100.2088744	99.69600505	99.18836504	98.68587475	98.18845616
200402A00030	4/2/2020	0.8	4/3/2023	4/2/2020	106.77483	105.1613079	103.5806279	102.031872	100.5141538	99.02661923	97.56844495	96.13883711	94.73702993
200402A00035	4/2/2020	0.62	4/3/2023	4/2/2020	106.70767	105.0910519	103.5073978	101.9557849	100.4353219	98.94515028	97.48444245	96.0524005	94.64825482
200402A00009	4/2/2020	1.03	4/2/2025	4/2/2020	115.31365	111.3424912	107.5287359	103.8652917	100.3454278	96.96275265	93.71119571	90.58498874	87.57864925
200402A00010	4/2/2020	0.89	4/2/2024	4/2/2020	111.06257	108.3012956	105.622909	103.0244269	100.5029935	98.05587415	95.68044856	93.37420577	91.13473864
200402A00013	4/2/2020	0.89	4/2/2024	4/2/2020	111.06257	108.3012956	105.622909	103.0244269	100.5029935	98.05587415	95.68044856	93.37420577	91.13473864
200402A00014	4/2/2020	0.84	4/2/2025	4/2/2020	115.17067	111.1870463	107.361705	103.6875041	100.157661	96.76573618	93.50561386	90.37148364	87.35782357
200402A00017	4/2/2020	0.76	4/1/2022	4/2/2020	102.30226	101.776521	101.2561574	100.7410886	100.2312342	99.72651543	99.22685517	98.73217777	98.24240908
200402A00018	4/2/2020	0.85	4/3/2023	4/2/2020	106.85351	105.239332	103.6580152	102.1086339	100.5903015	99.10216368	97.64339673	96.21320653	94.81082701
200401A00001	4/1/2020	1.01	4/1/2025	4/1/2020	115.22805	111.2616596	107.4523963	103.7931893	100.2773233	96.89842145	93.65042665	90.52758341	87.52442108
200401A00012	4/2/2020	1	4/2/2025	4/2/2020	115.2003	111.2312264	107.4194925	103.7580111	100.2400536	96.85923065	93.60947358	90.48501611	87.48037756
200401A00013	4/1/2020	1.01	4/1/2025	4/1/2020	115.22805	111.2616596	107.4523963	103.7931893	100.2773233	96.89842145	93.65042665	90.52758341	87.52442108
200401A00023	4/1/2020	0.82	4/1/2025	4/1/2020	115.08497	111.1061319	107.2853038	103.6153595	100.0895321	96.70139684	93.44485153	90.31409863	87.3036281
200402A00002	4/2/2020	0.71	4/4/2022	4/2/2020	102.3143	101.77968	101.2506281	100.7270544	100.2088744	99.69600505	99.18836504	98.68587475	98.18845616
200402A00003	4/2/2020	0.8	4/3/2023	4/2/2020	106.77483	105.1613079	103.5806279	102.031872	100.5141538	99.02661923	97.56844495	96.13883711	94.73702993
200331A00015	3/31/2020	0.64	3/31/2023	3/31/2020	106.7041	105.096486	103.5215432	101.9783633	100.4660678	98.98380997	97.53077365	96.10617164	94.70924451
200331A00016	3/31/2020	1.11	3/31/2026	3/31/2020	119.94906	114.6873992	109.6845423	104.9264248	100.3998196	96.09228437	91.99211037	88.08827548	84.37040018
200331A00017	3/31/2020	0.9	3/31/2025	3/31/2020	115.3776	111.3965877	107.5735195	103.9012744	100.373094	96.98256106	93.72358062	90.59036145	87.57739935
200331A00018	3/31/2020	0.82	3/31/2023	3/31/2020	106.7709	105.1663524	103.5943622	102.0540189	100.5444489	99.06480998	97.6142901	96.19210609	94.79750226
200331A00022	4/1/2020	1.07	4/1/2025	4/1/2020	115.45456	111.4840096	107.6707101	104.0075837	100.4879106	97.10531013	93.85372102	90.72738401	87.72082484
200331A00024	3/31/2020	0.64	3/31/2023	3/31/2020	106.7041	105.096486	103.5215432	101.9783633	100.4660678	98.98380997	97.53077365	96.10617164	94.70924451
200330A00064	3/30/2020	0.83	3/30/2023	3/30/2020	106.77497	105.1733587	103.6041807	102.0665383	100.5595623	99.08241464	97.63428754	96.21440167	94.82200511

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200330A00066	3/30/2020	1.08	3/31/2025	3/30/2020	115.48207	111.5142037	107.7033833	104.0425394	100.524966	97.14429441	93.89447528	90.76976005	87.76468445
200331A00007	3/31/2020	0.72	3/29/2024	3/31/2020	110.96694	108.2106776	105.537027	102.9430177	100.4258095	97.98268205	95.61102877	93.30835146	91.072255
200331A00008	3/31/2020	0.64	3/31/2023	3/31/2020	106.7041	105.096486	103.5215432	101.9783633	100.4660678	98.98380997	97.53077365	96.10617164	94.70924451
200331A00011	3/31/2020	1.09	3/31/2025	3/31/2020	115.51979	111.5512322	107.7397401	104.078244	100.560037	97.17874997	93.9283327	90.80303604	87.79739514
200331A00014	3/31/2020	0.72	3/29/2024	3/31/2020	110.96694	108.2106776	105.537027	102.9430177	100.4258095	97.98268205	95.61102877	93.30835146	91.072255
200330A00037	3/30/2020	1.09	3/28/2025	3/30/2020	115.48926	111.5307612	107.7285747	104.0756824	100.5654239	97.19147388	93.94782276	90.82875932	87.82885409
200330A00038	3/30/2020	1.79	3/29/2030	3/30/2020	138.3018	127.4537942	117.5335865	108.457099	100.1482701	92.53825558	85.56470988	79.17114297	73.30634335
200330A00043	3/30/2020	0.86	3/30/2023	3/30/2020	106.82183	105.2198262	103.6502716	102.1122594	100.6049201	99.12741567	97.67893804	96.25870774	94.86597264
200330A00044	3/30/2020	1.09	3/28/2025	3/30/2020	115.48926	111.5307612	107.7285747	104.0756824	100.5654239	97.19147388	93.94782276	90.82875932	87.82885409
200330A00046	3/30/2020	0.86	3/30/2023	3/30/2020	106.82183	105.2198262	103.6502716	102.1122594	100.6049201	99.12741567	97.67893804	96.25870774	94.86597264
200330A00054	3/30/2021	1.19	3/30/2026	3/30/2021	119.51881	114.2954698	109.3283426	104.603544	100.1080114	95.8294549	91.75630731	87.87767802	84.18330966
200330A00007	3/30/2020	0.93	4/1/2024	3/30/2020	111.15816	108.3987101	105.7220178	103.1251071	100.6051296	98.15935739	95.78517673	93.48008266	91.24167367
200330A00008	3/30/2020	1.09	3/28/2025	3/30/2020	115.48926	111.5307612	107.7285747	104.0756824	100.5654239	97.19147388	93.94782276	90.82875932	87.82885409
200330A00011	3/30/2020	0.93	4/1/2024	3/30/2020	111.15816	108.3987101	105.7220178	103.1251071	100.6051296	98.15935739	95.78517673	93.48008266	91.24167367
200330A00017	3/30/2020	0.86	3/30/2023	3/30/2020	106.82183	105.2198262	103.6502716	102.1122594	100.6049201	99.12741567	97.67893804	96.25870774	94.86597264
200330A00028	3/30/2020	1.09	3/28/2025	3/30/2020	115.48926	111.5307612	107.7285747	104.0756824	100.5654239	97.19147388	93.94782276	90.82875932	87.82885409
200330A00036	3/30/2020	0.86	3/30/2023	3/30/2020	106.82183	105.2198262	103.6502716	102.1122594	100.6049201	99.12741567	97.67893804	96.25870774	94.86597264
200327A00073	3/27/2020	0.99	3/27/2025	3/27/2020	115.67659	111.7028312	107.8861912	104.2196068	100.6963761	97.31013417	94.0548348	90.92473207	87.91436388
200327A00076	3/27/2020	1.18	3/27/2026	3/27/2020	120.25371	114.9980098	110.0001134	105.246041	100.722649	96.41757164	92.31917022	88.41648689	84.699201
200327A00077	3/27/2020	0.83	3/27/2024	3/27/2020	111.23701	108.4833414	105.8120019	103.2200416	100.7046362	98.26308016	95.89278094	93.59125352	91.35611516
200327A00079	3/27/2020	0.99	3/27/2025	3/27/2020	115.67659	111.7028312	107.8861912	104.2196068	100.6963761	97.31013417	94.0548348	90.92473207	87.91436388
200327A00088	3/27/2020	1.22	3/27/2025	3/27/2020	115.96784	112.0037541	108.1959919	104.5375406	101.0217461	97.6422887	94.39316382	91.26866476	88.26336606
200330A00006	3/30/2020	0.9	3/28/2025	3/30/2020	115.34739	111.3764873	107.5627677	103.8991644	100.3789663	96.99580018	93.74361198	90.61664877	87.609442
200327A00058	3/27/2020	0.9	3/27/2023	3/27/2020	106.849	105.2556616	103.6944203	102.1643901	100.6647151	99.1945699	97.75315871	96.33971365	94.95349368
200327A00059	3/27/2020	1.01	3/27/2024	3/27/2020	111.31565	108.569501	105.9052728	103.3200408	100.811	98.37546297	96.01085449	93.71470573	91.48464924
200327A00060	3/27/2020	1.18	3/27/2025	3/27/2020	115.81745	111.8561181	108.0510259	104.3951675	100.8818918	97.50488165	94.25813523	91.13594828	88.13289774
200327A00061	3/31/2020	1.18	3/31/2025	3/31/2020	115.85927	111.8844882	108.0669512	104.3995852	100.8756766	97.48885002	94.23304942	91.10251995	88.09179133
200327A00066	6/25/2020	0.93	6/26/2023	6/25/2020	107.99183	106.11728	104.2848714	102.4932466	100.741111	99.0272255	97.35040343	95.70950776	94.10344845
200327A00068	6/25/2020	0.93	6/26/2023	6/25/2020	107.99183	106.11728	104.2848714	102.4932466	100.741111	99.0272255	97.35040343	95.70950776	94.10344845
200327A00048	3/27/2020	1.18	3/24/2025	3/27/2020	115.78609	111.8348404	108.0390806	104.3918534	100.8865544	97.5169099	94.27695854	91.16103391	88.16374819
200327A00051	3/27/2020	0.99	3/27/2025	3/27/2020	115.67659	111.7028312	107.8861912	104.2196068	100.6963761	97.31013417	94.0548348	90.92473207	87.91436388
200327A00053	3/27/2020	0.84	3/25/2022	3/27/2020	102.25254	101.7474537	101.2473442	100.7521371	100.2617608	99.7761447	99.29521983	98.81891844	98.34717409
200327A00054	3/27/2020	0.9	3/27/2023	3/27/2020	106.849	105.2556616	103.6944203	102.1643901	100.6647151	99.1945699	97.75315871	96.33971365	94.95349368

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200327A00055	3/27/2020	1.01	3/27/2024	3/27/2020	111.31565	108.569501	105.9052728	103.3200408	100.811	98.37546297	96.01085449	93.71470573	91.48464924
200327A00056	3/27/2020	1.18	3/27/2025	3/27/2020	115.81745	111.8561181	108.0510259	104.3951675	100.8818918	97.50488165	94.25813523	91.13594828	88.13289774
200327A00041	3/27/2020	0.9	3/27/2023	3/27/2020	106.849	105.2556616	103.6944203	102.1643901	100.6647151	99.1945699	97.75315871	96.33971365	94.95349368
200327A00042	3/27/2020	0.83	3/27/2024	3/27/2020	111.23701	108.4833414	105.8120019	103.2200416	100.7046362	98.26308016	95.89278094	93.59125352	91.35611516
200327A00043	3/27/2020	1.48	3/27/2028	3/27/2020	129.44634	121.4571082	114.0085284	107.0613073	100.5792012	94.52876369	88.87911514	83.60173391	78.67026462
200327A00045	3/27/2020	2.24	3/27/2034	3/27/2020	162.21613	144.4487729	128.8089649	115.0298202	102.8792067	92.15506507	82.68137876	74.30470159	66.89116307
200327A00046	3/27/2020	1.23	3/27/2025	3/27/2020	116.00543	112.0406631	108.2322334	104.5731339	101.0567097	97.67664047	94.42692097	91.30184388	88.29598313
200327A00047	3/27/2020	0.99	3/27/2025	3/27/2020	115.67659	111.7028312	107.8861912	104.2196068	100.6963761	97.31013417	94.0548348	90.92473207	87.91436388
200327A00031	3/27/2020	1.18	3/27/2025	3/27/2020	115.81745	111.8561181	108.0510259	104.3951675	100.8818918	97.50488165	94.25813523	91.13594828	88.13289774
200327A00032	3/27/2020	0.66	3/28/2022	3/27/2020	102.248	101.7335785	101.2243093	100.7201201	100.2209352	99.72668025	99.23728267	98.75267112	98.2727757
200327A00035	3/27/2020	0.83	3/27/2024	3/27/2020	111.23701	108.4833414	105.8120019	103.2200416	100.7046362	98.26308016	95.89278094	93.59125352	91.35611516
200327A00037	3/27/2020	1.18	3/27/2026	3/27/2020	120.25371	114.9980098	110.0001134	105.246041	100.722649	96.41757164	92.31917022	88.41648689	84.699201
200327A00039	3/27/2020	0.84	3/28/2022	3/27/2020	102.29148	101.7774998	101.2686662	100.7649004	100.2661271	99.77227237	99.2832638	98.79903041	98.31950258
200327A00040	3/27/2020	0.72	3/27/2023	3/27/2020	106.78284	105.1864505	103.6222835	102.0894417	100.5870645	99.11432221	97.67041476	96.25457045	94.86604455
200326A00025	3/26/2020	0.99	3/28/2022	3/26/2020	102.36687	101.8526744	101.3436206	100.8396363	100.340646	99.84657576	99.35735327	98.87290747	98.39316871
200327A00019	3/30/2020	0.85	3/15/2022	3/30/2020	102.12747	101.6519833	101.180918	100.7142151	100.2518142	99.79365583	99.33968172	98.88983463	98.44405836
200327A00022	3/27/2020	0.9	3/27/2023	3/27/2020	106.849	105.2556616	103.6944203	102.1643901	100.6647151	99.1945699	97.75315871	96.33971365	94.95349368
200327A00025	3/30/2020	0.86	3/30/2022	3/30/2020	102.32761	101.8076691	101.2929879	100.7834858	100.2790849	99.77970921	99.28528395	98.7957359	98.31099331
200327A00027	3/27/2020	0.9	3/27/2023	3/27/2020	106.849	105.2556616	103.6944203	102.1643901	100.6647151	99.1945699	97.75315871	96.33971365	94.95349368
200327A00030	3/27/2020	1.01	3/27/2024	3/27/2020	111.31565	108.569501	105.9052728	103.3200408	100.811	98.37546297	96.01085449	93.71470573	91.48464924
200325A00047	3/25/2020	1.68	9/25/2024	3/25/2020	115.42225	112.0503876	108.7949896	105.651378	102.615091	99.68187129	96.84765577	94.10856536	91.46089549
200325A00048	3/25/2020	1.34	12/27/2022	3/25/2020	106.49026	105.1142797	103.7735942	102.4668601	101.1928014	99.95020573	98.73791975	97.55484594	96.39993915
200326A00009	3/27/2020	1.54	3/27/2025	3/27/2020	117.17092	113.184842	109.35572	105.6765253	102.1405809	98.74154513	95.4733926	92.33039659	89.30711255
200326A00011	3/30/2020	1.54	3/31/2025	3/30/2020	117.2172	113.2175124	109.375796	105.68495	102.1382348	98.72925019	95.45191631	92.30045561	89.26937611
200326A00012	3/26/2020	0.99	3/25/2022	3/26/2020	102.32666	101.8213611	101.3210378	100.8256186	100.3350315	99.84920623	99.36807359	98.89156588	98.41961663
200326A00016	3/26/2020	1.54	3/25/2025	3/26/2020	117.14779	113.1685063	109.3456809	105.6723121	102.1417543	98.74769485	95.48413555	92.34537501	89.3259923
200325A00032	3/25/2020	1.29	9/26/2022	3/25/2020	105.09582	104.019657	102.9654013	101.9323868	100.9199773	99.92756136	98.95455173	98.00038391	97.0645151
200325A00038	3/25/2020	1.48	9/25/2023	3/25/2020	110.19549	108.0255056	105.9096103	103.8461084	101.8333674	99.86981739	97.95394813	96.08430645	94.25949362
200325A00042	3/25/2020	1.58	3/25/2024	3/25/2020	112.7966	110.0370724	107.3595611	104.7611408	102.2390112	99.79048887	97.41300213	95.10408532	92.86137378
200325A00043	3/25/2020	1.62	6/25/2024	3/25/2020	114.07771	111.0142486	108.0491085	105.1784499	102.3986186	99.70613128	97.09766589	94.57005269	92.12026594
200325A00044	3/25/2020	1.7	12/23/2024	3/25/2020	116.60137	112.9302931	109.39433	105.9876541	102.7047314	99.54030463	96.48937707	93.54719754	90.70924643
200325A00046	3/25/2020	1.76	3/25/2025	3/25/2020	117.97355	113.9791901	110.1417256	106.4541396	102.9097708	99.50229174	96.2256898	93.07424996	90.04253822
200324A00029	3/24/2020	1.86	3/24/2025	3/24/2020	118.33634	114.3385593	110.497622	106.8065186	103.2585964	99.84753553	96.56733067	93.4122732	90.37693504

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200324A00031	3/24/2020	1.64	3/22/2024	3/24/2020	112.91608	110.164255	107.4939462	104.9022529	102.3864008	99.94373122	97.57169565	95.26785031	93.02985121
200324A00051	3/24/2020	1.73	11/1/2024	3/24/2020	116.04907	112.5522075	109.1792823	105.9251708	102.784993	99.75410047	96.8280642	94.00266262	91.27387045
200324A00066	3/26/2020	1.81	3/26/2025	3/26/2020	118.17362	114.1724106	110.3284427	106.6346856	103.0844588	99.67141661	96.38952975	93.23306734	90.19658054
200325A00009	3/27/2020	1.67	3/27/2025	3/27/2020	117.65968	113.664659	109.8268596	106.1392378	102.5951075	99.18811805	95.91223554	92.76172515	89.73113456
200325A00016	3/30/2020	1.67	3/31/2025	3/30/2020	117.70756	113.6988823	109.8484344	106.1491095	102.5941586	99.17717247	95.89206268	92.73304348	89.69461505
200320A00049	3/25/2020	1.47	3/25/2025	3/25/2020	116.88504	112.9105615	109.092394	105.4235488	101.8973854	98.50759584	95.24818647	92.11346026	89.09800042
200320A00052	3/25/2020	1.47	3/25/2025	3/25/2020	116.88504	112.9105615	109.092394	105.4235488	101.8973854	98.50759584	95.24818647	92.11346026	89.09800042
200323A00011	3/23/2020	1.37	3/23/2023	3/23/2020	107.52632	105.9393333	104.3840847	102.8596996	101.365337	99.90018625	98.46346499	97.05441844	95.67231798
200323A00018	3/23/2020	1.37	3/23/2023	3/23/2020	107.52632	105.9393333	104.3840847	102.8596996	101.365337	99.90018625	98.46346499	97.05441844	95.67231798
200324A00012	3/25/2020	1.78	3/25/2025	3/25/2020	118.04862	114.0528886	110.2140933	106.5252148	102.9795905	99.57089145	96.29310382	93.14051132	90.10767876
200324A00013	3/25/2020	1.78	3/25/2025	3/25/2020	118.04862	114.0528886	110.2140933	106.5252148	102.9795905	99.57089145	96.29310382	93.14051132	90.10767876
200318A00054	3/18/2020	1.56	3/18/2025	3/18/2020	117.14146	113.184616	109.3825083	105.7282531	102.215312	98.8374726	95.58882977	92.46376913	89.45695084
200319A00009	3/19/2020	0.94	3/18/2022	3/19/2020	102.25357	101.7684202	101.2878736	100.8118631	100.3403247	99.87319536	99.41041339	98.95191817	98.4976502
200319A00025	3/19/2020	1.39	3/21/2024	3/19/2020	112.24699	109.5070449	106.8482295	104.2676649	101.7625917	99.33036585	96.96845241	94.67442065	92.44593894
200319A00039	3/19/2020	1.12	3/18/2022	3/19/2020	102.29453	101.8098077	101.3296709	100.8540592	100.3829089	99.91615728	99.45374284	98.99560524	98.54168525
200320A00013	3/20/2020	1.25	3/20/2024	3/20/2020	112.26372	109.5181584	106.8539782	104.2682841	101.7583063	99.32139031	96.95499171	94.65667067	92.42408694
200320A00026	3/20/2020	2.11	3/20/2029	3/20/2020	136.96487	127.5039382	118.7627102	110.6827238	103.2105513	96.29734022	89.89839923	83.97282438	78.48316023
200318A00026	3/20/2020	1.08	3/16/2022	3/20/2020	102.24826	101.7695162	101.2952485	100.8253985	100.3599046	99.89870632	99.4417443	98.98896024	98.54029694
200318A00037	3/18/2020	1.35	3/18/2024	3/18/2020	112.10591	109.3770589	106.728763	104.1581693	101.6625467	99.23927773	96.88585282	94.599865	92.37900513
200318A00038	3/18/2020	1.48	3/18/2025	3/18/2020	116.84292	112.8914945	109.0946519	105.4455107	101.9375381	98.56452704	95.32057748	92.20007992	89.19769919
200318A00039	3/18/2020	1.08	3/18/2022	3/18/2020	102.27556	101.7908875	101.3108037	100.8352447	100.3641466	99.89744691	99.43508405	98.97699767	98.52312857
200318A00044	3/18/2020	1.17	3/18/2024	3/18/2020	112.02968	109.293391	106.6380468	104.0607802	101.5588416	99.12959573	96.77051625	94.47918043	92.25326423
200318A00047	3/18/2020	1.29	3/18/2025	3/18/2020	116.70595	112.7421466	108.9337896	105.2739453	101.7560313	98.3737935	95.12128844	91.99286565	88.9831517
200317A00027	3/17/2020	1.29	3/17/2025	3/17/2020	116.12308	112.1879107	108.406694	104.772587	101.2790856	97.92000966	94.68948476	91.58192545	88.59201933
200317A00033	3/19/2020	1.1	2/15/2022	3/19/2020	101.86183	101.468491	101.0781936	100.6908993	100.3065734	99.92518178	99.54669096	99.17106783	98.79827984
200317A00039	3/19/2020	1.11	4/15/2022	3/19/2020	102.66847	102.1003594	101.5385255	100.9828617	100.4332666	99.88964108	99.35188828	98.81991329	98.29362326
200317A00045	3/19/2020	1.43	3/19/2025	3/19/2020	116.66755	112.7161318	108.919444	105.2705968	101.7630454	98.3905716	95.14726524	92.02750729	89.0259538
200317A00064	3/19/2020	1.12	5/16/2022	3/19/2020	103.10024	102.4386284	101.7854814	101.1406388	100.5039428	99.87523984	99.25437987	98.64121676	98.03560796
200318A00013	3/18/2020	1.5	3/18/2025	3/18/2020	116.91755	112.9647749	109.166616	105.5161963	102.0069816	98.63276343	95.38764055	92.26600222	89.26251211
200316A00068	3/16/2020	1.05	3/16/2022	3/16/2020	102.2342	101.755495	101.2812662	100.8114548	100.3459993	99.88483913	99.42791496	98.97516851	98.52654257
200316A00070	3/16/2020	1.05	3/16/2022	3/16/2020	102.2342	101.755495	101.2812662	100.8114548	100.3459993	99.88483913	99.42791496	98.97516851	98.52654257
200316A00071	3/16/2020	1.18	3/16/2023	3/16/2020	107.14544	105.5822897	104.0500085	102.5477632	101.0747454	99.63017524	98.21330001	96.82339303	95.45975256
200316A00072	3/16/2020	1.18	3/16/2023	3/16/2020	107.14544	105.5822897	104.0500085	102.5477632	101.0747454	99.63017524	98.21330001	96.82339303	95.45975256

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200317A00011	3/17/2020	1.04	3/17/2022	3/17/2020	102.24305	101.761394	101.2842708	100.8116185	100.3433743	99.87947658	99.41986502	98.96448028	98.51326415
200317A00023	3/17/2020	1.1	3/17/2025	3/17/2020	115.98436	112.0368869	108.2442298	104.5994898	101.0961131	97.72787323	94.48885229	91.37342413	88.37623823
200316A00046	3/16/2020	1.18	3/18/2024	3/16/2020	111.66125	108.9382163	106.2956045	103.730566	101.2403738	98.82241429	96.47418161	94.19327234	91.97738082
200316A00048	3/16/2020	1.11	3/16/2023	3/16/2020	107.039	105.4766935	103.9452487	102.4438248	100.9716138	99.52783622	98.11173978	96.7225982	95.35971008
200316A00049	3/16/2020	1.25	3/14/2025	3/16/2020	115.94194	112.0195685	108.2503307	104.6274301	101.1444115	97.79514038	94.57378493	91.47479949	88.49290888
200316A00050	3/16/2020	1.54	3/16/2027	3/16/2020	124.96178	118.4355944	112.2875372	106.4937975	101.0321801	95.88199063	91.02392672	86.43997715	82.11332923
200316A00055	3/16/2020	1.06	3/14/2025	3/16/2020	115.80314	111.8685318	108.0879083	104.4544244	100.9615754	97.60318075	94.37336561	91.26654396	88.27740277
200316A00067	3/18/2020	1.1	9/15/2022	3/18/2020	104.74952	103.7094303	102.6898703	101.6902387	100.7099559	99.74846461	98.80522867	97.87973218	96.97147854
200316A00019	3/16/2020	1.11	3/16/2023	3/16/2020	107.039	105.4766935	103.9452487	102.4438248	100.9716138	99.52783622	98.11173978	96.7225982	95.35971008
200316A00037	3/16/2020	1.06	3/14/2025	3/16/2020	115.80314	111.8685318	108.0879083	104.4544244	100.9615754	97.60318075	94.37336561	91.26654396	88.27740277
200316A00040	3/16/2020	1.04	3/16/2022	3/16/2020	102.22952	101.7508213	101.2766054	100.8068069	100.3413642	99.88021673	99.42330519	98.97057127	98.52195778
200316A00041	3/16/2020	1.16	3/16/2023	3/16/2020	107.11503	105.5521194	104.0200772	102.5180665	101.0452792	99.60093552	98.1842828	96.79459451	95.431169
200316A00042	3/16/2020	1.23	3/15/2024	3/16/2020	111.75703	109.0419735	106.4068351	103.848792	101.3651434	98.9533001	96.61077932	94.33519944	92.12427533
200316A00043	3/16/2020	1.3	3/14/2025	3/16/2020	116.12791	112.2021722	108.4296644	104.8035875	101.3174828	97.96521233	94.74094128	91.63912092	88.65447319
200312A00019	3/17/2020	1.06	5/16/2022	3/17/2020	103.06173	102.4002567	101.7472491	101.1025446	100.4659856	99.83741822	99.2166927	98.60366285	97.99818614
200312A00036	3/12/2020	1.04	3/11/2022	3/12/2020	102.16186	101.6979662	101.2382816	100.7827496	100.3313139	99.88391949	99.44051206	99.00103843	98.56544632
200312A00037	3/12/2020	1.3	3/12/2025	3/12/2020	116.10627	112.1872736	108.4210092	104.8007114	101.3199521	97.97262202	94.75291285	91.65530076	88.6745309
200313A00019	3/13/2020	1.55	3/13/2026	3/13/2020	121.10349	115.8985777	110.9458998	106.231937	101.7439652	97.47000438	93.39877146	89.5196358	85.82257815
200316A00009	3/16/2020	1.25	3/14/2025	3/16/2020	115.94194	112.0195685	108.2503307	104.6274301	101.1444115	97.79514038	94.57378493	91.47479949	88.49290888
200316A00015	3/16/2020	0.99	3/14/2022	3/16/2020	102.1793	101.7065905	101.2382516	100.7742232	100.3144459	99.85886143	99.40741244	98.96004272	98.51669706
200311A00052	3/2/2021	1.43	2/28/2025	3/2/2021	116.45437	112.5672275	108.8300998	105.2364031	101.7798825	98.45459041	95.25486889	92.1753345	89.21086323
200311A00055	3/11/2020	1.66	12/17/2027	3/11/2020	128.4964	120.9337181	113.861593	107.2456391	101.0540618	95.25745037	89.82858575	84.7422657	79.97514441
200312A00006	3/12/2020	1.23	3/12/2025	3/12/2020	115.84634	111.9320466	108.1703456	104.5544806	101.0780286	97.73488461	94.51924488	91.42558977	88.44866841
200312A00009	3/12/2020	1.46	3/12/2027	3/12/2020	124.4404	117.9423102	111.8202244	106.050501	100.6111035	95.48148278	90.6424693	86.07617356	81.76589434
200312A00014	3/12/2020	1.04	3/12/2025	3/12/2020	115.70757	111.7810658	108.0080135	104.3815961	100.8953414	97.54309889	94.31902181	91.21755039	88.23339616
200312A00015	3/12/2020	1.23	3/10/2025	3/12/2020	115.82514	111.9175666	108.162094	104.5519943	101.0808751	97.74265981	94.53157127	91.44211459	88.46906205
200310A00054	3/10/2020	1.1	3/10/2025	3/10/2020	115.34323	111.4443501	107.6973253	104.0954323	100.6322871	97.3018222	94.09826818	91.01613802	88.05021144
200310A00062	3/10/2020	1.05	3/8/2024	3/10/2020	111.20999	108.5235561	105.9156358	103.3834808	100.9244572	98.53603892	96.21580297	93.96142425	91.77067107
200311A00012	3/11/2020	0.87	3/11/2022	3/11/2020	102.08459	101.6209063	101.16143	100.7061049	100.2548747	99.80768449	99.36447993	98.92520786	98.48981603
200311A00031	3/11/2020	1.41	12/24/2027	3/11/2020	126.82919	119.2968269	112.2554166	105.6704061	99.50986244	93.74425544	88.34626375	83.2905975	78.5538363
200311A00032	3/11/2020	1.11	3/11/2025	3/11/2020	115.95746	112.0296204	108.2551185	104.6271494	101.1392514	97.78528392	94.55940898	91.45607514	88.47000156
200311A00050	3/2/2021	1.46	3/2/2026	3/2/2021	120.60459	115.4455024	110.5349663	105.8597426	101.4073669	97.16609914	93.12487723	89.27327478	85.60146107
200310A00033	3/10/2020	0.91	3/10/2025	3/10/2020	115.2034	111.2923996	107.5340917	103.9217096	100.4488209	97.10931238	93.89737218	90.80747336	87.83435827

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200310A00034	3/10/2020	1.41	3/11/2030	3/10/2020	134.45659	123.8399872	114.1303109	105.2456468	97.11185528	89.66180252	82.83466605	76.57531304	70.83374241
200310A00038	3/10/2020	1.41	3/11/2030	3/10/2020	134.45659	123.8399872	114.1303109	105.2456468	97.11185528	89.66180252	82.83466605	76.57531304	70.83374241
200310A00040	3/10/2020	1.36	3/10/2028	3/10/2020	127.18757	119.3801868	112.0972369	105.3009119	98.95631458	93.03121806	87.49584802	82.32268459	77.4862809
200310A00041	3/10/2020	1.39	3/12/2029	3/10/2020	130.82205	121.6256451	113.1318543	105.2835555	98.0285415	91.31907289	85.11147496	79.3657727	74.04536038
200310A00051	3/10/2020	1.41	3/8/2030	3/10/2020	134.42858	123.8237004	114.1239274	105.24758	97.12072906	89.67642446	82.85400456	76.59847708	70.85996372
200310A00005	3/10/2020	1.41	3/8/2030	3/10/2020	134.42858	123.8237004	114.1239274	105.24758	97.12072906	89.67642446	82.85400456	76.59847708	70.85996372
200310A00014	3/10/2020	0.91	3/10/2025	3/10/2020	115.2034	111.2923996	107.5340917	103.9217096	100.4488209	97.10931238	93.89737218	90.80747336	87.83435827
200310A00015	3/10/2020	1.37	3/11/2030	3/10/2020	134.07195	123.4720907	113.7781372	104.9082477	96.78835021	89.35137252	82.53654929	76.28880029	70.55817296
200310A00020	3/10/2020	1.1	3/10/2025	3/10/2020	115.34323	111.4443501	107.6973253	104.0954323	100.6322871	97.3018222	94.09826818	91.01613802	88.05021144
200310A00021	3/10/2020	1.1	3/10/2025	3/10/2020	115.34323	111.4443501	107.6973253	104.0954323	100.6322871	97.3018222	94.09826818	91.01613802	88.05021144
200310A00028	3/10/2020	1.1	3/10/2025	3/10/2020	115.34323	111.4443501	107.6973253	104.0954323	100.6322871	97.3018222	94.09826818	91.01613802	88.05021144
200309A00030	3/9/2020	1.11	3/9/2027	3/9/2020	122.30875	115.8808337	109.8252845	104.1186949	98.73924406	93.66658314	88.88172832	84.3669626	80.10574505
200309A00038	3/9/2020	1.26	3/11/2030	3/9/2020	133.01419	122.4603755	112.8096594	103.9804004	95.89871124	88.49769001	81.7167282	75.50089022	69.80035696
200309A00043	3/9/2020	0.92	6/7/2024	3/9/2020	111.84349	108.8690172	105.98873	103.1990157	100.4964286	97.87768091	95.33963389	92.8792898	90.49378446
200309A00044	3/9/2020	0.94	9/9/2024	3/9/2020	112.88549	109.6050076	106.4364812	103.3754754	100.4177584	97.55928944	94.79620898	92.1248297	89.54162765
200309A00054	3/9/2020	0.98	3/9/2028	3/9/2020	125.65309	117.8527678	110.5788081	103.7931493	97.46066804	91.54893502	86.02799489	80.87016595	76.04985679
200310A00003	3/10/2020	1.1	3/10/2025	3/10/2020	115.34323	111.4443501	107.6973253	104.0954323	100.6322871	97.3018222	94.09826818	91.01613802	88.05021144
200306A00066	3/6/2020	1.2	3/8/2027	3/6/2020	122.84044	116.4008221	110.3338235	104.6160372	99.22564495	94.14229878	89.34701496	84.82207568	80.55093837
200306A00077	3/6/2020	1.06	3/6/2025	3/6/2020	115.15465	111.2718176	107.5397767	103.9518721	100.5017832	97.18350148	93.99131301	90.91978237	87.96373755
200306A00080	11/6/2020	1.12	11/6/2023	11/6/2020	109.9448	107.6516778	105.4181158	103.2421454	101.1218765	99.05549691	97.04126755	95.07751949	93.16265022
200306A00087	3/8/2021	1.26	3/7/2025	3/8/2021	115.90427	112.0047828	108.2567115	104.6533753	101.188425	97.85582493	94.64983558	91.56499738	88.59611552
200309A00007	3/9/2020	1.11	3/9/2027	3/9/2020	122.30875	115.8808337	109.8252845	104.1186949	98.73924406	93.66658314	88.88172832	84.3669626	80.10574505
200309A00029	3/9/2020	1.02	3/7/2025	3/9/2020	115.01681	111.1333025	107.4007526	103.8124952	100.3621975	97.04383931	93.85169609	90.78032247	87.82453723
200306A00036	3/6/2020	1.01	3/6/2025	3/6/2020	114.96991	111.0904085	107.3615961	103.7768279	100.3297868	97.01446756	93.82515927	90.75642949	87.80310903
200306A00040	3/6/2020	1.01	3/6/2025	3/6/2020	114.96991	111.0904085	107.3615961	103.7768279	100.3297868	97.01446756	93.82515927	90.75642949	87.80310903
200306A00049	3/6/2020	1.01	3/6/2025	3/6/2020	114.96991	111.0904085	107.3615961	103.7768279	100.3297868	97.01446756	93.82515927	90.75642949	87.80310903
200306A00054	3/6/2020	1.01	3/6/2025	3/6/2020	114.96991	111.0904085	107.3615961	103.7768279	100.3297868	97.01446756	93.82515927	90.75642949	87.80310903
200306A00055	3/6/2020	0.82	3/6/2025	3/6/2020	114.82966	110.9381193	107.1981066	103.602925	100.1462092	96.82190903	93.62427148	90.54782467	87.58736247
200306A00064	3/6/2020	1.2	3/8/2027	3/6/2020	122.84044	116.4008221	110.3338235	104.6160372	99.22564495	94.14229878	89.34701496	84.82207568	80.55093837
200306A00003	3/6/2020	0.7	3/6/2023	3/6/2020	106.50871	104.9768121	103.4746744	102.0015068	100.5565421	99.13903999	97.74828547	96.3835879	95.04427994
200306A00010	3/6/2020	0.88	3/6/2023	3/6/2020	106.57232	105.0432987	103.5439347	102.0734363	100.6310406	99.21601118	97.82763663	96.46522982	95.12812666
200306A00013	3/6/2020	1.01	3/6/2025	3/6/2020	114.96991	111.0904085	107.3615961	103.7768279	100.3297868	97.01446756	93.82515927	90.75642949	87.80310903
200306A00022	3/6/2020	1.2	3/8/2027	3/6/2020	122.84044	116.4008221	110.3338235	104.6160372	99.22564495	94.14229878	89.34701496	84.82207568	80.55093837

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200306A00028	3/6/2020	1.01	3/6/2025	3/6/2020	114.96991	111.0904085	107.3615961	103.7768279	100.3297868	97.01446756	93.82515927	90.75642949	87.80310903
200306A00031	3/6/2020	1.01	3/6/2025	3/6/2020	114.96991	111.0904085	107.3615961	103.7768279	100.3297868	97.01446756	93.82515927	90.75642949	87.80310903
200305A00030	3/5/2020	1.58	3/5/2030	3/5/2020	136.03185	125.3678313	115.6114015	106.6808184	98.50207923	91.00815637	84.13830794	77.83745998	72.05565196
200305A00032	3/5/2020	1.58	3/5/2030	3/5/2020	136.03185	125.3678313	115.6114015	106.6808184	98.50207923	91.00815637	84.13830794	77.83745998	72.05565196
200305A00037	3/5/2020	1.43	3/6/2028	3/5/2020	127.65458	119.8451721	112.5591654	105.7589016	99.40961475	93.47919394	87.93796754	82.75850643	77.91544386
200305A00038	3/5/2020	1.51	3/5/2029	3/5/2020	131.76236	122.5539756	114.0465766	106.1833465	98.91234521	92.18606502	85.96103135	80.19744191	74.85883953
200305A00039	3/5/2020	1.58	3/5/2030	3/5/2020	136.03185	125.3678313	115.6114015	106.6808184	98.50207923	91.00815637	84.13830794	77.83745998	72.05565196
200305A00045	3/5/2020	0.99	3/6/2023	3/5/2020	106.73637	105.2060612	103.7054305	102.2336881	100.7900703	99.37384025	97.98428586	96.62071943	95.28247633
200305A00006	3/5/2020	0.99	3/6/2023	3/5/2020	106.73637	105.2060612	103.7054305	102.2336881	100.7900703	99.37384025	97.98428586	96.62071943	95.28247633
200305A00014	3/10/2020	1	2/15/2023	3/10/2020	106.52286	105.0538454	103.6123261	102.1975909	100.8089564	99.44576235	98.10736991	96.79316123	95.50253848
200305A00015	3/5/2020	0.99	3/6/2023	3/5/2020	106.73637	105.2060612	103.7054305	102.2336881	100.7900703	99.37384025	97.98428586	96.62071943	95.28247633
200305A00016	3/5/2020	0.99	3/6/2023	3/5/2020	106.73637	105.2060612	103.7054305	102.2336881	100.7900703	99.37384025	97.98428586	96.62071943	95.28247633
200305A00017	3/5/2020	1.19	3/5/2025	3/5/2020	115.62448	111.7363614	107.9990359	104.4058554	100.9505058	97.62698409	94.42958153	91.35286732	88.3916736
200305A00019	3/5/2020	0.81	3/6/2023	3/5/2020	106.67294	105.1397404	103.6363327	102.1619178	100.7157279	99.29702208	97.90508473	96.53922465	95.19877392
200304A00029	3/4/2020	1.17	3/4/2025	3/4/2020	115.54023	111.6567976	107.9238686	104.3348176	100.883347	97.56346929	94.36949006	91.29599199	88.33781978
200304A00030	3/4/2020	1.6	12/22/2028	3/4/2020	131.75949	122.8099545	114.5245537	106.8505868	99.73980326	93.14800478	87.03468397	81.36269713	76.09796781
200304A00032	3/4/2020	1.6	12/15/2028	3/4/2020	131.69017	122.7671085	114.5046637	106.8505399	99.75684457	93.17969751	87.07887386	81.41748097	76.16166548
200304A00033	3/4/2020	1.17	3/4/2025	3/4/2020	115.54023	111.6567976	107.9238686	104.3348176	100.883347	97.56346929	94.36949006	91.29599199	88.33781978
200304A00035	3/4/2020	1.17	3/4/2025	3/4/2020	115.54023	111.6567976	107.9238686	104.3348176	100.883347	97.56346929	94.36949006	91.29599199	88.33781978
200305A00001	3/5/2020	1.14	3/5/2025	3/5/2020	115.4399	111.5551016	107.8209994	104.2309504	100.7786438	97.45807992	94.26355311	91.18963551	88.23116205
200304A00015	3/4/2020	0.83	3/4/2022	3/4/2020	102.01663	101.573089	101.1333916	100.6974924	100.2653421	99.83689262	99.41209649	98.99090711	98.57327868
200304A00018	3/4/2020	0.98	3/4/2025	3/4/2020	115.40173	111.5062388	107.7620881	104.162601	100.7014321	97.37254911	94.17021554	91.0889748	88.12363475
200304A00019	3/4/2020	1.04	3/6/2023	3/4/2020	106.81094	105.2800442	103.7788377	102.3065298	100.8623566	99.44558074	98.05549006	96.69139653	95.35263527
200304A00020	3/4/2020	0.98	3/4/2025	3/4/2020	115.40173	111.5062388	107.7620881	104.162601	100.7014321	97.37254911	94.17021554	91.0889748	88.12363475
200304A00022	3/4/2020	0.86	3/6/2023	3/4/2020	106.74758	105.2137988	103.7098138	102.2348319	100.7880851	99.36883212	97.97635713	96.60996862	95.26899845
200304A00025	3/4/2020	1.04	3/6/2023	3/4/2020	106.81094	105.2800442	103.7788377	102.3065298	100.8623566	99.44558074	98.05549006	96.69139653	95.35263527
200302A00056	3/2/2020	1.2	3/2/2023	3/2/2020	107.01474	105.4938247	104.002188	102.5390547	101.1036766	99.6953317	98.31332206	96.95697343	95.62563407
200302A00060	3/2/2021	1.44	3/3/2025	3/2/2021	116.52487	112.6269277	108.8797562	105.2767263	101.8115371	98.4781979	95.27101093	92.18455526	89.21367192
200304A00002	3/4/2020	0.98	3/4/2025	3/4/2020	115.40173	111.5062388	107.7620881	104.162601	100.7014321	97.37254911	94.17021554	91.0889748	88.12363475
200304A00005	3/4/2020	0.98	3/4/2025	3/4/2020	115.40173	111.5062388	107.7620881	104.162601	100.7014321	97.37254911	94.17021554	91.0889748	88.12363475
200304A00011	3/4/2020	0.83	3/4/2022	3/4/2020	102.01663	101.573089	101.1333916	100.6974924	100.2653421	99.83689262	99.41209649	98.99090711	98.57327868
200304A00012	3/4/2020	0.98	3/4/2025	3/4/2020	115.40173	111.5062388	107.7620881	104.162601	100.7014321	97.37254911	94.17021554	91.0889748	88.12363475
200302A00013	3/2/2020	1.25	3/4/2024	3/2/2020	111.68019	108.9999775	106.3977079	103.8706699	101.4162606	99.03198315	96.71544195	94.46433776	92.27646326

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200302A00014	3/2/2020	1.2	3/2/2022	3/2/2020	102.1088	101.6713358	101.2376097	100.807571	100.3811729	99.95836942	99.53911528	99.12336596	98.71107771
200302A00016	3/2/2020	1.36	3/3/2025	3/2/2020	116.23004	112.3373899	108.5953591	104.9973234	101.5369878	98.20836643	95.00576649	91.92377174	88.9572277
200302A00017	3/2/2020	1.3	3/4/2024	3/2/2020	111.80886	109.1269887	106.5230986	103.9944765	101.5385184	99.15272625	96.83470348	94.58214983	92.39285702
200302A00018	3/2/2020	1.25	3/2/2023	3/2/2020	107.08873	105.5672362	104.0750323	102.6113418	101.1754166	99.76653393	98.3839959	97.02712793	95.69527802
200302A00025	3/2/2020	1.02	3/2/2022	3/2/2020	102.0718	101.6339588	101.1998616	100.7694613	100.3427106	99.91956334	99.49997408	99.08389807	98.67129136
200228A00071	2/28/2020	1.74	12/14/2029	2/28/2020	136.69096	126.2909027	116.7534651	108.0026478	99.96952796	92.59156071	85.81195798	79.57913014	73.84618487
200228A00091	2/28/2020	1.72	12/7/2029	2/28/2020	136.43205	126.0673815	116.5608072	107.8368793	99.82715549	92.46951444	85.70754066	79.48997272	73.77020741
200302A00002	3/2/2020	1.12	3/3/2025	3/2/2020	115.90871	112.0072857	108.257217	104.6518381	101.184809	97.85010267	94.64198726	91.55501024	88.58398309
200302A00003	3/2/2020	1.2	3/2/2023	3/2/2020	107.01474	105.4938247	104.002188	102.5390547	101.1036766	99.6953317	98.31332206	96.95697343	95.62563407
200302A00005	3/2/2020	1.31	3/3/2025	3/2/2020	116.04577	112.1564288	108.4176108	104.8226967	101.3653945	98.03972177	94.83998871	91.76078204	88.79695006
200302A00006	3/2/2020	1.2	3/2/2023	3/2/2020	107.01474	105.4938247	104.002188	102.5390547	101.1036766	99.6953317	98.31332206	96.95697343	95.62563407
200225A00041	10/30/2020	1.48	10/30/2023	10/30/2020	110.65082	108.3712455	106.1504363	103.9864614	101.8774721	99.82169501	97.81742756	95.86303506	93.95694723
200226A00004	2/26/2020	1.58	2/26/2025	2/26/2020	116.97993	113.090363	109.350562	105.7539689	102.2943507	98.96577973	95.76261662	92.67949507	89.71130692
200227A00055	2/27/2020	1.41	2/27/2023	2/27/2020	107.28456	105.7707141	104.2858454	102.8291899	101.4000115	99.99759871	98.62126452	97.27034469	95.94419709
200228A00045	2/28/2020	1.45	2/28/2025	2/28/2020	116.52789	112.6394328	108.9010261	105.3060868	101.8483586	98.52189258	95.32102962	92.24038512	89.27483395
200228A00047	5/18/2020	1.35	5/18/2023	5/18/2020	108.2366	106.4771735	104.7553893	103.0701135	101.420254	99.80476188	98.22263004	96.67289047	95.15461259
200228A00070	5/18/2020	1.35	5/18/2023	5/18/2020	108.2366	106.4771735	104.7553893	103.0701135	101.420254	99.80476188	98.22263004	96.67289047	95.15461259
200225A00023	2/25/2020	1.62	2/25/2025	2/25/2020	117.11366	113.2252068	109.4863242	105.890474	102.4314365	99.10329615	95.90042506	92.81746753	89.84932528
200225A00028	2/25/2020	1.89	12/21/2029	2/25/2020	138.166	127.6789332	118.062086	109.2387034	101.1391805	93.70036474	86.86492471	80.58078532	74.80061989
200225A00029	2/25/2020	1.89	12/28/2029	2/25/2020	138.24243	127.7275287	118.0869459	109.2434062	101.1268486	93.6737197	86.8263369	80.53231695	74.74406286
200225A00034	10/5/2020	1.5	10/5/2023	10/5/2020	110.37046	108.1681089	106.0212784	103.9282009	101.8871796	99.89658325	97.95484415	96.06045448	94.21196376
200225A00035	10/5/2020	1.5	10/5/2023	10/5/2020	110.37046	108.1681089	106.0212784	103.9282009	101.8871796	99.89658325	97.95484415	96.06045448	94.21196376
200225A00040	10/30/2020	1.48	10/30/2023	10/30/2020	110.65082	108.3712455	106.1504363	103.9864614	101.8774721	99.82169501	97.81742756	95.86303506	93.95694723
200220A00014	2/20/2020	2.09	12/21/2029	2/20/2020	140.03553	129.4691574	119.7777308	110.8841625	102.7185431	95.21743833	88.32325738	81.98368527	76.15117369
200220A00034	2/25/2020	1.71	3/27/2023	2/25/2020	108.10687	106.5032733	104.9319673	103.3920542	101.8826728	100.402993	98.95221397	97.52956334	96.13429564
200221A00011	2/21/2020	1.69	8/21/2024	2/21/2020	115.00244	111.7495192	108.6054468	105.5659963	102.6271256	99.78497136	97.03584052	94.37620152	91.80267641
200221A00023	2/21/2020	2.05	12/7/2029	2/21/2020	139.5013	129.0070335	119.3785512	110.5398681	102.4220476	94.96251173	88.10442388	81.79613333	75.99067701
200221A00024	2/21/2020	2.05	12/28/2029	2/21/2020	139.74181	129.1631551	119.4626301	110.5626873	102.3930192	94.88984558	87.99527445	81.65672909	75.82643375
200224A00006	2/24/2020	1.58	11/15/2024	2/24/2020	115.72557	112.1891449	108.779412	105.4910691	102.3190729	99.25862296	96.30514847	93.45429557	90.70191549
200211A00014	2/11/2020	1.75	8/11/2023	2/11/2020	110.13802	108.1067229	106.1230576	104.1856213	102.2930607	100.4440706	98.6373925	96.87181222	95.14615819
200214A00018	2/18/2020	1.77	1/12/2022	2/18/2020	101.59187	101.2971083	101.0040642	100.7127245	100.4230745	100.1350994	99.84878451	99.56411552	99.28107817
200218A00025	2/21/2020	1.71	2/24/2023	2/21/2020	107.67998	106.1728364	104.6943803	103.2438564	101.8205395	100.4237292	99.0527485	97.70694284	96.38567938
200218A00026	2/21/2020	1.73	3/25/2024	2/21/2020	113.19212	110.4273768	107.7447731	105.1413764	102.6143828	100.1611053	97.77896895	95.46550482	93.21834516

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200218A00030	2/21/2020	1.71	2/24/2023	2/21/2020	107.67998	106.1728364	104.6943803	103.2438564	101.8205395	100.4237292	99.0527485	97.70694284	96.38567938
200220A00013	2/20/2020	2.09	12/14/2029	2/20/2020	139.95442	129.4162552	119.7489124	110.8758277	102.7275491	95.24104371	88.3590728	82.02963051	76.20543976
201105A00002	11/5/2020	0.49	11/7/2022	11/5/2020	104.78728	103.5813693	102.4029565	101.2511136	100.1249512	99.02361898	97.94630394	96.89222812	95.86064685
200605A00014	6/5/2020	1.02	6/5/2025	6/5/2020	115.08732	111.1377144	107.3484284	103.7119815	100.2212912	96.86964876	93.65069757	90.55841175	87.58707685
200605A00016	6/5/2020	1.02	6/5/2025	6/5/2020	115.08732	111.1377144	107.3484284	103.7119815	100.2212912	96.86964876	93.65069757	90.55841175	87.58707685
200605A00017	6/5/2020	1.02	6/5/2025	6/5/2020	115.08732	111.1377144	107.3484284	103.7119815	100.2212912	96.86964876	93.65069757	90.55841175	87.58707685
200709A00021	7/9/2020	0.83	7/9/2025	7/9/2020	114.63877	110.6048893	106.7382636	103.0309636	99.47548482	96.06472368	92.79195343	89.65080151	86.63522855
200709A00024	7/9/2020	0.83	7/9/2025	7/9/2020	114.63877	110.6048893	106.7382636	103.0309636	99.47548482	96.06472368	92.79195343	89.65080151	86.63522855
200709A00025	7/9/2020	1.37	7/9/2030	7/9/2020	131.1168	121.5291176	112.7531735	104.7149224	97.34748063	90.59039648	84.38899799	78.69381094	73.46003803
210921A00009	9/21/2021	1.28	9/21/2028	9/21/2021	127.0352	119.3005861	112.107654	105.4152804	99.18567924	93.38411441	87.97863807	82.93985297	78.24069612
210915A00027	9/15/2021	1.1	9/15/2026	9/15/2021	119.00315	113.7207311	108.7128345	103.9636411	99.45833017	95.18300903	91.12465017	87.27103274	83.61068838
201109A00012	11/9/2020	1.39	11/8/2030	11/9/2020	132.1552	122.1915028	113.0983147	104.7937928	97.20423406	90.26322778	83.9108972	78.09322344	72.76144282
201211A00001	12/11/2020	0.95	12/11/2030	12/11/2020	127.17154	118.2486606	110.0849582	102.6098364	95.75970277	89.4772319	83.71071275	78.41346779	73.54333517
210107A00007	1/7/2021	0.84	1/7/2026	1/7/2021	116.11038	111.5328719	107.1660204	102.9988918	99.02118988	95.22321214	91.59581132	88.13036024	84.81871884
210201A00002	2/1/2021	1.19	2/1/2036	2/1/2021	128.15443	118.7273762	110.2297608	102.5570685	95.61756845	89.33065054	83.62538816	78.43929627	73.71725749
210809A00010	8/9/2021	1.06	8/7/2026	8/9/2021	118.49438	113.3348761	108.4382519	103.7896631	99.37518229	95.18173635	91.19704936	87.40959013	83.80852321
210921A00006	9/21/2021	1.43	9/21/2028	9/21/2021	126.94892	119.2499673	112.088878	105.4249079	99.22060966	93.44155208	88.05606244	83.03499158	78.35150031
200911A00013	9/11/2020	0.69	9/11/2025	9/11/2020	114.56289	110.3572035	106.3327389	102.4806956	98.79274605	95.26101003	91.87802863	88.63673921	85.53045218
201007A00008	10/7/2020	1.22	10/7/2030	10/7/2020	129.29853	119.9244398	111.3521984	103.5075616	96.32357781	89.73983539	83.70179001	78.16016484	73.07041489
201007A00010	10/7/2020	1.22	10/7/2030	10/7/2020	129.29853	119.9244398	111.3521984	103.5075616	96.32357781	89.73983539	83.70179001	78.16016484	73.07041489
201007A00011	10/7/2020	0.62	10/6/2023	10/7/2020	108.20525	106.1024812	104.052436	102.0534361	100.1038711	98.20219319	96.34691469	94.53660493	92.76988772
201007A00014	10/7/2020	0.8	10/7/2025	10/7/2020	115.01283	110.7816622	106.734929	102.8635361	99.1588915	95.61287324	92.2178006	88.96640774	85.85181887
201015A00020	10/15/2020	0.94	10/15/2027	10/15/2020	121.13689	114.636547	108.5382025	102.8146888	97.44082108	92.39324019	87.65027103	83.19179225	78.99911684
200813A00019	8/13/2020	1.44	8/13/2030	8/13/2020	131.98741	122.2651604	113.3728056	105.2341113	97.78025165	90.94905282	84.68431787	78.93522295	73.65577742
200813A00020	8/13/2020	1.44	8/13/2030	8/13/2020	131.98741	122.2651604	113.3728056	105.2341113	97.78025165	90.94905282	84.68431787	78.93522295	73.65577742
200813A00021	8/13/2020	0.84	8/13/2025	8/13/2020	114.95036	110.8143651	106.8532017	103.0585411	99.42249474	95.93758987	92.59674502	89.39324758	86.32073261
200813A00023	8/13/2020	0.86	10/14/2025	8/13/2020	115.52673	111.2028977	107.069055	103.1157765	99.3341612	95.71579726	92.25273276	88.93744763	85.76282772
200911A00011	9/11/2020	1.18	9/11/2030	9/11/2020	129.7717	120.1073027	111.2755822	103.1993703	95.809064	89.04184614	82.84098998	77.15523889	71.93825197
200911A00012	9/11/2020	1.18	9/11/2030	9/11/2020	129.76667	120.1041914	111.274176	103.1994762	95.81050922	89.04447582	82.84466532	77.15983548	71.94365833
210603A00008	6/3/2021	1.74	6/3/2036	6/3/2021	134.18288	124.3976432	115.5831693	107.6290326	100.4385087	93.92675915	88.01927201	82.65051817	77.76279216
011029A00020	10/29/2001	5.73	10/29/2021	10/29/2001	100.77098	100.6897099	100.6085789	100.5275817	100.4467181	100.3659878	100.2853903	100.2049254	100.1245928
011107A00022	11/7/2001	5.56	11/5/2021	11/7/2001	100.93002	100.8290426	100.7282726	100.6277111	100.5273574	100.4272109	100.3272709	100.2275367	100.1280078
011107A00031	11/7/2001	5.56	11/5/2021	11/7/2001	100.93002	100.8290426	100.7282726	100.6277111	100.5273574	100.4272109	100.3272709	100.2275367	100.1280078

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
020619A00062	6/19/2002	5.86	6/20/2022	6/19/2002	107.17767	106.3931649	105.6202	104.8585237	104.1078894	103.3680578	102.6387962	101.9198787	101.2110857
020627A00001	6/27/2002	6.07	6/27/2022	6/27/2002	107.45004	106.6439976	105.8501	105.0680775	104.2976648	103.5386042	102.7906457	102.0535466	101.3270712
020916A00006	9/16/2002	5.38	9/16/2022	9/16/2002	109.01917	107.9527954	106.9073943	105.8823504	104.8770719	103.8909898	102.9235567	101.974246	101.0425506
210924A00011	9/24/2021	2.19	9/25/2034	9/24/2021	160.61399	142.4178318	126.4741044	112.4910844	100.2162192	89.43069278	79.94476955	71.59380165	64.23480071
210924A00003	9/24/2021	2.37	9/24/2036	9/24/2021	171.21865	149.4037144	130.6399431	114.4817032	100.5506163	88.52510956	78.13163705	69.13729495	61.34360266
210903A00002	9/8/2021	1.22	9/8/2023	9/8/2021	109.43381	107.3250289	105.2676083	103.2599752	101.3006151	99.38807036	97.52093713	95.69786333	93.91754623
210924A00005	9/24/2021	2.37	9/24/2036	9/24/2021	171.21865	149.4037144	130.6399431	114.4817032	100.5506163	88.52510956	78.13163705	69.13729495	61.34360266
210916A00007	9/16/2021	0.75	9/16/2024	9/16/2021	112.35845	109.0636865	105.8821788	102.8094091	99.84106745	96.97303988	94.2013985	91.52239181	88.93243576
210917A00008	9/17/2021	1.55	9/15/2028	9/17/2021	130.38643	121.8245803	113.8775368	106.4980962	99.64290915	93.27214408	87.34918515	81.84035733	76.71467644
210924A00004	9/24/2021	2.37	9/24/2036	9/24/2021	171.21865	149.4037144	130.6399431	114.4817032	100.5506163	88.52510956	78.13163705	69.13729495	61.34360266
210901A00012	9/1/2021	0.51	9/1/2023	9/1/2021	107.93173	105.859906	103.8381082	101.8648201	99.93858105	98.05798421	96.22167432	94.42834543	92.67673876
210804A00008	8/6/2021	2.28	8/4/2028	8/6/2021	135.57759	126.9773103	118.9810596	111.5433377	104.6222914	98.17940368	92.17921192	86.58905168	81.3788228
210816A00003	8/16/2021	0.71	8/16/2024	8/16/2021	111.92666	108.7360313	105.6520739	102.6706587	99.78783543	96.99982821	94.30302663	91.69397759	89.16937757
210817A00013	8/19/2021	2	8/19/2026	8/19/2021	125.22298	119.3948886	113.87178	108.6361529	103.6715945	98.96271053	94.49505781	90.25508011	86.23004954
210818A00005	8/18/2021	0.6	8/19/2024	8/18/2021	112.08016	108.8671195	105.7619982	102.7605985	99.85890637	97.05308572	94.33946951	91.71455129	89.17497725
210818A00007	8/18/2021	0.81	8/18/2025	8/18/2021	116.37723	111.9311612	107.677248	103.606213	99.70927623	95.97812497	92.40488603	88.9821003	85.70269886
210830A00011	8/30/2021	0.53	8/30/2023	8/30/2021	107.95076	105.884823	103.8686317	101.9006837	99.97953025	98.10377603	96.27207671	94.48313668	92.735707
210624A00022	6/24/2021	0.87	6/24/2025	6/24/2021	116.10646	111.8396225	107.7513802	103.8332056	100.0770311	96.47522513	93.02056552	89.70621437	86.52569495
210709A00002	7/9/2021	1.36	7/9/2029	7/9/2021	133.19412	123.4243299	114.4312782	106.149334	98.51873311	91.48502552	84.99857621	79.01411608	73.49033661
210715A00009	7/15/2021	0.54	7/17/2023	7/15/2021	107.50552	105.5740051	103.6867322	101.8423496	100.0395634	98.27713005	96.55385403	94.86858524	93.22021707
210720A00035	7/22/2021	2.27	7/21/2031	7/22/2021	148.90099	135.798725	123.9611375	113.2593368	103.57819	94.81478599	86.8770817	79.68270498	73.15789431
210722A00001	7/22/2021	1.1	7/22/2026	7/22/2021	120.14211	114.533415	109.2159179	104.1730313	99.38919694	94.84981829	90.5411959	86.45046756	82.56555273
210802A00002	8/2/2021	0.7	8/1/2025	8/2/2021	115.76067	111.3812551	107.1891319	103.1753563	99.33145843	95.64941377	92.12161729	88.74085946	85.50030358
210609A00007	6/11/2021	2.6	6/11/2029	6/11/2021	142.20881	132.2464907	123.0583926	114.5801333	106.7530133	99.52348724	92.84268483	86.66597924	80.95259719
210609A00011	6/11/2021	1.32	6/11/2024	6/11/2021	113.03566	110.0315844	107.1228478	104.305777	101.576873	98.93279795	96.37036574	93.88653426	91.47839742
210609A00013	6/11/2021	1.64	6/11/2025	6/11/2021	118.44358	114.190502	110.1129953	106.2027791	102.4520175	98.85329192	95.3995765	92.0842143	88.90089544
210621A00008	6/21/2021	1.04	6/23/2025	6/21/2021	116.16658	111.9186201	107.8479201	103.9460384	100.2049889	96.617216	93.17556807	89.87327301	86.70391539
210623A00011	6/23/2021	0.56	6/23/2023	6/23/2021	107.28469	105.4259127	103.6087766	101.8319519	100.0941641	98.39419324	96.73087081	95.10307684	93.50973751
210624A00020	6/24/2021	0.78	6/24/2024	6/24/2021	111.61826	108.5935105	105.6660184	102.8319903	100.0878099	97.4300301	94.85536317	92.36067217	89.94296262
210601A00002	6/1/2021	0.9	6/2/2025	6/1/2021	115.40058	111.235488	107.2419253	103.4118393	99.7376076	96.21201164	92.8282123	89.57972739	86.46041063
210603A00015	6/7/2021	2.71	6/7/2028	6/7/2021	138.09724	129.6117656	121.7083922	114.3440209	107.4789723	101.0766959	95.10350683	89.52834608	84.32256214
210604A00005	6/4/2021	0.3	12/2/2022	6/4/2021	105.01322	103.7244732	102.4670151	101.2397198	100.0415143	98.87137601	97.72832962	96.61144455	95.51983236
210607A00001	6/7/2021	0.46	6/7/2023	6/7/2021	106.93022	105.1232856	103.3560024	101.6271347	99.93549717	98.27995383	96.65941514	95.07283564	93.51921169

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210608A00005	6/8/2021	0.51	6/7/2024	6/8/2021	111.09951	108.1259657	105.2468543	102.4585487	99.75758629	97.14066347	94.60462669	92.14646451	89.7632999
210608A00017	6/10/2021	2.67	6/8/2029	6/10/2021	142.77641	132.8025789	123.6026045	115.1122138	107.2728062	100.0309203	93.3377569	87.14874865	81.42317204
210514A00033	5/18/2021	2.8	5/18/2028	5/18/2021	138.49657	130.0678117	122.2127244	114.889156	108.05827	101.6842691	95.73414078	90.17742683	84.98601231
210527A00008	5/27/2021	0.32	5/30/2023	5/27/2021	106.83923	105.0530373	103.3057006	101.596026	99.92286442	98.28511372	96.68171629	95.1116568	93.57396
210527A00009	5/27/2021	0.5	5/28/2024	5/27/2021	110.97252	108.0319328	105.1839382	102.42501	99.75178491	97.1610521	94.64974498	92.21493346	89.85381679
210527A00019	5/27/2021	1	5/27/2026	5/27/2021	119.95283	114.5047365	109.3325174	104.4207307	99.75488455	95.32137532	91.10742794	87.10104042	83.29093245
210527A00026	6/1/2021	2.78	6/1/2028	6/1/2021	138.53765	130.0586132	122.1596029	114.7977873	107.9337206	101.5310598	95.55630392	89.97855693	84.76931164
210528A00003	5/28/2021	0.63	5/28/2024	5/28/2021	110.91625	107.985941	105.1477087	102.3980555	99.73364301	97.15128371	94.64793303	92.22068165	89.86674839
210428A00007	4/28/2021	1.74	10/27/2028	4/28/2021	132.30915	123.5331943	115.3954666	107.8463065	100.8401599	94.33522239	88.29311204	82.67857263	77.45920377
210428A00008	4/28/2021	1.93	4/26/2030	4/28/2021	139.97297	128.950563	118.8767956	109.6651047	101.2372479	93.52246027	86.45670487	79.98200106	74.04582361
210428A00015	4/28/2021	2.02	4/28/2031	4/28/2021	145.01799	132.4243681	121.0251312	110.7006925	101.3440129	92.85922518	85.16041656	78.17054862	71.82050007
210429A00005	4/29/2021	2.08	4/29/2031	4/29/2021	145.69031	133.0598725	121.6267396	111.2710504	101.8855194	93.37405872	85.65055754	78.63779968	72.26650406
210507A00008	5/7/2021	1.94	5/7/2031	5/7/2021	144.23287	131.6454481	120.2556282	109.9431754	100.6005058	92.13129259	84.44923576	77.47697221	71.145109
210507A00009	5/7/2021	2.02	5/7/2032	5/7/2021	149.08139	134.8919862	122.1748465	110.7693116	100.5330189	91.33973582	83.07745872	75.64674415	68.95924328
210312A00005	3/12/2021	0.53	3/12/2024	3/12/2021	110.29246	107.5973717	104.9816374	102.4424638	99.9771709	97.58318937	95.25805536	92.99940533	90.80497141
210312A00010	3/12/2021	0.63	3/12/2024	3/12/2021	110.16351	107.4784004	104.8722028	102.3421393	99.8855502	97.49988507	95.18269805	92.93164264	90.74446706
210323A00007	3/23/2021	0.51	3/25/2024	3/23/2021	110.36979	107.6337448	104.979403	102.4038434	99.90426807	97.47799651	95.12245986	92.83519554	90.61384213
210326A00002	3/26/2021	0.57	6/26/2024	3/26/2021	111.4644	108.425612	105.4849387	102.6385312	99.88272793	97.21403901	94.62913686	92.12484712	89.69814023
210414A00001	4/14/2021	0.7	5/16/2024	4/14/2021	110.99739	108.1021183	105.2969297	102.5784375	99.94341032	97.38876079	94.9115381	92.50892084	90.17821028
210428A00006	4/28/2021	1.23	4/28/2026	4/28/2021	120.00326	114.6733557	109.6086581	104.7945797	100.2174116	95.86426965	91.72303978	87.78232786	84.03141277
210216A00009	2/16/2021	0.92	2/16/2027	2/16/2021	121.97099	115.591569	109.5789404	103.9102388	98.564132	93.52071415	88.76140347	84.26884776	80.02683705
210224A00011	2/26/2021	1.17	2/27/2023	2/26/2021	106.93151	105.4204132	103.9382379	102.4842277	101.0576477	99.65778811	98.28396293	96.93550922	95.611786
210226A00012	2/26/2021	2.31	2/26/2036	2/26/2021	167.97209	147.2340297	129.3015116	113.7781202	100.3253518	88.65390107	78.51629595	69.70066478	62.02545869
210304A00004	3/4/2021	0.58	3/4/2024	3/4/2021	109.95603	107.2980273	104.7174721	102.211661	99.77800619	97.41402556	95.11733743	92.88565602	90.71678693
210305A00013	3/5/2021	2.41	3/5/2036	3/5/2021	169.77801	148.8748539	130.7988314	115.1502783	101.5879683	89.8203082	79.5979002	70.70724946	62.96543648
210312A00004	3/12/2021	0.34	3/10/2023	3/12/2021	106.0133	104.4734714	102.9637949	101.4834549	100.031669	98.60768246	97.21076633	95.84021679	94.49535394
210212A00008	2/12/2021	0.95	10/13/2026	2/12/2021	120.08285	114.2037501	108.643338	103.3827195	98.40422175	93.69130503	89.22848416	85.00125562	80.99603017
210212A00014	2/17/2021	1.38	2/17/2026	2/17/2021	120.07204	114.971048	110.1139338	105.4878092	101.0805353	96.8806724	92.87743611	89.06065668	85.42074072
210212A00016	2/17/2021	1.32	2/18/2025	2/17/2021	115.92869	112.0857842	108.3900561	104.8350988	101.4148222	98.12343243	94.95541561	91.90552311	88.96875713
210216A00006	2/16/2021	1.44	2/15/2030	2/16/2021	136.16055	125.4808939	115.7078292	106.7599692	98.56360889	91.05196561	84.1644973	77.84629141	72.04751622
210216A00007	2/16/2021	1.3	2/16/2029	2/16/2021	131.25922	122.0714927	113.5814299	105.732687	98.47372986	91.75740516	85.54054733	79.78362326	74.45041003
210216A00008	2/16/2021	0.71	2/17/2026	2/16/2021	117.59983	112.533188	107.7101147	103.1176975	98.74377119	94.57687335	90.60620028	86.82156568	83.21336226
210129A00008	1/29/2021	0.62	10/8/2024	1/29/2021	112.15594	108.7952062	105.5521846	102.4220849	99.40034275	96.48260609	93.66472394	90.94273584	88.31286181

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210129A00013	1/29/2021	0.65	1/9/2025	1/29/2021	113.1106	109.4467149	105.9197536	102.5237841	99.25317236	96.10256438	93.06686993	90.14124784	87.3210919
210201A00004	2/3/2021	1.15	2/3/2025	2/3/2021	115.135	111.3582673	107.7245065	104.2275714	100.8616138	97.62106652	94.50062781	91.49524761	88.60011422
210201A00012	2/3/2021	0.75	11/17/2025	2/3/2021	116.27239	111.5546149	107.0520837	102.7538026	98.64940812	94.72912319	90.9837199	87.40448536	83.98318985
210209A00029	2/12/2021	0.8	12/15/2025	2/12/2021	116.73975	111.9222675	107.328036	102.9454683	98.76364679	94.77228338	90.9616788	87.32268517	83.84667109
210210A00005	2/10/2021	0.52	2/13/2024	2/10/2021	109.59798	107.008494	104.4928214	102.0484437	99.67294783	97.36401658	95.11942438	92.93703304	90.81478782
210106A00007	1/8/2021	0.49	7/25/2023	1/8/2021	107.47457	105.5204891	103.6114392	101.7460856	99.92314416	98.14137792	96.39959504	94.69664679	93.03142563
210114A00009	1/19/2021	2.66	1/17/2030	1/19/2021	145.72638	134.8216648	124.8213033	115.6453852	107.2214611	99.48380604	92.37276274	85.83415264	79.81874651
210125A00006	1/27/2021	2.16	1/26/2027	1/27/2021	128.0757	121.6358441	115.5586386	109.8218082	104.4045591	99.28747216	94.45240469	89.88240029	85.56160536
210125A00007	1/27/2021	2.98	1/27/2031	1/27/2021	154.24752	141.5541347	130.0228357	119.5406927	110.006301	101.3285535	93.42554658	86.22360837	79.6564332
210128A00008	1/28/2021	0.54	4/9/2024	1/28/2021	110.19893	107.4275639	104.7399368	102.1330174	99.60390051	97.14980463	94.76806609	92.45613314	90.21156047
210128A00010	1/28/2021	0.57	7/9/2024	1/28/2021	111.14712	108.0833451	105.1192373	102.2509127	99.47467071	96.78698087	94.18447384	91.66393257	89.22228423
201119A00008	11/19/2020	0.28	5/19/2022	11/19/2020	102.66287	101.9930439	101.3319176	100.6793255	100.0351032	99.39909033	98.77113072	98.1510721	97.53876601
201130A00005	11/30/2020	0.28	11/30/2022	11/30/2020	104.96518	103.6831116	102.4320209	101.2107949	100.0183763	98.85375742	97.71597703	96.60411762	95.51730306
201204A00016	12/8/2020	1.58	12/8/2023	12/8/2020	111.39088	108.9830094	106.6396363	104.3585422	102.1376045	99.97479224	97.86816061	95.81584674	93.81606539
201208A00029	12/10/2020	1.52	12/9/2025	12/10/2020	119.97312	115.1038771	110.4586091	106.0257569	101.7944256	97.75434494	93.89582956	90.20974172	86.68745689
201208A00031	12/10/2020	1.43	12/9/2024	12/10/2020	115.50423	111.8954227	108.418237	105.0670596	101.8365534	98.72164468	95.71750791	92.81955182	90.02340617
210106A00006	1/8/2021	0.48	7/17/2023	1/8/2021	107.39253	105.4621166	103.5759178	101.7325887	99.93083591	98.16941663	96.44713574	94.76284374	93.1154345
201030A00002	11/2/2020	2.8	10/29/2040	11/2/2020	194.76708	164.8439002	140.0364516	119.4318904	102.2850668	87.98696878	76.03923215	66.03352918	57.63488266
201030A00003	11/2/2020	2.58	10/29/2040	11/2/2020	189.6391	160.211058	135.8358672	115.6096874	98.79498555	84.78920267	73.0994515	63.32206181	55.12602456
201030A00004	11/2/2020	2.56	10/29/2040	11/2/2020	189.17292	159.7898905	135.4539959	115.2622143	98.47770544	84.49849666	72.83219872	63.07556478	54.89794655
201030A00005	11/2/2020	2.49	10/29/2040	11/2/2020	187.54129	158.3158044	134.1174463	114.0460588	97.36722503	83.48102562	71.89681397	62.21282516	54.09967352
201116A00010	11/16/2020	0.57	11/15/2023	11/16/2020	108.81978	106.5117487	104.2642787	102.0753406	99.94299144	97.86536921	95.8406884	93.8672363	91.94336935
201116A00011	11/16/2020	0.71	11/15/2024	11/16/2020	112.8088	109.3203498	105.9573053	102.7144078	99.58665759	96.56929571	93.65779123	90.84782841	88.13529504
201022A00012	10/26/2020	2.25	10/24/2030	10/26/2020	145.29681	133.3781654	122.5333738	112.6599338	103.6656296	95.46744707	87.99061184	81.16773313	74.93804022
201028A00003	10/30/2020	1.42	2/27/2026	10/30/2020	120.37933	115.235518	110.3391308	105.677011	101.2367709	97.00674126	92.97592577	89.13395863	85.47106526
201028A00004	10/30/2020	1.55	12/29/2023	10/30/2020	111.59243	109.1187186	106.7126879	104.3719519	102.0942305	99.87734484	97.71921131	95.61783675	93.57131338
201028A00005	10/30/2020	1.85	10/31/2025	10/30/2020	121.00713	116.2434403	111.6937044	107.3471427	103.1935801	99.22340952	95.42755623	91.7974456	88.32497237
201028A00006	10/30/2020	1.56	2/15/2024	10/30/2020	112.23858	109.6092576	107.0548464	104.5727871	102.1606271	99.81601181	97.53667998	95.32045928	93.16526241
201030A00001	11/2/2020	2.54	10/29/2040	11/2/2020	188.70674	159.3687231	135.0721246	114.9147413	98.16042532	84.20779065	72.56494593	62.82906774	54.66986855
200925A00008	9/25/2020	0.74	9/25/2025	9/25/2020	115.77622	111.2369784	106.8987821	102.7516809	98.78627228	94.99366695	91.36545798	87.89369196	84.570842
200928A00002	9/28/2020	0.35	9/28/2023	9/28/2020	108.17545	106.0116772	103.9022711	101.845517	99.83976347	97.88342272	95.9749679	94.11293021	92.29589626
200928A00003	9/28/2020	0.55	9/26/2025	9/28/2020	115.62051	111.0624561	106.7069404	102.5439132	98.56387597	94.75785046	91.11734681	87.63433452	84.30121497
201006A00003	10/6/2020	0.29	10/6/2022	10/6/2020	104.31994	103.2149789	102.1332163	101.0739256	100.0364133	99.02001393	98.02408914	97.04802592	96.09123552

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
201006A00007	10/8/2020	1.47	10/10/2023	10/8/2020	110.37121	108.1540362	105.9930073	103.8863278	101.8322713	99.82917903	97.875457	95.96957274	94.11005249
201015A00017	10/15/2020	0.29	10/17/2022	10/15/2020	104.45122	103.3110708	102.1955902	101.1039823	100.035488	98.98938013	97.9649617	96.96156438	95.97854707
200922A00041	9/24/2020	2.68	9/23/2024	9/24/2020	118.58643	115.1713589	111.8736044	108.6884692	105.6114739	102.6383437	99.76499855	96.9875424	94.30225412
200922A00043	9/24/2020	2.4	9/25/2023	9/24/2020	112.119	109.9285156	107.7925353	105.7093522	103.6773217	101.6948626	99.76045372	97.87263133	96.02998658
200922A00044	9/24/2020	2.61	9/25/2023	9/24/2020	112.55807	110.3628983	108.2223335	106.1346579	104.0982244	102.111449	100.1728083	98.28083592	96.43412084
200925A00002	9/25/2020	0.74	9/25/2025	9/25/2020	115.77622	111.2369784	106.8987821	102.7516809	98.78627228	94.99366695	91.36545798	87.89369196	84.570842
200925A00003	9/25/2020	0.59	9/25/2024	9/25/2020	111.93832	108.6212824	105.4192885	102.3277048	99.34211634	96.45831082	93.6722683	90.98015099	88.37829395
200925A00004	9/25/2020	0.53	9/25/2023	9/25/2020	108.20926	106.0604409	103.9652854	101.9221066	99.92928415	97.98525982	96.08853475	94.23766663	92.4312672
200922A00035	9/24/2020	2.94	9/23/2024	9/24/2020	119.41587	115.987768	112.677321	109.47982	106.3907744	103.4058988	100.5211029	97.73248074	95.03630194
200922A00036	9/24/2020	1.55	9/23/2025	9/24/2020	119.25757	114.6524894	110.2502178	106.0407524	102.0146395	98.16294011	94.47719899	90.94941584	87.57201824
200922A00037	9/24/2020	2.76	9/23/2025	9/24/2020	124.48483	119.7710169	115.2635168	110.9521856	106.8274339	102.8801936	99.10188636	95.48439479	92.02003471
200922A00038	9/24/2020	2.33	9/25/2023	9/24/2020	111.97265	109.7837214	107.6492693	105.5675836	103.5370209	101.5560005	99.62300221	97.73656313	95.89527516
200922A00039	9/24/2020	3	9/23/2025	9/24/2020	125.52164	120.786262	116.2578901	111.9263541	107.7820377	103.8158471	100.0191797	96.38389474	92.90228591
200922A00040	9/24/2020	2	9/23/2024	9/24/2020	116.41712	113.0361351	109.7715763	106.6187825	103.5733033	100.6308919	97.78749499	95.03924212	92.38243674
200922A00025	9/24/2020	2.61	9/26/2022	9/24/2020	106.44643	105.3627521	104.3010804	103.2607541	102.2411345	101.2416079	100.2615847	99.30049825	98.35780352
200922A00027	9/24/2020	1.65	9/23/2025	9/24/2020	119.68957	115.0755082	110.66454	106.446656	102.4123911	98.55279577	94.85940456	91.32420749	87.93962291
200922A00029	9/24/2020	2.73	9/25/2023	9/24/2020	112.80896	110.611117	108.4679324	106.3776897	104.3387401	102.3494984	100.4084394	98.51409569	96.6650547
200922A00030	9/24/2020	2.45	9/25/2023	9/24/2020	112.22354	110.0319401	107.8948682	105.8106154	103.7775367	101.7940499	99.85863338	97.9698229	96.12620902
200922A00033	9/24/2020	2.37	9/23/2024	9/24/2020	117.59748	114.197948	110.9153269	107.7449356	104.6823079	101.7231819	98.86348957	96.09934668	93.42704326
200922A00034	9/24/2020	2.24	9/23/2026	9/24/2020	126.96742	120.9751297	115.3018245	109.9288542	104.8387596	100.015187	95.44281169	91.10726831	86.99508562
200911A00023	9/15/2020	2.04	9/14/2027	9/15/2020	130.0659	122.7741755	115.936796	109.5231324	103.5047698	97.85533955	92.5503614	87.56709928	82.88442838
200911A00024	9/15/2020	2.09	9/14/2027	9/15/2020	130.39674	123.0948004	116.2476669	109.8246836	103.7974123	98.13946225	92.82633283	87.83526858	83.14512652
200911A00025	9/15/2020	2.28	9/13/2030	9/15/2020	145.10774	133.3479409	122.6357173	112.8721839	103.9682662	95.84367933	88.42602001	81.64995649	75.45650565
200911A00026	9/15/2020	1.45	9/15/2025	9/15/2020	118.73625	114.1686497	109.8012158	105.624127	101.6281	97.804354	94.14458079	90.64091651	87.28591561
200917A00002	9/17/2020	0.53	9/17/2025	9/17/2020	115.45459	110.9297616	106.6047782	102.4697838	98.51546194	94.73300265	91.11407233	87.65078527	84.33567712
200922A00023	9/24/2020	2.5	9/26/2022	9/24/2020	106.33388	105.2508275	104.1897738	103.1500569	102.1310381	101.132104	100.1526653	99.19215539	98.25002949
200902A00018	9/4/2020	1.08	9/3/2025	9/4/2020	117.02705	112.534488	108.2375477	104.1267098	100.1929666	96.42779365	92.82312148	89.37130857	86.06511654
200911A00006	9/11/2020	0.37	9/11/2023	9/11/2020	108.03456	105.9252838	103.8677656	101.8604112	99.90168471	97.99010796	96.12425805	94.3027648	92.52430842
200911A00019	9/15/2020	1.84	9/14/2027	9/15/2020	128.74255	121.491676	114.6933124	108.3169276	102.3342001	96.71884875	91.44647568	86.49442209	81.8416358
200911A00020	9/15/2020	1.14	9/15/2025	9/15/2020	117.40479	112.8647401	108.5239698	104.3726962	100.4016702	96.60214355	92.9658388	89.48492165	86.15197463
200911A00021	9/15/2020	1.1	9/15/2025	9/15/2020	117.23299	112.6964937	108.3591638	104.2112213	100.2434212	96.44701962	92.81374307	89.33576103	86.00565967
200911A00022	9/15/2020	1.42	9/15/2025	9/15/2020	118.6074	114.0424649	109.6776113	105.5030208	101.5094132	97.68801105	94.03050898	90.52904604	87.17617939
200818A00009	8/18/2020	1.7	8/18/2033	8/18/2020	149.50232	133.5468997	119.4306146	106.9319308	95.85700292	86.03609605	77.32048317	69.57975446	62.69948274

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200818A00010	8/18/2020	1.88	8/20/2035	8/18/2020	158.87736	139.5359616	122.7461867	108.1573115	95.46842932	84.42116204	74.7934678	66.39437565	59.05950492
200819A00007	8/19/2020	0.38	8/21/2023	8/19/2020	107.83126	105.7882343	103.7939303	101.8468889	99.94570479	98.08902404	96.2755416	94.50399932	92.77318388
200825A00007	8/27/2020	4.79	8/27/2026	8/27/2020	140.34658	134.1060082	128.1878356	122.5736398	117.2461457	112.18915	107.3874491	102.8267723	98.49371964
200827A00007	8/27/2020	0.77	8/27/2025	8/27/2020	115.64532	111.2036074	106.9547202	102.8893065	98.99852062	95.27398959	91.70778502	88.29239729	85.02071119
200828A00002	8/28/2020	0.73	8/28/2026	8/28/2020	119.37491	113.6373026	108.2043652	103.0584298	98.18293709	93.56236552	89.18216058	85.02866995	81.08908296
200817A00014	8/17/2020	0.51	8/17/2022	8/17/2020	103.82333	102.8773719	101.9485312	101.0363502	100.1403842	99.26020399	98.39539551	97.54555901	96.71030852
200818A00004	8/18/2020	0.92	8/18/2026	8/18/2020	119.42492	113.7473734	108.3688866	103.2722397	98.44129288	93.86091013	89.51689146	85.39591051	81.4854565
200818A00005	8/18/2020	1.05	8/18/2027	8/18/2020	123.29264	116.3010019	109.7432567	103.5903888	97.81545884	92.39344804	87.3011123	82.51684781	78.02056757
200818A00006	8/18/2020	1.18	8/18/2028	8/18/2020	127.25176	118.8990168	111.1418443	103.9349187	97.23657978	91.0085155	85.2154776	79.82502228	74.80727428
200818A00007	8/18/2020	1.31	8/20/2029	8/18/2020	131.61643	121.8344677	112.8392217	104.5636254	96.94664068	89.93268721	83.47112967	77.51581536	72.02465726
200818A00008	8/18/2020	1.5	8/18/2031	8/18/2020	140.44744	127.6718733	116.1498769	105.7522435	96.36367184	87.88120753	80.21286643	73.27641783	66.9983076
200810A00004	8/10/2020	0.43	8/9/2024	8/10/2020	111.46227	108.289515	105.2224685	102.2570522	99.38936683	96.61568409	93.93243855	91.33621942	88.82376303
200811A00003	8/11/2020	0.57	8/11/2025	8/11/2020	115.30456	110.9025565	106.6901707	102.6582883	98.79827775	95.10196473	91.56160519	88.16986065	84.91977478
200812A00004	8/12/2020	0.59	8/12/2025	8/12/2020	115.39714	110.9900804	106.7729642	102.7366522	98.87249347	95.17229515	91.62829625	88.23314242	84.97986254
200814A00009	8/18/2020	1.36	8/16/2028	8/18/2020	128.62372	120.2289189	112.4312459	105.1853292	98.4494613	92.18528242	86.35749645	80.93361203	75.88370676
200814A00011	8/18/2020	1.58	8/16/2030	8/18/2020	137.65831	126.3428078	116.0353073	106.6410253	98.07452791	90.25876582	83.12421411	76.60810374	70.65373518
200817A00011	8/17/2020	0.53	2/18/2025	8/17/2020	113.59982	109.7841269	106.1153034	102.5869421	99.19294572	95.9275149	92.78513126	89.76054251	86.84874812
200731A00004	7/31/2020	0.38	7/31/2023	7/31/2020	107.61051	105.632392	103.7001634	101.8124856	99.96807138	98.16567912	96.4041106	94.68220931	92.99885868
200731A00005	7/31/2020	0.45	7/31/2024	7/31/2020	111.43962	108.2949659	105.2542561	102.3135076	99.46891596	96.71684239	94.05380547	91.47647355	88.98165742
200803A00005	8/3/2020	0.54	6/30/2023	8/3/2020	107.32598	105.4455317	103.6075954	101.810794	100.053814	98.33539833	96.65434358	95.00949707	93.39975407
200803A00011	8/3/2020	0.72	8/4/2025	8/3/2020	115.23698	110.8761784	106.7019206	102.7053016	98.87788337	95.21167157	91.69908986	88.3329559	85.1064589
200806A00002	8/6/2020	0.43	8/6/2024	8/6/2020	111.4345	108.2714214	105.2134507	102.2565452	99.39683751	96.6306295	93.95438413	91.36471732	88.85839055
200807A00004	8/7/2020	0.29	8/8/2022	8/7/2020	103.62145	102.7026059	101.799942	100.9130311	100.0414639	99.18484533	98.34279357	97.51493983	96.70092768
200722A00010	7/22/2020	0.66	7/22/2024	7/22/2020	111.53604	108.4275123	105.4209065	102.5123006	99.69794771	96.97426742	94.33783745	91.78538558	89.31378203
200722A00011	7/22/2020	0.59	7/24/2023	7/22/2020	107.65454	105.7015989	103.7936241	101.9292752	100.107266	98.3263579	96.58535779	94.88311603	93.2185245
200722A00012	7/22/2020	0.41	7/21/2023	7/22/2020	107.56231	105.6138493	103.7102332	101.8501132	100.0321917	98.25522056	96.51799859	94.81936931	93.15821892
200727A00016	7/27/2020	0.43	7/27/2023	7/27/2020	107.66421	105.6972388	103.7757525	101.8984067	100.0639101	98.27101792	96.51853065	94.80529153	93.13018488
200730A00001	7/30/2020	0.46	7/30/2024	7/30/2020	111.46063	108.3186887	105.2805266	102.3421702	99.49981812	96.7498351	94.08874349	91.51321558	89.02006629
200730A00002	7/30/2020	0.67	11/6/2024	7/30/2020	112.58865	109.132241	105.7992904	102.584664	99.48347267	96.49106091	93.60299425	90.81504711	88.12319152
200720A00035	7/20/2020	1.81	7/20/2035	7/20/2020	157.45394	138.3301216	121.7187792	107.2760943	94.70687534	83.75747242	74.20975258	65.87597403	58.59442132
200720A00037	7/22/2020	2.1	7/21/2025	7/22/2020	120.80356	116.3754454	112.1340025	108.0703575	104.176105	100.443284	96.86435237	93.4321619	90.1399355
200720A00039	7/22/2020	2.48	7/21/2025	7/22/2020	122.36922	117.9099281	113.6382867	109.5453748	105.6227503	101.8624176	98.25680136	94.79872157	91.48137098
200720A00041	7/22/2020	2.34	7/21/2027	7/22/2020	131.37357	124.2305548	117.5214288	111.2175857	105.2924469	99.72131133	94.48121344	89.5507923	84.91017141

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200720A00042	7/22/2020	2.04	7/21/2026	7/22/2020	125.08529	119.3561796	113.922613	108.767804	103.8760085	99.2324544	94.8232763	90.63545482	86.65676058
200720A00044	7/22/2020	2.22	7/21/2026	7/22/2020	126.03359	120.2807738	114.8243868	109.647606	104.7346484	100.0707051	95.64187563	91.43510771	87.43814062
200709A00014	7/13/2020	0.57	1/20/2023	7/13/2020	105.6481	104.2453992	102.8719789	101.5269363	100.2094051	98.91855461	97.65358777	96.41373958	95.19827541
200710A00006	7/10/2020	0.4	7/10/2023	7/10/2020	107.42715	105.5120687	103.6406873	101.8116446	100.0236312	98.27539125	96.56571934	94.89345832	93.25749664
200716A00015	7/20/2020	1.54	7/19/2024	7/20/2020	114.13775	110.9997525	107.9641409	105.0269719	102.1844777	99.43305917	96.76927738	94.18984508	91.69161902
200720A00012	7/20/2020	0.77	7/15/2025	7/20/2020	115.27184	110.9723792	106.8548037	102.9104269	99.13102844	95.50882627	92.03645073	88.70692006	85.51361753
200720A00014	7/20/2020	0.35	7/20/2022	7/20/2020	103.44702	102.5870186	101.7412295	100.9092989	100.0908885	99.28567097	98.49332939	97.71355699	96.94605667
200720A00034	7/20/2020	0.77	7/21/2025	7/20/2020	115.32379	111.004756	106.869008	102.9077973	99.11284635	95.47631623	91.99078092	88.64920305	85.44491133
200709A00003	7/10/2020	1.63	7/10/2026	7/10/2020	122.8069	117.1701383	111.8235298	106.7505833	101.9358367	97.36478761	93.0238288	88.90018714	84.98186784
200709A00004	7/10/2020	1.4	7/10/2025	7/10/2020	117.80265	113.4686358	109.3169254	105.3388136	101.5260678	97.87089697	94.3659242	91.00416247	87.7789913
200709A00005	7/10/2020	2.23	7/10/2030	7/10/2020	143.81357	132.3492354	121.8887711	112.3389173	103.6155341	95.6426691	88.35172102	81.68069317	75.57352604
200709A00006	7/10/2020	2.58	7/10/2030	7/10/2020	147.32181	135.6988582	125.0897861	115.4005949	106.5464659	98.45082353	91.04449376	84.26495307	78.05565706
200709A00007	7/10/2020	1.67	7/9/2027	7/10/2020	126.93973	119.9696388	113.4232131	107.2724935	101.4915106	96.05613637	90.94394377	86.13407721	81.60713415
200709A00008	7/10/2020	1.88	7/10/2026	7/10/2020	124.11525	118.4459775	113.0680718	107.9649859	103.1212047	98.52217604	94.15424509	90.00459384	86.06118493
200626A00014	6/26/2020	0.62	6/26/2025	6/26/2020	115.11305	110.8591537	106.7837666	102.8783473	99.13481691	95.54553376	92.10326701	88.80117134	85.63276366
200626A00015	6/26/2020	0.43	6/26/2023	6/26/2020	107.33197	105.4591203	103.6284641	101.8386462	100.0883679	98.37638631	96.70151116	95.06260221	93.45856643
200629A00005	6/29/2020	0.55	6/29/2022	6/29/2020	103.26957	102.4752615	101.6930869	100.9227728	100.1640514	99.41666304	98.68035551	97.95488418	97.24001154
200630A00004	6/30/2020	0.66	7/1/2024	6/30/2020	111.3379	108.2953433	105.3512282	102.5016959	99.74306825	97.0718398	94.484668	91.97836426	89.54988546
200701A00004	7/1/2020	0.54	7/1/2022	7/1/2020	103.28624	102.4858104	101.6977057	100.9216403	100.1573402	99.40453985	98.66298162	97.93241548	97.21259875
200709A00002	7/10/2020	1.66	7/10/2025	7/10/2020	118.86497	114.5099706	110.3379241	106.3400997	102.5082406	98.83453229	95.3115759	91.93236328	88.6902538
200611A00011	6/11/2020	1.2	6/9/2028	6/11/2020	126.81025	118.7083581	111.1700816	104.1533721	97.6195328	91.53293445	85.86075565	80.57274724	75.64101742
200611A00013	6/11/2020	0.59	6/12/2023	6/11/2020	107.21569	105.3909603	103.6065351	101.8611425	100.1535691	98.48265187	96.84727616	95.24637269	93.6789154
200615A00004	6/15/2020	0.56	6/15/2022	6/15/2020	103.1064	102.3549086	101.6143144	100.8843845	100.1648898	99.45560776	98.75632213	98.06682275	97.38690529
200615A00005	6/15/2020	0.61	6/15/2023	6/15/2020	107.28509	105.4506123	103.6568085	101.9023927	100.1861346	98.50685579	96.86342662	95.25476392	93.67982848
200615A00019	6/17/2020	1.34	6/16/2025	6/17/2020	117.29971	113.0524633	108.9813754	105.0781055	101.3347596	97.74386599	94.29835049	90.9915119	87.81699994
200615A00023	6/17/2020	1.68	6/17/2024	6/17/2020	114.14824	111.1092134	108.1670249	105.3179281	102.5583505	99.88488526	97.29428172	94.78343688	92.34938747
200604A00010	6/4/2020	0.89	6/4/2025	6/4/2020	115.38001	111.2088506	107.2097028	103.3744839	99.6955395	96.16562107	92.77786193	89.52575438	86.40312843
200604A00012	6/4/2020	1.59	6/4/2030	6/4/2020	137.03642	126.0069831	115.9406702	106.7484886	98.35009898	90.67293305	83.6514044	77.2262035	71.34366721
200604A00013	6/4/2020	2.21	6/4/2035	6/4/2020	163.54389	144.1688872	127.3026966	112.6057663	99.78613549	88.59255177	78.80861285	70.2477769	62.74910869
200604A00014	6/4/2020	2.42	6/4/2040	6/4/2020	184.52956	156.1825652	132.6306989	113.0298809	96.68884322	83.04079563	71.62046225	62.04544886	54.0011066
200605A00007	6/5/2020	0.52	6/5/2023	6/5/2020	107.25603	105.4479029	103.679412	101.9493225	100.2564517	98.5996657	96.97787702	95.39004211	93.8351591
200611A00010	6/11/2020	1.08	6/11/2027	6/11/2020	122.9276	116.1709279	109.8220626	103.8542871	98.24277612	92.96445407	87.99786184	83.32303464	78.9213897
200601A00006	6/1/2020	0.6	6/1/2023	6/1/2020	107.10989	105.3195154	103.5681112	101.854475	100.177453	98.5359383	96.92886916	95.35522608	93.81402995

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200601A00009	6/1/2020	0.84	6/2/2025	6/1/2020	115.16253	111.0020108	107.0128854	103.1871036	99.517048	95.99550499	92.61564005	89.37097546	86.25536916
200604A00001	6/4/2020	0.65	6/5/2023	6/4/2020	107.24276	105.4390437	103.6747909	101.9487795	100.2598335	98.6068255	96.98867411	95.40434147	93.85283112
200604A00004	6/4/2020	0.76	6/4/2024	6/4/2020	111.35501	108.3968977	105.5322566	102.7575078	100.0692412	97.46420206	94.93928271	92.4915147	90.11806136
200604A00005	6/4/2020	0.89	6/4/2025	6/4/2020	115.38001	111.2088506	107.2097028	103.3744839	99.6955395	96.16562107	92.77786193	89.52575438	86.40312843
200604A00009	6/4/2020	0.7	6/4/2025	6/4/2020	115.22911	111.0444977	107.0328939	103.1861434	99.49653218	95.95675615	92.55989682	89.29939808	86.16904482
200515A00001	5/15/2020	0.59	5/15/2023	5/15/2020	106.90767	105.1687551	103.4669531	101.8011423	100.1702508	98.57324872	97.00914709	95.47699509	93.97587849
200527A00021	5/27/2020	0.53	11/26/2021	5/27/2020	100.67131	100.5116111	100.3524221	100.1937409	100.0355651	99.87789227	99.7207201	99.56404618	99.40786818
200527A00022	5/27/2020	0.53	5/27/2022	5/27/2020	102.85462	102.1611188	101.4769153	100.8018265	100.1356713	99.47827337	98.82946117	98.18906746	97.55692933
200529A00004	5/29/2020	0.56	5/29/2024	5/29/2020	111.15248	108.2063283	105.3529962	102.5889506	99.91081741	97.31537528	94.79954785	92.36039583	89.99510981
200529A00008	5/29/2020	0.33	5/31/2022	5/29/2020	102.83734	102.131031	101.434359	100.7471288	100.06915	99.40023697	98.74020911	98.08889059	97.44611017
200529A00009	5/29/2020	0.42	5/30/2023	5/29/2020	107.01356	105.2257838	103.4769004	101.7657081	100.0910568	98.45184375	96.84701045	95.27554085	93.73645902
200511A00021	5/11/2020	1.53	2/1/2029	5/11/2020	131.585	122.5031085	114.1042905	106.3338379	99.1416829	92.48197921	86.31272666	80.59543119	75.29479627
200511A00022	5/11/2020	1.6	2/1/2030	5/11/2020	135.87102	125.336091	115.6883088	106.8486006	98.74530739	91.31345373	84.49409468	78.23372902	72.48377234
200511A00023	5/11/2020	1.7	2/3/2031	5/11/2020	140.61884	128.5537914	117.6118085	107.6827204	98.66766953	90.47789935	83.03367789	76.26334012	70.10243628
200511A00028	5/13/2020	1.02	5/13/2024	5/13/2020	111.85937	108.9612	106.1528891	103.4310755	100.7925456	98.23422866	95.75318905	93.34661953	91.01183446
200513A00002	5/13/2020	0.56	5/13/2024	5/13/2020	110.99593	108.1004668	105.2950596	102.5763277	99.9410433	97.38612211	94.90861619	92.50570671	90.17469725
200513A00003	5/13/2020	0.68	5/13/2025	5/13/2020	114.94857	110.8386023	106.8962547	103.1137419	99.4836921	95.99911888	92.65339832	89.44024783	86.35370634
200511A00015	5/11/2020	0.6	2/1/2023	5/11/2020	105.7654	104.3476084	102.9556288	101.5888159	100.246546	98.92821545	97.63323979	96.36105307	95.11110708
200511A00016	5/11/2020	0.71	2/1/2024	5/11/2020	109.94453	107.3895059	104.9062929	102.4924816	100.1457556	97.86388956	95.64474452	93.48626435	91.38647197
200511A00017	5/11/2020	0.83	2/3/2025	5/11/2020	113.98336	110.2268508	106.6127427	103.1349106	99.78752645	96.56504194	93.46217364	90.47388892	87.59539277
200511A00018	5/11/2020	0.98	2/2/2026	5/11/2020	118.00616	113.0055772	108.2423408	103.7040202	99.37889493	95.2559131	91.32465027	87.5752706	83.9984907
200511A00019	5/11/2020	1.18	2/1/2027	5/11/2020	122.37582	116.0738042	110.1300371	104.5224184	99.23031504	94.23445934	89.51685211	85.060673	80.85019773
200511A00020	5/11/2020	1.4	2/1/2028	5/11/2020	127.10919	119.4387243	112.2752173	105.5827059	99.32794821	93.48020437	88.01103693	82.89412759	78.1051095
200506A00002	5/8/2020	0.97	5/5/2025	5/8/2020	115.41194	111.333987	107.4210297	103.6654698	100.0601032	96.59809898	93.27297795	90.07859186	87.00910461
200506A00005	5/6/2020	0.97	5/6/2025	5/6/2020	115.42143	111.3401833	107.4241719	103.6657775	100.057781	96.59333797	93.26595626	90.06947579	86.99804944
200506A00010	5/6/2020	0.94	5/6/2026	5/6/2020	119.45305	114.0846457	108.9853682	104.1403074	99.53546377	95.15768591	90.99461406	87.03462794	83.26679832
200507A00005	5/7/2020	0.67	5/5/2023	5/7/2020	106.9327	105.222683	103.5487295	101.9097716	100.3047828	98.7327771	97.19280605	95.68395757	94.20535392
200508A00004	5/8/2020	0.43	5/8/2023	5/8/2020	106.79385	105.0723145	103.3872837	101.7376682	100.1224227	98.54054296	96.99106375	95.47305694	93.98562969
200511A00014	5/11/2020	0.52	2/1/2022	5/11/2020	101.47035	101.1183918	100.7688673	100.4217478	100.0770086	99.73462548	99.39457435	99.05683151	98.7213736
200504A00004	5/4/2020	0.75	5/5/2025	5/4/2020	115.14843	111.0596861	107.1368107	103.3721484	99.75844149	96.28880965	92.95672713	89.75600246	86.68075913
200504A00013	5/4/2020	1.26	5/4/2027	5/4/2020	123.72357	117.0688889	110.8089338	104.9182741	99.37325313	94.15185186	89.23356675	84.59929751	80.23124366
200504A00015	5/4/2020	0.68	5/4/2023	5/4/2020	106.93828	105.2311232	103.5599291	101.9236321	100.3212107	98.75168278	97.21410411	95.70756637	94.23119544
200505A00004	5/5/2020	0.77	5/5/2025	5/5/2020	115.22625	111.1360398	107.2117395	103.4456943	99.83064517	96.3597101	93.02636193	89.82440779	86.74796986

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200505A00005	5/5/2020	0.77	5/5/2025	5/5/2020	115.22625	111.1360398	107.2117395	103.4456943	99.83064517	96.3597101	93.02636193	89.82440779	86.74796986
200505A00006	5/5/2020	0.39	11/4/2021	5/5/2020	100.40962	100.311848	100.2142765	100.1169013	100.0197216	99.92273703	99.82594684	99.72935048	99.63294735
200430A00007	4/30/2020	0.72	4/28/2023	4/30/2020	106.93695	105.2474221	103.593241	101.9733686	100.3868101	98.8326091	97.30984534	95.81763326	94.35512022
200430A00008	4/30/2020	0.94	4/30/2025	4/30/2020	115.24857	111.1892316	107.2936536	103.5543156	99.96408971	96.51621588	93.20428058	90.0221968	86.96418539
200430A00009	4/30/2020	1.16	4/30/2026	4/30/2020	119.67256	114.3439781	109.2809171	104.4687518	99.89374154	95.54297326	91.40430671	87.46632396	83.7182823
200430A00016	4/30/2020	0.82	4/30/2024	4/30/2020	111.17099	108.3215704	105.5596282	102.8819243	100.2853666	97.76699795	95.3239896	92.95363461	90.65334163
200430A00017	4/30/2020	0.94	4/30/2025	4/30/2020	115.24857	111.1892316	107.2936536	103.5543156	99.96408971	96.51621588	93.20428058	90.0221968	86.96418539
200501A00003	5/1/2020	0.66	4/14/2023	5/1/2020	106.67926	105.033721	103.4220872	101.8433891	100.2966939	98.78110385	97.29575416	95.83981174	94.41247369
200429A00051	5/1/2020	2.54	4/30/2025	5/1/2020	121.43263	117.2572826	113.2491346	109.4005409	105.7042486	102.1533781	98.7414017	95.46212359	92.30966046
200429A00052	5/1/2020	1.43	4/30/2024	5/1/2020	112.84584	109.9735167	107.189207	104.4896583	101.8717617	99.33254386	96.86916089	94.47889101	92.15912873
200429A00053	5/1/2020	2.18	4/30/2025	5/1/2020	120.04122	115.8919711	111.9091514	108.0851402	104.4127129	100.8850166	97.49554945	94.23814006	91.10692857
200429A00056	5/1/2020	1.54	4/30/2025	5/1/2020	117.56759	113.4647507	109.526959	105.7466501	102.1166493	98.6301517	95.280701	92.06216934	88.96873854
200429A00058	5/1/2020	1.83	4/30/2025	5/1/2020	118.68846	114.564585	110.6063899	106.8062785	103.1570531	99.65188734	96.2843042	93.04815608	89.9376059
200430A00006	4/30/2020	0.61	4/29/2022	4/30/2020	102.56361	101.9544932	101.3525749	100.7577242	100.1698175	99.58873388	99.01435531	98.44656641	97.88525447
200429A00043	5/1/2020	1.56	4/30/2025	5/1/2020	117.64489	113.5406014	109.6014025	105.8197279	102.1884013	98.70061622	95.34991501	92.13016843	89.03555698
200429A00044	5/1/2020	1.86	4/30/2025	5/1/2020	118.80441	114.6783609	110.7180552	106.9158952	103.2646811	99.75758413	96.38812522	93.1501547	90.03783355
200429A00045	5/1/2020	1.54	4/30/2025	5/1/2020	117.56759	113.4647507	109.526959	105.7466501	102.1166493	98.6301517	95.280701	92.06216934	88.96873854
200429A00046	5/1/2020	2.07	4/30/2025	5/1/2020	119.61607	115.4747926	111.4997121	107.6832123	104.0180769	100.4974617	97.11487237	93.86414509	90.73942716
200429A00047	5/1/2020	2.7	4/30/2025	5/1/2020	122.05104	117.8640877	113.8446827	109.9851635	106.2782645	102.7170943	99.29511381	96.00611627	92.84420796
200429A00050	5/1/2020	2.61	4/30/2025	5/1/2020	121.70319	117.5227599	113.5096869	109.6563133	105.9553806	102.4000039	98.98365075	95.70012039	92.54352499
200429A00009	4/29/2020	0.78	4/29/2025	4/29/2020	115.20848	111.137444	107.230927	103.4813614	99.88157663	96.42477284	93.10449906	89.91463324	86.84936338
200429A00010	4/29/2020	0.78	4/29/2025	4/29/2020	115.20848	111.137444	107.230927	103.4813614	99.88157663	96.42477284	93.10449906	89.91463324	86.84936338
200429A00015	4/29/2020	0.66	4/29/2024	4/29/2020	111.13343	108.2785676	105.5114684	102.8288795	100.2276952	97.70494596	95.25779118	92.88351273	90.57950866
200429A00017	5/4/2020	0.66	8/15/2022	5/4/2020	103.93444	102.994062	102.070589	101.1635723	100.2725753	99.39717671	98.53696979	97.69156194	96.86057397
200429A00018	5/4/2020	0.73	4/17/2023	5/4/2020	106.82631	105.1705821	103.5490775	101.9608139	100.404845	98.88026014	97.3861824	95.92176724	94.48620086
200429A00035	5/1/2020	1.41	4/30/2024	5/1/2020	112.79093	109.9193545	107.1357782	104.4369458	101.8197487	99.28121449	96.81849953	94.42888261	92.10975866
200420A00047	4/20/2020	0.77	4/20/2023	4/20/2020	106.9259	105.2603721	103.6293805	102.0319297	100.4670599	98.93384776	97.43140445	95.95887399	94.51543181
200424A00006	4/24/2020	0.6	4/24/2023	4/24/2020	106.91943	105.2381499	103.5919465	101.9798015	100.4007322	98.85379325	97.33807543	95.85270331	94.39683393
200427A00010	4/27/2020	0.68	4/27/2022	4/27/2020	102.58017	101.9769069	101.3807074	100.7914456	100.2090009	99.63325564	99.06409497	98.50140647	97.94508035
200428A00011	4/30/2020	1.95	4/29/2025	4/30/2020	119.13931	115.0102235	111.0468309	107.241546	103.5871766	100.0769012	96.70424702	93.46307015	90.34753683
200428A00013	4/30/2020	1.49	4/29/2024	4/30/2020	112.99802	110.1267379	107.3433511	104.6446161	102.0274309	99.48882924	97.0259731	94.63614659	92.31674961
200429A00003	4/29/2020	0.74	4/28/2023	4/29/2020	106.96988	105.2800774	103.6256186	102.0054736	100.4186475	98.8641836	97.34116168	95.84869597	94.38593373
200415A00030	4/15/2020	0.76	3/15/2023	4/15/2020	106.51144	104.9560436	103.4313275	101.9364573	100.470631	99.03307509	97.62304289	96.23981347	94.88269057

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200415A00035	4/17/2020	2.16	4/16/2025	4/17/2020	119.77344	115.6747816	111.73914	107.9591229	104.3277136	100.8382534	97.48442056	94.26021156	91.15992281
200416A00005	4/16/2020	0.49	4/15/2022	4/16/2020	102.38275	101.8148423	101.2532162	100.6977703	100.1484027	99.60501398	99.06750687	98.53578614	98.00975862
200417A00009	4/17/2020	1.35	4/16/2027	4/17/2020	124.11014	117.5043812	111.2872522	105.4339123	99.92123789	94.72769306	89.83321218	85.21909198	80.867892
200417A00016	4/21/2020	2.18	4/21/2025	4/21/2020	119.91821	115.8005724	111.8471972	108.0506056	104.403706	100.8997699	97.53241071	94.29556431	91.18347079
200420A00011	4/20/2020	0.7	4/19/2024	4/20/2020	111.13693	108.3131479	105.5754723	102.9207491	100.3459585	97.84821134	95.42474266	93.07290526	90.79016386
200408A00021	4/8/2020	0.99	4/4/2025	4/8/2020	115.75985	111.7589329	107.917081	104.2271009	100.6821702	97.2758122	94.00187626	90.85451931	87.82818869
200413A00023	4/13/2020	0.74	2/7/2022	4/13/2020	101.62208	101.2524523	100.8855094	100.5212235	100.1595659	99.80050821	99.44402238	99.09008085	98.73865643
200413A00031	4/13/2020	0.73	4/13/2022	4/13/2020	102.43852	101.8769801	101.32158	100.7722199	100.2288016	99.69122896	99.15940806	98.63324683	98.11265521
200413A00032	4/13/2020	0.82	4/13/2023	4/13/2020	106.92437	105.2797603	103.6689926	102.0911032	100.5451628	99.03027642	97.54558228	96.09024997	94.66347912
200414A00016	4/16/2020	1.64	4/15/2024	4/16/2020	113.22729	110.3966252	107.6516247	104.9891682	102.4062711	99.90007671	97.4678505	95.10697336	92.81493619
200415A00019	4/15/2020	0.68	4/15/2022	4/15/2020	102.43037	101.8630268	101.3019515	100.7470401	100.1981917	99.65530703	99.1182893	98.58704369	98.06147746
200406A00006	4/6/2020	1.13	4/7/2025	4/6/2020	115.74349	111.748445	107.9121638	104.2274731	100.6875635	97.28597064	94.01655546	90.87348611	87.85122065
200406A00013	4/6/2020	0.83	4/1/2022	4/6/2020	102.33824	101.8123919	101.2919212	100.7767461	100.2667861	99.76196263	99.26219839	98.76741774	98.27754655
200406A00020	4/6/2020	0.65	4/6/2022	4/6/2020	102.35718	101.8159282	101.2803801	100.7504485	100.2260455	99.70708465	99.19348172	98.68515395	98.18202037
200407A00001	4/8/2020	2.41	4/7/2025	4/8/2020	120.59947	116.5148732	112.5916677	108.8225775	105.2006989	101.7194773	98.37268778	95.15441618	92.059042
200407A00002	4/8/2020	1.82	4/8/2024	4/8/2020	113.61851	110.8044867	108.0751098	105.4273165	102.8581774	100.3648875	97.94476063	95.59522311	93.31380847
200408A00019	4/10/2020	1.7	4/11/2022	4/10/2020	102.93933	102.3821135	101.8309177	101.2856486	100.7462111	100.2125118	99.68445938	99.16196449	98.64493963
200402A00011	4/2/2020	0.8	3/31/2023	4/2/2020	106.7396	105.1353162	103.563578	102.0234822	100.5141552	99.034755	97.58446966	96.1625161	94.76813877
200402A00021	4/2/2020	0.77	10/2/2024	4/2/2020	113.0698	109.7011342	106.4501059	103.3119407	100.2820905	97.3562183	94.53018663	91.8000472	89.16203108
200403A00006	4/3/2020	1.05	4/3/2025	4/3/2020	115.39937	111.4234425	107.6051908	103.9375054	100.4136398	97.02718799	93.77206573	90.64249211	87.63297279
200403A00014	4/3/2020	0.63	4/17/2023	4/3/2020	106.88679	105.2267627	103.6011065	102.0088338	100.4489927	98.92066715	97.42297516	95.95506736	94.51612542
200403A00016	4/3/2020	0.63	4/17/2023	4/3/2020	106.88679	105.2267627	103.6011065	102.0088338	100.4489927	98.92066715	97.42297516	95.95506736	94.51612542
200403A00021	4/3/2020	0.74	4/29/2022	4/3/2020	102.64076	102.0313814	101.4292032	100.8340949	100.2459327	99.66459566	99.08996579	98.52192766	97.96036851
200330A00027	3/30/2020	0.62	3/30/2022	3/30/2020	102.25314	101.732835	101.2178027	100.7079611	100.2032322	99.70353948	99.20880789	98.71896397	98.23393564
200330A00041	4/1/2020	1.09	4/1/2025	4/1/2020	115.53006	111.5581263	107.7434813	104.0790484	100.5581064	97.17427302	93.92148581	90.79398421	87.78629276
200330A00045	3/30/2020	1.47	3/30/2027	3/30/2020	124.67685	118.1120367	111.9303412	106.1074595	100.6207564	95.44913862	90.57294141	85.97382503	81.63467859
200331A00060	3/31/2020	1.09	3/31/2025	3/31/2020	115.51979	111.5512322	107.7397401	104.078244	100.560037	97.17874997	93.9283327	90.80303604	87.79739514
200401A00020	4/1/2020	0.72	3/29/2022	4/1/2020	102.2438	101.7270386	101.2154742	100.7090317	100.2076347	99.71120815	99.21967845	98.73297356	98.25102279
200401A00025	4/1/2020	0.54	4/1/2022	4/1/2020	102.23723	101.7110923	101.1903446	100.6749037	100.164689	99.65962146	99.15962351	98.66461924	98.1745342
200326A00028	3/26/2020	1.54	3/26/2025	3/26/2020	117.15935	113.1766741	109.3507005	105.6744187	102.1411675	98.74461971	95.47876358	92.33788505	89.31655137
200326A00029	3/26/2020	1.82	3/26/2027	3/26/2020	126.75918	120.1484324	113.9217574	108.0548753	102.5251627	97.31153303	92.39432387	87.75519391	83.37702741
200326A00030	3/26/2020	1.13	3/24/2023	3/26/2020	107.18522	105.5977549	104.0421056	102.5173912	101.0227676	99.55742055	98.12056481	96.71144261	95.32932253
200327A00036	3/27/2020	0.77	9/27/2023	3/27/2020	109.04671	106.8767312	104.761155	102.6982691	100.6864233	98.72403133	96.80956739	94.94156374	93.11860789

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200327A00074	3/31/2020	1.76	3/29/2024	3/31/2020	113.32431	110.5454368	107.8494583	105.2334094	102.6944482	100.2298524	97.83701326	95.51343003	93.25670502
200327A00075	3/31/2020	1.75	3/29/2024	3/31/2020	113.29782	110.5192988	107.8236627	105.2079484	102.6693143	100.2050382	97.81251155	95.489234	93.23280796
200319A00024	3/19/2020	1.12	3/15/2022	3/19/2020	102.25325	101.7774137	101.3060022	100.8389555	100.3762131	99.91771542	99.4634043	99.01322242	98.56711357
200323A00010	3/23/2020	1.19	3/23/2022	3/23/2020	102.39756	101.8979053	101.4031213	100.9131339	100.4278736	99.94727203	99.47126244	98.99977916	98.53275782
200324A00020	3/24/2020	1.23	3/24/2022	3/24/2020	102.43118	101.9285005	101.4307482	100.9378474	100.4497276	99.96631944	99.48755482	99.01336709	98.54369083
200325A00029	3/25/2020	1.15	3/24/2023	3/25/2020	107.4126	105.8200056	104.2593734	102.7298219	101.2305014	99.76059255	98.31930532	96.90587731	95.51957276
200325A00030	3/25/2020	1.5	3/25/2025	3/25/2020	117.5752	113.5730798	109.7285909	106.0346716	102.4846145	99.07204922	95.7909232	92.63548402	89.60026278
200326A00026	3/26/2020	1.32	3/26/2024	3/26/2020	112.12298	109.3692497	106.6975086	104.104831	101.5884136	99.14557055	96.77372768	94.47041722	92.23327261
200313A00032	3/18/2020	1.46	3/18/2025	3/18/2020	116.76828	112.8182141	109.0226877	105.3748251	101.8680947	98.49629065	95.25351441	92.13415762	89.13288628
200316A00013	3/16/2020	1	4/15/2022	3/16/2020	102.60756	102.0396464	101.4780066	100.9225352	100.3731311	99.82969516	99.2921304	98.76034199	98.23423713
200316A00064	3/16/2020	0.99	3/16/2022	3/16/2020	102.20608	101.7274526	101.2533016	100.7835675	100.3181887	99.85710475	99.4002563	98.94758506	98.49903383
200317A00026	3/17/2020	1.22	3/15/2024	3/17/2020	111.73096	109.0162475	106.3814412	103.8237228	101.3403916	98.9288586	96.58664129	94.31135826	92.10072456
200317A00065	3/19/2020	2.05	3/19/2025	3/19/2020	118.98318	114.9896757	111.1521187	107.4635759	103.9174592	100.5075087	97.22777467	94.07260014	91.0366049
200318A00043	3/18/2020	1.06	3/20/2023	3/18/2020	107.22294	105.643786	104.0960999	102.5790218	101.0917207	99.63339509	98.20327184	96.80060475	95.42467346
200311A00058	3/16/2020	1.1	10/14/2022	3/16/2020	105.15139	104.0186193	102.9100962	101.8250488	100.7627379	99.72245501	98.70352081	97.70528365	96.72711817
200312A00004	3/13/2020	1.23	1/24/2025	3/13/2020	115.31286	111.5649449	107.957951	104.4858176	101.1427825	97.92336272	94.82233884	91.83474116	88.9558361
200312A00016	3/16/2020	1.09	2/15/2023	3/16/2020	106.65209	105.1820961	103.7396113	102.3239276	100.9343614	99.57025178	98.23095953	96.91586637	95.62437401
200312A00017	3/16/2020	1.09	2/15/2023	3/16/2020	106.65209	105.1820961	103.7396113	102.3239276	100.9343614	99.57025178	98.23095953	96.91586637	95.62437401
200312A00042	3/16/2020	1.38	3/16/2023	3/16/2020	107.44958	105.8839931	104.3493222	102.8447301	101.3694072	99.92257246	98.50347207	97.11137826	95.74558822
200313A00022	3/13/2020	1.11	3/8/2022	3/13/2020	102.1525	101.6973994	101.2463465	100.7992899	100.3561764	99.91695408	99.48157171	99.04997905	98.6221267
200310A00065	3/13/2020	1.1	3/13/2025	3/13/2020	115.37382	111.4649055	107.7085784	104.0980764	100.6269698	97.28914813	94.0788025	90.99040867	88.01871169
200310A00073	3/12/2020	2.12	3/11/2027	3/12/2020	128.39936	121.7927308	115.56639	109.6964922	104.1608112	98.93861778	94.0105719	89.35862228	84.96591427
200311A00006	3/13/2020	1.12	3/10/2025	3/13/2020	115.41737	111.5171527	107.7688282	104.1656726	100.7013007	97.36964337	94.16493019	91.08167288	88.11465
200311A00036	3/16/2020	1.03	4/15/2022	3/16/2020	102.62417	102.0562045	101.4945117	100.9389879	100.3895317	99.84604404	99.308428	98.77658871	98.25043335
200311A00040	3/12/2020	1.3	3/11/2025	3/12/2020	116.09545	112.1798245	108.4166816	104.7992734	101.3211871	97.9763277	94.75890009	91.66339292	88.6845629
200311A00056	3/13/2020	1.27	4/10/2024	3/13/2020	112.16877	109.3679144	106.6515799	104.0166993	101.4603403	98.97969546	96.57207659	94.23490838	91.96572306
200309A00056	3/9/2020	0.97	3/7/2025	3/9/2020	114.83192	110.9517442	107.2224278	103.6373118	100.1900667	96.87467564	93.68541703	90.61684853	87.66379175
200309A00064	3/9/2020	0.55	3/9/2022	3/9/2020	101.95687	101.4988735	101.0449829	100.5951478	100.1493138	99.70742763	99.26943689	98.83529014	98.40493685
200310A00019	3/10/2020	0.95	3/10/2023	3/10/2020	106.74019	105.1977561	103.6854668	102.2025091	100.7481022	99.32149212	97.92195114	96.54877631	95.20128851
200310A00025	3/10/2020	0.87	3/11/2024	3/10/2020	111.16624	108.4628463	105.8388964	103.2915902	100.8182488	98.41630376	96.08329184	93.81685007	91.61471094
200310A00037	3/10/2020	0.84	3/7/2022	3/10/2020	102.01911	101.5672866	101.1194543	100.6755641	100.2355642	99.79940358	99.36703203	98.93840031	98.51346002
200310A00042	3/10/2020	1.41	3/11/2030	3/10/2020	134.45659	123.8399872	114.1303109	105.2456468	97.11185528	89.66180252	82.83466605	76.57531304	70.83374241
200309A00020	3/9/2020	0.96	3/10/2025	3/9/2020	114.82424	110.9347323	107.1968052	103.60375	100.1491925	96.82707399	93.63163408	90.55739403	87.59914155

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200309A00021	3/9/2020	1.05	3/9/2026	3/9/2020	118.6385	113.5036748	108.6178369	103.9676567	99.54058476	95.32480448	91.3091853	87.48323934	83.83708094
200309A00027	3/9/2020	0.97	3/10/2025	3/9/2020	114.86131	110.9711336	107.2325566	103.6388702	100.1836992	96.86098458	93.66496509	90.59016146	87.63136083
200309A00033	3/9/2020	1.06	3/9/2026	3/9/2020	118.68694	113.5509933	108.6640745	104.012851	99.58477179	95.36801875	91.35145982	87.52460572	83.87756946
200309A00041	3/9/2020	0.73	3/9/2022	3/9/2020	101.99566	101.5380531	101.0845495	100.6350912	100.1896243	99.74809574	99.31045331	98.87664582	98.44662296
200309A00046	3/9/2020	0.78	3/11/2025	3/9/2020	114.72992	110.8243067	107.071386	103.4643801	99.99685033	96.66267763	93.45604508	90.3714211	87.40354392
200306A00100	3/10/2020	1.82	3/10/2031	3/10/2020	142.42964	130.135433	118.995554	108.8957058	99.73343943	91.41687565	83.86356655	76.99948518	70.7581277
200306A00101	3/10/2020	1.93	3/8/2030	3/10/2020	139.42366	128.6015483	118.6977795	109.6297256	101.3225867	93.70861084	86.72639747	80.32027288	74.43972998
200309A00003	3/9/2020	0.72	3/9/2022	3/9/2020	101.99117	101.5335765	101.0800848	100.6306385	100.1851834	99.74366653	99.30603575	98.87223984	98.4422285
200309A00004	3/9/2020	0.71	3/8/2024	3/9/2020	110.71868	108.0303476	105.4207861	102.8872359	100.4270487	98.037685	95.71670911	93.461784	91.27066676
200309A00005	3/9/2020	0.77	3/7/2025	3/9/2020	114.6541	110.7625532	107.022685	103.4277865	99.97148058	96.64770612	93.45069997	90.37498084	87.4153339
200309A00019	3/9/2020	0.89	3/11/2024	3/9/2020	110.82823	108.137544	105.5257899	102.9901934	100.5280973	98.13695413	95.81432031	93.55785151	91.3652979
200306A00039	3/6/2020	0.88	3/6/2023	3/6/2020	106.57232	105.0432987	103.5439347	102.0734363	100.6310406	99.21601118	97.82763663	96.46522982	95.12812666
200306A00046	3/6/2020	1.01	3/3/2025	3/6/2020	114.94016	111.0706623	107.3511214	103.7749362	100.3358347	97.02785377	93.84532205	90.78284382	87.83528424
200306A00063	3/6/2020	0.64	3/16/2022	3/6/2020	102.0859	101.6070762	101.1327413	100.6628326	100.1972882	99.73604742	99.27905065	98.82623937	98.37755615
200306A00065	3/6/2020	1.38	3/6/2030	3/6/2020	134.12192	123.5373824	113.8559653	104.9962093	96.88437517	89.45368154	82.64361633	76.39932005	70.67103236
200306A00098	3/10/2020	1.59	3/8/2030	3/10/2020	136.15764	125.4775708	115.7071839	106.7644766	98.57521824	91.07218128	84.19444826	77.88679101	72.09911358
200306A00099	3/10/2020	1.92	3/10/2031	3/10/2020	143.51495	131.1679924	119.9789242	109.833161	100.6279991	92.27132667	84.68048303	77.78124657	71.50693518
200306A00002	3/6/2020	0.64	3/7/2022	3/6/2020	101.97197	101.5197774	101.0715862	100.6273468	100.1870071	99.75051588	99.31782267	98.88887802	98.46363331
200306A00009	3/6/2020	0.82	3/7/2022	3/6/2020	102.01025	101.558446	101.110637	100.6667701	100.2267933	99.79065553	99.35830675	98.92969766	98.50477985
200306A00012	3/6/2020	0.95	3/6/2024	3/6/2020	110.92981	108.2531329	105.6545349	103.1312891	100.6807816	98.30050534	95.98805533	93.7411234	91.55749394
200306A00014	3/6/2020	1.38	3/6/2030	3/6/2020	134.12192	123.5373824	113.8559653	104.9962093	96.88437517	89.45368154	82.64361633	76.39932005	70.67103236
200306A00030	3/6/2020	0.88	3/6/2023	3/6/2020	106.57232	105.0432987	103.5439347	102.0734363	100.6310406	99.21601118	97.82763663	96.46522982	95.12812666
200306A00037	3/6/2020	1.11	3/6/2026	3/6/2020	118.95419	113.8201559	108.9345725	104.2841573	99.8564107	95.63956121	91.6225197	87.79483607	84.14665918
200305A00029	3/5/2020	1.14	3/5/2025	3/5/2020	115.4399	111.5551016	107.8209994	104.2309504	100.7786438	97.45807992	94.26355311	91.18963551	88.23116205
200305A00035	3/5/2020	1.25	3/5/2026	3/5/2020	119.62132	114.4751312	109.5776254	104.9155219	100.4763211	96.24825144	92.22022275	88.38178353	84.72308079
200305A00036	3/5/2020	1.36	3/5/2027	3/5/2020	123.7727	117.3167487	111.2333834	105.499247	100.092565	94.99302797	90.18168541	85.64084811	81.35399806
200305A00040	3/10/2020	0.99	3/10/2023	3/10/2020	106.80032	105.2574089	103.7446519	102.261235	100.8063769	99.37932367	97.97934718	96.6057443	95.25783573
200305A00043	3/5/2020	0.95	3/7/2022	3/5/2020	102.06787	101.6159099	101.1679491	100.7239313	100.2838045	99.84751785	99.41502106	98.98626489	98.56120093
200306A00001	3/6/2020	1.11	3/6/2026	3/6/2020	118.95419	113.8201559	108.9345725	104.2841573	99.8564107	95.63956121	91.6225197	87.79483607	84.14665918
200305A00007	3/5/2020	1.14	3/5/2025	3/5/2020	115.4399	111.5551016	107.8209994	104.2309504	100.7786438	97.45807992	94.26355311	91.18963551	88.23116205
200305A00008	3/10/2020	1.01	6/19/2023	3/10/2020	108.05028	106.1965254	104.3840662	102.6115873	100.8778327	99.1815994	97.52173501	95.89713463	94.30673851
200305A00009	3/10/2020	1.04	10/18/2023	3/10/2020	109.54572	107.3138943	105.1390421	103.0193199	100.9529587	98.93826047	96.97359366	95.05739076	93.18814495
200305A00011	3/5/2020	0.95	3/7/2022	3/5/2020	102.06787	101.6159099	101.1679491	100.7239313	100.2838045	99.84751785	99.41502106	98.98626489	98.56120093

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200305A00012	3/5/2020	1.14	3/5/2025	3/5/2020	115.4399	111.5551016	107.8209994	104.2309504	100.7786438	97.45807992	94.26355311	91.18963551	88.23116205
200305A00020	3/5/2020	0.95	3/5/2025	3/5/2020	115.301	111.4041419	107.6588134	104.0583249	100.5963176	97.26674701	94.06386534	90.98220533	88.01656501
200304A00038	3/4/2020	1.01	3/1/2022	3/4/2020	102.01384	101.5795455	101.1489294	100.7219484	100.2985568	99.87870957	99.46236239	99.04947172	98.63999474
200304A00040	3/4/2020	1.12	3/1/2024	3/4/2020	111.31167	108.6454152	106.0564716	103.5421569	101.0998977	98.72722486	96.42176916	94.18125625	92.00350237
200304A00052	3/6/2020	2.11	3/8/2027	3/6/2020	128.30368	121.7099166	115.4951842	109.6357508	104.1094928	98.89577472	93.97534167	89.33022012	84.94362624
200304A00053	3/6/2020	2.33	3/6/2025	3/6/2020	119.84686	115.8796076	112.0655649	108.3979949	104.8704912	101.476963	98.21161795	95.06894547	92.04370178
200304A00054	3/6/2020	2.35	3/8/2027	3/6/2020	129.74453	123.1101173	116.8564222	110.9596313	105.3975406	100.1494387	95.19599926	90.51918129	86.10213733
200305A00002	3/5/2020	1.14	3/5/2025	3/5/2020	115.4399	111.5551016	107.8209994	104.2309504	100.7786438	97.45807992	94.26355311	91.18963551	88.23116205
200304A00007	3/4/2020	1.01	3/15/2022	3/4/2020	102.20201	101.7263124	101.255042	100.7881353	100.325532	99.86717262	99.4129988	98.96295332	98.51697996
200304A00008	3/4/2020	1.03	11/15/2021	3/4/2020	100.60727	100.4785301	100.3501366	100.2220853	100.0943748	99.96700362	99.83997047	99.71327397	99.58691273
200304A00010	3/4/2020	1.2	3/4/2027	3/4/2020	123.80895	117.3203829	111.2071592	105.4457109	100.0140643	94.89172675	90.05957902	85.49977659	81.19565844
200304A00017	3/4/2020	0.83	3/16/2022	3/4/2020	102.17497	101.6958994	101.2213179	100.7511642	100.2853766	99.82389414	99.36665733	98.9136076	98.46468751
200304A00021	3/4/2020	0.94	3/4/2024	3/4/2020	111.26946	108.5863175	105.9814049	103.4519901	100.9954555	98.60929017	96.29108536	94.03852946	91.84940347
200304A00034	3/4/2020	1.12	3/4/2024	3/4/2020	111.34565	108.6697483	106.071692	103.5487727	101.0983903	98.71805108	96.40536196	94.15802638	91.97383949
200303A00004	3/3/2020	1.06	3/3/2022	3/3/2020	102.1028	101.6619583	101.2249097	100.7916094	100.3620093	99.93606222	99.51372162	99.09494187	98.67967808
200303A00007	3/3/2020	1.11	3/4/2024	3/3/2020	111.70774	109.0189433	106.4085001	103.8736793	101.411859	99.02052487	96.69726444	94.43976268	92.2457973
200303A00010	3/3/2020	1.34	3/3/2025	3/3/2020	116.15633	112.2650055	108.5242598	104.9274727	101.4683505	98.14090857	94.93945538	91.85857586	88.89311664
200303A00012	3/3/2020	1.71	3/1/2030	3/3/2020	137.23793	126.5356799	116.7418629	107.7748185	99.56060881	92.03225291	85.12904052	78.79591651	72.98292857
200303A00018	3/3/2020	1.27	3/3/2025	3/3/2020	115.89836	112.01166	108.2754122	104.6829953	101.2281198	97.90480603	94.70736649	91.63039027	88.66872795
200303A00034	3/3/2020	1.21	3/3/2025	3/3/2020	115.67723	111.7945067	108.0621144	104.4734432	101.0222079	97.70243244	94.50843316	91.43480263	88.47639479
200302A00045	3/4/2020	1.31	3/4/2025	3/4/2020	116.05662	112.1639067	108.4219672	104.8241621	101.3641844	98.03603765	94.83401873	91.75270211	88.78692464
200302A00051	3/2/2020	1.22	8/8/2023	3/2/2020	109.06293	107.0514057	105.086902	103.1680407	101.2934908	99.4619688	97.67223678	95.92310013	94.213406
200302A00053	3/2/2020	1.31	3/3/2025	3/2/2020	116.04577	112.1564288	108.4176108	104.8226967	101.3653945	98.03972177	94.83998871	91.76078204	88.79695006
200302A00054	3/2/2020	1.31	3/3/2025	3/2/2020	116.04577	112.1564288	108.4176108	104.8226967	101.3653945	98.03972177	94.83998871	91.76078204	88.79695006
200303A00001	3/3/2020	1.15	3/3/2025	3/3/2020	116.01956	112.1161393	108.3641338	104.7568732	101.2880156	97.95153197	94.74168864	91.65303129	88.68036971
200303A00002	3/3/2020	1.06	3/3/2023	3/3/2020	107.00831	105.4813812	103.9839494	102.5152312	101.0744704	99.66093701	98.27392582	96.91275558	95.57676788
200302A00028	3/2/2020	1.25	2/26/2024	3/2/2020	111.59567	108.9386159	106.3582461	103.8519091	101.4170637	99.05127121	96.7521912	94.5175764	92.3452687
200302A00031	3/2/2020	1.02	11/18/2022	3/2/2020	105.69327	104.4445668	103.2251434	102.0339811	100.8701071	99.73259271	98.62055118	97.53313495	96.46953375
200302A00033	3/2/2020	1.31	3/3/2025	3/2/2020	116.04577	112.1564288	108.4176108	104.8226967	101.3653945	98.03972177	94.83998871	91.76078204	88.79695006
200302A00034	3/2/2020	1.25	3/1/2024	3/2/2020	111.64503	108.9744966	106.3813683	103.8629627	101.4167034	99.04011855	96.73083617	94.48657934	92.30516183
200302A00035	3/2/2020	1.22	7/3/2023	3/2/2020	108.60994	106.7085929	104.8502887	103.0336481	101.2573547	99.52014768	97.82081942	96.15821214	94.53121547
200302A00036	3/2/2020	1.45	3/2/2026	3/2/2020	120.55636	115.398384	110.4889199	105.814731	101.3633544	97.12305168	93.08276217	89.23206084	85.56111832
200228A00065	2/28/2020	1.4	2/28/2025	2/28/2020	116.34408	112.4589196	108.7237103	105.1318775	101.6771684	98.35363716	95.1556278	92.07775858	89.11490716

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200228A00066	2/28/2020	1.35	2/28/2024	2/28/2020	111.8766	109.2094304	106.6193785	104.103778	101.660068	99.28579114	96.97858906	94.73619772	92.55644304
200228A00067	2/28/2020	1.4	2/28/2025	2/28/2020	116.34408	112.4589196	108.7237103	105.1318775	101.6771684	98.35363716	95.1556278	92.07775858	89.11490716
200228A00073	2/28/2020	1.32	2/28/2023	2/28/2020	107.1663	105.6501331	104.1630366	102.704249	101.2730301	99.86866522	98.49046358	97.13775774	95.80990243
200302A00008	3/2/2020	1.2	3/9/2023	3/2/2020	107.10333	105.5609896	104.0487253	102.5657345	101.1112389	99.68448753	98.2847551	96.91134115	95.56356891
200302A00011	3/2/2020	1.31	2/27/2025	3/2/2020	116.00115	112.1256045	108.3995788	104.8165196	101.370196	98.05468269	94.86434286	91.79381294	88.83798764
200228A00059	2/28/2020	1.79	2/28/2030	2/28/2020	137.99391	127.2624088	117.4407497	108.4472057	100.2077765	92.6554205	85.72936874	79.37450926	73.54083507
200228A00060	2/28/2020	1.31	2/28/2022	2/28/2020	102.12743	101.6957623	101.2677268	100.8432777	100.4223702	100.0049601	99.59100404	99.1804595	98.7732845
200228A00061	2/28/2020	1.13	7/20/2022	2/28/2020	104.09287	103.2299101	102.3811903	101.5463627	100.7250884	99.91703937	99.12189815	98.33935734	97.56911925
200228A00062	2/28/2020	1.32	2/28/2023	2/28/2020	107.1663	105.6501331	104.1630366	102.704249	101.2730301	99.86866522	98.49046358	97.13775774	95.80990243
200228A00063	2/28/2020	1.32	2/28/2023	2/28/2020	107.1663	105.6501331	104.1630366	102.704249	101.2730301	99.86866522	98.49046358	97.13775774	95.80990243
200228A00064	2/28/2020	1.35	2/28/2024	2/28/2020	111.8766	109.2094304	106.6193785	104.103778	101.660068	99.28579114	96.97858906	94.73619772	92.55644304
200228A00039	2/28/2020	1.33	4/28/2023	2/28/2020	107.94156	106.2434085	104.5807577	102.952571	101.3578491	99.7956314	98.26499351	96.76504595	95.29493229
200228A00040	2/28/2020	1.14	2/28/2023	2/28/2020	107.08848	105.5698394	104.0803646	102.6192901	101.1858723	99.77939272	98.3991577	97.04449668	95.71476151
200228A00041	2/28/2020	1.14	2/28/2023	2/28/2020	107.08848	105.5698394	104.0803646	102.6192901	101.1858723	99.77939272	98.3991577	97.04449668	95.71476151
200228A00042	2/28/2020	1.17	2/28/2024	2/28/2020	111.80187	109.1275012	106.5306247	104.0085567	101.5587185	99.17863619	96.86593594	94.61833889	92.43365697
200228A00043	2/28/2020	1.21	2/28/2025	2/28/2020	116.2082	112.3109666	108.5645208	104.9622338	101.4978053	98.16524488	94.95885504	91.87321498	88.90316576
200228A00058	2/28/2020	1.31	2/28/2022	2/28/2020	102.12743	101.6957623	101.2677268	100.8432777	100.4223702	100.0049601	99.59100404	99.1804595	98.7732845
200228A00025	2/28/2020	1.57	3/2/2027	2/28/2020	125.00109	118.5205538	112.4129122	106.6548397	101.2245898	96.10187592	91.26776639	86.70458702	82.39583156
200228A00026	2/28/2020	2.14	2/28/2035	2/28/2020	161.44828	142.5890174	126.1334047	111.7613493	99.19689352	88.20193525	78.57086971	70.1260125	62.7136862
200228A00027	2/28/2020	1.31	2/28/2022	2/28/2020	102.12743	101.6957623	101.2677268	100.8432777	100.4223702	100.0049601	99.59100404	99.1804595	98.7732845
200228A00029	2/28/2020	1.31	2/28/2022	2/28/2020	102.12743	101.6957623	101.2677268	100.8432777	100.4223702	100.0049601	99.59100404	99.1804595	98.7732845
200228A00030	2/28/2020	1.32	2/28/2023	2/28/2020	107.1663	105.6501331	104.1630366	102.704249	101.2730301	99.86866522	98.49046358	97.13775774	95.80990243
200228A00031	2/28/2020	1.35	2/28/2024	2/28/2020	111.8766	109.2094304	106.6193785	104.103778	101.660068	99.28579114	96.97858906	94.73619772	92.55644304
200228A00013	3/3/2020	1.33	1/14/2022	3/3/2020	101.49226	101.1919551	100.8934339	100.5966832	100.3016872	100.0084301	99.71689669	99.42707162	99.13893985
200228A00014	2/28/2020	1.4	2/28/2025	2/28/2020	116.34408	112.4589196	108.7237103	105.1318775	101.6771684	98.35363716	95.1556278	92.07775858	89.11490716
200228A00015	3/3/2020	1.34	10/16/2023	3/3/2020	110.16854	107.9358001	105.7599205	103.6390662	101.5714767	99.55546072	97.58939398	95.67171527	93.80092376
200228A00016	2/28/2020	1.35	2/22/2024	2/28/2020	111.79949	109.1528823	106.5823018	104.0851329	101.6588671	99.30109665	97.00951037	94.78188861	92.61609937
200228A00019	2/28/2020	1.21	2/20/2025	2/28/2020	116.10958	112.2421693	108.5234225	104.9468482	101.5062733	98.19582616	95.00992031	91.94323877	88.9907197
200228A00020	2/28/2020	1.32	2/24/2023	2/28/2020	107.1097	105.606969	104.1328414	102.6865688	101.2674283	99.87472152	98.50777346	97.16593161	95.84856498
200227A00027	2/27/2020	1.47	2/27/2025	2/27/2020	116.58883	112.7027706	108.9665286	105.3735432	101.9175726	98.5926814	95.39322305	92.31382471	89.3493722
200227A00030	2/27/2020	1.59	2/27/2026	2/27/2020	121.19762	116.0349928	111.1204489	106.440802	101.9836373	97.73725976	93.69064843	89.83341428	86.1557606
200227A00031	2/27/2020	1.43	2/27/2024	2/27/2020	112.06817	109.4018113	106.812447	104.2974175	101.854169	99.48025059	97.17331026	94.93108984	92.75142074
200227A00052	2/27/2020	1.41	2/27/2023	2/27/2020	107.28456	105.7707141	104.2858454	102.8291899	101.4000115	99.99759871	98.62126452	97.27034469	95.94419709

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200228A00005	2/28/2020	1.35	2/28/2024	2/28/2020	111.8766	109.2094304	106.6193785	104.103778	101.660068	99.28579114	96.97858906	94.73619772	92.55644304
200228A00012	3/3/2020	1.4	3/3/2025	3/3/2020	116.37745	112.4821588	108.7375576	105.1370249	101.6742624	98.34328217	95.13838871	92.0541635	89.08544981
200227A00012	2/27/2020	1.41	2/27/2023	2/27/2020	107.28456	105.7707141	104.2858454	102.8291899	101.4000115	99.99759871	98.62126452	97.27034469	95.94419709
200227A00013	2/27/2020	1.43	2/27/2024	2/27/2020	112.06817	109.4018113	106.812447	104.2974175	101.854169	99.48025059	97.17331026	94.93108984	92.75142074
200227A00016	2/27/2020	1.47	2/27/2025	2/27/2020	116.58883	112.7027706	108.9665286	105.3735432	101.9175726	98.5926814	95.39322305	92.31382471	89.3493722
200227A00022	2/27/2020	1.41	2/27/2023	2/27/2020	107.28456	105.7707141	104.2858454	102.8291899	101.4000115	99.99759871	98.62126452	97.27034469	95.94419709
200227A00023	2/27/2020	1.47	2/27/2025	2/27/2020	116.58883	112.7027706	108.9665286	105.3735432	101.9175726	98.5926814	95.39322305	92.31382471	89.3493722
200227A00026	2/27/2020	1.41	2/27/2023	2/27/2020	107.28456	105.7707141	104.2858454	102.8291899	101.4000115	99.99759871	98.62126452	97.27034469	95.94419709
200226A00025	2/26/2020	1.38	2/26/2025	2/26/2020	116.80906	112.908064	109.1576494	105.5512054	102.0824524	98.74541887	95.53442477	92.4440654	89.46919671
200227A00004	2/27/2020	1.65	2/27/2030	2/27/2020	138.32164	127.5008053	117.600035	108.5365056	100.235239	92.62832134	85.65420472	79.25708184	73.38632451
200227A00005	2/27/2020	1.43	2/27/2024	2/27/2020	112.06817	109.4018113	106.812447	104.2974175	101.854169	99.48025059	97.17331026	94.93108984	92.75142074
200227A00006	2/27/2020	1.47	2/27/2025	2/27/2020	116.58883	112.7027706	108.9665286	105.3735432	101.9175726	98.5926814	95.39322305	92.31382471	89.3493722
200227A00009	2/27/2020	1.47	2/27/2025	2/27/2020	116.58883	112.7027706	108.9665286	105.3735432	101.9175726	98.5926814	95.39322305	92.31382471	89.3493722
200227A00011	2/27/2020	1.42	2/28/2022	2/27/2020	102.174	101.7422174	101.3140644	100.8894985	100.4684749	100.0509494	99.63687868	99.22622015	98.81893184
200226A00013	2/26/2020	1.35	2/26/2024	2/26/2020	112.23652	109.5631319	106.9670088	104.4454737	101.9959617	99.61601191	97.30326245	95.05544596	92.87038512
200226A00014	2/26/2020	1.53	2/27/2023	2/26/2020	107.46108	105.9458645	104.4596491	103.0016711	101.5711933	100.167504	98.78991531	97.43776242	96.11040264
200226A00015	2/26/2020	1.53	2/26/2024	2/26/2020	112.31031	109.644115	107.0548113	104.5397399	102.0963536	99.72220766	97.41495592	95.17234564	92.99221341
200226A00016	2/26/2020	1.57	2/26/2025	2/26/2020	116.94323	113.05432	109.3151564	105.7191828	102.2601666	98.93218082	95.72958675	92.64701864	89.67936889
200226A00017	2/26/2020	1.53	2/27/2023	2/26/2020	107.46108	105.9458645	104.4596491	103.0016711	101.5711933	100.167504	98.78991531	97.43776242	96.11040264
200226A00019	2/26/2020	1.38	2/26/2025	2/26/2020	116.80906	112.908064	109.1576494	105.5512054	102.0824524	98.74541887	95.53442477	92.4440654	89.46919671
200226A00002	2/26/2020	1.53	2/27/2023	2/26/2020	107.46108	105.9458645	104.4596491	103.0016711	101.5711933	100.167504	98.78991531	97.43776242	96.11040264
200226A00005	2/26/2020	1.53	2/27/2023	2/26/2020	107.46108	105.9458645	104.4596491	103.0016711	101.5711933	100.167504	98.78991531	97.43776242	96.11040264
200226A00006	2/26/2020	1.57	2/26/2025	2/26/2020	116.94323	113.05432	109.3151564	105.7191828	102.2601666	98.93218082	95.72958675	92.64701864	89.67936889
200226A00008	2/26/2020	1.38	2/26/2025	2/26/2020	116.80906	112.908064	109.1576494	105.5512054	102.0824524	98.74541887	95.53442477	92.4440654	89.46919671
200226A00009	2/26/2020	1.75	2/26/2030	2/26/2020	139.27326	128.4149895	118.4786499	109.3813287	101.0479574	93.41053511	86.40743088	79.98275797	74.08581245
200226A00012	2/26/2020	1.54	2/28/2022	2/26/2020	102.22481	101.7928957	101.3646145	100.9399212	100.5187709	100.1011195	99.68692374	99.27614086	98.86872895
200225A00018	2/25/2020	1.94	2/25/2030	2/25/2020	139.39373	128.6132407	118.7443641	109.705362	101.4222139	93.82784953	86.86146426	80.46790522	74.59712039
200225A00042	2/25/2020	1.39	2/25/2022	2/25/2020	102.15696	101.7334564	101.3134587	100.896921	100.4838008	100.0740561	99.66764567	99.26452895	98.86466605
200225A00044	2/25/2020	1.57	2/25/2022	2/25/2020	102.19276	101.769629	101.3499891	100.9338005	100.5210207	100.1116079	99.70552132	99.30272043	98.90316553
200225A00045	2/25/2020	1.54	2/24/2023	2/25/2020	107.43139	105.9261763	104.4496069	103.0009361	101.5794398	100.1844182	98.81519528	97.47111743	96.15155259
200225A00046	2/25/2020	1.54	2/23/2024	2/25/2020	112.29556	109.6393624	107.0595154	104.5533871	102.1184561	99.75230257	97.45260346	95.21712817	93.04373413
200225A00050	2/25/2020	1.57	2/25/2025	2/25/2020	116.93032	113.0451408	109.3094406	105.7166826	102.2606504	98.93543163	95.7354014	92.65520692	89.68975267
200225A00005	2/25/2020	1.57	2/25/2025	2/25/2020	116.93032	113.0451408	109.3094406	105.7166826	102.2606504	98.93543163	95.7354014	92.65520692	89.68975267

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200225A00006	2/25/2020	1.57	2/25/2022	2/25/2020	102.19276	101.769629	101.3499891	100.9338005	100.5210207	100.1116079	99.70552132	99.30272043	98.90316553
200225A00012	2/25/2020	1.57	2/25/2025	2/25/2020	116.93032	113.0451408	109.3094406	105.7166826	102.2606504	98.93543163	95.7354014	92.65520692	89.68975267
200225A00014	2/25/2020	1.57	2/25/2022	2/25/2020	102.19276	101.769629	101.3499891	100.9338005	100.5210207	100.1116079	99.70552132	99.30272043	98.90316553
200225A00015	2/25/2020	1.54	2/26/2024	2/25/2020	112.33583	109.6693114	107.0796886	104.5643053	102.1206139	99.74616968	97.43862609	95.19573026	93.01531858
200225A00017	2/25/2020	1.94	2/25/2030	2/25/2020	139.39373	128.6132407	118.7443641	109.705362	101.4222139	93.82784953	86.86146426	80.46790522	74.59712039
200224A00025	2/24/2020	1.59	1/23/2025	2/24/2020	116.58559	112.8185986	109.1929472	105.7025632	102.3416692	99.10476775	95.98662626	92.98226266	90.08693182
200224A00029	2/24/2020	1.56	2/24/2023	2/24/2020	107.46064	105.9551951	104.4784038	103.029515	101.6078044	100.2125724	98.84314272	97.49886159	96.17909692
200224A00035	2/24/2020	1.59	2/24/2025	2/24/2020	116.99069	113.1079286	109.3744205	105.7836434	102.3293951	99.00577683	95.80717633	92.72825254	89.7639209
200224A00046	2/24/2020	1.59	2/24/2025	2/24/2020	116.99069	113.1079286	109.3744205	105.7836434	102.3293951	99.00577683	95.80717633	92.72825254	89.7639209
200225A00003	2/25/2020	1.54	2/27/2023	2/25/2020	107.47579	105.9604603	104.4741328	103.0160445	101.5854585	100.1816628	98.80396954	97.4517139	96.1242531
200225A00004	2/25/2020	1.54	2/26/2024	2/25/2020	112.33583	109.6693114	107.0796886	104.5643053	102.1206139	99.74616968	97.43862609	95.19573026	93.01531858
200224A00017	2/24/2020	1.59	2/24/2025	2/24/2020	116.99069	113.1079286	109.3744205	105.7836434	102.3293951	99.00577683	95.80717633	92.72825254	89.7639209
200224A00018	2/24/2020	1.58	8/19/2024	2/24/2020	114.638	111.3968637	108.2640386	105.235324	102.3067038	99.47433962	96.73456141	94.08385963	91.51887702
200224A00019	2/24/2020	1.59	2/18/2025	2/24/2020	116.91289	113.0525011	109.33978	105.7683093	102.3319814	99.02498554	95.84179194	92.77713661	89.82600713
200224A00020	2/24/2020	1.59	2/24/2025	2/24/2020	116.99069	113.1079286	109.3744205	105.7836434	102.3293951	99.00577683	95.80717633	92.72825254	89.7639209
200224A00021	2/24/2020	1.58	9/24/2024	2/24/2020	115.08994	111.7265555	108.4792785	105.3434502	102.3146256	99.38856327	96.56121533	93.82871681	91.18737657
200224A00024	2/24/2020	1.59	2/24/2025	2/24/2020	116.99069	113.1079286	109.3744205	105.7836434	102.3293951	99.00577683	95.80717633	92.72825254	89.7639209
200221A00031	2/21/2020	1.69	2/21/2025	2/21/2020	117.31724	113.4391523	109.7097145	106.1224452	102.6711831	99.35006729	96.15352094	93.07623586	90.11315814
200224A00001	2/24/2020	1.59	2/24/2025	2/24/2020	116.99069	113.1079286	109.3744205	105.7836434	102.3293951	99.00577683	95.80717633	92.72825254	89.7639209
200224A00002	2/24/2020	1.56	2/24/2023	2/24/2020	107.46064	105.9551951	104.4784038	103.029515	101.6078044	100.2125724	98.84314272	97.49886159	96.17909692
200224A00007	2/24/2020	1.59	2/24/2025	2/24/2020	116.99069	113.1079286	109.3744205	105.7836434	102.3293951	99.00577683	95.80717633	92.72825254	89.7639209
200224A00015	2/24/2020	1.57	1/10/2024	2/24/2020	111.79334	109.2813012	106.8386081	104.4628528	102.1517313	99.90303786	97.71466031	95.58457482	93.51084157
200224A00016	2/24/2020	1.56	2/24/2023	2/24/2020	107.46064	105.9551951	104.4784038	103.029515	101.6078044	100.2125724	98.84314272	97.49886159	96.17909692
200221A00004	2/21/2020	1.69	2/21/2025	2/21/2020	117.31724	113.4391523	109.7097145	106.1224452	102.6711831	99.35006729	96.15352094	93.07623586	90.11315814
200221A00006	2/21/2020	1.5	2/21/2025	2/21/2020	117.18443	113.2943259	109.5536899	105.9559959	102.495036	99.16490539	95.95998636	92.87493229	89.90465327
200221A00009	2/21/2020	1.69	2/22/2022	2/21/2020	102.19678	101.7823362	101.3712534	100.9634871	100.5589973	100.1577446	99.75969026	99.36479612	98.97302465
200221A00013	2/21/2020	1.69	2/21/2025	2/21/2020	117.31724	113.4391523	109.7097145	106.1224452	102.6711831	99.35006729	96.15352094	93.07623586	90.11315814
200221A00014	2/21/2020	1.49	2/21/2023	2/21/2020	107.4994	106.0004087	104.5298335	103.086932	101.6709886	100.2813119	98.91723369	97.57810798	96.26330999
200221A00016	2/21/2020	1.69	2/21/2025	2/21/2020	117.31724	113.4391523	109.7097145	106.1224452	102.6711831	99.35006729	96.15352094	93.07623586	90.11315814
200220A00007	2/20/2020	1.72	2/21/2023	2/20/2020	107.6332	106.1364516	104.6680208	103.2271746	101.8132007	100.4254114	99.06314148	97.72574788	96.41260866
200220A00008	2/20/2020	1.74	2/20/2024	2/20/2020	112.76213	110.1098168	107.5334473	105.0304175	102.5982276	100.2344784	97.93686634	95.703179	93.53129109
200220A00015	2/20/2020	1.57	2/20/2025	2/20/2020	117.42746	113.536539	109.7949546	106.1961892	102.734046	99.40263084	96.1963355	93.10982233	90.13800971
200220A00025	2/20/2020	1.72	2/21/2023	2/20/2020	107.6332	106.1364516	104.6680208	103.2271746	101.8132007	100.4254114	99.06314148	97.72574788	96.41260866

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200220A00029	2/20/2020	1.72	2/21/2023	2/20/2020	107.6332	106.1364516	104.6680208	103.2271746	101.8132007	100.4254114	99.06314148	97.72574788	96.41260866
200221A00003	2/25/2020	1.69	2/25/2025	2/25/2020	117.37034	113.4772992	109.7339612	106.133782	102.6705371	99.33830648	96.13145817	93.04463237	90.07272694
200218A00028	2/18/2020	1.73	2/21/2023	2/18/2020	107.64774	106.1508735	104.682333	103.2413789	101.8272992	100.4394059	99.07703369	97.73953959	96.42630156
200219A00006	2/19/2020	1.76	2/18/2022	2/19/2020	102.16341	101.760659	101.36108	100.9646396	100.5713008	100.1810272	99.79378317	99.40953338	99.02824319
200219A00015	2/19/2020	1.77	2/19/2027	2/19/2020	127.07934	120.5456012	114.3858116	108.5766868	103.0965113	97.92502119	93.04330026	88.43368347	84.07966815
200219A00016	2/19/2020	1.57	10/19/2022	2/19/2020	105.8709	104.7160923	103.5863401	102.4808393	101.3988156	100.3395274	99.30226412	98.28634452	97.29111515
200220A00001	2/20/2020	1.74	2/22/2022	2/20/2020	102.2171	101.8026097	101.3914769	100.9836609	100.5791217	100.1778198	99.7797166	99.38477388	98.99295412
200220A00002	2/20/2020	1.76	2/20/2025	2/20/2020	117.55956	113.6806642	109.9502811	106.3619444	102.9095039	99.58710906	96.38919258	93.31045514	90.34585106
200214A00016	2/14/2020	1.57	2/14/2024	2/14/2020	112.63094	109.9919742	107.4282349	104.9371507	102.516257	100.1631876	97.87567031	95.65152251	93.488647
200214A00017	2/14/2020	1.59	2/14/2025	2/14/2020	117.41964	113.5500146	109.8281659	106.2476816	102.8024584	99.48668963	96.29484859	93.221674	90.26215563
200214A00020	2/18/2020	1.78	1/15/2025	2/18/2020	117.16423	113.4119629	109.7997402	106.3215227	102.9715725	99.74443378	96.63491681	93.63808312	90.74923164
200218A00004	2/18/2020	1.73	2/21/2023	2/18/2020	107.64774	106.1508735	104.682333	103.2413789	101.8272992	100.4394059	99.07703369	97.73953959	96.42630156
200218A00023	2/18/2020	1.55	2/21/2023	2/18/2020	107.58669	106.0870261	104.6157908	103.1722409	101.7556606	100.3653581	99.00066493	97.66093474	96.34554248
200218A00024	2/20/2020	1.73	7/17/2023	2/20/2020	109.74636	107.7931266	105.8845508	104.0192742	102.195991	100.4134462	98.67043328	96.96579165	95.29840454
200214A00002	2/14/2020	1.58	11/15/2024	2/14/2020	116.23891	112.6815346	109.2518058	105.9443751	102.7541528	99.67629451	96.70618834	93.83944157	91.07186883
200214A00005	2/14/2020	1.59	2/14/2025	2/14/2020	117.41964	113.5500146	109.8281659	106.2476816	102.8024584	99.48668963	96.29484859	93.221674	90.26215563
200214A00007	2/14/2020	1.59	2/14/2025	2/14/2020	117.41964	113.5500146	109.8281659	106.2476816	102.8024584	99.48668963	96.29484859	93.221674	90.26215563
200214A00013	2/18/2020	1.78	11/10/2021	2/18/2020	100.62706	100.5123419	100.397895	100.2837212	100.1698195	100.056189	99.94282855	99.82973726	99.71691413
200214A00014	2/18/2020	1.8	2/18/2025	2/18/2020	117.67839	113.804392	110.0784542	106.4941398	103.0453275	99.72619352	96.53119574	93.45505822	90.49275713
200214A00015	2/18/2020	1.76	8/6/2024	2/18/2020	115.02587	111.8193752	108.718776	105.7200069	102.8191855	100.0125988	97.296695	94.66807553	92.12348755
200207A00018	2/7/2020	2.14	2/7/2030	2/7/2020	141.07293	130.2906433	120.4128336	111.3589674	103.0560653	95.43795509	88.44460615	82.02153124	76.1192497
200210A00005	2/10/2020	1.77	2/10/2027	2/10/2020	126.96536	120.4684073	114.3415711	108.561918	103.108047	97.95998096	93.09906499	88.50787245	84.17011811
200210A00009	2/10/2020	1.57	2/10/2025	2/10/2020	117.29304	113.4397541	109.7331522	106.1668902	102.7349287	99.43152089	96.25119608	93.18874544	90.23920778
200210A00021	2/10/2020	1.76	2/10/2025	2/10/2020	117.42469	113.583225	109.8876481	106.3316558	102.9092539	99.61473793	96.442677	93.3878995	90.44547922
200211A00022	2/11/2020	1.73	2/10/2023	2/11/2020	107.47933	106.0195624	104.5868373	103.1804699	101.7997941	100.4441656	99.11296132	97.80557817	96.52143246
200212A00003	2/12/2020	1.63	2/12/2025	2/12/2020	117.53808	113.673398	109.9560442	106.3796302	102.9380816	99.62561852	96.43673944	93.36620651	90.40903135
200205A00013	2/5/2020	1.77	2/6/2023	2/5/2020	107.48942	106.0423504	104.6218841	103.2273514	101.8581021	100.5135072	99.19295775	97.89586464	96.62165731
200207A00004	2/7/2020	1.53	2/7/2023	2/7/2020	107.34518	105.8930499	104.4677187	103.0685028	101.694745	100.3458097	99.02108194	97.71996647	96.44188717
200207A00009	2/7/2020	1.58	2/7/2025	2/7/2020	117.28894	113.4462884	109.7495559	106.1924411	102.7689507	99.47338096	96.30030165	93.2445416	90.30117492
200207A00015	2/7/2020	1.73	2/7/2022	2/7/2020	101.98259	101.6121412	101.2443859	100.8792922	100.516831	100.1569741	99.79969324	99.44496096	99.09274999
200207A00016	2/7/2020	1.74	2/7/2024	2/7/2020	112.57989	109.9724382	107.4385809	104.9758276	102.5817907	100.2541765	97.99078137	95.78948773	93.64825988
200207A00017	2/7/2020	1.96	2/8/2027	2/7/2020	127.05938	120.6016249	114.5102676	108.7626833	103.3377543	98.21576322	93.37829353	88.80813713	84.4892094
200204A00001	2/4/2020	1.79	2/4/2025	2/4/2020	117.45185	113.6309313	109.9543836	106.4160048	103.0098916	99.730424	96.57225055	93.53027372	90.59963666

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200204A00012	2/4/2020	1.98	2/4/2027	2/4/2020	127.12684	120.6820033	114.6020251	108.8644232	103.4482104	98.33378852	93.50284907	88.93828266	84.62409451
200204A00015	2/4/2020	1.72	2/6/2023	2/4/2020	107.41894	105.9723966	104.5524482	103.1584243	101.7896749	100.4455712	99.12550452	97.82888597	96.55514524
200204A00016	2/4/2020	1.72	2/6/2023	2/4/2020	107.41894	105.9723966	104.5524482	103.1584243	101.7896749	100.4455712	99.12550452	97.82888597	96.55514524
200204A00020	2/4/2020	1.6	2/4/2025	2/4/2020	117.32076	113.4881201	109.8006431	106.2520805	102.8364844	99.54819335	96.3818167	93.3322203	90.39451292
200205A00011	2/7/2020	2.31	2/7/2024	2/7/2020	114.00206	111.3768008	108.825525	106.3457375	103.9350384	101.5911229	99.31177644	97.09487082	94.93836028
200203A00009	2/3/2020	1.52	2/3/2023	2/3/2020	107.2705	105.8319801	104.419791	103.0332751	101.6717916	100.3347204	99.02146141	97.73143378	96.464075
200203A00011	2/3/2020	1.7	2/15/2023	2/3/2020	107.52801	106.0513515	104.602322	103.18021	101.7843285	100.4140135	99.06862256	97.74753449	96.45014816
200203A00012	2/3/2020	1.57	2/3/2025	2/3/2020	117.199	113.3720196	109.6898925	106.1463822	102.7355583	99.45177561	96.28965872	93.24408782	90.31018511
200203A00022	2/3/2020	1.75	2/3/2025	2/3/2020	117.29432	113.4796733	109.8090636	106.2763103	102.8755276	99.60111261	96.44772938	93.41029516	90.48396696
200203A00050	2/3/2020	1.54	2/3/2022	2/3/2020	101.88671	101.5276885	101.1711906	100.8171925	100.465668	100.1165911	99.7699364	99.42567875	99.08379333
200203A00051	2/3/2020	1.58	11/3/2021	2/3/2020	100.51072	100.415666	100.320794	100.226106	100.1316014	100.0372796	99.94314022	99.8491826	99.75540624
200131A00047	1/31/2020	1.68	1/31/2023	1/31/2020	107.25675	105.8311547	104.4314595	103.0570166	101.7072007	100.3814066	99.07904834	97.79955849	96.5423874
200131A00048	1/31/2020	1.69	1/31/2024	1/31/2020	112.35811	109.7763251	107.2668451	104.8272457	102.4551992	100.1484689	97.90490495	95.72244063	93.59908857
200203A00001	2/3/2020	1.7	2/3/2023	2/3/2020	107.33021	105.8943211	104.4846736	103.1006088	101.7414892	100.406698	99.09563818	97.80773174	96.54241885
200203A00004	2/3/2020	1.7	2/3/2023	2/3/2020	107.33021	105.8943211	104.4846736	103.1006088	101.7414892	100.406698	99.09563818	97.80773174	96.54241885
200203A00005	2/3/2020	1.7	5/3/2023	2/3/2020	108.62204	106.9032134	105.2205177	103.5728833	101.9592855	100.3787395	98.83029816	97.31305023	95.82611882
200203A00006	2/3/2020	1.76	2/3/2025	2/3/2020	117.33031	113.51503	109.8438063	106.3104559	102.9090929	99.63411338	96.48018107	93.44221262	90.5153645
200131A00014	2/5/2020	1.7	2/22/2022	2/5/2020	102.20084	101.7863909	101.3752981	100.9675219	100.5630222	100.1617597	99.76369553	99.36879167	98.97701054
200131A00015	2/5/2020	1.73	2/5/2025	2/5/2020	117.24912	113.4282639	109.7519316	106.2139088	102.8082806	99.52941624	96.37195426	93.33078783	90.40105144
200131A00016	1/31/2020	1.73	1/31/2025	1/31/2020	117.18219	113.380005	109.7210487	106.1991845	102.8085738	99.54365778	96.39914177	93.36998173	90.45137086
200131A00017	1/31/2020	1.51	1/31/2024	1/31/2020	112.28625	109.6976243	107.1816482	104.7358829	102.3579849	100.0457026	97.79687211	95.60941328	93.48132612
200131A00032	1/31/2020	2.1	1/31/2030	1/31/2020	140.60232	129.8678791	120.032213	111.0154689	102.7452604	95.15593865	88.18793467	81.78716866	75.9045196
200131A00038	1/31/2020	1.73	1/30/2025	1/31/2020	117.16999	113.3711234	109.7152779	106.1963251	102.8084333	99.54605001	96.40388765	93.37690896	90.46031402
200130A00025	1/30/2020	1.54	1/30/2023	1/30/2020	107.24398	105.8164521	104.415254	103.0397066	101.6891583	100.3629795	99.06056105	97.78131383	96.52466789
200130A00028	1/30/2020	1.54	2/7/2023	1/30/2020	107.35931	105.9070821	104.4816465	103.0823282	101.7084699	100.3594357	99.0346108	97.73339982	96.45522663
200130A00048	1/30/2020	1.74	1/31/2022	1/30/2020	101.87857	101.5286285	101.1810772	100.8358942	100.4930555	100.1525374	99.8143165	99.47836965	99.14467408
200131A00006	1/31/2020	1.52	1/31/2022	1/31/2020	101.83453	101.4843097	101.1364932	100.7910514	100.4479603	100.1071959	99.76873471	99.43255346	99.09862925
200131A00007	1/31/2020	1.68	1/31/2023	1/31/2020	107.25675	105.8311547	104.4314595	103.0570166	101.7072007	100.3814066	99.07904834	97.79955849	96.5423874
200131A00010	2/3/2020	1.68	2/3/2023	2/3/2020	107.3022	105.8665145	104.4570717	103.0732079	101.7142859	100.3796888	99.06881977	97.78110087	96.51597239
200130A00006	1/30/2020	1.77	1/30/2025	1/30/2020	117.31345	113.512073	109.8537872	106.3324621	102.9422636	99.67763688	96.5332921	93.50418984	90.58552812
200130A00010	1/30/2020	1.56	1/31/2022	1/30/2020	101.8483	101.4980585	101.1502125	100.8047414	100.461621	100.1208276	99.7823375	99.4461275	99.11217468
200130A00011	1/30/2020	1.54	1/30/2023	1/30/2020	107.24398	105.8164521	104.415254	103.0397066	101.6891583	100.3629795	99.06056105	97.78131383	96.52466789
200130A00012	1/30/2020	1.72	1/30/2023	1/30/2020	107.30328	105.8783687	104.4796863	103.1065644	101.7583551	100.4344318	99.13418844	97.85703891	96.60241591

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200130A00016	1/30/2020	1.58	1/30/2025	1/30/2020	117.18246	113.369463	109.7003362	106.1689074	102.7692984	99.49591344	96.34342405	93.30675469	90.38106943
200130A00021	1/30/2020	1.54	1/30/2023	1/30/2020	107.24398	105.8164521	104.415254	103.0397066	101.6891583	100.3629795	99.06056105	97.78131383	96.5246679
200128A00028	1/28/2020	1.81	1/28/2025	1/28/2020	117.43205	113.6347999	109.9803029	106.462436	103.0753756	99.81357838	96.67176558	93.64490945	90.72821967
200129A00008	1/29/2020	1.76	1/31/2022	1/29/2020	101.88546	101.5355016	101.1879355	100.8427379	100.4998846	100.159352	99.82111665	99.48515544	99.15144558
200129A00010	1/29/2020	1.76	1/31/2022	1/29/2020	101.88546	101.5355016	101.1879355	100.8427379	100.4998846	100.159352	99.82111665	99.48515544	99.15144558
200129A00017	2/3/2020	1.75	8/15/2022	2/3/2020	104.9179	103.9726394	103.0443462	102.1325695	101.2368714	100.3568293	99.4920353	98.64209571	97.8066302
200129A00018	2/3/2020	1.74	12/15/2022	2/3/2020	106.81737	105.4775994	104.1712544	102.8970947	101.6539425	100.4406767	99.25622981	98.09958466	96.96977135
200130A00005	1/30/2020	1.73	1/30/2024	1/30/2020	112.44381	109.8639619	107.3563045	104.9184159	102.5479685	100.2427264	98.00054079	95.81934631	93.69715719
200127A00013	1/27/2020	1.56	1/27/2023	1/27/2020	107.24463	105.8201697	104.4230162	103.0524235	101.7076722	100.3880689	99.09294495	97.82165533	96.57357771
200127A00016	1/27/2020	1.81	1/27/2025	1/27/2020	117.41961	113.6256863	109.9743046	106.4593539	103.0750172	99.81575772	96.67630368	93.6516341	90.73696551
200127A00019	1/27/2020	1.8	1/27/2025	1/27/2020	117.38384	113.5905382	109.9397637	106.4254032	103.0416405	99.78293923	96.64402827	93.61988715	90.70573291
200127A00023	1/27/2020	1.8	1/27/2025	1/27/2020	117.38384	113.5905382	109.9397637	106.4254032	103.0416405	99.78293923	96.64402827	93.61988715	90.70573291
200127A00030	1/27/2020	1.8	1/27/2025	1/27/2020	117.38384	113.5905382	109.9397637	106.4254032	103.0416405	99.78293923	96.64402827	93.61988715	90.70573291
200128A00015	1/28/2020	1.81	1/28/2025	1/28/2020	117.43205	113.6347999	109.9803029	106.462436	103.0753756	99.81357838	96.67176558	93.64490945	90.72821967
200122A00035	1/22/2020	1.94	1/22/2025	1/22/2020	117.82049	114.0351078	110.391472	106.8834914	103.5053738	100.2516081	97.11694921	94.09640324	91.18521414
200123A00005	1/23/2020	1.81	1/24/2022	1/23/2020	101.7935	101.4638547	101.1363476	100.8109578	100.487665	100.1664488	99.84728919	99.53016653	99.21506131
200123A00013	1/27/2020	1.89	1/27/2025	1/27/2020	117.70579	113.9068707	110.2506318	106.7309591	103.3420309	100.0783056	96.93450698	93.90560971	90.98682627
200123A00048	1/23/2020	1.7	1/23/2025	1/23/2020	117.52586	113.7286932	110.0741685	106.5561433	103.1687784	99.90651821	96.76407555	93.73641667	90.81874772
200123A00049	1/23/2020	1.63	1/23/2023	1/23/2020	107.30433	105.8835213	104.4913412	103.1269433	101.7895178	100.4782868	99.19250245	97.93144565	96.69442456
200124A00008	1/24/2020	1.92	1/22/2027	1/24/2020	127.61925	121.1713157	115.0871263	109.3442907	103.9219125	98.80048149	93.96177437	89.38876305	85.0655302
200117A00026	1/17/2020	1.69	1/18/2022	1/17/2020	101.69139	101.3788625	101.0682646	100.7595807	100.4527933	100.1478847	99.84483753	99.54363479	99.24425954
200121A00008	1/24/2020	1.84	1/20/2022	1/24/2020	101.74055	101.4224987	101.1064458	100.7923704	100.4802539	100.1700779	99.86182446	99.55547553	99.25101347
200121A00009	1/24/2020	1.94	1/24/2025	1/24/2020	117.84616	114.0541086	110.4042177	106.8903797	103.5067894	100.2479225	97.10852028	94.08357528	91.16831788
200122A00010	1/22/2020	1.84	1/24/2022	1/22/2020	101.80324	101.4735754	101.1460482	100.8206386	100.4973259	100.1760899	99.85691073	99.53976854	99.22464388
200122A00028	1/22/2020	1.84	1/21/2022	1/22/2020	101.75622	101.435267	101.1163461	100.7994374	100.4845219	100.1715807	99.86059543	99.55154755	99.244419
200122A00034	1/22/2020	1.87	1/22/2024	1/22/2020	112.68046	110.121662	107.6340448	105.2151858	102.8627633	100.5745503	98.34840944	96.18228916	94.07421921
200115A00014	1/17/2020	1.88	9/15/2022	1/17/2020	105.52287	104.4785916	103.454902	102.4511971	101.4668962	100.5014405	99.55429272	98.62493587	97.71287218
200115A00015	1/17/2020	1.88	1/17/2023	1/17/2020	107.40081	105.9884679	104.6066119	103.2542625	101.9304805	100.6343666	99.36505954	98.12173424	96.90359955
200115A00017	1/15/2020	1.88	1/17/2023	1/15/2020	107.40081	105.9884679	104.6066119	103.2542625	101.9304805	100.6343666	99.36505954	98.12173424	96.90359955
200115A00018	1/15/2020	1.9	1/16/2024	1/15/2020	112.67138	110.1306915	107.6603749	105.2580152	102.9212963	100.6479988	98.43599488	96.28324413	94.18778877
200115A00022	1/15/2020	1.88	10/14/2022	1/15/2020	105.99007	104.8524024	103.7390565	102.6492575	101.5822642	100.5373665	99.51388355	98.51116203	97.52857509
200115A00024	1/15/2020	1.88	1/17/2023	1/15/2020	107.40081	105.9884679	104.6066119	103.2542625	101.9304805	100.6343666	99.36505954	98.12173424	96.90359955
200109A00014	1/14/2020	1.93	8/15/2022	1/14/2020	105.08031	104.1342393	103.2051502	102.2925874	101.396113	100.515304	99.64975254	98.79906459	97.96285967

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200110A00013	1/10/2020	1.76	1/10/2024	1/10/2020	112.61619	110.0867054	107.6271336	105.2350434	102.9081083	100.6441016	98.44089075	96.29643304	94.20877052
200110A00014	1/10/2020	1.73	1/10/2023	1/10/2020	107.31724	105.9096683	104.534981	103.1920252	101.8797017	100.5969624	99.34280687	98.11627975	96.91646839
200110A00022	1/13/2020	2	1/6/2025	1/13/2020	117.82598	114.0902573	110.4931235	107.0285838	103.6909442	100.4747946	97.3749923	94.38664707	91.50510647
200113A00003	1/13/2020	1.72	1/13/2022	1/13/2020	101.62269	101.3246611	101.0283913	100.7338656	100.4410686	100.1499848	99.86059928	99.57289701	99.28686324
200114A00006	1/15/2020	1.99	1/15/2025	1/15/2020	117.90769	114.1425622	110.5178383	107.0274651	103.6656924	100.4270524	97.30634411	94.29861806	91.39916283
200106A00015	1/6/2020	1.87	2/15/2024	1/6/2020	113.01951	110.3803229	107.8162627	105.3247682	102.9033804	100.5497382	98.26157438	96.03671063	93.87305405
200106A00019	1/6/2020	1.89	7/16/2024	1/6/2020	115.14424	112.0005116	108.9590494	106.0159004	103.1672951	100.4096338	97.73947825	95.15354284	92.64868685
200108A00017	1/8/2020	2.55	1/8/2035	1/8/2020	170.39149	150.9356107	133.9250614	119.0376591	105.9952657	94.55756223	84.51673364	75.69292404	67.93034751
200108A00018	1/8/2020	1.68	1/18/2022	1/8/2020	101.68831	101.3757899	101.0651981	100.7565204	100.449739	100.1448364	99.84179522	99.54059844	99.24122912
200108A00021	1/13/2020	1.97	1/13/2025	1/13/2020	117.81104	114.0538045	110.4365297	106.9531777	103.5980122	100.3655797	97.2506934	94.24841821	91.35405703
200109A00012	1/14/2020	1.94	12/15/2022	1/14/2020	107.0684	105.7269334	104.4189235	103.1431274	101.8983663	100.6835185	99.49751582	98.33934019	97.2080211
191226A00020	12/26/2019	2.44	12/21/2029	12/26/2019	143.30721	132.6020499	122.780109	113.763716	105.4824275	97.87231711	90.87533955	84.43876019	78.51464285
191230A00012	12/30/2019	1.77	12/1/2023	12/30/2019	112.08156	109.6799216	107.3422349	105.0663171	102.8500778	100.6915153	98.58871279	96.53983319	94.54311548
191230A00013	12/30/2019	1.84	12/2/2024	12/30/2019	117.34399	113.713444	110.2146407	106.841983	103.5901532	100.4540946	97.42899651	94.51028049	91.69358747
191230A00031	12/30/2019	1.85	12/30/2024	12/30/2019	117.74877	114.0227943	110.4347895	106.9787586	103.6490137	100.4401541	97.34704861	94.3648204	91.4888321
191231A00006	12/31/2019	1.88	12/31/2021	12/31/2019	101.435	101.1749242	100.9161738	100.6587394	100.4026111	100.1477791	99.89423347	99.64196471	99.39096319
200103A00009	1/3/2020	1.9	1/3/2024	1/3/2020	112.49275	109.9931948	107.5622512	105.1975069	102.8966574	100.6574999	98.47792687	96.35592166	94.28955323
191223A00008	12/23/2019	1.93	12/23/2021	12/23/2019	101.32147	101.0843278	100.8483054	100.613393	100.3795826	100.1468665	99.91523703	99.68468653	99.45520746
191223A00009	12/23/2019	1.95	12/23/2022	12/23/2019	107.21177	105.8436428	104.5102604	103.21031	101.9425469	100.7057871	99.4989043	98.32082616	97.170531
191223A00022	12/23/2019	1.93	12/30/2021	12/23/2019	101.43204	101.1748188	100.9188955	100.664262	100.4109086	100.1588256	99.90800372	99.65843344	99.41010548
191223A00055	12/23/2019	2.46	12/7/2029	12/23/2019	143.31461	132.6593286	122.8793847	113.8981271	105.6460044	98.059872	91.0823697	84.66136317	78.74944228
191223A00056	12/23/2019	2.46	12/14/2029	12/23/2019	143.40438	132.7201993	122.9155281	113.9131893	105.6431715	98.04192574	91.05173705	84.62015948	78.69950922
191226A00019	12/26/2019	2.4	12/22/2028	12/26/2019	138.26936	129.0766524	120.5610123	112.6689204	105.3513686	98.56345445	92.26401567	86.41529909	80.98266076
191218A00013	12/18/2019	1.94	12/19/2022	12/18/2019	107.13368	105.7789355	104.4582853	103.1704557	101.9142353	100.6884712	99.49206641	98.32397582	97.1832035
191218A00014	12/18/2019	2.04	12/18/2024	12/18/2019	117.7143	114.0400669	110.5003937	107.0895035	103.8019092	100.6323967	97.57600889	94.62803111	91.78397742
191219A00036	12/20/2019	2.1	12/20/2024	12/20/2019	117.94858	114.2640851	110.7146868	107.2945781	103.9982424	100.8204377	97.75618142	94.80073466	91.94958897
191219A00047	12/19/2019	1.76	12/17/2021	12/19/2019	101.21202	100.9918529	100.7726602	100.5544333	100.3371657	100.120851	99.90548274	99.69105477	99.47756085
191220A00001	12/20/2019	2.62	12/19/2031	12/20/2019	154.81094	140.836609	128.2552678	116.9201196	106.7005747	97.48038017	89.15597775	81.63505655	74.8352783
191220A00002	12/20/2019	3.02	12/20/2038	12/20/2019	192.32109	165.4453379	142.7623714	123.587399	107.3511139	93.57968453	81.87829945	71.91761982	63.42261257
191212A00026	12/13/2019	1.92	6/16/2022	12/13/2019	104.11183	103.353207	102.6056148	101.8688123	101.1425671	100.4266534	99.72085169	99.02494886	98.33873758
191212A00027	12/13/2019	1.93	10/17/2022	12/13/2019	106.09279	104.9450774	103.8220988	102.7230577	101.6471949	100.5937831	99.56212498	98.55155205	97.56142283
191212A00028	12/13/2019	1.93	1/17/2023	12/13/2019	107.46837	106.0555393	104.6732047	103.3203852	101.9961413	100.6995734	99.4298202	98.18605624	96.96749023
191212A00029	12/13/2019	1.94	5/16/2023	12/13/2019	109.21339	107.4511867	105.7265757	104.0384271	102.3856535	100.7672107	99.18209556	97.62934408	96.10802925

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191216A00042	12/16/2019	1.95	12/16/2022	12/16/2019	107.0973	105.7524285	104.4411755	103.162289	101.9145823	100.6969258	99.50824404	98.34751221	97.21375342
191217A00012	12/20/2019	2.03	12/20/2024	12/20/2019	117.70637	114.0259731	110.4805642	107.0643363	103.7717767	100.5976473	97.53696866	94.58500553	91.73725262
191206A00020	12/9/2019	1.91	12/15/2021	12/9/2019	101.18874	100.974555	100.7612887	100.548936	100.3374908	100.1269474	99.91729993	99.70854261	99.50066973
191206A00021	12/6/2019	2.02	12/6/2024	12/6/2019	117.48598	113.8533491	110.3526099	106.9781565	103.7246592	100.58705	97.56050826	94.64044634	91.82249677
191206A00044	12/10/2019	2.01	10/31/2024	12/10/2019	116.9621	113.4536141	110.0692587	106.8039051	103.6526717	100.6109087	97.67418512	94.83827761	92.09915875
191209A00009	12/9/2019	1.91	12/9/2021	12/9/2019	101.09456	100.8975447	100.7013032	100.5058349	100.3111353	100.1171998	99.92402393	99.73160311	99.5399329
191210A00011	12/10/2019	1.92	12/12/2022	12/10/2019	106.99452	105.6631765	104.3648074	103.098196	101.8621882	100.6556854	99.47764085	98.32705679	97.20298171
191212A00019	12/13/2019	1.93	12/19/2022	12/13/2019	107.12101	105.7663538	104.4457884	103.1580421	101.9019035	100.6762199	99.47989426	98.31188152	97.17118576
191203A00004	12/4/2019	1.87	12/4/2024	12/4/2019	116.9478	113.3304546	109.844331	106.4838604	103.2437468	100.1189537	97.10469019	94.19639629	91.38973061
191204A00013	12/4/2019	1.72	12/4/2024	12/4/2019	116.96008	113.3296468	109.8312023	106.4591338	103.208104	100.073038	97.04910862	94.13172208	91.3165051
191206A00008	12/6/2019	2.44	12/6/2030	12/6/2019	147.94674	135.7383997	124.6401972	114.5450983	105.3569187	96.98917404	89.36405502	82.41151527	76.06845984
191206A00009	12/6/2019	2.87	12/4/2037	12/6/2019	185.18031	160.492051	139.4627416	121.5247463	106.2014301	93.09215283	81.85980362	72.22043432	63.93462872
191206A00013	12/6/2019	3.05	12/6/2044	12/6/2019	220.94426	181.8189916	150.5099621	125.3841534	105.1593581	88.82716329	75.59316497	64.8304896	56.04360916
191206A00019	12/6/2019	1.96	11/15/2023	12/6/2019	111.93756	109.5940972	107.3119385	105.0890335	102.9234178	100.8132087	98.75660064	96.75186182	94.79733025
191126A00015	11/27/2019	1.88	10/14/2022	11/27/2019	105.99007	104.8524024	103.7390565	102.6492575	101.5822642	100.5373665	99.51388355	98.51116203	97.52857509
191126A00022	11/26/2019	1.72	5/26/2023	11/26/2019	109.22138	107.4254537	105.6683605	103.9489085	102.2659567	100.6184101	99.00521776	97.42537033	95.87789819
191126A00023	11/26/2019	1.81	5/27/2025	11/26/2019	119.55013	115.3081626	111.239754	107.3367956	103.5916075	99.99691473	96.5458233	93.23179757	90.04863918
191126A00026	11/26/2019	1.91	11/25/2026	11/26/2019	126.86696	120.6337775	114.7434569	109.1752983	103.9099658	98.92939043	94.21667959	89.75603394	85.53267037
191129A00012	11/29/2019	1.99	11/29/2024	11/29/2019	117.29081	113.6835214	110.206555	106.8544023	103.6218245	100.5038389	97.49570395	94.59290604	91.79114664
191202A00005	12/2/2019	2.03	12/2/2024	12/2/2019	117.46697	113.847233	110.3585357	106.9953224	103.7523143	100.6244909	97.60707565	94.69552211	91.88550115
191122A00005	11/22/2019	2.03	11/22/2027	11/22/2019	131.9597	124.327131	117.1841909	110.4968894	104.2337749	98.36573073	92.86578964	87.70896352	82.87208784
191122A00007	11/22/2019	1.87	11/21/2025	11/22/2019	122.05683	117.1806751	112.5264777	108.08289	103.8392163	99.78536736	95.91182223	92.2095927	88.67019013
191122A00018	11/26/2019	3.11	11/22/2039	11/26/2019	197.99702	169.1957452	145.0856435	124.866795	107.8800041	93.58139231	81.52168785	71.3293241	62.69662928
191122A00020	11/26/2019	3.2	11/23/2037	11/26/2019	191.48335	166.3224161	144.8640687	126.536597	110.8596147	97.42904651	85.90464865	75.99962563	67.47198045
191122A00021	11/26/2019	3.4	11/22/2038	11/26/2019	199.91098	172.4902755	149.3035808	129.6645306	113.0017953	98.83925846	86.7796983	76.49133705	67.69674212
191125A00036	11/25/2019	2.29	11/23/2029	11/25/2019	141.5595	131.0287985	121.3611495	112.4812191	104.3206253	96.81726223	89.91469271	83.56160365	77.71131576
191120A00024	11/20/2019	2.23	11/16/2029	11/20/2019	140.91742	130.4392028	120.8184863	111.9805513	103.8575601	96.38788897	89.51552892	83.1895466	77.36360001
191120A00031	11/20/2019	1.69	11/21/2022	11/20/2019	106.53033	105.266743	104.0329615	102.8279443	101.650695	100.5002626	99.37573933	98.27625775	97.20098885
191121A00004	11/21/2019	1.77	11/21/2024	11/21/2019	116.95808	113.3694305	109.9100096	106.5743794	103.3573652	100.2540439	97.25972935	94.36995955	91.58048418
191121A00009	11/21/2019	2.55	11/21/2036	11/21/2019	178.66245	155.7922372	136.1463805	119.2497211	104.6994891	92.15394676	81.32286566	71.95953009	63.85401618
191121A00010	11/21/2019	2.59	11/20/2037	11/21/2019	183.46259	158.6876075	137.6021682	119.6325021	104.2969483	91.19075503	79.97345386	70.35835964	62.10383032
191121A00034	11/21/2019	2.28	11/2/2029	11/21/2019	141.20296	130.7638337	121.175025	112.3627639	104.2600464	96.80597953	89.94519427	83.62731777	77.80649869
191115A00030	11/15/2019	2.35	11/9/2029	11/15/2019	141.93544	131.440136	121.8008916	112.9433148	104.7998482	97.30910692	90.41528511	84.06762158	78.21991962

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191119A00027	11/19/2019	1.8	11/19/2024	11/19/2019	117.03238	113.4489717	109.9944065	106.6632685	103.4504064	100.3509191	97.36014082	94.47362863	91.68714991
191120A00005	11/20/2019	2.63	11/20/2034	11/20/2019	168.03103	149.1215428	132.560794	118.0426762	105.3024921	94.11116611	84.27028756	75.60786583	67.97469149
191120A00006	11/20/2019	2.67	11/20/2035	11/20/2019	173.00574	152.291656	134.3184831	118.7061844	105.1293198	93.30895091	83.00578513	74.01436009	66.15810622
191120A00010	11/20/2019	1.88	1/20/2022	11/20/2019	101.75309	101.4350111	101.118933	100.8048325	100.4926911	100.1824903	99.87421217	99.56783866	99.26335214
191120A00011	11/20/2019	1.88	1/20/2023	11/20/2019	107.42959	106.0139686	104.6278588	103.270351	101.9405725	100.6376863	99.36088937	98.10941098	96.88251091
191114A00020	11/18/2019	1.91	2/15/2022	11/18/2019	102.17507	101.7809902	101.3899504	101.0019179	100.616858	100.2347366	99.85552008	99.47917533	99.10566976
191114A00021	11/18/2019	1.91	6/15/2022	11/18/2019	104.08847	103.3329676	102.5884044	101.8545459	101.1311623	100.4180303	99.71493319	99.02166003	98.33800591
191115A00014	11/18/2019	2.45	11/18/2024	11/18/2019	118.68743	115.0925585	111.6263181	108.2833206	105.0584418	101.9468048	98.94376651	96.04490455	93.24600528
191115A00015	11/18/2019	2.61	11/18/2024	11/18/2019	119.22532	115.6215803	112.1467086	108.79531	105.5622522	102.4426506	99.43185487	96.52543544	93.71917189
191115A00016	11/18/2019	2.48	11/18/2024	11/18/2019	118.78828	115.1917501	111.7238913	108.3793186	105.1529063	102.0397759	99.03528308	96.13500409	93.33472402
191115A00028	11/15/2019	2.34	9/28/2029	11/15/2019	141.3193	130.9992078	121.5108367	112.7827632	104.750045	97.35360251	90.53966165	84.25925255	78.46775775
191108A00013	11/8/2019	2.25	11/8/2029	11/8/2019	142.64621	132.0504423	122.3210303	113.3825414	105.1664855	97.61064136	90.65845259	84.2584844	78.36393509
191108A00014	11/8/2019	2.25	11/8/2029	11/8/2019	142.64621	132.0504423	122.3210303	113.3825414	105.1664855	97.61064136	90.65845259	84.2584844	78.36393509
191113A00016	11/15/2019	2.02	8/15/2024	11/15/2019	115.94	112.6915734	109.5511618	106.5145956	103.5778854	100.7372173	97.98894469	95.32957925	92.75578365
191113A00017	11/15/2019	1.93	12/6/2021	11/15/2019	101.05123	100.8627833	100.6750443	100.4880106	100.3016783	100.1160434	99.93110192	99.74685001	99.56328378
191114A00008	11/18/2019	1.93	4/17/2023	11/18/2019	108.76382	107.0917341	105.4541737	103.850147	102.2786996	100.7389125	99.2299014	97.75081418	96.30082993
191114A00009	11/18/2019	1.94	8/16/2023	11/18/2019	110.56239	108.5121574	106.5102908	104.5553593	102.6459799	100.7808193	98.95859188	97.1780579	95.43802134
191105A00018	11/5/2019	1.78	11/6/2023	11/5/2019	111.74184	109.4219559	107.1623471	104.9610172	102.8160513	100.7256132	98.68794141	96.70134529	94.76420176
191106A00004	11/6/2019	2.01	11/6/2024	11/6/2019	117.04412	113.5149853	110.1112532	106.8277191	103.6594286	100.6016638	97.64993036	94.79994552	92.04762639
191106A00012	11/6/2019	2.02	10/11/2024	11/6/2019	116.72669	113.2839127	109.9613234	106.7540329	103.6573813	100.6669259	97.7784296	94.98784993	92.291329
191106A00022	11/6/2019	2.34	1/2/2030	11/6/2019	142.5213	131.8067088	121.980077	112.9630223	104.6844766	97.07996907	90.09098116	83.66436687	77.75183307
191107A00011	11/8/2019	2.02	2/24/2023	11/8/2019	108.13327	106.6226285	105.1407317	103.6868285	102.260192	100.86012	99.48593379	98.1369774	96.81261647
191108A00011	11/8/2019	2.08	10/18/2024	11/8/2019	117.01663	113.5475395	110.2000925	106.9693178	103.8504757	100.8390486	97.93072972	95.12141102	92.40717333
191104A00023	11/4/2019	2.24	8/4/2028	11/4/2019	135.27053	126.6811187	118.6951878	111.2672678	104.3555366	97.92150593	91.92974024	86.34760022	81.14500924
191104A00024	11/4/2019	2.26	8/3/2029	11/4/2019	139.89835	129.8398255	120.5780762	112.0458888	104.1820347	96.93071378	90.24104772	84.06662373	78.36508206
191104A00025	11/4/2019	2.33	8/2/2030	11/4/2019	145.09684	133.4922618	122.9086762	113.2508794	104.4329947	96.37751669	89.01445787	82.28058511	76.11873747
191105A00007	11/5/2019	1.98	11/5/2026	11/5/2019	127.01214	120.8438952	115.0116572	109.4953319	104.2761393	99.33651701	94.6600344	90.23131352	86.0359558
191105A00008	11/5/2019	1.83	11/5/2024	11/5/2019	116.94281	113.4061958	109.9954486	106.7053394	103.5308893	100.4673576	97.51022827	94.65519826	91.89816558
191105A00014	11/5/2019	1.96	11/6/2023	11/5/2019	111.80632	109.4922724	107.2382259	105.0421947	102.9022761	100.8166458	98.78355299	96.80131762	94.86832639
191031A00041	10/31/2019	1.72	10/31/2023	10/31/2019	111.52266	109.2239119	106.9845456	104.802606	102.6762202	100.6035913	98.58299506	96.61277587	94.6913437
191101A00002	11/1/2019	1.85	11/1/2022	11/1/2019	106.24754	105.0516331	103.882508	102.7392734	101.6210774	100.5271046	99.45657518	98.40874208	97.38288982
191104A00009	11/4/2019	1.91	11/6/2023	11/4/2019	111.69551	109.3827132	107.129886	104.9350489	102.7963	100.7118155	98.67984552	96.69871059	94.76679805
191104A00018	11/5/2019	1.96	11/5/2024	11/5/2019	116.86435	113.3413697	109.9435039	106.6655665	103.5026178	100.4499535	97.50309224	94.65776314	91.90989471

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191104A00019	11/5/2019	1.9	2/1/2022	11/5/2019	101.9495	101.5965103	101.2459527	100.8978056	100.5520441	100.2086439	99.86758079	99.52883118	99.1923716
191104A00022	11/4/2019	2.17	8/4/2027	11/4/2019	130.4418	123.2798481	116.555848	110.2408123	104.3078129	98.73182502	93.48958346	88.55945051	83.92129437
191025A00005	10/28/2019	1.98	10/28/2024	10/28/2019	116.82298	113.3260437	109.9525939	106.6975431	103.556045	100.5234826	97.59545561	94.76776944	92.03642361
191025A00009	10/25/2019	2.26	5/25/2029	10/25/2019	139.03915	129.2637107	120.2463967	111.9243929	104.2404053	97.14214811	90.58188064	84.51598992	78.90461334
191025A00010	10/25/2019	2.24	7/25/2028	10/25/2019	135.15231	126.6014789	118.6493947	111.2510568	104.3650695	97.95333288	91.98076451	86.41504597	81.22639199
191025A00013	10/25/2019	1.98	10/25/2024	10/25/2019	116.78307	113.2960629	109.9319479	106.6856721	103.5524226	100.5276138	97.6068749	94.78603854	92.06112992
191031A00019	10/31/2019	1.88	10/31/2022	10/31/2019	106.26518	105.0723397	103.9061396	102.7656958	101.650163	100.5587325	99.49063007	98.44511449	97.42147556
191031A00033	10/31/2019	2.2	5/31/2028	10/31/2019	134.19488	125.8692643	118.1157824	110.8920907	104.1591993	97.88118851	92.02495115	86.55995782	81.45804284
191018A00007	10/18/2019	1.89	7/1/2022	10/18/2019	104.33003	103.5251162	102.7325688	101.9521085	101.1834604	100.4263582	99.68054346	98.94576526	98.22178021
191018A00015	10/18/2019	1.89	10/18/2021	10/18/2019	100.28076	100.2305851	100.1804777	100.1304371	100.0804632	100.0305559	99.98071498	99.9309404	99.88123199
191021A00021	10/21/2019	2.22	12/21/2027	10/21/2019	132.41935	124.7167683	117.512314	110.7710916	104.4608422	98.55172595	93.01612716	87.8284764	82.96508776
191021A00033	10/22/2019	1.9	7/18/2022	10/22/2019	104.6027	103.744833	102.9009998	102.0708545	101.2540659	100.4503135	99.65928692	98.88068565	98.11421853
191021A00034	10/22/2019	1.9	10/17/2022	10/22/2019	106.06027	104.9127514	103.7899612	102.6911056	101.6154257	100.562194	99.53071354	98.52031567	97.53035903
191023A00006	10/23/2019	1.95	10/23/2024	10/23/2019	116.658	113.1792035	109.8228568	106.5839363	103.4576529	100.4394431	97.52495677	94.71004615	91.9907546
191015A00029	10/15/2019	1.91	10/15/2024	10/15/2019	116.42204	112.9717646	109.6423112	106.4287487	103.3263785	100.3307214	97.43750656	94.64265998	91.94229438
191017A00003	10/17/2019	1.9	12/10/2021	10/17/2019	101.10827	100.9083984	100.7093231	100.5110441	100.3135565	100.1168556	99.92093655	99.72579474	99.53142548
191017A00022	10/17/2019	2.25	7/17/2028	10/17/2019	135.13448	126.6115669	118.6838685	111.3067121	104.4390055	98.04292871	92.083657	86.52910896	81.34971675
191017A00026	10/17/2019	2.3	7/17/2029	10/17/2019	140.04564	130.0407041	120.8241155	112.3296141	104.4968317	97.27074311	90.60116756	84.44231876	78.75239904
191018A00005	10/18/2019	1.89	5/2/2022	10/18/2019	103.37107	102.7502751	102.1369142	101.5308518	100.9319583	100.3401072	99.75517493	99.17704075	98.60558675
191018A00006	10/18/2019	1.89	6/1/2022	10/18/2019	103.85009	103.1378047	102.4352491	101.7422287	101.0585506	100.384027	99.71847508	99.06171688	98.41357915
191009A00027	10/9/2019	1.74	10/6/2023	10/9/2019	110.89307	108.6821108	106.5269079	104.4256891	102.3767482	100.3784455	98.42920484	96.52751064	94.67190494
191009A00028	10/9/2019	1.76	10/9/2024	10/9/2019	115.85768	112.4349372	109.1316394	105.9429327	102.8641907	99.89100224	97.01916009	94.24464999	91.56364066
191011A00013	10/11/2019	1.88	10/11/2022	10/11/2019	105.94156	104.8136092	103.7095788	102.6287109	101.5702823	100.5335998	99.51799845	98.52284024	97.54751262
191015A00001	10/15/2019	1.87	10/15/2021	10/15/2019	100.23311	100.1913062	100.1495584	100.1078629	100.0662194	100.024628	99.98308842	99.94160071	99.90016472
191015A00013	10/15/2019	1.72	10/15/2024	10/15/2019	116.30232	112.8419936	109.5031268	106.2807505	103.1701317	100.1667593	97.26633227	94.46474848	91.75809403
191015A00026	10/15/2019	1.69	10/15/2021	10/15/2019	100.22979	100.1879534	100.1461673	100.104434	100.0627533	100.021125	99.97954921	99.9380257	99.89655437
191008A00031	10/8/2019	1.52	10/8/2024	10/8/2019	115.56274	112.1359556	108.8289748	105.6369266	102.5551643	99.57925769	96.70498158	93.92830488	91.24538046
191008A00033	10/8/2019	1.71	10/8/2024	10/8/2019	115.68326	112.2663724	108.9686716	105.7853136	102.7116854	99.74338805	96.87622593	94.10619563	91.4294761
191009A00017	10/9/2019	1.76	10/4/2024	10/9/2019	115.79458	112.3882541	109.1003981	105.9262202	102.8611482	99.90082178	97.04108118	94.27795654	91.60765814
191009A00018	10/9/2019	1.74	10/12/2021	10/9/2019	100.18212	100.1486916	100.1153031	100.0819537	100.0486431	100.0153714	99.98213842	99.94894418	99.91578857
191009A00021	10/9/2019	1.71	10/7/2022	10/9/2019	105.69754	104.5835743	103.4929727	102.4250089	101.3789838	100.354227	99.35009504	98.36597018	97.40125918
191009A00026	10/9/2019	1.74	10/7/2022	10/9/2019	105.72919	104.6150423	103.5242619	102.4561219	101.4099231	100.3849951	99.38069434	98.39640303	97.43152787
191004A00032	10/4/2019	2.01	1/3/2028	10/4/2019	131.1056	123.4014101	116.1987461	109.4622929	103.1594111	97.25991985	91.7358978	86.56150201	81.71280183

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191007A00020	10/7/2019	1.69	10/7/2022	10/7/2019	105.67644	104.5625957	103.4721133	102.4042669	101.3583576	100.3337149	99.3296955	98.34568162	97.38108006
191007A00024	10/7/2019	1.7	7/14/2022	10/7/2019	104.38484	103.5400468	102.7088849	101.8910247	101.0861487	100.2939494	99.514129	98.74639895	97.99047962
191007A00027	10/7/2019	1.69	10/7/2022	10/7/2019	105.67644	104.5625957	103.4721133	102.4042669	101.3583576	100.3337149	99.3296955	98.34568162	97.38108006
191007A00029	10/7/2019	1.88	10/9/2029	10/7/2019	138.8712	128.5408416	119.0510785	110.3291972	102.3091221	94.93078158	88.13953404	81.88565121	76.12385343
191008A00018	10/8/2019	1.74	10/11/2022	10/8/2019	105.79224	104.6651571	103.5619789	102.4819507	101.4243497	100.3884829	99.37368572	98.37932036	97.40477455
191004A00003	10/4/2019	1.89	10/5/2026	10/4/2019	125.19448	119.2076922	113.5422362	108.1791911	103.1008502	98.29063545	93.73301961	89.41345419	85.31830254
191004A00004	10/4/2019	1.54	10/4/2024	10/4/2019	115.57791	112.1632644	108.8676685	105.6862971	102.6145463	99.648026	96.78254834	94.01411723	91.33891828
191004A00005	10/4/2019	1.54	10/4/2024	10/4/2019	115.57791	112.1632644	108.8676685	105.6862971	102.6145463	99.648026	96.78254834	94.01411723	91.33891828
191004A00009	10/4/2019	1.71	10/4/2021	10/4/2019	100.06035	100.0492207	100.0380969	100.0269837	100.015881	100.0047888	99.99370705	99.98263576	99.97157492
191004A00012	10/4/2019	1.78	10/4/2024	10/4/2019	115.85906	112.4517076	109.1628556	105.9877075	102.9216903	99.96044269	97.0998042	94.33580415	91.6646521
191004A00013	10/4/2019	1.53	10/22/2021	10/4/2019	100.32731	100.2659114	100.2046058	100.1433894	100.082262	100.0212235	99.9602737	99.89941233	99.83863924
191003A00019	10/3/2019	1.71	9/27/2024	10/3/2019	115.5443	112.1640093	108.9006746	105.7495887	102.706263	99.76641538	96.92595921	94.18099338	91.52779262
191003A00020	10/3/2019	1.72	10/3/2022	10/3/2019	105.6453	104.5441868	103.4659149	102.4097752	101.3750919	100.3612167	99.36752697	98.39342487	97.43833587
191003A00022	10/3/2019	1.72	2/3/2023	10/3/2019	107.35823	105.9221277	104.5122755	103.1280096	101.7686925	100.4337072	99.1224566	97.8343626	96.56886532
191003A00033	10/3/2019	1.54	10/3/2022	10/3/2019	105.58931	104.4865288	103.4066492	102.348968	101.3128066	100.2975139	99.30246471	98.32705863	97.37071879
191004A00001	10/4/2019	2.47	10/4/2034	10/4/2019	165.01311	146.4892205	130.2524301	116.0067153	103.4958098	92.49768486	82.81982088	74.29515349	66.77859326
191004A00002	10/4/2019	2.08	10/4/2029	10/4/2019	139.03192	128.7848809	119.3673615	110.7078963	102.7415268	95.40917444	88.65708051	82.43630207	76.70225799
191002A00013	10/2/2019	1.78	10/3/2022	10/2/2019	105.7079	104.6064363	103.5278146	102.4713299	101.4363066	100.4220962	99.42807587	98.45364775	97.49823718
191002A00016	10/2/2019	1.79	10/2/2023	10/2/2019	110.94395	108.7443199	106.599964	104.5091274	102.4701268	100.4813445	98.5412247	96.64827128	94.80104456
191002A00017	10/2/2019	1.84	10/2/2024	10/2/2019	116.02676	112.6229211	109.3372713	106.1650381	103.1016678	100.1428167	97.28434066	94.52228451	91.85287211
191003A00002	10/3/2019	1.58	10/4/2021	10/3/2019	100.06003	100.0488823	100.0377483	100.0266249	100.0155121	100.00441	99.99331839	99.9822374	99.97116698
191003A00013	10/3/2019	1.66	10/3/2022	10/3/2019	105.58269	104.4819372	103.4040153	102.3482205	101.3138772	100.3003372	99.30697806	98.33320199	97.37843457
191003A00014	10/3/2019	1.71	9/20/2024	10/3/2019	115.45275	112.0966639	108.8559598	105.7260221	102.7024506	99.78104577	96.95779877	94.22888132	91.59063659
190930A00075	9/30/2019	2.19	9/29/2027	9/30/2019	131.24005	123.8589782	116.9403741	110.4528653	104.3673631	98.6568872	93.29640271	88.26266984	83.53410645
190930A00077	9/30/2019	2.23	9/28/2029	9/30/2019	140.32196	130.0430045	120.5933847	111.9018356	103.903566	96.53963564	89.75639966	83.50500755	77.74095238
191001A00005	10/1/2019	1.8	4/18/2023	10/1/2019	108.56862	106.8951708	105.2563189	103.6510665	102.0784555	100.537564	99.02750423	97.54742135	96.09649163
191001A00006	10/1/2019	1.83	6/18/2024	10/1/2019	114.59544	111.5468109	108.5953624	105.7373331	102.9691353	100.2873477	97.68870628	95.17009517	92.7285391
191001A00023	10/1/2019	1.85	9/27/2024	10/1/2019	115.99263	112.6052754	109.3350567	106.1772643	103.1274038	100.1811871	97.334522	94.58350213	91.92439707
191002A00006	10/2/2019	1.84	10/2/2024	10/2/2019	116.02676	112.6229211	109.3372713	106.1650381	103.1016678	100.1428167	97.28434066	94.52228451	91.85287211
190930A00035	9/30/2019	1.93	9/30/2024	9/30/2019	116.29008	112.8882466	109.6043369	106.4335952	103.3714849	100.4136792	97.55604892	94.79465317	92.12572904
190930A00040	9/30/2019	1.92	2/25/2022	9/30/2019	102.33799	101.9144944	101.4944916	101.0779423	100.664804	100.2550349	99.84859414	99.44544116	99.04553629
190930A00041	9/30/2019	1.94	10/25/2021	9/30/2019	100.39352	100.3237872	100.2541606	100.1846404	100.1152264	100.0459183	99.97671582	99.90761882	99.83862703
190930A00069	9/30/2019	1.9	9/29/2023	9/30/2019	111.13306	108.9404918	106.8028351	104.7183539	102.6853826	100.7023196	98.76762469	96.87981633	95.03746863

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190930A00070	9/30/2019	1.93	9/27/2024	9/30/2019	116.24882	112.8574275	109.583275	106.4216504	103.3680557	100.4181995	97.56798645	94.81350713	92.15102819
190930A00071	9/30/2019	2.05	9/29/2025	9/30/2019	121.49586	116.824012	112.3582194	108.0882868	104.0045829	100.0980029	96.35993652	92.78223828	89.35720001
190927A00019	9/30/2019	1.91	9/30/2022	9/30/2019	105.79481	104.7022783	103.6322049	102.5839011	101.5567082	100.5499938	99.56315083	98.59559562	97.64676734
190927A00036	9/27/2019	1.94	9/6/2024	9/27/2019	115.99151	112.672614	109.4662621	106.3680154	103.3736379	100.479084	97.68048925	94.97416059	92.35656815
190930A00008	9/30/2019	1.9	10/10/2023	9/30/2019	111.28947	109.0623172	106.8915147	104.7752601	102.711821	100.6995331	98.73679699	96.82207499	94.95388835
190930A00011	9/30/2019	1.89	10/24/2022	9/30/2019	106.16289	104.9927256	103.8482393	102.7285942	101.6329882	100.5606538	99.51085558	98.48288905	97.47607867
190930A00012	9/30/2019	1.93	9/30/2024	9/30/2019	116.29008	112.8882466	109.6043369	106.4335952	103.3714849	100.4136792	97.55604892	94.79465317	92.12572904
190930A00014	9/30/2019	1.89	9/30/2022	9/30/2019	105.77411	104.6817001	103.6117414	102.5635506	101.5364692	100.5298649	99.54313029	98.57568203	97.62695925
190926A00007	9/26/2019	1.88	9/26/2022	9/26/2019	105.6995	104.6199798	103.5624093	102.5261268	101.5104945	100.5149004	99.53875587	98.58149562	97.64257583
190926A00015	9/26/2019	2.32	11/26/2030	9/26/2019	146.55969	134.4537005	123.4471635	113.4342715	104.3199221	96.01858266	88.45328181	81.55471143	75.26042741
190926A00016	9/26/2019	2.28	5/24/2030	9/26/2019	143.73387	132.4448214	122.131045	112.7030606	104.08004	96.188929	88.96366224	82.34446078	76.27720385
190926A00017	9/26/2019	2.23	9/26/2029	9/26/2019	140.29692	130.0263846	120.5839531	111.8985213	103.9054322	96.54586423	89.76627638	83.51790986	77.75633838
190926A00034	9/26/2019	1.88	9/26/2022	9/26/2019	105.6995	104.6199798	103.5624093	102.5261268	101.5104945	100.5149004	99.53875587	98.58149562	97.64257583
190927A00012	10/1/2019	1.96	10/1/2024	10/1/2019	116.39966	112.993	109.7045017	106.5293918	103.463122	100.5013537	97.63994751	94.87495229	92.20259579
190925A00004	9/25/2019	1.7	9/24/2024	9/25/2019	115.96196	112.5732638	109.301693	106.1425351	103.0912995	100.143702	97.2956538	94.54325159	91.88276782
190925A00011	9/25/2019	1.89	9/25/2024	9/25/2019	116.09347	112.7110409	109.445354	106.2917188	103.2456641	100.3029242	97.45942767	94.71128739	92.0547912
190925A00018	9/25/2019	1.7	9/25/2024	9/25/2019	115.9755	112.5833206	109.3084866	106.1462794	103.0921955	100.1419389	97.29140948	94.53669347	91.87405342
190925A00019	9/27/2019	1.93	9/27/2023	9/27/2019	111.16624	108.9796117	106.8475926	104.7684631	102.7405709	100.7623274	98.83220452	96.94873214	95.11049536
190925A00024	9/25/2019	1.88	4/14/2022	9/25/2019	103.08469	102.5181379	101.9578023	101.4035857	100.8553882	100.313112	99.77666135	99.24594268	98.72086436
190926A00006	9/26/2019	1.7	9/26/2022	9/26/2019	105.64465	104.5634902	103.5043496	102.4665607	101.4494831	100.452502	99.47502648	98.51648868	97.57634261
190923A00032	9/23/2019	1.72	9/22/2023	9/23/2019	110.96767	108.7929055	106.672202	104.6038617	102.5862567	100.6178218	98.6970509	96.82249497	94.99275904
190923A00078	9/23/2019	1.96	6/28/2024	9/23/2019	115.11073	112.0227567	109.0340315	106.1406758	103.3389925	100.6254579	97.99671206	95.44954933	92.98091029
190923A00081	9/23/2019	1.96	9/20/2024	9/23/2019	116.24799	112.8794478	109.6266059	106.4848422	103.4497458	100.5171071	97.68290741	94.94330921	92.29464666
190924A00026	9/24/2019	1.9	7/22/2022	9/24/2019	104.66699	103.7966182	102.9406771	102.0988086	101.270668	100.4559213	99.65424563	98.86532822	98.08886631
190924A00033	9/24/2019	1.84	9/30/2022	9/24/2019	105.72238	104.6302545	103.5605826	102.5126746	101.4858719	100.4795424	99.49307893	98.52589806	97.57743904
190924A00035	9/24/2019	1.88	9/13/2024	9/24/2019	115.89835	112.558092	109.3318611	106.2151314	103.2035829	100.2930914	97.47971809	94.75970084	92.12944453
190919A00025	9/19/2019	1.8	9/19/2024	9/19/2019	116.21274	112.8364956	109.5763704	106.4277168	103.3861034	100.4473014	97.60727386	94.86216619	92.20829643
190920A00018	9/20/2019	1.98	9/20/2022	9/20/2019	105.70373	104.642888	103.6032591	102.5842122	101.5851407	100.6054614	99.644614	98.70205943	97.77727901
190920A00021	9/20/2019	1.96	9/18/2026	9/20/2019	126.29986	120.3120807	114.6432966	109.2748629	104.1893208	99.37031609	94.80252343	90.47157637	86.36400234
190923A00012	9/23/2019	2.43	9/25/2034	9/23/2019	167.23781	148.415868	131.9196402	117.4480003	104.7402726	93.57061487	83.74320722	75.08812692	67.45780741
190923A00017	9/23/2019	1.74	9/23/2024	9/23/2019	116.0763	112.6890887	109.4188198	106.2608006	103.2105517	100.263799	97.41646351	94.66465076	92.00464166
190923A00020	9/23/2019	2.05	9/24/2029	9/23/2019	140.24504	129.9119719	120.4144468	111.6805759	103.645003	96.24827997	89.43630481	83.15981559	77.37393499
190917A00029	9/17/2019	2.02	12/6/2022	9/17/2019	107.01989	105.7076259	104.4273966	103.1780372	101.9584417	100.7675565	99.60437705	98.46794534	97.35734697

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190917A00035	9/19/2019	2.02	10/16/2023	9/19/2019	111.63284	109.3840696	107.1924863	105.0562485	102.9735861	100.9427989	98.96225367	97.03038095	95.14567179
190918A00003	9/18/2019	1.95	9/19/2022	9/18/2019	105.6573	104.5998241	103.5634403	102.5475178	101.5514553	100.5746746	99.61661997	98.6767568	97.75457065
190918A00007	9/20/2019	1.95	12/15/2022	9/20/2019	107.08095	105.7394001	104.4313069	103.155429	101.9105875	100.6956606	99.50958012	98.35132796	97.21993358
190919A00007	9/19/2019	2.04	9/19/2024	9/19/2019	116.48838	113.1193398	109.8658752	106.7233766	103.6874421	100.7538707	97.91865178	95.17795505	92.5281216
190919A00017	9/19/2019	1.8	9/19/2022	9/19/2019	105.63358	104.5743489	103.5362716	102.5187192	101.5210875	100.5427961	99.58328657	98.64202214	97.71848614
190912A00034	9/12/2019	1.76	9/12/2022	9/12/2019	105.48084	104.4442932	103.4280323	102.4314677	101.454031	100.4951756	99.55437528	98.63112388	97.72493382
190913A00014	9/13/2019	2.08	9/13/2024	9/13/2019	116.53026	113.1801661	109.944349	106.8182783	103.7976256	100.8782585	98.05623096	95.32777326	92.68928333
190913A00025	9/13/2019	2.04	3/15/2022	9/13/2019	102.68183	102.2048061	101.7322151	101.2639968	100.8000906	100.340437	99.88497753	99.4336549	98.98641278
190916A00009	9/16/2019	2.04	9/16/2022	9/16/2019	105.69802	104.6496756	103.6220559	102.6145501	101.6265721	100.6575582	99.70696623	98.77427454	97.85898103
190917A00022	9/17/2019	2.02	9/16/2022	9/17/2019	105.67813	104.6298964	103.6023832	102.5949825	101.6071081	100.6381964	99.68770521	98.75511304	97.83991774
190917A00028	9/17/2019	2.02	3/1/2023	9/17/2019	108.21311	106.6858137	105.1878554	103.7184567	102.276869	100.8623696	99.47426033	98.11186634	96.7745354
190910A00013	9/10/2019	1.9	9/9/2022	9/10/2019	105.45631	104.4309156	103.4253863	102.4391475	101.4716481	100.5223579	99.59076644	98.67638231	97.77873207
190910A00017	9/16/2019	1.86	9/16/2024	9/16/2019	115.87576	112.526076	109.29107	106.1661727	103.1470272	100.2294752	97.40954591	94.6834469	92.0475548
190910A00027	9/10/2019	1.86	9/9/2022	9/10/2019	105.41734	104.3921543	103.3868298	102.400793	101.4334929	100.4843993	99.55300201	98.63880949	97.74134841
190910A00030	9/10/2019	1.86	9/10/2024	9/10/2019	115.79457	112.4656951	109.2501548	106.143461	103.1413317	100.2396783	97.43459578	94.72235321	92.09938515
190912A00031	9/12/2019	1.75	9/12/2024	9/12/2019	115.95762	112.6083153	109.3734839	106.248575	103.2292474	100.3113569	97.49094615	94.76423513	92.12761202
190912A00033	9/12/2019	1.77	9/12/2023	9/12/2019	110.92253	108.7798124	106.6896177	104.6503228	102.6603678	100.7182515	98.82252905	96.97180913	95.16475176
190906A00005	9/6/2019	1.77	9/6/2023	9/6/2019	110.54881	108.4342692	106.3710417	104.3575588	102.3923119	100.4738486	98.60077031	96.77172953	94.98542801
190906A00012	9/6/2019	1.76	9/6/2024	9/6/2019	115.42664	112.1164848	108.9186489	105.8287014	102.8424137	99.9557472	97.16484415	94.46601804	91.85574513
190906A00014	9/6/2019	1.57	9/6/2024	9/6/2019	115.30935	111.9897541	108.7830613	105.6848058	102.6907287	99.7967628	96.99902349	94.29379897	91.67754173
190906A00018	9/6/2019	1.76	9/6/2024	9/6/2019	115.42664	112.1164848	108.9186489	105.8287014	102.8424137	99.9557472	97.16484415	94.46601804	91.85574513
190909A00025	9/9/2019	1.88	9/9/2024	9/9/2019	115.84399	112.5176025	109.3043542	106.1997671	103.1995706	100.2996868	97.49622096	94.7854516	92.16382216
190910A00004	9/11/2019	1.86	9/11/2024	9/11/2019	115.8081	112.475758	109.2569739	106.1472462	103.1422805	100.2379766	97.43041856	94.71586524	92.09074158
190904A00019	9/4/2019	1.69	9/4/2024	9/4/2019	115.18095	111.8810974	108.6930287	105.6123474	102.6348521	99.75653007	96.97354774	94.28224134	91.67910862
190904A00020	9/4/2019	1.69	9/1/2023	9/4/2019	110.3148	108.218372	106.1724589	104.1755323	102.2261176	100.3227946	98.46419519	96.649001	94.87594139
190905A00002	9/5/2019	1.78	9/6/2022	9/5/2019	105.29204	104.2768574	103.2811626	102.3044017	101.3460388	100.4055579	99.48246215	98.57627309	97.68652953
190905A00003	9/5/2019	1.76	9/5/2024	9/5/2019	115.41342	112.1067196	108.9121177	105.8251955	102.8417367	99.95771425	97.16928113	94.472761	91.86463967
190905A00015	9/5/2019	1.78	9/6/2022	9/5/2019	105.29204	104.2768574	103.2811626	102.3044017	101.3460388	100.4055579	99.48246215	98.57627309	97.68652953
190906A00004	9/6/2019	1.78	9/6/2022	9/6/2019	105.29204	104.2768574	103.2811626	102.3044017	101.3460388	100.4055579	99.48246215	98.57627309	97.68652953
190830A00021	8/30/2019	1.76	8/30/2024	8/30/2019	115.33445	112.0483463	108.8730304	105.8041592	102.8375884	99.96935876	97.19568688	94.51295616	91.91770858
190830A00023	8/30/2019	1.78	9/15/2022	8/30/2019	105.42372	104.3799812	103.356821	102.3536384	101.3698525	100.4049051	99.45825886	98.52939694	97.61782172
190903A00004	9/3/2019	1.77	9/6/2022	9/3/2019	105.28239	104.2672527	103.2716082	102.2948969	101.336583	100.3961504	99.47310243	98.56696047	97.67726342
190904A00001	9/4/2019	1.5	9/4/2024	9/4/2019	115.06334	111.7540948	108.5572103	105.4682591	102.4830096	99.59742075	96.80763213	94.10995497	91.50086336

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190904A00007	9/4/2019	1.69	9/1/2023	9/4/2019	110.3148	108.218372	106.1724589	104.1755323	102.2261176	100.3227946	98.46419519	96.649001	94.87594139
190904A00008	9/4/2019	1.69	9/3/2024	9/4/2019	115.16795	111.8715403	108.686699	105.609037	102.6343651	99.75868216	96.9781652	94.28916064	91.68817571
190829A00031	8/29/2019	1.54	8/29/2024	8/29/2019	115.11139	111.8207331	108.6411852	105.568391	102.5981889	99.72660322	96.94983538	94.2642544	91.66638869
190829A00045	8/29/2019	1.9	8/28/2026	8/29/2019	124.7926	118.9456362	113.4062545	108.1567135	103.1803841	98.46167495	93.98596213	89.73952439	85.70948285
190829A00050	8/29/2019	1.73	8/29/2024	8/29/2019	115.22817	111.9468293	108.776026	105.7114377	102.7489326	99.88456295	97.11455622	94.43530613	91.84336434
190830A00002	8/30/2019	1.93	8/28/2026	8/30/2019	124.95428	119.1031856	113.5598335	108.3064723	103.3264661	98.60421679	94.1250942	89.87537115	85.84216317
190830A00010	9/3/2019	1.75	9/1/2023	9/3/2019	110.43598	108.338294	106.2911547	104.2930262	102.3424331	100.4379545	98.57822168	96.76191569	94.98776526
190830A00012	8/30/2019	1.76	8/30/2024	8/30/2019	115.33445	112.0483463	108.8730304	105.8041592	102.8375884	99.96935876	97.19568688	94.51295616	91.91770858
190828A00020	8/28/2019	1.95	5/28/2027	8/28/2019	128.25824	121.3920832	114.935117	108.8607891	103.1444112	97.76301997	92.69524642	87.92119689	83.42234301
190828A00031	8/28/2019	1.71	8/28/2024	8/28/2019	115.15319	111.8761195	108.7093581	105.6485943	102.6897081	99.82876283	97.06199664	94.38581311	91.79677325
190829A00005	8/30/2019	2.06	8/30/2023	8/30/2019	111.03157	108.9339063	106.8866251	104.888201	102.9371675	101.0321118	99.17167318	97.3545401	95.57944831
190829A00012	8/29/2019	1.54	8/29/2024	8/29/2019	115.11139	111.8207331	108.6411852	105.568391	102.5981889	99.72660322	96.94983538	94.2642544	91.66638869
190829A00015	8/30/2019	2.06	8/30/2022	8/30/2019	105.44626	104.4520365	103.4764809	102.519076	101.5793193	100.6567264	99.7508306	98.86118204	97.98734682
190829A00029	8/29/2019	1.75	7/14/2023	8/29/2019	109.72151	107.7776912	105.8782015	104.0216829	102.2068269	100.4323768	98.69712566	96.99991301	95.33962318
190827A00002	8/27/2019	1.74	8/27/2024	8/27/2019	115.23371	111.9585238	108.79348	105.7342753	102.7767995	99.91712534	97.15149959	94.476334	91.88819725
190827A00039	8/27/2019	1.78	8/26/2022	8/27/2019	105.11844	104.1382531	103.1762638	102.2319731	101.304896	100.3945654	99.50053081	98.62235768	97.75962692
190828A00008	8/28/2019	1.75	8/29/2022	8/28/2019	105.1375	104.1479569	103.1769506	102.2239667	101.2885073	100.3700927	99.46826065	98.58256535	97.71257693
190828A00009	8/28/2019	1.71	8/28/2024	8/28/2019	115.15319	111.8761195	108.7093581	105.6485943	102.6897081	99.82876283	97.06199664	94.38581311	91.79677325
190828A00015	8/28/2019	2.04	8/28/2029	8/28/2019	138.23222	128.1526231	118.8795771	110.3444217	102.4846698	95.24342185	88.5688406	82.41367714	76.73484392
190828A00019	8/28/2019	2	3/28/2028	8/28/2019	131.99127	123.9616192	116.4722477	109.4840295	102.9608676	96.86944334	91.17898792	85.86107535	80.88943256
190826A00057	8/26/2019	1.87	8/26/2025	8/26/2019	120.29235	115.7589588	111.4211361	107.2694323	103.2949041	99.48908503	95.84395736	92.35192585	89.00579331
190826A00058	8/26/2019	1.91	8/26/2026	8/26/2019	124.82294	118.9818277	113.4476538	108.2027353	103.2304941	98.51538559	94.0428285	89.79914075	85.77147935
190826A00060	8/26/2019	2.02	8/26/2027	8/26/2019	129.71577	122.5011031	115.7322777	109.3794881	103.4150685	97.81332766	92.55039859	87.60410019	82.95381005
190826A00063	8/26/2019	2.05	8/28/2028	8/26/2019	134.08353	125.4529093	117.4349951	109.983182	103.054636	96.60996941	90.61294749	85.03022117	79.83108372
190826A00065	8/26/2019	2.09	8/28/2029	8/26/2019	138.68039	128.5824966	119.2922093	110.7407943	102.8656982	95.6099607	88.92168793	82.75357877	77.06249721
190827A00001	8/27/2019	1.74	8/27/2024	8/27/2019	115.23371	111.9585238	108.79348	105.7342753	102.7767995	99.91712534	97.15149959	94.476334	91.88819725
190826A00028	8/26/2019	1.56	8/26/2022	8/26/2019	105.02078	104.0395184	103.076507	102.1312395	101.2032292	100.2920068	99.39712036	98.51813364	97.65462597
190826A00029	8/26/2019	1.53	8/26/2024	8/26/2019	115.04227	111.7620854	108.5923774	105.5288263	102.5673045	99.70386812	96.93474854	94.25634294	91.66520626
190826A00030	8/26/2019	1.72	8/26/2026	8/26/2019	124.70797	118.840497	113.2822485	108.0153633	103.0231029	98.28977424	93.80065928	89.54194957	85.50068539
190826A00034	8/26/2019	1.9	8/24/2029	8/26/2019	138.50706	128.3600326	119.0264512	110.4369918	102.5285642	95.24372496	88.53014608	82.34013593	76.63020713
190826A00038	8/26/2019	1.74	8/26/2022	8/26/2019	105.08109	104.101089	103.1392885	102.195184	101.2682908	100.3581418	99.46428644	98.58629036	97.72373447
190826A00056	8/26/2019	1.72	8/26/2024	8/26/2019	115.15882	111.8879009	108.726897	105.6715152	102.7176571	99.86140656	97.09902084	94.42692159	91.84168679
190822A00016	8/22/2019	1.84	8/22/2022	8/22/2019	105.11069	104.1428786	103.1928227	102.260037	101.344054	100.4444227	99.56070823	98.69249104	97.83936614

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190823A00005	8/23/2019	1.62	8/23/2024	8/23/2019	115.28356	112.0090874	108.8445846	105.7857606	102.8285175	99.96893964	97.20328431	94.52797335	91.93958478
190826A00004	8/26/2019	1.74	8/26/2022	8/26/2019	105.08109	104.101089	103.1392885	102.195184	101.2682908	100.3581418	99.46428644	98.58629036	97.72373447
190826A00006	8/26/2019	1.72	8/26/2024	8/26/2019	115.15882	111.8879009	108.726897	105.6715152	102.7176571	99.86140656	97.09902084	94.42692159	91.84168679
190826A00018	8/26/2019	1.9	8/27/2029	8/26/2019	138.54207	128.3828432	119.0388167	110.4404451	102.5244491	95.23321847	88.51427816	82.31980667	76.60620219
190826A00025	8/26/2019	1.76	11/26/2024	8/26/2019	116.47108	112.8870626	109.4323706	106.1015438	102.8893934	99.79098296	96.80161465	93.91681581	91.13232648
190821A00009	8/21/2019	1.79	8/22/2022	8/21/2019	105.06457	104.0969931	103.1471676	102.2146095	101.2988512	100.3994418	99.51594645	98.64794569	97.79503458
190821A00016	8/21/2019	1.79	8/22/2022	8/21/2019	105.06457	104.0969931	103.1471676	102.2146095	101.2988512	100.3994418	99.51594645	98.64794569	97.79503458
190821A00017	8/21/2019	1.8	8/21/2024	8/21/2019	115.34227	112.0841591	108.9350357	105.8906615	102.9469899	100.1001537	97.34645573	94.6823608	92.10448729
190821A00021	8/21/2019	1.79	8/18/2022	8/21/2019	105.00138	104.046451	103.1088308	102.1880491	101.2836552	100.3952146	99.52230793	98.66453035	97.82149108
190821A00028	8/21/2019	1.8	8/21/2023	8/21/2019	110.35779	108.2945659	106.2803463	104.3136657	102.3931137	100.5173313	98.68500849	96.89488217	95.14573421
190821A00030	8/21/2019	1.8	8/21/2024	8/21/2019	115.34227	112.0841591	108.9350357	105.8906615	102.9469899	100.1001537	97.34645573	94.6823608	92.10448729
190820A00020	8/20/2019	1.76	8/20/2024	8/20/2019	115.20584	111.9529307	108.8087578	105.769095	102.8299084	99.98734256	97.23771146	94.5774903	92.00330739
190820A00021	8/20/2019	2.13	8/20/2029	8/20/2019	138.94451	128.8642314	119.5877942	111.0469757	103.1796668	95.9292963	89.24431211	83.07771256	77.38662403
190820A00029	8/20/2019	1.76	8/20/2024	8/20/2019	115.20584	111.9529307	108.8087578	105.769095	102.8299084	99.98734256	97.23771146	94.5774903	92.00330739
190820A00030	8/20/2019	1.76	4/16/2024	8/20/2019	113.56469	110.7263516	107.9739458	105.3043414	102.714542	100.2016802	97.7630106	95.39590442	93.09784318
190820A00038	8/20/2019	1.76	8/20/2024	8/20/2019	115.20584	111.9529307	108.8087578	105.769095	102.8299084	99.98734256	97.23771146	94.5774903	92.00330739
190820A00054	8/20/2019	1.76	8/18/2022	8/20/2019	104.97405	104.0192614	103.0817763	102.1611279	101.2568658	100.3685553	99.49577707	98.63812641	97.79521254
190819A00030	8/19/2019	2.01	8/20/2029	8/19/2019	139.44968	129.2784947	119.9207557	111.3072655	103.3750395	96.06672153	89.33005467	83.11740456	77.38532925
190820A00005	8/21/2019	1.76	2/27/2023	8/21/2019	107.79941	106.2815695	104.792773	103.3322599	101.8992919	100.4931558	99.11316266	97.75864642	96.42896327
190820A00008	8/20/2019	1.76	8/20/2024	8/20/2019	115.20584	111.9529307	108.8087578	105.769095	102.8299084	99.98734256	97.23771146	94.5774903	92.00330739
190820A00012	8/20/2019	1.76	8/19/2022	8/20/2019	104.98976	104.0318107	103.0912756	102.1676842	101.2605817	100.3695295	99.4941045	98.63389817	97.78851626
190820A00013	8/20/2019	1.76	8/21/2023	8/20/2019	110.27832	108.2159076	106.2024806	104.236577	102.3167869	100.4417518	98.61016197	96.82075483	95.07231259
190820A00019	8/20/2019	1.76	8/21/2023	8/20/2019	110.27832	108.2159076	106.2024806	104.236577	102.3167869	100.4417518	98.61016197	96.82075483	95.07231259
190816A00036	8/16/2019	1.77	8/16/2024	8/16/2019	115.18515	111.9450418	108.812867	105.7844448	102.8557843	100.0230708	97.28265655	94.63105276	92.0649216
190819A00004	8/20/2019	1.81	5/24/2024	8/20/2019	114.20383	111.2395146	108.3676977	105.5848888	102.8877513	100.2730984	97.73788545	95.27920244	92.89426681
190819A00005	8/19/2019	1.62	8/21/2023	8/19/2019	110.29831	108.2301363	106.211182	104.2399749	102.3150954	100.435176	98.59889862	96.80499254	95.05223238
190819A00020	8/19/2019	1.79	8/19/2022	8/19/2019	105.01717	104.0590857	103.1184147	102.1946892	101.2874542	100.3962712	99.52071691	98.66038292	97.8148749
190819A00022	8/19/2019	1.8	8/19/2024	8/19/2019	115.31631	112.06484	108.9219507	105.8834251	102.9452386	100.1035446	97.35466516	94.6950834	92.12143484
190819A00026	8/19/2019	1.62	8/19/2024	8/19/2019	115.23192	111.9707899	108.8188101	105.7717326	102.8255038	99.97624951	97.22026626	94.5540126	91.97410118
190816A00020	8/16/2019	1.79	8/16/2024	8/16/2019	115.24663	112.0055891	108.8725046	105.8431954	102.9136701	100.0801131	97.33887599	94.68646927	92.1195545
190816A00021	8/16/2019	1.77	8/16/2023	8/16/2019	110.22718	108.1803343	106.1817887	104.2301133	102.323927	100.4618982	98.64274306	96.86522358	95.12814534
190816A00022	8/16/2019	1.77	8/16/2024	8/16/2019	115.18515	111.9450418	108.812867	105.7844448	102.8557843	100.0230708	97.28265655	94.63105276	92.0649216
190816A00031	8/16/2019	1.77	8/16/2024	8/16/2019	115.18515	111.9450418	108.812867	105.7844448	102.8557843	100.0230708	97.28265655	94.63105276	92.0649216

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190816A00033	8/16/2019	1.77	8/16/2024	8/16/2019	115.18515	111.9450418	108.812867	105.7844448	102.8557843	100.0230708	97.28265655	94.63105276	92.0649216
190816A00035	8/16/2019	1.77	8/16/2023	8/16/2019	110.22718	108.1803343	106.1817887	104.2301133	102.323927	100.4618982	98.64274306	96.86522358	95.12814534
190816A00007	8/16/2019	1.77	8/16/2023	8/16/2019	110.22718	108.1803343	106.1817887	104.2301133	102.323927	100.4618982	98.64274306	96.86522358	95.12814534
190816A00011	8/16/2019	1.77	8/16/2024	8/16/2019	115.18515	111.9450418	108.812867	105.7844448	102.8557843	100.0230708	97.28265655	94.63105276	92.0649216
190816A00013	8/16/2019	2.2	8/16/2029	8/16/2019	139.52195	129.4323917	120.1458385	111.5942467	103.7156632	96.4536514	89.75677392	83.57812714	77.87492073
190816A00014	8/16/2019	1.77	8/16/2024	8/16/2019	115.18515	111.9450418	108.812867	105.7844448	102.8557843	100.0230708	97.28265655	94.63105276	92.0649216
190816A00015	8/16/2019	2.2	8/16/2029	8/16/2019	139.52195	129.4323917	120.1458385	111.5942467	103.7156632	96.4536514	89.75677392	83.57812714	77.87492073
190816A00016	8/16/2019	2.2	8/16/2029	8/16/2019	139.52195	129.4323917	120.1458385	111.5942467	103.7156632	96.4536514	89.75677392	83.57812714	77.87492073
190815A00007	8/15/2019	1.81	7/6/2023	8/15/2019	109.73944	107.8185618	105.9412291	104.1060651	102.3117512	100.5570239	98.84067139	97.16153158	95.51848897
190815A00008	8/15/2019	1.82	8/15/2022	8/15/2019	104.98106	104.0354838	103.1068811	102.1947987	101.2987987	100.4184583	99.55336978	98.70313917	97.8673861
190815A00012	8/15/2019	1.81	8/15/2024	8/15/2019	115.2951	112.0564482	108.9255711	105.8983001	102.970654	100.1388265	97.39917837	94.74822835	92.18264588
190815A00015	8/15/2019	1.82	8/15/2022	8/15/2019	104.98106	104.0354838	103.1068811	102.1947987	101.2987987	100.4184583	99.55336978	98.70313917	97.8673861
190815A00025	8/15/2019	1.97	8/15/2029	8/15/2019	139.03044	128.8943449	119.5679466	110.9824538	103.0752492	95.78930263	89.0726473	82.87790668	77.16186818
190816A00006	8/16/2019	1.77	8/16/2024	8/16/2019	115.18515	111.9450418	108.812867	105.7844448	102.8557843	100.0230708	97.28265655	94.63105276	92.0649216
190814A00005	8/14/2019	1.65	8/14/2024	8/14/2019	115.25961	112.0137615	108.8760657	105.8423399	102.908584	100.0709744	97.32585513	94.66972942	92.09925195
190814A00006	8/14/2019	1.84	8/14/2023	8/14/2019	110.35748	108.3149422	106.3204843	104.3726809	102.4701607	100.6116015	98.79572831	97.02131161	95.287165
190814A00008	8/14/2019	1.84	8/14/2024	8/14/2019	115.37413	112.1374034	109.0082837	105.9826125	103.0564181	100.2259034	97.48743769	94.83754776	92.27291062
190814A00009	8/14/2019	1.84	8/14/2024	8/14/2019	115.37413	112.1374034	109.0082837	105.9826125	103.0564181	100.2259034	97.48743769	94.83754776	92.27291062
190814A00010	8/14/2019	1.84	4/5/2023	8/14/2019	108.44083	106.8075534	105.2075679	103.639937	102.103759	100.5981651	99.1223179	97.67541031	96.25666378
190814A00015	8/14/2019	1.84	8/14/2024	8/14/2019	115.37413	112.1374034	109.0082837	105.9826125	103.0564181	100.2259034	97.48743769	94.83754776	92.27291062
190812A00003	8/12/2019	1.67	8/12/2024	8/12/2019	115.29499	112.0548778	108.9225388	105.8938069	102.964703	100.1314235	97.39033078	94.73794574	92.1709395
190812A00006	8/12/2019	1.86	8/12/2024	8/12/2019	115.40917	112.1781604	109.0543765	106.0336802	103.1121209	100.2859212	97.55146882	94.90530791	92.34413185
190813A00007	8/13/2019	1.89	8/15/2022	8/13/2019	105.04422	104.0983282	103.169416	102.2570279	101.3607259	100.4800874	99.61470426	98.76418262	97.92814201
190813A00008	8/13/2019	1.88	8/13/2024	8/13/2019	115.48362	112.2483659	109.1205564	106.0960489	103.1708811	100.3412647	97.60357713	94.95435288	92.39027618
190813A00016	8/13/2019	1.88	8/13/2024	8/13/2019	115.48362	112.2483659	109.1205564	106.0960489	103.1708811	100.3412647	97.60357713	94.95435288	92.39027618
190814A00003	8/14/2019	2.01	8/14/2029	8/14/2019	139.37747	129.2308234	119.8941326	111.2986207	103.3816802	96.08628788	89.36048067	83.15688349	77.43228317
190809A00011	8/9/2019	1.69	8/9/2024	8/9/2019	115.317	112.0859771	108.9621356	105.9413464	103.0196622	100.1933093	97.45867854	94.81231713	92.2509212
190809A00012	8/9/2019	1.69	8/9/2024	8/9/2019	115.317	112.0859771	108.9621356	105.9413464	103.0196622	100.1933093	97.45867854	94.81231713	92.2509212
190809A00015	8/9/2019	1.88	8/9/2022	8/9/2019	104.93891	104.0120267	103.1014639	102.2067897	101.3275909	100.4634685	99.61403726	98.77892486	97.95777149
190809A00020	8/9/2019	2.44	8/9/2034	8/9/2019	166.82006	148.2171944	131.8919006	117.5519885	104.9441526	93.84862763	84.07459904	75.45626091	67.84942742
190809A00021	8/9/2019	2.12	8/9/2029	8/9/2019	140.3025	130.1362108	120.7792678	112.1630944	104.2252528	96.90886331	90.162084	83.93764131	78.19240669
190809A00022	8/9/2019	1.88	8/9/2024	8/9/2019	115.43074	112.2087867	109.0934668	106.0806831	103.1665164	100.3472193	97.61920737	94.97905111	92.42346867
190808A00050	8/8/2019	1.7	8/8/2024	8/8/2019	115.33444	112.1062983	108.9851413	105.9668555	103.0475044	100.223324	97.49071427	94.84623126	92.28657927

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190808A00052	8/8/2019	1.7	8/8/2024	8/8/2019	115.33444	112.1062983	108.9851413	105.9668555	103.0475044	100.223324	97.49071427	94.84623126	92.28657927
190809A00001	8/9/2019	1.88	8/9/2022	8/9/2019	104.93891	104.0120267	103.1014639	102.2067897	101.3275909	100.4634685	99.61403726	98.77892486	97.95777149
190809A00005	8/9/2019	1.88	7/11/2022	8/9/2019	104.4826	103.646526	102.8237889	102.014076	101.2170799	100.4325025	99.66005529	98.89945837	98.15044055
190809A00008	8/9/2019	1.87	8/3/2023	8/9/2019	110.23599	108.2281619	106.2669119	104.3508798	102.4787564	100.6492786	98.86122788	97.11342805	95.40474377
190809A00010	8/9/2019	1.88	8/8/2024	8/9/2019	115.41752	112.1988924	109.0866944	106.0768416	103.1654257	100.3487091	97.62311706	94.98522909	92.43177174
190808A00009	8/8/2019	1.89	8/8/2024	8/8/2019	115.44802	112.2289291	109.1162831	106.1059935	103.1941515	100.3770194	97.65102194	95.01273831	92.45889478
190808A00011	8/8/2019	1.86	8/8/2023	8/8/2019	110.30983	108.2858399	106.3091159	104.378272	102.4919704	100.6489209	98.84787926	97.08764468	95.36705839
190808A00012	8/8/2019	1.89	8/8/2024	8/8/2019	115.44802	112.2289291	109.1162831	106.1059935	103.1941515	100.3770194	97.65102194	95.01273831	92.45889478
190808A00023	8/8/2019	1.68	11/8/2023	8/8/2019	111.54831	109.2243794	106.9609626	104.7560491	102.607712	100.5141033	98.47345091	96.48405399	94.54427996
190808A00024	8/8/2019	1.69	2/8/2024	8/8/2019	112.84723	110.2252852	107.6775572	105.2015307	102.7947904	100.4550167	98.17998128	95.96754314	93.8156444
190808A00025	8/8/2019	1.7	8/8/2024	8/8/2019	115.33444	112.1062983	108.9851413	105.9668555	103.0475044	100.223324	97.49071427	94.84623126	92.28657927
190807A00021	8/7/2019	2	8/7/2026	8/7/2019	125.07831	119.2936824	113.8099087	108.6098249	103.6773335	98.99733036	94.55563804	90.3389446	86.33474643
190807A00022	8/7/2019	1.76	1/17/2023	8/7/2019	107.23867	105.8274966	104.4467892	103.0955681	101.7728947	100.4778702	99.20963397	97.96736142	96.75026191
190807A00023	8/7/2019	1.77	8/7/2024	8/7/2019	115.06918	111.8589206	108.754763	105.752637	102.8486491	100.0390758	97.32035562	94.68908063	92.14198929
190807A00027	8/7/2019	1.77	8/7/2024	8/7/2019	115.06918	111.8589206	108.754763	105.752637	102.8486491	100.0390758	97.32035562	94.68908063	92.14198929
190807A00036	8/7/2019	1.75	8/7/2023	8/7/2019	110.06052	108.0424141	106.0713762	104.1460289	102.2650421	100.4271328	98.63106342	96.87563974	95.15970923
190807A00045	8/7/2019	1.77	8/7/2024	8/7/2019	115.06918	111.8589206	108.754763	105.752637	102.8486491	100.0390758	97.32035562	94.68908063	92.14198929
190806A00027	8/6/2019	1.71	8/7/2023	8/6/2019	110.27473	108.2490984	106.2707936	104.3384303	102.4506681	100.6062146	98.80382318	97.04229121	95.32045798
190807A00005	8/7/2019	1.77	8/7/2024	8/7/2019	115.06918	111.8589206	108.754763	105.752637	102.8486491	100.0390758	97.32035562	94.68908063	92.14198929
190807A00012	8/7/2019	1.76	2/7/2023	8/7/2019	107.4758	106.0258159	104.6025397	103.2052957	101.83343	100.4863098	99.16332319	97.8638776	96.58739946
190807A00014	8/7/2019	1.75	8/7/2023	8/7/2019	110.06052	108.0424141	106.0713762	104.1460289	102.2650421	100.4271328	98.63106342	96.87563974	95.15970923
190807A00017	8/7/2019	1.76	3/12/2024	8/7/2019	113.09872	110.3754588	107.7319759	105.1654689	102.6732516	100.2527486	97.90148953	95.61710475	93.39732005
190807A00020	8/7/2019	1.57	2/7/2024	8/7/2019	112.53292	109.9182162	107.3774599	104.9081517	102.5078874	100.174358	97.90534504	95.69871706	93.55242521
190805A00037	8/5/2019	2.17	8/6/2029	8/5/2019	140.7126	130.5404802	121.1769983	112.5537214	104.6083345	97.28406372	90.52915809	84.29642187	78.54279296
190805A00048	8/5/2019	1.88	8/5/2022	8/5/2019	104.87474	103.9604889	103.0621224	102.1792247	101.3113989	100.4582617	99.61944263	98.79458355	97.98333824
190805A00049	8/5/2019	1.88	8/4/2023	8/5/2019	110.26984	108.258665	106.2942087	104.3751031	102.5000331	100.6677305	98.87697141	97.12657493	95.41540102
190805A00050	8/5/2019	1.91	8/5/2024	8/5/2019	115.46909	112.2590542	109.1548847	106.1525217	103.2480878	100.4378749	97.71833549	95.08607501	92.53784437
190806A00007	8/6/2019	1.88	8/5/2022	8/6/2019	104.87474	103.9604889	103.0621224	102.1792247	101.3113989	100.4582617	99.61944263	98.79458355	97.98333824
190806A00026	8/6/2019	1.71	8/7/2023	8/6/2019	110.27473	108.2490984	106.2707936	104.3384303	102.4506681	100.6062146	98.80382318	97.04229121	95.32045798
190805A00007	8/5/2019	1.88	8/5/2022	8/5/2019	104.87474	103.9604889	103.0621224	102.1792247	101.3113989	100.4582617	99.61944263	98.79458355	97.98333824
190805A00008	8/5/2019	1.88	8/4/2023	8/5/2019	110.26984	108.258665	106.2942087	104.3751031	102.5000331	100.6677305	98.87697141	97.12657493	95.41540102
190805A00009	8/5/2019	1.91	8/5/2024	8/5/2019	115.46909	112.2590542	109.1548847	106.1525217	103.2480878	100.4378749	97.71833549	95.08607501	92.53784437
190805A00011	8/5/2019	1.91	8/5/2024	8/5/2019	115.46909	112.2590542	109.1548847	106.1525217	103.2480878	100.4378749	97.71833549	95.08607501	92.53784437

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190805A00021	8/5/2019	1.89	1/16/2024	8/5/2019	112.64709	110.1066995	107.6366733	105.2345976	102.8981567	100.6251312	98.41339356	96.2609035	94.16570342
190805A00029	8/5/2019	1.93	8/5/2022	8/5/2019	104.91841	104.003954	103.1053798	102.2222769	101.3542484	100.5009108	99.66189379	98.83683908	98.0254004
190802A00015	8/2/2019	2	2/15/2023	8/2/2019	107.95879	106.4788541	105.0266059	103.6013325	102.2023452	100.8289783	99.48058798	98.1565516	96.8562666
190802A00016	8/2/2019	2.01	7/12/2023	8/2/2019	110.17898	108.2366254	106.3384842	104.483191	102.6694325	100.8959485	99.16152857	97.46501004	95.80527538
190802A00017	8/2/2019	2.01	11/15/2023	8/2/2019	112.04971	109.704973	107.4215665	105.1974397	103.0306274	100.9192461	98.86148957	96.85562533	94.89999071
190802A00029	8/2/2019	2	8/2/2022	8/2/2019	104.9304	104.0251325	103.1354206	102.2608704	101.4010971	100.5557286	99.72440541	98.90677992	98.1025158
190802A00032	8/2/2019	2.01	8/2/2024	8/2/2019	115.73229	112.5276971	109.4284701	106.430589	103.5302046	100.7236356	98.00735953	95.37800523	92.83234568
190805A00004	8/5/2019	1.7	8/5/2022	8/5/2019	104.81835	103.9029404	103.0034546	102.1194795	101.2506166	100.3964811	99.55670094	98.73091663	97.91878056
190731A00004	7/31/2019	2.18	7/31/2024	7/31/2019	116.21936	113.0137361	109.9132735	106.9139627	104.01197	101.2036278	98.4854269	95.85400854	93.30615716
190731A00028	7/31/2019	1.93	7/29/2022	7/31/2019	104.90376	104.0095049	103.1304365	102.266171	101.4163372	100.580576	99.75854022	98.94989406	98.15431253
190731A00029	7/31/2019	1.93	7/29/2022	7/31/2019	104.90376	104.0095049	103.1304365	102.266171	101.4163372	100.580576	99.75854022	98.94989406	98.15431253
190801A00010	8/1/2019	1.97	8/1/2023	8/1/2019	110.68975	108.6781221	106.7131108	104.7933565	102.9175501	101.0844282	99.29277219	97.54140583	95.82919364
190802A00003	8/2/2019	2.01	8/2/2024	8/2/2019	115.73229	112.5276971	109.4284701	106.430589	103.5302046	100.7236356	98.00735953	95.37800523	92.83234568
190802A00004	8/2/2019	2	8/2/2022	8/2/2019	104.9304	104.0251325	103.1354206	102.2608704	101.4010971	100.5557286	99.72440541	98.90677992	98.1025158
190729A00006	7/29/2019	2.14	7/29/2022	7/29/2019	104.98436	104.0911131	103.2130171	102.3496853	101.500748	100.6658475	99.84463811	99.03678519	98.24196505
190729A00007	7/29/2019	2.17	7/28/2023	7/29/2019	110.72371	108.7289354	106.7801257	104.8759302	103.0150504	101.1962344	99.41827509	97.68000827	95.98031059
190729A00008	7/29/2019	2.18	1/29/2024	7/29/2019	113.54115	110.9506859	108.4325836	105.9844071	103.6038208	101.2885815	99.03653399	96.84560677	94.71380865
190729A00009	7/29/2019	2.19	7/29/2024	7/29/2019	116.22139	113.021881	109.9271936	106.9333289	104.0364603	101.2329279	98.51923045	95.89201759	93.34808248
190730A00007	7/30/2019	2.19	7/30/2024	7/30/2019	116.23549	113.0327023	109.9349094	106.9381093	104.0384713	101.2323317	98.51618515	95.88667683	93.3405954
190730A00016	7/30/2019	2	7/30/2024	7/30/2019	116.12478	112.9129967	109.806748	106.8019985	103.8948905	101.0817346	98.35900132	95.72331306	93.17143705
190724A00021	7/24/2019	2.33	7/23/2027	7/24/2019	132.45132	125.2289892	118.4464633	112.0746844	106.0866591	100.4573037	95.1632997	90.1829605	85.4961091
190724A00023	7/24/2019	2.13	7/24/2025	7/24/2019	121.61144	117.1400361	112.8576993	108.7554262	104.8246931	101.0574269	97.4459782	93.98309719	90.66191005
190724A00024	7/24/2019	2.49	7/24/2029	7/24/2019	143.39911	133.1647685	123.7383134	115.0517075	107.0429726	99.65562349	92.83815552	86.54358165	80.72901502
190724A00025	7/24/2019	1.96	7/24/2023	7/24/2019	110.54881	108.5623078	106.6215331	104.7251209	102.871761	101.0601918	99.28919815	97.55760955	95.86429773
190726A00005	7/26/2019	1.97	7/26/2022	7/26/2019	104.88807	104.0030782	103.1329711	102.2773751	101.4359296	100.6082858	99.79410614	98.99306419	98.20484392
190726A00017	7/26/2019	2.44	7/24/2026	7/26/2019	127.23264	121.4400103	115.9458393	110.7331961	105.786196	101.0899329	96.6304136	92.39449751	88.36983994
190715A00029	7/17/2019	2.16	4/18/2022	7/17/2019	103.29991	102.7208857	102.1483488	101.5821886	101.0222988	100.4685756	99.92091744	99.37922489	98.84340079
190716A00046	7/16/2019	2.19	7/18/2022	7/16/2019	104.84104	103.9820883	103.1371815	102.3059748	101.4881368	100.6833469	99.89129429	99.11167837	98.34420775
190717A00007	7/17/2019	2.18	10/14/2022	7/17/2019	106.31264	105.1730883	104.0578875	102.9662608	101.8974666	100.850794	99.82556153	98.82111526	97.83682775
190717A00008	7/17/2019	2.22	7/17/2024	7/17/2019	116.14167	112.9801652	109.9214524	106.9615685	104.096729	101.3233193	98.63788664	96.03713103	93.51789767
190719A00002	7/19/2019	2.12	4/21/2022	7/19/2019	103.32713	102.7391292	102.157813	101.5830663	101.0147783	100.4528403	99.8971464	99.34759277	98.80407801
190719A00006	7/19/2019	2.17	7/19/2024	7/19/2019	116.02062	112.8547635	109.7919922	106.8283329	103.9599956	101.1833599	98.49496652	95.8915086	93.36982414
190712A00001	7/12/2019	2.05	7/12/2024	7/12/2019	116.02145	112.8666929	109.8144191	106.8606461	104.0015795	101.2335981	98.55324496	95.95721832	93.44236359

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190712A00009	7/12/2019	2.19	7/12/2023	7/12/2019	110.51524	108.5696425	106.6683276	104.8099215	102.9931091	101.2166283	99.47926729	97.77986173	96.11729261
190712A00018	7/12/2019	2.25	7/12/2024	7/12/2019	116.15976	113.0133278	109.968871	107.0224371	104.1702579	101.4087367	98.73443956	96.14408654	93.63454344
190715A00010	7/15/2019	2.23	7/15/2024	7/15/2019	116.14306	112.9876709	109.9347435	106.9803203	104.120623	101.3520446	98.67113987	96.07461691	93.55932927
190715A00014	7/15/2019	2.16	3/30/2022	7/15/2019	102.9884	102.4665029	101.9498768	101.4384439	100.9321262	100.4308475	99.93453289	99.44310896	98.95650378
190715A00028	7/17/2019	2.17	1/18/2022	7/17/2019	101.81079	101.4983404	101.1878212	100.8792114	100.5724934	100.2676497	99.96466314	99.66351668	99.36419352
190709A00018	7/9/2019	2.24	7/9/2024	7/9/2019	116.08735	112.9511853	109.9164757	106.9792781	104.1358347	101.3825605	98.71603348	96.13298642	93.63029815
190710A00012	7/10/2019	2.18	7/10/2023	7/10/2019	110.46578	108.526553	106.6313918	104.7789248	102.9678349	101.1968587	99.46478363	97.77044534	96.11272526
190710A00022	7/10/2019	2.22	7/10/2024	7/10/2019	116.04237	112.9037968	109.8668272	106.9275156	104.0821014	101.3269965	98.65877575	96.0741683	93.57004939
190711A00019	7/11/2019	2.19	7/11/2023	7/11/2019	110.49982	108.557319	106.6589935	104.803471	102.9894354	101.2156241	99.48082472	97.78387285	96.1236497
190711A00020	7/11/2019	1.98	7/11/2022	7/11/2019	104.64702	103.8090471	102.9844572	102.1729342	101.3741694	100.5878634	99.81372635	99.05147719	98.30084354
190711A00022	7/11/2019	2	7/11/2023	7/11/2019	110.42598	108.4791076	106.576599	104.7170738	102.8992078	101.1217309	99.38342353	97.68311479	96.01967952
190703A00017	7/3/2019	2.33	5/4/2026	7/3/2019	125.58442	120.1017017	114.8907944	109.936749	105.22552	100.7439082	96.47950425	92.42063734	88.55632667
190703A00019	7/3/2019	2.08	7/5/2022	7/3/2019	104.54334	103.7252984	102.9200216	102.1272119	101.3465812	100.5778507	99.82074978	99.07501601	98.34039485
190703A00022	7/3/2019	2.08	7/5/2022	7/3/2019	104.54334	103.7252984	102.9200216	102.1272119	101.3465812	100.5778507	99.82074978	99.07501601	98.34039485
190708A00001	7/8/2019	1.99	7/8/2022	7/8/2019	104.60509	103.7764759	102.9609523	102.1582121	101.3679562	100.5898951	99.82374797	99.06924267	98.32611525
190708A00011	7/8/2019	2.2	7/8/2024	7/8/2019	115.9549	112.8237407	109.7938259	106.8612151	104.0221556	101.2730671	98.6105329	96.03129103	93.53222571
190708A00021	7/8/2019	1.99	7/8/2022	7/8/2019	104.60509	103.7764759	102.9609523	102.1582121	101.3679562	100.5898951	99.82374797	99.06924267	98.32611525
190701A00008	7/3/2019	2.1	7/3/2023	7/3/2019	110.23055	108.3138122	106.44041	104.6089588	102.8181338	101.0666664	99.35334101	97.67699256	96.03650353
190701A00009	7/3/2019	2.14	7/2/2024	7/3/2019	115.69396	112.5849976	109.5762025	106.6636556	103.8436259	101.1125571	98.46705738	95.90389066	93.41996794
190701A00017	7/1/2019	1.9	7/1/2022	7/1/2019	104.41896	103.6125463	102.8185438	102.0366646	101.2666329	100.5081811	99.7610496	99.02498658	98.2997476
190701A00023	7/1/2019	1.95	7/1/2024	7/1/2019	115.57185	112.457557	109.4437666	106.5265358	103.7021111	100.9669151	98.31753707	95.75072335	93.26336879
190702A00002	7/2/2019	2.16	7/2/2024	7/2/2019	115.75269	112.6428808	109.6332519	106.7198915	103.8990679	101.1672242	98.52096805	95.95706267	93.47241854
190703A00004	7/3/2019	2.08	7/5/2022	7/3/2019	104.54334	103.7252984	102.9200216	102.1272119	101.3465812	100.5778507	99.82074978	99.07501601	98.34039485
190627A00010	6/27/2019	1.97	6/27/2024	6/27/2019	115.57347	112.471877	109.4700519	106.5640862	103.750261	101.0250321	98.38501994	95.82700062	93.34789715
190627A00037	6/27/2019	1.93	6/27/2023	6/27/2019	110.08235	108.1804989	106.3214694	104.5038792	102.7264095	100.9877988	99.28683883	97.6223722	95.99328946
190627A00052	6/27/2019	2.1	6/27/2022	6/27/2019	104.42592	103.6327159	102.8515277	102.0820796	101.3241087	100.5773597	99.84158482	99.1165436	98.40200254
190628A00004	6/28/2019	2.12	6/28/2023	6/28/2019	110.19019	108.2888191	106.4302255	104.6130358	102.8359327	101.0976559	99.39699844	97.73280399	96.10396417
190628A00024	6/28/2019	2.09	6/28/2022	6/28/2019	104.43488	103.6386142	102.8544503	102.0821132	101.3213371	100.5718639	99.83344326	99.10583223	98.38879484
190701A00007	7/2/2019	2.09	7/1/2022	7/2/2019	104.48467	103.6790874	102.8858819	102.1047704	101.3354782	100.5777387	99.83129337	99.09589116	98.37128857
190625A00027	6/25/2019	2.04	6/24/2022	6/25/2019	104.3309	103.5471841	102.7752055	102.0147052	101.2654288	100.5271291	99.79956619	99.08250724	98.37572595
190626A00004	6/26/2019	2.15	6/26/2024	6/26/2019	115.63747	112.5482594	109.5581079	106.6631501	103.8597036	101.1442587	98.51346796	95.96413783	93.49321971
190626A00010	6/26/2019	2.1	6/26/2023	6/26/2019	110.12229	108.2277096	106.3756512	104.5647492	102.7936981	101.0612485	99.36620354	97.70741676	96.08378887
190626A00015	6/26/2019	2.15	6/26/2024	6/26/2019	115.63747	112.5482594	109.5581079	106.6631501	103.8597036	101.1442587	98.51346796	95.96413783	93.49321971

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190626A00019	6/26/2019	2.1	6/24/2022	6/26/2019	104.37609	103.5921844	102.8200175	102.0593311	101.3098704	100.5713884	99.84364507	99.1264075	98.41944941
190627A00009	6/27/2019	1.93	6/27/2023	6/27/2019	110.08235	108.1804989	106.3214694	104.5038792	102.7264095	100.9877988	99.28683883	97.6223722	95.99328946
190625A00013	6/25/2019	2.01	6/24/2022	6/25/2019	104.30831	103.524684	102.7527994	101.9923923	101.2432079	100.5049994	99.77752676	99.06055711	98.35386421
190625A00016	6/25/2019	2.13	6/25/2024	6/25/2019	115.56468	112.4797195	109.4936068	106.6024846	103.8026817	101.090699	98.46319891	95.91699705	93.44905353
190625A00017	6/25/2019	2.02	12/15/2022	6/25/2019	107.16881	105.826667	104.5179911	103.2415404	101.9961358	100.7806553	99.59403022	98.4352424	97.30332099
190625A00021	6/25/2019	1.88	6/26/2023	6/25/2019	109.97557	108.0778186	106.2227391	104.4089619	102.6351745	100.9001211	99.20259911	97.54145624	95.91558797
190625A00023	6/25/2019	2.47	6/25/2027	6/25/2019	131.88114	124.8108607	118.1654275	111.9169768	106.0396315	100.5093441	95.30375764	90.40207622	85.78494774
190625A00024	6/25/2019	2.26	6/25/2025	6/25/2019	121.11438	116.763221	112.5928024	108.5945237	104.7602547	101.0823034	97.55338888	94.16661658	90.9154549
190624A00008	6/24/2019	2.08	6/24/2022	6/24/2019	104.36103	103.5771843	102.8050802	102.0444558	101.2950565	100.5566353	99.82895211	99.11177408	98.40487493
190624A00026	6/24/2019	2.08	6/24/2022	6/24/2019	104.36103	103.5771843	102.8050802	102.0444558	101.2950565	100.5566353	99.82895211	99.11177408	98.40487493
190624A00052	6/24/2019	1.89	6/24/2022	6/24/2019	104.29696	103.5123087	102.7394312	101.9780612	101.2279433	100.4888294	99.76047853	99.04265699	98.33513764
190625A00003	6/25/2019	2.03	6/27/2022	6/25/2019	104.37259	103.5796203	102.7986561	102.0294298	101.2716783	100.5251463	99.78958626	99.06475766	98.35042702
190625A00008	6/25/2019	2.04	6/27/2022	6/25/2019	104.38021	103.5872054	102.8062092	102.0369512	101.2791683	100.5326054	99.79701463	99.07215565	98.35779495
190625A00012	6/25/2019	2.12	6/25/2024	6/25/2019	115.53552	112.4509847	109.4652833	106.5745623	103.7751511	101.0635506	98.43642375	95.89058637	93.42299887
190620A00056	6/25/2019	2.07	1/17/2023	6/25/2019	107.65754	106.2433392	104.8596645	103.5055287	102.1799914	100.8821526	99.61115004	98.36615787	97.14638415
190620A00057	6/25/2019	2.09	5/15/2023	6/25/2019	109.45312	107.6917418	105.9678911	104.2804397	102.6283036	101.0104422	99.42585533	97.87358201	96.35269799
190621A00015	6/21/2019	2.2	6/21/2024	6/21/2019	115.71024	112.635992	109.6598804	106.7780973	103.9870116	101.2831613	98.66324368	96.1241069	93.66274144
190621A00021	6/21/2019	2.12	6/21/2022	6/21/2019	104.34117	103.5664879	102.8032779	102.0512906	101.3102799	100.5800065	99.86023834	99.15074982	98.45132182
190621A00023	6/21/2019	1.93	6/21/2022	6/21/2019	104.27781	103.5023361	102.7383626	101.9856391	101.2439184	100.5129606	99.79253241	99.08240761	98.38236619
190621A00041	6/21/2019	2.12	6/21/2022	6/21/2019	104.34117	103.5664879	102.8032779	102.0512906	101.3102799	100.5800065	99.86023834	99.15074982	98.45132182
190620A00025	6/20/2019	2.04	6/20/2022	6/20/2019	104.26518	103.4938304	102.7338701	101.9850443	101.2471095	100.5198294	99.80297424	99.09632111	98.39965324
190620A00026	6/20/2019	2.09	6/20/2023	6/20/2019	110.01017	108.1351026	106.3017938	104.5089195	102.7552085	101.0394432	99.36045711	97.71713213	96.10839579
190620A00027	6/20/2019	2.14	6/20/2024	6/20/2019	115.52159	112.4532532	109.4828041	106.6064418	103.8205479	101.1216719	98.5065222	95.97195716	93.51497698
190620A00044	6/20/2019	2.04	6/20/2022	6/20/2019	104.26518	103.4938304	102.7338701	101.9850443	101.2471095	100.5198294	99.80297424	99.09632111	98.39965324
190620A00045	6/20/2019	2.14	6/20/2024	6/20/2019	115.52159	112.4532532	109.4828041	106.6064418	103.8205479	101.1216719	98.5065222	95.97195716	93.51497698
190620A00055	6/25/2019	2.08	4/17/2023	6/25/2019	109.00601	107.3318781	105.6923107	104.0863137	102.5129314	100.9712441	99.46036628	97.97944505	96.52765857
190617A00027	6/17/2019	2.21	6/16/2023	6/17/2019	110.16255	108.2983699	106.4754888	104.6926035	102.9484639	101.2418727	99.57168237	97.93679245	96.33614726
190618A00002	6/18/2019	2.11	6/18/2025	6/18/2019	121.04196	116.6985138	112.5350781	108.5431167	104.7145537	101.0417465	97.51745989	94.13484113	90.88739698
190619A00007	6/19/2019	2.21	6/20/2022	6/19/2019	104.39127	103.6194032	102.8589246	102.1095859	101.3711434	100.6433608	99.92600831	99.21886282	98.52170752
190619A00009	6/19/2019	2.26	6/19/2024	6/19/2019	115.85483	112.7849026	109.8127915	106.9347029	104.1470249	101.4463133	98.82928205	96.29279466	93.83385614
190619A00024	6/19/2019	2.21	7/19/2022	6/19/2019	104.87443	104.012277	103.1642621	102.3300443	101.5092888	100.7016713	99.90687825	99.12460581	98.35455969
190620A00010	6/20/2019	2.04	6/20/2022	6/20/2019	104.26518	103.4938304	102.7338701	101.9850443	101.2471095	100.5198294	99.80297424	99.09632111	98.39965324
190610A00018	6/10/2019	2.52	6/10/2026	6/10/2019	127.04773	121.4067795	116.0503833	110.962594	106.1284516	101.5339163	97.16580655	93.0117409	89.06008483

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190611A00015	6/11/2019	2.32	6/11/2024	6/11/2019	115.90874	112.8636841	109.9149591	107.0588609	104.2918592	101.6105861	99.01182678	96.49251138	94.04970731
190612A00011	6/12/2019	2.2	6/30/2022	6/12/2019	104.55278	103.7499546	102.9594152	102.1808807	101.4140797	100.6587485	99.91463151	99.1814805	98.45905461
190613A00011	6/13/2019	2.26	6/13/2024	6/13/2019	115.76597	112.7165428	109.763772	106.9039325	104.1334753	101.4490148	98.84731961	96.32530469	93.88002308
190614A00005	6/14/2019	1.99	6/14/2022	6/14/2019	104.20636	103.4523753	102.7092824	101.9768434	101.2548303	100.5430214	99.84120156	99.14916129	98.46669712
190617A00026	6/17/2019	2.17	6/17/2022	6/17/2019	104.3112	103.5487417	102.7974035	102.0569478	101.3271391	100.6077489	99.89855511	99.19934204	98.50989991
190607A00003	6/7/2019	1.92	6/7/2022	6/7/2019	104.04092	103.30879	102.5869377	101.8751481	101.1732117	100.4809249	99.79808975	99.12451351	98.46000876
190607A00009	6/7/2019	2.14	6/7/2022	6/7/2019	104.12214	103.3906744	102.6694578	101.95828	101.2569324	100.5652122	99.88292208	99.20987017	98.54586971
190607A00012	6/7/2019	2.13	6/7/2022	6/7/2019	104.1151	103.3836563	102.6624674	101.9513169	101.2499965	100.5583031	99.87603962	99.20301405	98.53903967
190607A00018	6/7/2019	2.19	6/7/2024	6/7/2019	115.47687	112.4507719	109.5201107	106.6812296	103.930644	101.2650282	98.68120743	96.17614928	93.74695629
190607A00023	6/7/2019	1.92	6/7/2022	6/7/2019	104.04092	103.30879	102.5869377	101.8751481	101.1732117	100.4809249	99.79808975	99.12451351	98.46000876
190610A00017	6/10/2019	2.29	6/10/2024	6/10/2019	115.80765	112.7672404	109.8229398	106.9710562	104.2080707	101.5306258	98.93551676	96.41968304	93.98020077
190605A00035	6/5/2019	2.18	6/5/2023	6/5/2019	109.93385	108.1055997	106.3172842	104.5676606	102.85554	101.1797825	99.53929473	97.9330273	96.35997266
190606A00023	6/6/2019	2.23	6/6/2024	6/6/2019	115.57659	112.5522807	109.6232519	106.7858613	104.0366331	101.3722502	98.78954566	96.28549441	93.85720585
190606A00026	6/6/2019	2.23	6/6/2023	6/6/2019	110.03784	108.2055694	106.4133685	104.6599912	102.9442425	101.2649771	99.62109628	98.01154576	96.4353133
190606A00027	6/6/2019	2.51	6/5/2026	6/6/2019	126.92626	121.3053846	115.9673254	110.8962775	106.0774096	101.4968001	97.14137556	92.99885384	89.05769164
190606A00028	6/6/2019	2.74	6/6/2029	6/6/2019	143.35672	133.3672465	124.15182	115.6462247	107.7918987	100.5354112	93.82798644	87.62507513	81.88596661
190606A00029	6/6/2019	2.96	6/6/2034	6/6/2019	170.9663	152.5271209	136.2982956	122.0009567	109.3928381	98.26329862	88.4290459	79.73045773	72.0284148
190604A00031	6/4/2019	2.25	6/5/2023	6/4/2019	110.05697	108.227599	106.4381826	104.6874787	102.9742978	101.2974995	99.65598979	98.04871881	96.47467848
190605A00004	6/5/2019	2.11	1/12/2022	6/5/2019	101.69079	101.395836	101.1026039	100.8110772	100.521241	100.2330804	99.94658095	99.66172818	99.37850785
190605A00005	6/5/2019	2.01	6/5/2024	6/5/2019	115.3706	112.3426726	109.4102822	106.5697701	103.8176478	101.150586	98.56540652	96.05907354	93.62868637
190605A00012	6/5/2019	1.92	6/6/2022	6/5/2019	104.02454	103.2954997	102.5766511	101.8677817	101.1686846	100.4791588	99.79900874	99.12804403	98.4660795
190605A00020	6/5/2019	2.19	2/5/2024	6/5/2019	113.67192	111.0573696	108.5163614	106.0464176	103.6451581	101.3102964	99.03963546	96.83106381	94.68255145
190605A00034	6/5/2019	2.11	6/6/2022	6/5/2019	104.08439	103.3560921	102.637959	101.9297807	101.2313511	100.5424699	99.86294224	99.19257863	98.53119455
190603A00033	6/3/2019	2.05	6/3/2024	6/3/2019	115.45571	112.4330051	109.5054923	106.6695345	103.9216623	101.258565	98.67708097	96.17419041	93.74700743
190603A00040	6/3/2019	2.11	6/3/2022	6/3/2019	104.03455	103.3155112	102.6063778	101.9069503	101.2170304	100.5364253	99.86494744	99.20241417	98.5486477
190603A00046	6/3/2019	2.17	6/3/2022	6/3/2019	104.07614	103.3569393	102.6476452	101.9480584	101.2579809	100.5772197	99.90558715	99.2429007	98.58898248
190603A00047	6/3/2019	2.22	6/2/2023	6/3/2019	109.95615	108.136921	106.3572702	104.6159735	102.911858	101.243799	99.61071718	98.01157661	96.44538234
190603A00048	6/3/2019	2.24	6/3/2024	6/3/2019	115.56095	112.5464594	109.6266932	106.7980354	104.0570408	101.4004208	98.82503497	96.32788335	93.90609866
190604A00030	6/4/2019	2.2	6/3/2022	6/4/2019	104.09694	103.3776533	102.6682788	101.9686125	101.2784561	100.5976168	99.925907	99.26314396	98.60914987
190603A00002	6/3/2019	2.03	6/2/2023	6/3/2019	109.86746	108.0447455	106.2617557	104.5172628	102.8100877	101.1390997	99.50321388	97.90138909	96.3326254
190603A00003	6/3/2019	2.05	6/3/2024	6/3/2019	115.45571	112.4330051	109.5054923	106.6695345	103.9216623	101.258565	98.67708097	96.17419041	93.74700743
190603A00005	6/3/2019	2.25	6/3/2024	6/3/2019	115.58943	112.574544	109.6543844	106.8253426	104.0839731	101.4269869	98.85124357	96.35374263	93.93161662
190603A00009	6/3/2019	2.17	7/6/2022	6/3/2019	104.63082	103.8093429	103.0007321	102.2046854	101.4209117	100.6491286	99.88906264	99.14044835	98.40302838

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190603A00031	6/3/2019	1.98	6/3/2022	6/3/2019	104.01701	103.2970769	102.587076	101.8868065	101.1960694	100.5146709	99.84242281	99.17914167	98.52464902
190603A00032	6/3/2019	1.98	6/3/2022	6/3/2019	104.01701	103.2970769	102.587076	101.8868065	101.1960694	100.5146709	99.84242281	99.17914167	98.52464902
190531A00003	5/31/2019	2.31	10/29/2021	5/31/2019	100.48644	100.4054993	100.3246877	100.2440086	100.1634616	100.0830464	100.0027626	99.92261012	99.8425885
190531A00009	6/5/2019	2.1	6/3/2022	6/5/2019	104.10023	103.3799654	102.6696426	101.9690543	101.2780013	100.5962902	99.92373231	99.26014437	98.6053478
190531A00013	5/31/2019	2.31	12/6/2022	5/31/2019	107.37628	106.0616624	104.779116	103.5274782	102.3056421	101.1125529	99.94720514	98.80863981	97.69594159
190531A00035	5/31/2019	2.29	5/31/2022	5/31/2019	104.10796	103.3976888	102.6970813	102.0059369	101.324065	100.6512802	99.9874017	99.33225386	98.68566541
190531A00037	5/31/2019	2.61	5/31/2029	5/31/2019	143.70306	133.6546313	124.385618	115.8313315	107.9327809	100.6361441	93.89228916	87.65634197	81.8872958
190531A00038	5/31/2019	2.82	5/31/2034	5/31/2019	171.70731	153.0660045	136.665376	122.2222681	109.4907291	98.25695267	88.33492744	79.56269433	71.79912494
190530A00021	5/30/2019	2.21	5/27/2022	5/30/2019	104.05611	103.3571152	102.6674865	101.98704	101.3155932	100.6529683	99.99899243	99.353497	98.71631783
190530A00024	5/30/2019	2.25	5/30/2024	5/30/2019	115.96587	112.9487069	110.0261726	107.1946709	104.450767	101.7911816	99.21278315	96.71257935	94.28771019
190530A00029	5/30/2019	2.25	5/30/2024	5/30/2019	115.96587	112.9487069	110.0261726	107.1946709	104.450767	101.7911816	99.21278315	96.71257935	94.28771019
190530A00031	5/30/2019	2.21	5/31/2022	5/30/2019	104.1249	103.4136166	102.712023	102.0199186	101.3371121	100.6634172	99.99865248	99.3426415	98.69521229
190530A00034	5/30/2019	2.44	5/30/2024	5/30/2019	116.06961	113.0606402	110.1458342	107.3216175	104.5845788	101.9314612	99.35915379	96.86468397	94.44521018
190530A00045	5/30/2019	2.44	5/30/2024	5/30/2019	116.06961	113.0606402	110.1458342	107.3216175	104.5845788	101.9314612	99.35915379	96.86468397	94.44521018
190530A00003	5/30/2019	2.21	5/27/2022	5/30/2019	104.05611	103.3571152	102.6674865	101.98704	101.3155932	100.6529683	99.99899243	99.353497	98.71631783
190530A00004	5/30/2019	2.24	5/30/2023	5/30/2019	110.18624	108.3697701	106.5927375	104.8539221	103.1521589	101.4863304	99.85536416	98.25823069	96.69394111
190530A00006	5/30/2019	2.25	5/30/2024	5/30/2019	115.96587	112.9487069	110.0261726	107.1946709	104.450767	101.7911816	99.21278315	96.71257935	94.28771019
190530A00007	5/30/2019	2.35	11/30/2021	5/30/2019	101.02828	100.8568789	100.6860561	100.5158073	100.3461296	100.1770203	100.0084765	99.84049535	99.67307418
190530A00008	5/30/2019	2.38	5/30/2025	5/30/2019	121.85036	117.5546137	113.4344828	109.4817566	105.6886596	102.0478273	98.55228118	95.19540595	91.97092824
190530A00009	5/30/2019	2.25	5/30/2024	5/30/2019	115.96587	112.9487069	110.0261726	107.1946709	104.450767	101.7911816	99.21278315	96.71257935	94.28771019
190529A00028	5/29/2019	2.38	5/29/2024	5/29/2019	115.88457	112.8812876	109.971935	107.1529482	104.420927	101.772625	99.20494125	96.71491237	94.29970558
190529A00031	5/29/2019	2.36	5/30/2023	5/29/2019	110.15221	108.3403147	106.5676874	104.8331155	103.1354407	101.4735521	99.84638319	98.25291031	96.69214992
190529A00032	5/29/2019	2.38	5/29/2024	5/29/2019	115.88457	112.8812876	109.971935	107.1529482	104.420927	101.772625	99.20494125	96.71491237	94.29970558
190529A00050	5/29/2019	2.31	11/29/2021	5/29/2019	101.00471	100.8361549	100.6681597	100.500722	100.333839	100.167508	100.0017263	99.83649112	99.67179993
190529A00069	5/29/2019	2.34	11/29/2021	5/29/2019	101.00973	100.8411719	100.6731705	100.5057264	100.3388371	100.1724998	100.0067118	99.8414704	99.67677297
190529A00089	5/29/2019	2.38	5/29/2024	5/29/2019	115.88457	112.8812876	109.971935	107.1529482	104.420927	101.772625	99.20494125	96.71491237	94.29970558
190529A00005	5/29/2019	2.31	11/29/2021	5/29/2019	101.00471	100.8361549	100.6681597	100.500722	100.333839	100.167508	100.0017263	99.83649112	99.67179993
190529A00009	5/29/2019	2.35	5/31/2022	5/29/2019	104.14903	103.4386066	102.7378423	102.0465426	101.3645168	100.6915795	100.0275501	99.37225272	98.72551611
190529A00011	5/29/2019	2.36	5/30/2023	5/29/2019	110.15221	108.3403147	106.5676874	104.8331155	103.1354407	101.4735521	99.84638319	98.25291031	96.69214992
190529A00013	5/29/2019	2.38	5/29/2024	5/29/2019	115.88457	112.8812876	109.971935	107.1529482	104.420927	101.772625	99.20494125	96.71491237	94.29970558
190529A00020	5/29/2019	2.38	5/29/2024	5/29/2019	115.88457	112.8812876	109.971935	107.1529482	104.420927	101.772625	99.20494125	96.71491237	94.29970558
190529A00023	5/29/2019	2.38	5/29/2024	5/29/2019	115.88457	112.8812876	109.971935	107.1529482	104.420927	101.772625	99.20494125	96.71491237	94.29970558
190528A00007	5/28/2019	2.44	11/15/2023	5/28/2019	113.0142	110.6585053	108.3643677	106.1297332	103.9526298	101.8311676	99.76353436	97.7479915	95.7828707

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190528A00009	5/28/2019	2.45	5/15/2024	5/28/2019	115.87213	112.9121756	110.0437418	107.2634059	104.5678951	101.9540824	99.41897865	96.95972539	94.57358822
190528A00015	5/28/2019	2.42	5/27/2022	5/28/2019	104.12697	103.4286314	102.7396378	102.0598041	101.3889486	100.7268943	100.0734688	99.42850431	98.79183724
190528A00028	5/28/2019	2.42	5/30/2023	5/28/2019	110.25667	108.4438409	106.6702882	104.9348081	103.2362421	101.5734784	99.94545035	98.35113368	96.78954448
190528A00039	5/28/2019	2.38	11/29/2021	5/28/2019	101.01643	100.8478614	100.6798514	100.512399	100.3455012	100.1791555	100.0133592	99.84810944	99.68340369
190528A00042	5/28/2019	2.38	11/29/2021	5/28/2019	101.01643	100.8478614	100.6798514	100.512399	100.3455012	100.1791555	100.0133592	99.84810944	99.68340369
190524A00031	5/24/2019	2.43	5/24/2022	5/24/2019	104.08116	103.3919867	102.7119254	102.0407963	101.3784242	100.7246384	100.0792728	99.44216534	98.81315822
190524A00032	5/24/2019	2.45	5/24/2023	5/24/2019	110.21094	108.4162586	106.6601985	104.9415817	103.2592784	101.6122043	99.99931839	98.41962079	96.87215054
190524A00040	5/24/2019	2.47	5/24/2024	5/24/2019	116.064	113.073611	110.1763523	107.3687057	104.647315	102.0089748	99.45062237	96.96933056	94.56230022
190528A00003	5/28/2019	2.42	5/31/2022	5/28/2019	104.19695	103.486344	102.7853967	102.0939158	101.4117105	100.7385954	100.0743899	99.41891806	98.7720086
190528A00005	5/28/2019	2.42	6/15/2023	5/28/2019	110.52212	108.6576882	106.8344986	105.0512503	103.3066971	101.5996452	99.92895006	98.29351443	96.69228539
190528A00006	5/28/2019	2.43	9/15/2023	5/28/2019	112.03967	109.88119	107.7756955	105.7215431	103.7171557	101.7610158	99.85166304	97.98769109	96.16774573
190523A00022	5/23/2019	2.47	10/12/2022	5/23/2019	106.5887	105.4538469	104.3431015	103.2556993	102.1909101	101.1480337	100.1263987	99.12536073	98.14430148
190523A00023	5/23/2019	2.48	3/22/2023	5/23/2019	109.22066	107.6229449	106.0571022	104.5222542	103.0175576	101.5421991	100.0953943	98.67638606	97.28444349
190523A00024	5/23/2019	2.47	10/31/2022	5/23/2019	106.92859	105.731713	104.5615425	103.4171895	102.2978069	101.2025844	100.1307466	99.08155069	98.05428516
190524A00014	5/24/2019	2.24	5/24/2022	5/24/2019	104.0245	103.3346292	102.6538918	101.9821088	101.3191043	100.664707	100.0187499	99.38107045	98.75151023
190524A00015	5/24/2019	2.24	5/24/2022	5/24/2019	104.0245	103.3346292	102.6538918	101.9821088	101.3191043	100.664707	100.0187499	99.38107045	98.75151023
190524A00026	5/28/2019	2.45	6/15/2023	5/28/2019	110.57577	108.7108441	106.8871675	105.1034413	103.3584192	101.6509069	99.97975984	98.34388046	96.74221561
190523A00014	5/23/2019	2.5	11/15/2023	5/23/2019	113.14878	110.7915563	108.4959214	106.2598206	104.0812813	101.9584125	99.88940108	97.87250771	95.90606326
190523A00015	5/23/2019	2.51	4/1/2024	5/23/2019	115.35767	112.5424786	109.8113283	107.1612066	104.5892259	102.0926205	99.66874056	97.31504621	95.02910258
190523A00016	5/23/2019	2.48	2/15/2023	5/23/2019	108.64804	107.1628582	105.7054602	104.2751284	102.8711718	101.4929219	100.1397327	98.81097898	97.5060561
190523A00017	5/23/2019	2.51	3/15/2024	5/23/2019	115.09346	112.3348988	109.657244	107.0576465	104.5333753	102.0818122	99.70044678	97.38687073	95.13877332
190523A00018	5/23/2019	2.51	3/15/2024	5/23/2019	115.09346	112.3348988	109.657244	107.0576465	104.5333753	102.0818122	99.70044678	97.38687073	95.13877332
190523A00020	5/23/2019	2.5	2/9/2024	5/23/2019	114.50873	111.870521	109.3067937	106.8150275	104.3928017	102.0377913	99.74776281	97.52057007	95.35415019
190522A00003	5/22/2019	2.55	5/22/2024	5/22/2019	116.25875	113.2718102	110.3777189	107.5729788	104.8542498	102.2183418	99.6622061	97.18292876	94.77772297
190522A00017	5/23/2019	2.53	3/1/2023	5/23/2019	108.9663	107.4331394	105.9294173	104.4543577	103.0072092	101.5872462	100.1937677	98.82609647	97.48357762
190522A00019	5/23/2019	2.55	5/15/2024	5/23/2019	116.15125	113.1874129	110.3151949	107.531164	104.8320447	102.2147072	99.67615959	97.21354098	94.82411452
190522A00021	5/23/2019	2.47	10/15/2021	5/23/2019	100.25818	100.2163628	100.1745942	100.1328778	100.0912136	100.0496014	100.0080411	99.96653266	99.92507598
190523A00007	5/23/2019	2.28	5/23/2022	5/23/2019	104.03371	103.3468091	102.6689616	101.9999937	101.3397315	100.6880059	100.0446518	99.40950878	98.78242012
190523A00008	5/23/2019	2.29	5/23/2023	5/23/2019	110.15946	108.3640029	106.6072073	104.887896	103.2049378	101.5572471	99.94378158	98.36354014	96.81556073
190516A00012	5/16/2019	2.43	11/16/2021	5/16/2019	100.80268	100.670924	100.5395273	100.4084873	100.2778027	100.1474719	100.0174935	99.887866	99.758588
190517A00005	5/17/2019	2.31	5/17/2024	5/17/2019	115.93995	112.9634293	110.0792816	107.2840386	104.5743853	101.9471546	99.39931975	96.92798711	94.53038899
190520A00007	5/20/2019	2.52	5/20/2024	5/20/2019	116.14384	113.1646817	110.2779879	107.4802847	104.7682514	102.138716	99.58864695	97.11514627	94.71544223
190521A00005	5/21/2019	2.56	5/21/2024	5/21/2019	116.27148	113.2874536	110.3961044	107.5939488	104.8776556	102.2440429	99.69007004	97.2128304	94.80954408

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190521A00028	5/21/2019	2.47	11/22/2021	5/21/2019	100.91109	100.7623431	100.6140431	100.4661892	100.3187795	100.1718118	100.0252843	99.87919494	99.73354174
190521A00043	5/21/2019	2.54	5/22/2023	5/21/2019	110.33287	108.5430154	106.7915856	105.0774129	103.3993762	101.7563999	100.1474509	98.57153663	97.02770333
190514A00056	5/14/2019	2.32	5/15/2023	5/14/2019	110.08027	108.309237	106.5759955	104.8794023	103.2183644	101.5918324	99.99879807	98.43829258	96.9093843
190514A00073	5/14/2019	2.53	5/14/2024	5/14/2019	116.08013	113.1203686	110.2520299	107.4716949	104.7760977	102.1621178	99.62677173	97.16720676	94.78069358
190515A00002	5/15/2019	2.44	5/16/2022	5/15/2019	103.94751	103.2828042	102.6265909	101.9787098	101.3390027	100.7073154	100.0834977	99.46740289	98.85888814
190515A00008	5/15/2019	2.41	11/15/2021	5/15/2019	100.78434	100.6554054	100.5268116	100.3985604	100.2706505	100.1430804	100.0158488	99.88895424	99.76239544
190515A00023	5/15/2019	2.25	5/16/2022	5/15/2019	103.8928	103.2274193	102.5705554	101.9220444	101.2817276	100.6494503	100.0250614	99.40841384	98.79936412
190515A00055	5/15/2019	2.26	5/15/2023	5/15/2019	109.97833	108.2082016	106.4758445	104.7801193	103.1199335	101.4942382	99.90202548	98.34232698	96.81421148
190510A00018	5/10/2019	2.54	5/10/2023	5/10/2019	110.13384	108.3812367	106.6657379	104.9862404	103.3416804	101.7310362	100.1533255	98.6076042	97.09296384
190513A00013	5/13/2019	2.52	5/13/2024	5/13/2019	116.03699	113.0809073	110.2160676	107.4390575	104.7466203	102.1356443	99.60315445	97.14630577	94.76237627
190513A00076	5/13/2019	2.42	11/12/2021	5/13/2019	100.73439	100.613938	100.4937861	100.3739347	100.2543828	100.1351291	100.0161726	99.89751195	99.77914618
190514A00020	5/14/2019	2.66	5/14/2025	5/14/2019	122.10273	117.8699353	113.8080103	109.9090697	106.1656383	102.5706301	99.11732546	95.79934964	92.61065289
190514A00021	5/14/2019	2.72	11/14/2025	5/14/2019	125.07775	120.1801409	115.5032367	111.0358491	106.7674227	102.6879963	98.78816523	95.05904705	91.49224925
190514A00024	5/14/2019	2.34	5/14/2024	5/14/2019	115.97844	113.0106762	110.1347874	107.3473304	104.6450167	102.0247045	99.48339067	97.01820356	94.62639621
190507A00027	5/7/2019	2.59	5/7/2024	5/7/2019	116.1391	113.2001228	110.351403	107.5895849	104.9114648	102.3139801	99.79420202	97.3493287	94.97667879
190508A00008	5/8/2019	2.36	5/9/2022	5/8/2019	103.84024	103.1960413	102.5598276	101.9314517	101.3107692	100.6976393	100.0919246	99.49349092	98.90220753
190509A00019	5/9/2019	2.5	10/12/2021	5/9/2019	100.20753	100.1740823	100.1406727	100.1073021	100.0739705	100.0406777	100.0074238	99.97420854	99.94103197
190509A00029	5/9/2019	2.34	6/9/2022	5/9/2019	104.37214	103.6326321	102.9035896	102.184789	101.4760154	100.7770599	100.0877195	99.40779661	98.73709902
190509A00030	5/9/2019	2.48	11/9/2021	5/9/2019	100.68986	100.5778795	100.4661609	100.3547022	100.2435025	100.1325608	100.0218763	99.91144797	99.80127494
190510A00009	5/10/2019	2.47	11/10/2021	5/10/2019	100.70596	100.5911522	100.4766215	100.362364	100.2483789	100.134665	100.0212215	99.90804722	99.79514131
190501A00017	5/1/2019	2.61	5/1/2024	5/1/2019	116.10125	113.1813146	110.3506108	107.6058422	104.9438587	102.3616476	99.85632743	97.42514041	95.0654467
190501A00028	5/1/2019	2.42	5/1/2024	5/1/2019	116.00125	113.0734623	110.2353486	107.483586	104.8150026	102.2265656	99.715374	97.27865219	94.91374322
190502A00027	5/2/2019	2.42	5/2/2022	5/2/2019	103.75324	103.1303278	102.5148786	101.9067591	101.305839	100.7119911	100.1250909	99.54501727	98.9716515
190506A00027	5/6/2019	2.38	5/6/2022	5/6/2019	103.79973	103.1646717	102.5373696	101.9176864	101.3054837	100.7006268	100.1029838	99.51242611	98.92882825
190507A00004	5/7/2019	2.88	5/7/2029	5/7/2019	145.70171	135.6611784	126.391818	117.8301704	109.9183223	102.6033931	95.83707232	89.5752022	83.77739991
190507A00006	5/7/2019	2.57	5/8/2023	5/7/2019	110.15098	108.4041304	106.6941855	105.0200428	103.3806477	101.7749871	100.2020871	98.66101099	97.15085784
190429A00004	4/29/2019	2.65	4/15/2024	4/29/2019	115.95457	113.0871638	110.3062786	107.608767	104.991618	102.4519498	99.98700358	97.59413697	95.27081848
190430A00001	4/30/2019	2.47	5/2/2024	4/30/2019	116.15454	113.2215479	110.3784479	107.6219068	104.9487424	102.3559119	99.84050532	97.39973816	95.03094533
190430A00002	4/30/2019	2.4	11/2/2022	4/30/2019	107.02892	105.8228279	104.6438212	103.4909976	102.3634925	101.2604791	100.1811661	99.12479587	98.09064295
190430A00003	4/30/2019	2.43	8/2/2023	4/30/2019	111.59417	109.570533	107.5938236	105.6626693	103.77575	101.9317927	100.129569	98.36789361	96.64562227
190430A00021	4/30/2019	2.52	10/29/2021	4/30/2019	100.50341	100.4224543	100.3416286	100.2609354	100.1803743	100.099945	100.0196473	99.93948077	99.85944517
190501A00003	5/1/2019	2.61	5/1/2024	5/1/2019	116.10125	113.1813146	110.3506108	107.6058422	104.9438587	102.3616476	99.85632743	97.42514041	95.0654467
190426A00011	5/1/2019	2.56	3/15/2022	5/1/2019	102.92407	102.4463757	101.9731181	101.5042376	101.0396736	100.5793666	100.1232581	99.67129064	99.22340799

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190426A00012	5/1/2019	2.57	7/15/2022	5/1/2019	105.10794	104.2568334	103.4194924	102.5955841	101.7847867	100.9867889	100.2012892	99.42799545	98.66662451
190426A00016	5/1/2019	2.58	4/14/2023	5/1/2019	109.76235	108.0909105	106.4538515	104.8501911	103.2789836	101.7393182	100.2303182	98.75113872	97.30096554
190426A00032	6/27/2019	2.55	6/27/2022	6/27/2019	104.7687	103.9740451	103.1914162	102.4205429	101.6611617	100.9130171	100.1758612	99.44945326	98.73355944
190426A00033	6/27/2019	2.55	6/27/2022	6/27/2019	104.7687	103.9740451	103.1914162	102.4205429	101.6611617	100.9130171	100.1758612	99.44945326	98.73355944
190429A00003	4/29/2019	2.62	10/13/2023	4/29/2019	112.87594	110.6225557	108.4262533	106.2852042	104.197648	102.1618941	100.1763176	98.2393569	96.34951054
190411A00029	4/11/2019	2.46	4/11/2024	4/11/2019	115.79216	112.9306826	110.1554672	107.4633802	104.8514249	102.3167328	99.85655729	97.46826771	95.14934341
190424A00007	4/24/2019	2.66	4/24/2024	4/24/2019	116.12642	113.2282115	110.4180722	107.6927695	105.049214	102.4844498	99.99564866	97.58010286	95.23521955
190424A00021	4/24/2019	2.6	4/22/2022	4/24/2019	103.61902	103.0270958	102.4419251	101.8633962	101.2913964	100.7258155	100.1665458	99.61348213	99.06652141
190424A00023	4/24/2019	2.43	4/24/2023	4/24/2019	109.91514	108.2082375	106.5368919	104.9000656	103.2967628	101.7260255	100.1869323	98.67859602	97.20016254
190426A00008	4/26/2019	2.57	4/26/2022	4/26/2019	103.67323	103.0692483	102.4722949	101.8822443	101.2989772	100.7223771	100.1523302	99.58872535	99.0314537
190426A00009	4/26/2019	2.63	4/26/2024	4/26/2019	116.07661	113.1727489	110.3572761	107.6269401	104.9786342	102.409387	99.91635536	97.49681785	95.14816856
190409A00019	4/9/2019	2.91	4/9/2029	4/9/2019	145.53552	135.6052489	126.4309217	117.9508646	110.1087499	102.8531015	96.13685386	89.91695239	84.15399223
190409A00031	4/9/2019	2.64	4/9/2024	4/9/2019	115.8314	112.9846173	110.2233349	107.544456	104.9450217	102.4221991	99.97327516	97.59565062	95.28683458
190409A00033	4/9/2019	2.62	6/9/2023	4/9/2019	110.77656	108.928291	107.1205785	105.3521578	103.6218143	101.9283836	100.2707494	98.64784075	97.0586294
190411A00017	4/15/2019	2.65	4/15/2024	4/15/2019	115.95457	113.0871638	110.3062786	107.608767	104.991618	102.4519498	99.98700358	97.59413697	95.27081848
190411A00019	5/1/2019	2.63	5/2/2022	5/1/2019	103.81655	103.1942216	102.5793406	101.971771	101.3713832	100.7780503	100.1916486	99.61205725	99.03915809
190411A00020	5/1/2019	2.63	5/2/2022	5/1/2019	103.81655	103.1942216	102.5793406	101.971771	101.3713832	100.7780503	100.1916486	99.61205725	99.03915809
190403A00006	4/3/2019	2.48	4/3/2024	4/3/2019	115.71774	112.882669	110.132517	107.4642266	104.8748692	102.3616407	99.92185494	97.55293785	95.25242218
190403A00024	4/3/2019	2.61	7/29/2022	4/3/2019	105.38545	104.490319	103.6103576	102.7451825	101.8944234	101.0577224	100.2347331	99.4251208	98.62856123
190404A00003	4/4/2019	2.47	4/4/2024	4/4/2019	115.70705	112.8689481	110.1159239	107.444913	104.8529787	102.3373089	99.89521006	97.52410141	95.22150914
190404A00023	4/5/2019	2.62	5/16/2022	4/5/2019	104.06305	103.3979191	102.7412877	102.0929923	101.4528745	100.8207803	100.1965592	99.58006463	98.97115361
190404A00024	4/5/2019	2.61	2/15/2022	4/5/2019	102.44578	102.0510512	101.6593698	101.2706994	100.8850052	100.5022531	100.1224095	99.74544107	99.37131536
190408A00004	4/8/2019	2.6	10/8/2021	4/8/2019	100.14057	100.118273	100.0960036	100.0737577	100.0515353	100.0293363	100.0071608	99.98500866	99.96287984
190329A00018	3/29/2019	2.6	3/29/2024	3/29/2019	115.54935	112.7410298	110.0162873	107.3721318	104.8057006	102.3142516	99.89515678	97.54589733	95.26405787
190329A00034	3/29/2019	2.56	3/29/2022	3/29/2019	103.17387	102.6543603	102.1400695	101.6309203	101.126836	100.6277414	100.1335627	99.64422754	99.1596651
190401A00010	4/1/2019	2.62	4/1/2024	4/1/2019	115.65004	112.8309688	110.0960271	107.4422008	104.8665997	102.3664553	99.93911525	97.58203734	95.29278434
190401A00035	4/1/2019	2.53	10/1/2021	4/1/2019	100.01737	100.0145872	100.0118049	100.009025	100.0062475	100.0034724	100.0006996	99.99792928	99.99516131
190402A00004	4/2/2019	2.9	4/2/2029	4/2/2019	145.34334	135.4466535	126.3017865	117.8475329	110.0279769	102.7920092	96.09288998	89.88785441	84.1377553
190402A00010	4/2/2019	2.4	4/6/2022	4/2/2019	103.28175	102.7376513	102.1992762	101.6665389	101.1393512	100.6176266	100.1012805	99.59022985	99.08439344
190328A00053	3/28/2019	2.33	3/28/2022	3/28/2019	103.08764	102.5707444	102.0590213	101.5523957	101.0507919	100.5541354	100.0623533	99.57537401	99.09312755
190328A00065	3/28/2019	2.56	3/28/2024	3/28/2019	115.42771	112.624126	109.9039002	107.2640531	104.7017326	102.2142061	99.79885505	97.45316922	95.17474151
190328A00079	3/28/2019	2.37	3/28/2024	3/28/2019	115.33026	112.5192887	109.7920783	107.1456297	104.5770714	102.0836525	99.66273708	97.31179866	95.02841474
190328A00083	3/28/2019	2.37	3/28/2024	3/28/2019	115.33026	112.5192887	109.7920783	107.1456297	104.5770714	102.0836525	99.66273708	97.31179866	95.02841474

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190329A00016	3/29/2019	2.56	3/29/2022	3/29/2019	103.17387	102.6543603	102.1400695	101.6309203	101.126836	100.6277414	100.1335627	99.64422754	99.1596651
190329A00017	3/29/2019	2.59	3/29/2023	3/29/2019	109.50686	107.885869	106.2976061	104.7411634	103.2156648	101.720266	100.2541527	98.8165396	97.40666873
190327A00032	3/27/2019	2.53	1/26/2024	3/27/2019	114.358	111.7664702	109.2471197	106.7975062	104.4152909	102.0982282	99.84416166	97.65102001	95.51681287
190328A00003	3/28/2019	2.64	9/30/2024	3/28/2019	118.57029	115.1324135	111.8134039	108.6084697	105.5130435	102.5227686	99.63348752	96.84123194	94.14221281
190328A00019	3/28/2019	2.56	3/28/2024	3/28/2019	115.42771	112.624126	109.9039002	107.2640531	104.7017326	102.2142061	99.79885505	97.45316922	95.17474151
190328A00031	4/25/2019	2.56	4/25/2024	4/25/2019	115.86946	112.9715876	110.161865	107.4370574	104.7940688	102.2299378	99.74183091	97.32703551	94.98295418
190328A00033	4/25/2019	2.56	4/25/2024	4/25/2019	115.86946	112.9715876	110.161865	107.4370574	104.7940688	102.2299378	99.74183091	97.32703551	94.98295418
190328A00046	3/28/2019	2.7	3/4/2025	3/28/2019	121.18359	117.1987761	113.367375	109.6826543	106.1382134	102.7279664	99.4461248	96.2871812	93.24589433
190326A00024	3/26/2019	2.59	3/26/2024	3/26/2019	115.47552	112.6775652	109.9626148	107.3277132	104.7700261	102.2868378	99.87554573	97.53365465	95.25877164
190326A00032	3/26/2019	2.4	3/26/2024	3/26/2019	115.37842	112.5730922	109.8511768	107.2096915	104.6457826	102.1567163	99.73987275	97.39274058	95.11291158
190327A00006	3/27/2019	2.53	3/27/2024	3/27/2019	115.33273	112.5335334	109.8174786	107.1816026	104.6230631	102.1391371	99.72721513	97.38479534	95.10947871
190327A00013	3/27/2019	2.53	3/27/2024	3/27/2019	115.33273	112.5335334	109.8174786	107.1816026	104.6230631	102.1391371	99.72721513	97.38479534	95.10947871
190327A00024	3/27/2019	2.48	3/25/2022	3/27/2019	103.06295	102.5555078	102.0530616	101.5555345	101.0628544	100.5749508	100.0917543	99.61319713	99.1392126
190327A00031	3/27/2019	2.53	3/27/2024	3/27/2019	115.33273	112.5335334	109.8174786	107.1816026	104.6230631	102.1391371	99.72721513	97.38479534	95.10947871
190321A00021	3/21/2019	2.67	3/21/2024	3/21/2019	115.60661	112.8225736	110.1206785	107.4980129	104.9517868	102.4793267	100.0780693	97.74555663	95.47943103
190321A00044	3/21/2019	2.45	3/21/2022	3/21/2019	103.02338	102.5272507	102.0359	101.5492621	101.0672693	100.5898552	100.1169547	99.64850379	99.18443979
190326A00001	3/26/2019	2.55	3/28/2022	3/26/2019	103.151	102.6344897	102.1231464	101.616889	101.1156419	100.6193311	100.1278837	99.64122882	99.15929646
190326A00002	3/26/2019	2.56	9/26/2022	3/26/2019	106.39528	105.3118773	104.2504865	103.2104372	102.1910907	101.1918334	100.2120759	99.25125149	98.30881532
190326A00003	3/26/2019	2.57	3/27/2023	3/26/2019	109.44238	107.827898	106.245906	104.6955	103.1758132	101.6860101	100.225285	98.79286055	97.38798661
190326A00004	3/26/2019	2.58	9/26/2023	3/26/2019	112.51223	110.3143823	108.1712848	106.0812135	104.0425149	102.0535987	100.1129353	98.21905323	96.37053584
190318A00024	3/18/2019	2.57	3/18/2024	3/18/2019	115.69847	112.9140834	110.2117496	107.5885608	105.0417336	102.5686009	100.1666053	97.83329445	95.56631586
190319A00008	3/19/2019	2.72	3/21/2022	3/19/2019	103.10836	102.6125307	102.121477	101.6351256	101.1534091	100.6762613	100.2036174	99.7354137	99.27158777
190319A00013	3/19/2019	2.72	3/18/2022	3/19/2019	103.05348	102.5666152	102.0843585	101.6066415	101.1334002	100.6645717	100.2000944	99.73990782	99.28395251
190320A00005	3/20/2019	2.75	3/20/2024	3/20/2019	115.80033	113.0168815	110.3154546	107.6931425	105.1471624	102.6748477	100.2736415	97.94109215	95.67484745
190321A00003	3/21/2019	2.67	3/21/2024	3/21/2019	115.60661	112.8225736	110.1206785	107.4980129	104.9517868	102.4793267	100.0780693	97.74555663	95.47943103
190321A00018	3/21/2019	2.45	3/21/2022	3/21/2019	103.02338	102.5272507	102.0359	101.5492621	101.0672693	100.5898552	100.1169547	99.64850379	99.18443979
190313A00019	3/13/2019	2.73	7/15/2022	3/13/2019	105.23807	104.386375	103.5484532	102.7239706	101.9126054	101.1140462	100.3279912	99.55414824	98.79223408
190314A00018	3/14/2019	2.53	3/14/2022	3/14/2019	102.9359	102.4605804	101.9896586	101.5230726	101.0607624	100.6026692	100.1487355	99.69890458	99.2531208
190314A00027	3/22/2019	2.92	3/21/2025	3/22/2019	122.26421	118.2045483	114.3030609	110.5527145	106.9468287	103.4790558	100.1433631	96.93401483	93.84555598
190315A00014	3/15/2019	2.74	3/15/2024	3/15/2019	115.69298	112.9265963	110.2413019	107.6342376	105.1026669	102.6439667	100.2556214	97.93521792	95.68044093
190318A00008	3/18/2019	2.76	3/18/2024	3/18/2019	115.79397	113.0168713	110.3214308	107.7047613	105.1640983	102.6967921	100.3003023	97.97219228	95.71012442
190318A00021	3/18/2019	2.76	3/18/2024	3/18/2019	115.79397	113.0168713	110.3214308	107.7047613	105.1640983	102.6967921	100.3003023	97.97219228	95.71012442
190301A00009	3/1/2019	2.83	3/1/2022	3/1/2019	102.78957	102.3532912	101.9207047	101.4917656	101.0664279	100.6446464	100.2263768	99.8115754	99.40019924

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190301A00012	3/1/2019	3.41	3/1/2029	3/1/2019	147.61774	137.8157199	128.7456593	120.3488699	112.5716586	105.3648805	98.68353247	92.48638399	86.73564302
190305A00010	3/5/2019	2.84	3/7/2022	3/5/2019	102.90553	102.4513467	102.0011783	101.554967	101.1126608	100.6742086	100.2395599	99.80866543	99.38147659
190308A00007	3/8/2019	2.8	3/8/2024	3/8/2019	115.73454	112.9895495	110.3243997	107.7363035	105.2225869	102.7806852	100.4081385	98.10258589	95.86176159
190311A00009	3/11/2019	2.54	3/11/2022	3/11/2019	102.88641	102.4200396	101.9579022	101.4999412	101.0460999	100.5963228	100.1505554	99.70874394	99.27083588
190313A00017	3/13/2019	2.73	7/15/2022	3/13/2019	105.23807	104.386375	103.5484532	102.7239706	101.9126054	101.1140462	100.3279912	99.55414824	98.79223408
190222A00028	2/22/2019	2.62	2/22/2022	2/22/2019	102.61293	102.1970176	101.7844729	101.3752599	100.9693383	100.5666684	100.1672113	99.77092844	99.3777822
190225A00026	2/25/2019	3.43	2/27/2034	2/25/2019	179.44972	160.69287	144.1328819	129.4982083	116.5522566	105.0887296	94.92760534	85.91166858	77.90351501
190226A00006	2/26/2019	2.64	2/26/2024	2/26/2019	115.53501	112.8193512	110.1819126	107.6199869	105.1309804	102.7124044	100.3618706	98.07708613	95.8558492
190226A00020	2/26/2019	2.64	2/26/2024	2/26/2019	115.53501	112.8193512	110.1819126	107.6199869	105.1309804	102.7124044	100.3618706	98.07708613	95.8558492
190227A00002	2/27/2019	2.61	2/28/2022	2/27/2019	102.71771	102.2840725	101.8540874	101.4277076	101.0048877	100.5855835	100.1697514	99.75734823	99.34833195
190227A00005	2/27/2019	2.87	2/27/2024	2/27/2019	115.7478	113.0343253	110.3989126	107.8388644	105.3515947	102.9346221	100.5855649	98.30213665	96.0821415
190215A00046	2/15/2019	2.7	2/15/2024	2/15/2019	115.49674	112.8181968	110.215869	107.6871535	105.2295529	102.8406695	100.5182007	98.25993521	96.06374805
190219A00026	2/19/2019	2.8	2/22/2022	2/19/2019	102.64797	102.232409	101.8202155	101.4113451	101.0057578	100.603414	100.204275	99.80830253	99.41545907
190219A00045	2/19/2019	2.8	2/28/2022	2/19/2019	102.75829	102.3250178	101.8953905	101.4693593	101.0468793	100.6279063	100.2123969	99.80030832	99.39159856
190220A00007	2/20/2019	2.87	2/20/2024	2/20/2019	115.62579	112.9370811	110.3251383	107.7873265	105.3211215	102.9241007	100.5939377	98.32839841	96.12533665
190221A00002	2/21/2019	2.81	2/22/2022	2/21/2019	102.65203	102.2364638	101.8242602	101.4153799	101.0097826	100.607429	100.2082802	99.81229808	99.41944496
190222A00021	2/22/2019	2.95	8/21/2024	2/22/2019	118.89496	115.5826674	112.3807381	109.284888	106.2910258	103.3952413	100.5937966	97.88311685	95.25978285
190214A00013	2/14/2019	2.64	2/14/2023	2/14/2019	109.04346	107.5555813	106.0955249	104.6625738	103.2560357	101.8752415	100.5195439	99.18831722	97.88095592
190215A00003	2/15/2019	2.82	2/15/2022	2/15/2019	102.52699	102.1320695	101.7401957	101.3513339	100.9654494	100.5825081	100.2024763	99.8253208	99.45100905
190215A00004	2/15/2019	2.84	2/15/2023	2/15/2019	109.16497	107.6758614	106.2146009	104.7804754	103.3727917	101.9908796	100.6340912	99.30179951	97.99339823
190215A00005	2/15/2019	2.89	2/15/2024	2/15/2019	115.58904	112.9173765	110.3215678	107.7990287	105.3472784	102.9639349	100.6467108	98.39340861	96.20191685
190215A00006	2/15/2019	2.89	2/15/2024	2/15/2019	115.58904	112.9173765	110.3215678	107.7990287	105.3472784	102.9639349	100.6467108	98.39340861	96.20191685
190215A00017	2/15/2019	2.89	2/15/2024	2/15/2019	115.58904	112.9173765	110.3215678	107.7990287	105.3472784	102.9639349	100.6467108	98.39340861	96.20191685
190212A00017	2/12/2019	2.86	6/30/2023	2/12/2019	111.57789	109.6572428	107.7798723	105.9443865	104.1494498	102.3937842	100.6761663	98.995424	97.35043401
190213A00023	2/13/2019	2.93	2/13/2024	2/13/2019	115.6546	112.988738	110.3983937	107.8809976	105.4340854	103.0552908	100.7423412	98.49305298	96.30532791
190214A00004	2/14/2019	2.6	2/14/2022	2/14/2019	102.45992	102.0676428	101.6783794	101.2920918	100.908746	100.5283082	100.1507455	99.77602506	99.40411493
190214A00006	2/14/2019	2.67	2/14/2024	2/14/2019	115.4037	112.7296614	110.1316337	107.6070221	105.1533384	102.7681939	100.4492946	98.19443703	96.00150383
190214A00008	2/14/2019	2.64	2/14/2023	2/14/2019	109.04346	107.5555813	106.0955249	104.6625738	103.2560357	101.8752415	100.5195439	99.18831722	97.88095592
190214A00012	2/14/2019	2.6	2/14/2022	2/14/2019	102.45992	102.0676428	101.6783794	101.2920918	100.908746	100.5283082	100.1507455	99.77602506	99.40411493
190208A00008	2/8/2019	2.86	2/8/2024	2/8/2019	115.39173	112.7457451	110.174314	107.6749148	105.2451277	102.8826288	100.5851852	98.35065145	96.17696505
190208A00009	2/8/2019	2.67	2/8/2024	2/8/2019	115.29973	112.646973	110.0691161	107.5636268	105.1280691	102.7601036	100.457483	98.218048	96.03972328
190211A00002	2/11/2019	2.88	2/12/2024	2/11/2019	115.51149	112.8507486	110.2653042	107.7525997	105.3101805	102.9356894	100.6268625	98.38152452	96.19758514
190211A00011	2/11/2019	2.8	2/11/2022	2/11/2019	102.44573	102.0626201	101.6823785	101.3049747	100.930377	100.5585539	100.1894747	99.82310906	99.45942702

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190211A00016	2/11/2019	3.01	2/11/2025	2/11/2019	121.96766	118.0424007	114.2655613	110.6307375	107.1318401	103.7630739	100.5189218	97.39412992	94.38369354
190211A00017	2/11/2019	3.12	2/11/2026	2/11/2019	128.29081	123.0241329	118.0058551	113.2229647	108.663198	104.3149928	100.1674449	96.21026761	92.43375312
190131A00053	1/31/2019	2.67	1/31/2023	1/31/2019	108.82744	107.3871646	105.9730924	104.5845722	103.2209692	101.8816693	100.5660778	99.27361925	98.00373604
190201A00009	2/1/2019	2.8	2/4/2022	2/1/2019	102.31711	101.9546086	101.594678	101.2372867	100.8824079	100.5300151	100.1800824	99.8325839	99.48749441
190201A00011	2/1/2019	2.8	2/4/2022	2/1/2019	102.31711	101.9546086	101.594678	101.2372867	100.8824079	100.5300151	100.1800824	99.8325839	99.48749441
190204A00036	2/4/2019	2.86	11/4/2021	2/4/2019	100.64074	100.5428538	100.4451616	100.3476647	100.2503626	100.1532546	100.0563402	99.95961872	99.8630897
190206A00013	2/6/2019	2.68	2/6/2023	2/6/2019	108.95255	107.4916344	106.0576219	104.6498266	103.2675892	101.9102721	100.5772584	99.267951	97.98177207
190208A00005	2/8/2019	2.63	2/8/2023	2/8/2019	108.91877	107.4515471	106.011442	104.5977676	103.2098565	101.8470635	100.5087645	99.19435537	97.90325167
190131A00011	1/31/2019	3.13	1/30/2026	1/31/2019	128.13587	122.9165818	117.9416315	113.1983086	108.6746291	104.3592907	100.2416296	96.31158218	92.5596473
190131A00017	1/31/2019	2.83	3/25/2022	1/31/2019	103.2359	102.7279584	102.2250135	101.7269912	101.2338195	100.7454277	100.2617464	99.78270782	99.3082452
190131A00018	1/31/2019	2.83	3/25/2022	1/31/2019	103.2359	102.7279584	102.2250135	101.7269912	101.2338195	100.7454277	100.2617464	99.78270782	99.3082452
190131A00019	1/31/2019	3.44	1/30/2034	1/31/2019	179.12152	160.5127994	144.070375	129.5280837	116.653821	105.2450273	95.12479041	86.13847965	78.15083622
190131A00027	1/31/2019	2.86	1/31/2023	1/31/2019	108.89929	107.4615442	106.0499177	104.6637549	103.3024245	101.9653153	100.6518359	99.36141325	98.09349264
190131A00036	1/31/2019	2.69	7/31/2023	1/31/2019	112.06199	110.0398013	108.0643644	106.1343164	104.2483458	102.4051874	100.6036205	98.84246682	97.12058911
190129A00028	1/30/2019	2.92	2/1/2022	1/30/2019	102.30366	101.9499021	101.5985811	101.2496744	100.9031573	100.5590053	100.2171943	99.87770051	99.54050057
190129A00061	1/30/2019	2.92	2/1/2022	1/30/2019	102.30366	101.9499021	101.5985811	101.2496744	100.9031573	100.5590053	100.2171943	99.87770051	99.54050057
190130A00012	1/30/2019	2.92	1/31/2022	1/30/2019	102.28496	101.9341388	101.5857183	101.2396706	100.8959717	100.5545977	100.2155253	99.87873118	99.54419261
190130A00018	1/30/2019	2.95	10/17/2022	1/30/2019	107.19837	106.0441611	104.914778	103.8094275	102.727348	101.66781	100.630114	99.61358921	98.61759227
190130A00019	1/30/2019	3.01	1/30/2024	1/30/2019	115.60663	112.9875206	110.4414736	107.9660373	105.5588582	103.2176755	100.9403166	98.72469297	96.56879689
190130A00020	1/30/2019	2.97	4/17/2023	1/30/2019	110.443	108.7567325	107.105257	105.4875691	103.9027068	102.3497446	100.8277912	99.33598819	97.87350846
190122A00046	1/22/2019	3.29	1/22/2029	1/22/2019	147.49423	137.7830339	128.7894381	120.4564713	112.7319746	105.5681693	98.92126736	92.75111885	87.02089183
190123A00005	1/23/2019	2.94	1/24/2022	1/23/2019	102.1604	101.8299997	101.5017386	101.1755985	100.851559	100.5295998	100.2097008	99.89184222	99.57600465
190123A00034	1/23/2019	2.98	1/23/2025	1/23/2019	122.10045	118.2234739	114.4913817	110.8979479	107.4372552	104.1036734	100.8918439	97.79666457	94.81327616
190123A00035	1/23/2019	3.18	1/22/2027	1/23/2019	135.03335	128.3803117	122.0994049	116.1678197	110.564266	105.2688625	100.2630354	95.52942604	91.05180503
190123A00036	1/23/2019	3.32	1/23/2029	1/23/2019	147.75905	138.0341813	129.0279495	120.6832971	112.9479877	105.774171	99.11799352	92.93924479	87.20103752
190128A00035	1/28/2019	3.04	1/26/2024	1/28/2019	115.61205	113.0050275	110.4705201	108.0060812	105.6093618	103.2781064	101.0101493	98.80341015	96.65588987
190117A00004	1/17/2019	2.9	1/18/2022	1/17/2019	102.03549	101.7225975	101.411633	101.10258	100.7954209	100.4901381	100.1867145	99.88513304	99.58537684
190122A00007	1/22/2019	3.03	1/22/2024	1/22/2019	115.51888	112.9251559	110.4033813	107.9511096	105.5659966	103.2457931	100.9883408	98.79156765	96.65348405
190122A00008	1/22/2019	2.98	1/20/2023	1/22/2019	108.9255	107.4990269	106.1022617	104.7342869	103.3942244	102.0812319	100.7945014	99.5332572	98.29675446
190122A00042	1/22/2019	2.79	1/23/2023	1/22/2019	108.89348	107.4610716	106.0574927	104.6818978	103.3334714	102.0114301	100.7150205	99.44351829	98.19622673
190122A00043	1/22/2019	2.96	1/22/2025	1/22/2019	122.01248	118.1402315	114.4126128	110.8234142	107.3667262	104.0369268	100.8286653	97.73684779	94.7566231
190122A00045	1/22/2019	3.17	1/22/2027	1/22/2019	134.97451	128.3230975	122.0437519	116.1136647	110.5115489	105.2175261	100.2130254	95.48069062	91.00429492
190114A00061	1/14/2019	2.98	1/31/2024	1/14/2019	115.54952	112.9280791	110.3798185	107.9022897	105.4931386	103.1501034	100.8710101	98.65376873	96.49636962

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190115A00025	1/15/2019	2.96	1/12/2024	1/15/2019	115.17828	112.6190872	110.1303999	107.709786	105.3549132	103.0635478	100.83355	98.66286887	96.5495378
190115A00028	1/15/2019	2.86	11/8/2021	1/15/2019	100.71394	100.6047472	100.495799	100.3870976	100.2786421	100.1704317	100.0624654	99.95474246	99.84726202
190115A00029	1/15/2019	2.86	11/8/2021	1/15/2019	100.71394	100.6047472	100.495799	100.3870976	100.2786421	100.1704317	100.0624654	99.95474246	99.84726202
190115A00034	1/15/2019	2.91	1/17/2023	1/15/2019	108.79252	107.3701385	105.9784236	104.6163897	103.2830923	101.9776274	100.6991291	99.44676759	98.21974762
190115A00063	1/15/2019	2.96	1/16/2024	1/15/2019	115.246	112.6738409	110.1727457	107.7402759	105.3740947	103.0719633	100.8317349	98.65135081	96.52883589
190111A00013	1/11/2019	2.87	1/7/2022	1/11/2019	101.81926	101.538416	101.2591316	100.9813893	100.7051764	100.4304801	100.1572879	99.8855875	99.61536664
190111A00026	1/11/2019	3.48	1/11/2034	1/11/2019	179.40948	160.8602095	144.461784	129.950775	117.0973912	105.7010218	95.58639241	86.60024458	78.6084656
190111A00037	1/11/2019	2.68	1/11/2022	1/11/2019	101.86817	101.5754194	101.2843637	100.9949874	100.707276	100.421215	100.1367902	99.85398745	99.57279279
190114A00040	1/14/2019	2.89	1/14/2025	1/14/2019	121.63241	117.7922252	114.0948723	110.5341923	107.1043337	103.7997331	100.6150988	97.54539626	94.58583328
190114A00042	1/14/2019	2.92	1/13/2023	1/14/2019	108.76982	107.351539	105.9652357	104.6098293	103.2842865	101.9876204	100.7188877	99.47718632	98.26165318
190114A00043	1/14/2019	2.88	1/14/2022	1/14/2019	101.95193	101.6507273	101.35132	101.0536872	100.7578129	100.4636816	100.1712779	99.88058637	99.59159201
190110A00013	1/10/2019	2.97	1/17/2024	1/10/2019	115.28725	112.7115514	110.2070626	107.7713439	105.4020574	103.0969624	100.8539104	98.67084057	96.54577536
190110A00014	1/10/2019	2.97	1/17/2024	1/10/2019	115.28725	112.7115514	110.2070626	107.7713439	105.4020574	103.0969624	100.8539104	98.67084057	96.54577536
190110A00015	1/10/2019	2.88	1/18/2022	1/10/2019	102.02934	101.7164534	101.4055012	101.0964603	100.7893133	100.4840426	100.1806309	99.87906136	99.57931702
190110A00016	1/10/2019	2.88	1/25/2022	1/10/2019	102.15952	101.8262445	101.4951441	101.1662	100.8393912	100.514697	100.1920969	99.87157056	99.55309812
190110A00028	1/10/2019	2.78	1/10/2024	1/10/2019	115.07954	112.5200975	110.0312195	107.6104581	105.2554675	102.964002	100.7339115	98.56313569	96.44970021
190111A00010	1/11/2019	2.87	1/7/2022	1/11/2019	101.81926	101.538416	101.2591316	100.9813893	100.7051764	100.4304801	100.1572879	99.8855875	99.61536664
190110A00003	1/10/2019	2.97	1/10/2024	1/10/2019	115.16854	112.6155279	110.1327569	107.7177907	105.3682986	103.0820495	100.8569067	98.69082288	96.58183558
190110A00004	1/10/2019	3.09	1/10/2025	1/10/2019	121.72013	117.9048827	114.2308736	110.6920185	107.2825348	103.9969256	100.829964	97.7766775	94.83233413
190110A00005	1/10/2019	3.2	1/9/2026	1/10/2019	128.13242	122.9820868	118.0704277	113.3850231	108.9141726	104.6468506	100.5726631	96.68180738	92.96503489
190110A00009	1/10/2019	2.97	1/16/2024	1/10/2019	115.27029	112.6978329	110.1964474	107.7636934	105.3972344	103.0948309	100.8543362	98.67369144	96.55092124
190110A00010	1/10/2019	2.97	1/16/2024	1/10/2019	115.27029	112.6978329	110.1964474	107.7636934	105.3972344	103.0948309	100.8543362	98.67369144	96.55092124
190110A00012	1/10/2019	2.97	1/18/2024	1/10/2019	115.30421	112.7252701	110.2176779	107.7789944	105.4068805	103.0990943	100.8534854	98.66799095	96.54063133
190107A00035	1/7/2019	2.82	10/15/2021	1/7/2019	100.27281	100.2309792	100.1891984	100.1474699	100.1057935	100.0641692	100.0225968	99.98107629	99.93960755
190107A00036	1/7/2019	2.84	4/15/2022	1/7/2019	103.62639	103.0552092	102.4903235	101.9316319	101.3790329	100.8324269	100.2917167	99.75680722	99.22760521
190108A00039	1/8/2019	3.04	4/30/2024	1/8/2019	117.26635	114.3335714	111.4902266	108.7330219	106.0588043	103.4645585	100.9473999	98.50456776	96.13341928
190109A00010	1/9/2019	2.98	1/9/2023	1/9/2019	108.79889	107.3845734	106.0035459	104.6546298	103.3367037	102.0486984	100.789594	99.55841669	98.35423661
190110A00001	1/10/2019	2.88	1/10/2022	1/10/2019	101.87769	101.5881251	101.3002159	101.0139473	100.7293054	100.4462762	100.1648461	99.88500125	99.60672841
190110A00002	1/10/2019	2.93	1/10/2023	1/10/2019	108.74517	107.3301952	105.9481728	104.5979524	103.2784348	101.9885714	100.7273615	99.49384944	98.28712208
190104A00033	1/4/2019	3.37	1/31/2029	1/4/2019	146.78978	137.1352814	128.194358	119.9103851	112.2315134	105.1102389	98.5030194	92.36992468	86.67432043
190107A00010	1/7/2019	2.66	1/9/2023	1/7/2019	108.54375	107.1284795	105.7465746	104.3968567	103.0782004	101.7895325	100.5298293	99.29811376	98.09345269
190107A00022	1/7/2019	2.83	1/7/2022	1/7/2019	101.80818	101.5273616	101.2480974	100.9703753	100.6941824	100.419506	100.1463337	99.87465307	99.60445189
190107A00023	1/7/2019	2.87	1/6/2023	1/7/2019	108.60123	107.1916778	105.8163549	104.4740186	103.1634828	101.8836184	100.6333493	99.41164965	98.21754068

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190107A00024	1/7/2019	2.91	1/5/2024	1/7/2019	114.94002	112.4049326	109.9393651	107.5408812	105.2071563	102.9359669	100.7251852	98.57277422	96.47678298
190107A00028	1/7/2019	2.62	1/7/2022	1/7/2019	101.77843	101.4973472	101.2178261	100.9398523	100.6634128	100.3884949	100.1150861	99.84317376	99.57274563
190102A00026	1/2/2019	2.62	1/4/2022	1/2/2019	101.7241	101.4517427	101.1808443	100.9113958	100.6433856	100.3768021	100.1116338	99.84786968	99.5854984
190102A00041	1/2/2019	2.91	1/2/2024	1/2/2019	114.8897	112.3643159	109.9080373	107.518434	105.193184	102.9300677	100.7269618	98.58183496	96.49274214
190102A00050	1/2/2019	3.38	1/3/2034	1/2/2019	177.82857	159.4117941	143.130193	128.7223863	115.9603555	104.6450253	94.60245069	85.68052446	77.74613073
190102A00058	1/2/2019	2.91	1/2/2024	1/2/2019	114.8897	112.3643159	109.9080373	107.518434	105.193184	102.9300677	100.7269618	98.58183496	96.49274214
190103A00010	1/3/2019	2.7	1/3/2024	1/3/2019	114.77002	112.235635	109.7707988	107.3730682	105.0401053	102.7696754	100.5596408	98.40795575	96.31266187
190104A00003	1/4/2019	2.81	1/4/2022	1/4/2019	101.74758	101.4754827	101.2048433	100.9356488	100.6678876	100.4015483	100.1366195	99.87309005	99.61094893
181227A00022	12/27/2019	2.91	12/27/2022	12/27/2019	108.51567	107.1256753	105.7712195	104.4509565	103.1636034	101.9079408	100.6828091	99.48710436	98.31977558
181227A00026	12/27/2018	3.03	12/27/2023	12/27/2018	115.07246	112.5632344	110.1222829	107.7472119	105.43573	103.1856469	100.9948679	98.86138866	96.78329055
181227A00027	12/27/2018	3.24	12/26/2025	12/27/2018	128.09365	122.9903107	118.1217751	113.4758569	109.0410781	104.8066247	100.7623034	96.89850219	93.20615302
181227A00028	12/27/2018	3.46	12/27/2028	12/27/2018	146.97514	137.4391281	128.5999936	120.4028408	112.7973889	105.737563	99.18112034	93.0893108	87.42656996
181228A00008	12/28/2018	2.9	12/28/2021	12/28/2018	101.64174	101.3898501	101.1392123	100.8898137	100.6416451	100.3946974	100.1489616	99.90442894	99.66109053
181231A00007	12/31/2018	2.86	12/31/2021	12/31/2018	101.68703	101.4265252	101.1673453	100.9094831	100.6529287	100.3976721	100.1437038	99.89101384	99.63959282
181219A00005	12/19/2018	3.06	12/19/2023	12/19/2018	115.00409	112.52023	110.1034227	107.7513306	105.4617231	103.2324672	101.0615216	98.94693259	96.88682877
181219A00006	12/19/2018	3.06	12/19/2023	12/19/2018	115.00409	112.52023	110.1034227	107.7513306	105.4617231	103.2324672	101.0615216	98.94693259	96.88682877
181220A00027	12/20/2018	2.97	2/28/2022	12/20/2018	102.83026	102.3968121	101.9670031	101.5407914	101.118132	100.6989807	100.2832941	99.87102933	99.46214446
181221A00018	12/21/2018	2.98	12/21/2021	12/21/2018	101.53047	101.2986775	101.0679549	100.8382936	100.6096862	100.3821256	100.1556045	99.93011569	99.70565214
181226A00024	12/26/2018	2.9	12/27/2021	12/26/2018	101.62322	101.3742093	101.1264218	100.8798475	100.6344776	100.3903032	100.1473157	99.90550636	99.66486673
181227A00019	12/28/2020	3.1	12/29/2025	12/28/2020	127.49472	122.394692	117.5298841	112.8880587	108.4576944	104.2279379	100.1885604	96.32991754	92.64291187
181213A00031	12/13/2018	2.97	12/13/2023	12/13/2018	115.04666	112.5735851	110.1669986	107.8245943	105.5441714	103.3236243	101.160938	99.0541831	97.00151104
181214A00012	12/14/2018	3.07	12/14/2021	12/14/2018	101.41606	101.2043678	100.9935741	100.7836714	100.574654	100.3665162	100.1592525	99.9528572	99.7473249
181217A00010	12/17/2018	3.11	12/15/2023	12/17/2018	115.05102	112.5788947	110.1732248	107.831711	105.5521526	103.332444	101.1705701	99.06460152	97.01268979
181217A00052	12/17/2018	3.04	12/17/2021	12/17/2018	101.46861	101.2482932	101.0289417	100.8105536	100.5931223	100.3766415	100.161105	99.94650652	99.7328399
181218A00072	12/18/2018	3.04	12/19/2022	12/18/2018	108.52714	107.1629127	105.832942	104.5359526	103.2707282	102.0361119	100.8310021	99.65434979	98.50515504
181218A00077	12/18/2018	3.09	12/18/2023	12/18/2018	115.05691	112.5755032	110.1610041	107.8110903	105.5235385	103.296222	101.1271062	99.01424282	96.95576616
181210A00015	12/10/2018	3.12	12/11/2023	12/10/2018	115.00394	112.5446464	110.1512016	107.8213336	105.5528713	103.3437376	101.1919439	99.09558549	97.05283751
181211A00009	12/11/2018	3.14	12/11/2023	12/11/2018	115.05035	112.5905192	110.1965418	107.8661525	105.5971799	103.3875465	101.2352633	99.1384255	97.0952078
181211A00018	12/11/2018	3.14	12/11/2023	12/11/2018	115.05035	112.5905192	110.1965418	107.8661525	105.5971799	103.3875465	101.2352633	99.1384255	97.0952078
181211A00031	12/11/2018	2.95	12/11/2023	12/11/2018	114.9649	112.4989639	110.0991851	107.763283	105.4890725	103.2744626	101.1174521	99.01612428	96.96864283
181211A00043	12/11/2018	3.14	12/11/2023	12/11/2018	115.05035	112.5905192	110.1965418	107.8661525	105.5971799	103.3875465	101.2352633	99.1384255	97.0952078
181212A00027	12/12/2018	2.99	12/12/2023	12/12/2018	115.07558	112.6052562	110.2012707	107.8613316	105.5832454	103.3649134	101.204327	99.09956268	97.04877757
181129A00023	11/29/2018	3.16	11/29/2021	11/29/2018	101.14704	100.9783053	100.8101305	100.6425135	100.4754518	100.3089425	100.1429831	99.97757068	99.81270273

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
181129A00027	11/29/2018	3.16	11/29/2021	11/29/2018	101.14704	100.9783053	100.8101305	100.6425135	100.4754518	100.3089425	100.1429831	99.97757068	99.81270273
181130A00025	11/30/2018	3	6/1/2022	11/30/2018	104.6854	103.9689262	103.2622396	102.5651448	101.8774477	101.1989591	100.5294951	99.86887648	99.21692884
181130A00037	11/30/2018	3.05	11/30/2023	11/30/2018	115.00088	112.5684463	110.2005375	107.8949559	105.6495972	103.4624465	101.3315738	99.25512951	97.23134033
181203A00053	12/4/2018	3.23	12/1/2023	12/4/2018	115.07995	112.6504888	110.2854065	107.9825099	105.7397008	103.5549704	101.4263942	99.35212798	97.33040342
181204A00023	12/4/2018	3.16	12/3/2021	12/4/2018	101.22374	101.0435754	100.8640494	100.6851631	100.5069131	100.329296	100.1523084	99.97594692	99.80020836
181123A00013	11/23/2018	3.14	11/23/2021	11/23/2018	101.02924	100.8775387	100.7262987	100.5755206	100.4252022	100.2753415	100.1259364	99.97698486	99.82848473
181123A00015	11/23/2018	3.14	11/23/2021	11/23/2018	101.02924	100.8775387	100.7262987	100.5755206	100.4252022	100.2753415	100.1259364	99.97698486	99.82848473
181123A00016	11/23/2018	3.19	11/23/2022	11/23/2018	108.19801	106.9197396	105.6716493	104.4526809	103.2618236	102.0981127	100.9606271	99.84848725	98.76085236
181127A00026	11/27/2018	3.2	11/26/2021	11/27/2018	101.09601	100.935779	100.7760634	100.616857	100.4581574	100.2999622	100.1422691	99.98507555	99.82837935
181127A00027	11/27/2018	3.25	11/28/2022	11/27/2018	108.3704	107.0749911	105.8105273	104.5759086	103.3700872	102.1920639	101.0408854	99.91564128	98.81546216
181128A00031	11/28/2018	3.29	11/28/2023	11/28/2018	115.16216	112.7411102	110.384023	108.0887237	105.8531349	103.6752673	101.5532146	99.48514994	97.46932114
181115A00055	11/15/2018	3.01	11/15/2021	11/15/2018	100.87444	100.745268	100.6164387	100.4879541	100.3598128	100.2320135	100.1045547	99.9774349	99.85065285
181115A00076	11/15/2018	3.22	12/31/2021	11/15/2018	101.77962	101.5189501	101.2596124	101.001593	100.7448821	100.4894696	100.2353459	99.98250128	99.73092615
181116A00015	11/19/2018	3.29	2/15/2024	11/19/2018	116.5967	113.9122995	111.3040404	108.7693269	106.3056697	103.9106787	101.5820584	99.3176039	97.11519638
181119A00018	11/19/2018	3.28	11/17/2023	11/19/2018	114.9354	112.5515751	110.2300575	107.9687608	105.7656861	103.6189175	101.5266183	99.48702681	97.49845243
181120A00023	11/20/2018	3.15	11/19/2021	11/20/2018	100.95436	100.8139953	100.6740339	100.5344735	100.3953124	100.2565489	100.1181812	99.9802077	99.84262661
181120A00024	11/20/2018	3.25	11/20/2023	11/20/2018	114.92327	112.5301466	110.1997598	107.9300017	105.7188527	103.5643777	101.4647215	99.41810522	97.422822
181114A00010	11/14/2018	3.08	11/15/2021	11/14/2018	100.88343	100.7542409	100.6254014	100.4969067	100.3687554	100.2409459	100.113477	99.98634717	99.85955509
181114A00012	11/14/2018	3.13	11/14/2022	11/14/2018	108.09705	106.845898	105.6236851	104.4294159	103.2621397	102.1209484	101.0049742	99.9133875	98.84539478
181114A00014	11/14/2018	3.17	11/14/2023	11/14/2018	114.97668	112.5950865	110.2756778	108.0163778	105.8151945	103.6702187	101.57962	99.54164234	97.5546006
181114A00021	11/14/2018	3.17	11/14/2023	11/14/2018	114.97668	112.5950865	110.2756778	108.0163778	105.8151945	103.6702187	101.57962	99.54164234	97.5546006
181114A00024	11/14/2018	3.27	12/14/2021	11/14/2018	101.45796	101.2462039	101.0353471	100.8253816	100.6163015	100.4081013	100.2007754	99.99431811	99.78872401
181115A00036	11/15/2018	3.2	11/15/2021	11/15/2018	100.88571	100.7566601	100.6279516	100.499586	100.3715619	100.243878	100.1165327	99.98952483	99.86285293
181107A00008	11/7/2018	3.42	11/7/2023	11/7/2018	115.06076	112.7069854	110.41412	108.1801455	106.0031306	103.8812233	101.8126465	99.79569492	97.82873097
181108A00025	11/8/2018	3.44	7/31/2023	11/8/2018	113.21374	111.1855155	109.2040447	107.2679725	105.3759896	103.5268331	101.7192841	99.95216612	98.22434344
181109A00023	11/9/2018	3.39	11/9/2022	11/9/2018	108.14814	106.9150255	105.7100305	104.5322016	103.380627	102.2544354	101.1527936	100.0749047	99.02000581
181109A00027	11/13/2018	3.48	4/15/2024	11/13/2018	118.1958	115.2982004	112.4878259	109.7615066	107.11621	104.5490336	102.0571987	99.63804369	97.28901878
181109A00028	11/9/2018	3.72	11/9/2026	11/9/2018	135.88869	129.502605	123.4605559	117.7420878	112.3280748	107.200627	102.3430033	97.73953139	93.37553375
181109A00029	11/9/2018	3.72	11/9/2026	11/9/2018	135.88869	129.502605	123.4605559	117.7420878	112.3280748	107.200627	102.3430033	97.73953139	93.37553375
181026A00002	10/26/2018	3.28	10/26/2023	10/26/2018	114.52895	112.2182565	109.9667019	107.7723562	105.6333696	103.5479669	101.5144434	99.53116221	97.59655025
181029A00081	10/29/2018	3.27	4/28/2023	10/29/2018	111.13657	109.4109719	107.7213847	106.0667556	104.4460715	102.858358	101.3026779	99.77812893	98.28384281
181030A00012	10/30/2018	3.32	10/30/2023	10/30/2018	114.6899	112.3653382	110.1004724	107.8933479	105.7420893	103.6448971	101.600044	99.60587123	97.6607856
181101A00020	11/1/2018	3.26	11/1/2021	11/1/2018	100.62153	100.532081	100.4427955	100.3536685	100.2646996	100.1758884	100.0872344	99.99873729	99.91039664

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
181102A00006	11/2/2018	3.07	11/2/2021	11/2/2018	100.63277	100.5404126	100.4482259	100.3562111	100.2643676	100.172695	100.0811928	99.98986051	99.89869769
181106A00003	11/6/2018	3.31	11/5/2021	11/6/2018	100.7042	100.6034457	100.5028959	100.4025543	100.3024199	100.2024924	100.1027709	100.0032548	99.9039435
181022A00029	10/22/2018	3.22	10/24/2022	10/22/2018	107.63142	106.4524723	105.2993374	104.1711741	103.0671775	101.9865766	100.9286331	99.89263945	98.87791723
181023A00020	10/23/2018	3.15	10/22/2021	10/23/2018	100.42044	100.3590258	100.2977041	100.2364709	100.1753262	100.1142697	100.0533012	99.99242058	99.9316276
181023A00021	10/23/2018	3.28	10/23/2023	10/23/2018	114.47409	112.1730645	109.9307745	107.7453105	105.6148416	103.53761	101.5119279	99.53617384	97.60878968
181023A00025	10/23/2018	3.27	10/23/2023	10/23/2018	114.45235	112.1515619	109.9095071	107.7242735	105.5940303	103.5170199	101.4915545	99.51601292	97.58883707
181023A00052	10/23/2018	3.15	10/23/2023	10/23/2018	114.52403	112.216009	109.9670208	107.7751399	105.6385227	103.5553995	101.5240713	99.54290606	97.61033548
181025A00010	10/25/2018	3.07	10/25/2022	10/25/2018	107.62661	106.4423416	105.2841045	104.1510489	103.0423598	101.9572571	100.8949938	99.85485403	98.83615167
181015A00024	10/15/2018	3.29	10/16/2023	10/15/2018	114.36764	112.0889257	109.8680135	107.7030448	105.5922316	103.5338568	101.526271	99.56788891	97.65718647
181016A00084	10/16/2018	3.21	10/17/2022	10/16/2018	107.48019	106.3243197	105.1933041	104.0863453	103.0026812	101.9415815	100.9023464	99.88430457	98.88681193
181016A00087	10/16/2018	3.31	10/16/2023	10/16/2018	114.41071	112.1315219	109.9101478	107.7447266	105.6334701	103.5746609	101.5666493	99.60784966	97.69673789
181018A00011	10/18/2018	3.35	10/18/2023	10/18/2018	114.53383	112.2472464	110.0187674	107.8465129	105.728682	103.6635452	101.6494412	99.68477364	97.76800813
181018A00014	10/18/2018	3.21	10/18/2021	10/18/2018	100.34696	100.2967346	100.2465721	100.1964766	100.1464478	100.0964857	100.04659	99.99676077	99.94699776
181022A00026	10/22/2018	3.18	10/15/2021	10/22/2018	100.28786	100.2460132	100.2042199	100.1624788	100.12079	100.0791532	100.0375684	99.99603546	99.95455431
181009A00035	10/9/2018	3.12	10/11/2022	10/9/2018	107.40004	106.2615783	105.1472319	104.0562442	102.9878858	101.9414577	100.9162891	99.91173664	98.92718242
181009A00036	10/9/2018	3.07	10/8/2021	10/9/2018	100.15329	100.1309633	100.1086618	100.0863842	100.0641303	100.0419001	100.0196937	99.9975108	99.97535154
181009A00060	10/9/2018	3.07	10/12/2021	10/9/2018	100.22996	100.1964597	100.1629989	100.1295775	100.0961955	100.0628528	100.0295493	99.9962849	99.96305958
181010A00020	10/10/2018	3.27	12/1/2022	10/10/2018	108.45518	107.1495762	105.8753825	104.6314737	103.4167793	102.2302788	101.0709987	99.93800984	98.83042495
181010A00021	10/10/2018	3.29	3/15/2023	10/10/2018	110.35167	108.7655939	107.2107511	105.6862952	104.191409	102.7253039	101.2872191	99.87642002	98.49219715
181010A00023	10/10/2018	3.41	4/1/2024	10/10/2018	117.7498	114.902853	112.1406823	109.4602506	106.8586478	104.3330869	101.8808972	99.49951912	97.1864988
181005A00011	10/5/2018	3.2	10/5/2023	10/5/2018	114.2997	112.0487184	109.8543934	107.7149197	105.6285637	103.59366	101.6086075	99.67186672	97.78195684
181005A00012	10/5/2018	3.33	10/4/2024	10/5/2018	121.36173	117.8551435	114.4700165	111.2014393	108.044728	104.9954161	102.0492425	99.20214086	96.4502296
181005A00016	10/5/2018	3.26	1/10/2023	10/5/2018	109.18436	107.7662557	106.3811626	105.0279258	103.7054443	102.4126683	101.1485955	99.91226882	98.70277378
181005A00017	10/5/2018	3.27	4/11/2023	10/5/2018	110.81331	109.1421592	107.5052536	105.901619	104.3303179	102.7904476	101.2811389	99.80155366	98.35088441
181005A00037	10/9/2018	3.4	10/3/2025	10/9/2018	128.11949	123.2764669	118.646417	114.218794	109.9836372	105.9315319	102.0535758	98.34134862	94.78688304
181009A00008	10/9/2018	3.24	10/7/2022	10/9/2018	107.31166	106.1884408	105.0887212	104.0117713	102.9568889	101.9234005	100.9106595	99.9180454	98.94496217
181002A00018	10/2/2018	3.1	10/4/2021	10/2/2018	100.07585	100.0647001	100.0535635	100.0424374	100.0313219	100.0202168	100.0091222	99.99803815	99.98696451
181002A00019	10/2/2018	2.98	10/4/2021	10/2/2018	100.07563	100.0644744	100.0533274	100.042191	100.0310653	100.0199502	100.0088457	99.99775181	99.98666849
181002A00055	10/2/2018	3.14	10/3/2022	10/2/2018	107.12694	106.0174257	104.9308727	103.8665704	102.8238403	101.8020311	100.8005177	99.81869966	98.85599999
181004A00028	10/4/2018	3.31	10/4/2023	10/4/2018	114.19033	111.9497577	109.7654216	107.6355356	105.5583846	103.5323199	101.5557569	99.62717118	97.74509648
181004A00029	10/4/2018	3.7	10/4/2028	10/4/2018	147.51212	138.2628874	129.6698947	121.6829072	114.2557893	107.3461531	100.9150357	94.92660515	89.34789359
181005A00005	10/5/2018	3.31	10/5/2023	10/5/2018	114.20869	111.9649029	109.7774817	107.6446348	105.5646412	103.5358466	101.5566609	99.62555461	97.74105677
180926A00031	9/26/2018	3.24	9/26/2023	9/26/2018	113.8941	111.6815101	109.5239653	107.4197373	105.367164	103.3646469	101.4106486	99.50368986	97.64234693

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180927A00008	9/27/2018	3.14	9/27/2022	9/27/2018	107.00843	105.9184779	104.8507091	103.8044481	102.7790496	101.7738941	100.7883863	99.82195425	98.87404774
180927A00015	9/27/2018	3.02	9/27/2022	9/27/2018	107.01591	105.9239624	104.8542633	103.8061413	102.7789481	101.7720617	100.7848839	99.81684028	98.86737835
180927A00042	9/27/2018	3.02	9/27/2022	9/27/2018	107.01591	105.9239624	104.8542633	103.8061413	102.7789481	101.7720617	100.7848839	99.81684028	98.86737835
180928A00011	9/28/2018	3.12	7/15/2022	9/28/2018	105.55526	104.7021326	103.8627951	103.0369128	102.2241636	101.4242357	100.6368273	99.86164566	99.09840741
181001A00074	10/1/2018	3.03	10/3/2022	10/1/2018	107.14506	106.0334397	104.9448526	103.8785887	102.8339664	101.8103318	100.8070568	99.8235384	98.85919703
180920A00035	9/20/2018	3.16	9/20/2022	9/20/2018	106.89068	105.8233284	104.7772786	103.7518996	102.7465825	101.7607426	100.7938174	99.84526598	98.91456789
180920A00062	9/20/2018	3.12	9/20/2023	9/20/2018	113.84872	111.6497096	109.505065	107.4130921	105.3721593	103.380697	101.4371953	99.54020098	97.68831511
180924A00047	9/24/2018	3.14	9/23/2022	9/24/2018	106.92964	105.8526706	104.797377	103.7631109	102.7492481	101.7551888	100.7803568	99.82419784	98.88617883
180924A00052	9/24/2018	3.22	9/22/2023	9/24/2018	113.79976	111.6004751	109.4556186	107.363489	105.3224512	103.3309325	101.3874201	99.49045791	97.63864416
180925A00060	9/25/2018	3.23	8/25/2023	9/25/2018	113.29461	111.1888985	109.1333458	107.1264448	105.1667447	103.252848	101.3834077	99.55712565	97.77274997
180926A00004	9/26/2018	3.04	9/26/2022	9/26/2018	107.01666	105.9278433	104.8611587	103.8159319	102.7915201	101.787306	100.8026965	99.83712139	98.89003247
180918A00038	9/18/2018	3.11	9/16/2022	9/18/2018	106.76198	105.7078607	104.6745445	103.6614203	102.6678999	101.693418	100.7374309	99.79941509	98.87886708
180918A00041	9/18/2018	3.18	9/18/2024	9/18/2018	120.59007	117.1484959	113.8245977	110.6136811	107.5112686	104.5130869	101.6150565	98.81328148	96.10404019
180919A00018	9/19/2018	3.12	6/20/2022	9/19/2018	105.06626	104.291587	103.528334	102.7762495	102.0350896	101.3046173	100.5846024	99.87482138	99.1750569
180920A00014	9/20/2018	3.59	9/20/2028	9/20/2018	146.41215	137.2547352	128.7443885	120.8318033	113.4716778	106.6223721	100.2455945	94.30611566	88.77150908
180920A00027	9/20/2018	3.04	9/20/2022	9/20/2018	106.89792	105.828618	104.7806909	103.7535011	102.7464371	101.7589114	100.790359	99.8402366	98.90802158
180920A00028	9/20/2018	3.12	9/20/2023	9/20/2018	113.84872	111.6497096	109.505065	107.4130921	105.3721593	103.380697	101.4371953	99.54020098	97.68831511
180917A00032	9/17/2018	3.17	9/15/2023	9/17/2018	113.56498	111.3904489	109.2692272	107.1996615	105.1801655	103.2092129	101.2853347	99.40711652	97.57319626
180917A00054	9/17/2018	3.17	9/15/2023	9/17/2018	113.56498	111.3904489	109.2692272	107.1996615	105.1801655	103.2092129	101.2853347	99.40711652	97.57319626
180917A00078	9/17/2018	3.05	9/15/2023	9/17/2018	113.60939	111.4288836	109.3019251	107.2268557	105.2020788	103.2260588	101.2973175	99.41443218	97.5760325
180918A00011	9/18/2018	3.17	9/18/2023	9/18/2018	113.62098	111.4363158	109.3054308	107.2266503	105.1983675	103.2190366	101.2871701	99.40133604	97.56015567
180918A00013	9/18/2018	3.11	9/16/2022	9/18/2018	106.76198	105.7078607	104.6745445	103.6614203	102.6678999	101.693418	100.7374309	99.79941509	98.87886708
180918A00023	9/18/2018	3.17	9/18/2023	9/18/2018	113.62098	111.4363158	109.3054308	107.2266503	105.1983675	103.2190366	101.2871701	99.40133604	97.56015567
180913A00030	9/13/2018	3.33	9/12/2025	9/13/2018	126.75976	122.0364852	117.5178232	113.1938053	109.0550022	105.0924927	101.2978332	97.66302967	94.18051111
180914A00008	9/14/2018	3.15	9/14/2023	9/14/2018	113.48275	111.3126949	109.1957525	107.1302868	105.1147194	103.1475316	101.2272616	99.3525017	97.52189636
180914A00013	9/14/2018	3.48	9/14/2028	9/14/2018	145.45202	136.3517255	127.8936075	120.0288189	112.7124739	105.9033076	99.56336671	93.65772698	88.15423731
180914A00026	9/14/2018	3.15	9/14/2023	9/14/2018	113.48275	111.3126949	109.1957525	107.1302868	105.1147194	103.1475316	101.2272616	99.3525017	97.52189636
180914A00028	9/14/2018	3.37	9/12/2025	9/14/2018	126.93119	122.2043712	117.682283	113.3549478	109.2129319	105.2473098	101.4496341	97.81190681	94.32655354
180914A00029	9/14/2018	3.48	9/14/2028	9/14/2018	145.45202	136.3517255	127.8936075	120.0288189	112.7124739	105.9033076	99.56336671	93.65772698	88.15423731
180910A00033	9/10/2018	3.43	9/8/2028	9/10/2018	144.96373	135.9034704	127.4813842	119.6490309	112.3618891	105.5790207	99.26276561	93.37846317	87.89419882
180911A00012	9/11/2018	3.06	9/9/2022	9/11/2018	106.58641	105.5549939	104.5435268	103.5514299	102.5781503	101.623156	100.6859349	99.76599401	98.86285825
180911A00042	9/11/2018	2.99	9/11/2023	9/11/2018	113.41124	111.245582	109.1328218	107.0713268	105.0595287	103.0959182	101.1790428	99.30750353	97.47995309
180911A00080	9/11/2018	2.94	9/9/2022	9/11/2018	106.58287	105.5498027	104.5367416	103.5431071	102.5683439	101.6119179	100.6733149	99.75203982	98.84761585

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180912A00011	9/12/2018	3.41	9/11/2026	9/12/2018	133.16638	127.0562191	121.2668418	115.7796939	110.5773873	105.643625	100.9631259	96.52155715	92.30546978
180913A00029	9/13/2018	3.11	9/13/2023	9/13/2018	113.38198	111.2161586	109.1032791	107.0417105	105.0298818	103.0662812	101.1494534	99.2779972	97.45056278
180904A00014	9/4/2018	3.37	9/1/2028	9/4/2018	144.38362	135.3703461	126.9905756	119.1963404	111.9435427	105.1916245	98.90326718	93.04411669	87.58253399
180905A00015	9/5/2018	2.85	9/1/2022	9/5/2018	106.34138	105.3346703	104.3469811	103.3777788	102.4265481	101.4927926	100.5760341	99.67581168	98.79168092
180910A00007	9/10/2018	2.96	9/8/2023	9/10/2018	113.29422	111.1393597	109.036913	106.9852722	104.9828897	103.028276	101.1199972	99.25667204	97.43697011
180910A00013	9/10/2018	3.08	9/11/2023	9/10/2018	113.28361	111.1251701	109.0193506	106.9645324	104.9591585	103.0017302	101.0908048	99.22499293	97.40295615
180910A00028	9/10/2018	3.56	9/9/2033	9/10/2018	178.55763	160.5792943	144.6338754	130.4783534	117.9000145	106.7125263	96.75254252	87.87675972	79.95936398
180910A00032	9/10/2018	3.22	9/10/2024	9/10/2018	120.07911	116.6836964	113.4033317	110.2334677	107.1697663	104.2080852	101.3444679	98.57513406	95.89647101
180830A00039	8/30/2018	3.03	8/30/2023	8/30/2018	112.98476	110.8669852	108.7999935	106.782248	104.8122708	102.8886384	101.0099794	99.17497234	97.38234312
180831A00016	8/31/2018	2.99	8/31/2023	8/31/2018	112.9221	110.801924	108.7326495	106.7127403	104.7407132	102.8151396	100.9346429	99.09789713	97.30362373
180831A00018	8/31/2018	2.95	8/31/2022	8/31/2018	106.30683	105.3050398	104.3220962	103.3574691	102.4106503	101.48115	100.5684964	99.67223467	98.7919262
180831A00019	8/31/2018	3.21	9/2/2025	8/31/2018	126.07884	121.4039562	116.930333	112.6482275	108.5484244	104.6222009	100.861298	97.25789322	93.80457538
180904A00004	9/4/2018	2.89	9/5/2023	9/4/2018	113.09638	110.9531438	108.8618267	106.8208416	104.828662	102.8838186	100.9848962	99.13053177	97.31941204
180904A00012	9/4/2018	3.35	9/4/2030	9/4/2018	157.8499	145.4466914	134.1347878	123.8119121	114.3858789	105.7735544	97.89992527	90.69726696	84.10440149
180827A00020	8/27/2018	3.21	8/27/2025	8/27/2018	125.98021	121.3274328	116.874177	112.6108297	108.5282888	104.6179368	100.8716126	97.28158468	93.84052617
180827A00032	8/27/2018	2.96	8/29/2022	8/27/2018	106.27793	105.2825065	104.3056948	103.3469809	102.4058652	101.4818666	100.5745212	99.6833817	98.80801679
180827A00034	8/27/2018	2.99	8/28/2023	8/27/2018	112.86849	110.758007	108.698002	106.6869573	104.7234075	102.8059407	100.9331967	99.10386436	97.31667995
180828A00032	8/28/2018	3.49	8/29/2033	8/28/2018	177.38825	159.5286027	143.6855853	129.6185718	117.1168803	105.9959055	96.09377007	87.26842015	79.39510562
180829A00008	8/29/2018	3.23	8/30/2027	8/29/2018	138.87669	131.3256031	124.2384995	117.584395	111.3345344	105.4622168	99.94263802	94.75274717	89.87111362
180829A00044	8/29/2018	2.98	8/26/2022	8/29/2018	106.2391	105.253175	104.2855248	103.3356461	102.4030524	101.487275	100.5878619	99.70437722	98.83640043
180823A00013	8/23/2018	2.97	8/23/2023	8/23/2018	112.71773	110.6244063	108.5808367	106.5855281	104.6370453	102.7340054	100.8750756	99.05897109	97.28445283
180823A00033	8/23/2018	2.85	8/23/2023	8/23/2018	112.78122	110.6816186	108.6320182	106.6309141	104.6768612	102.7684674	100.904391	99.08333872	97.30406359
180823A00035	8/23/2018	3.05	8/22/2025	8/23/2018	125.8951	121.2420877	116.7884524	112.524595	108.4414295	104.5303532	100.7832184	97.19230578	93.75029955
180823A00053	8/23/2018	3.2	8/23/2028	8/23/2018	144.32568	135.2913323	126.8919196	119.0794002	111.8096063	105.041912	98.73893304	92.8662519	87.3921686
180823A00055	8/23/2018	3.44	8/23/2033	8/23/2018	176.58793	158.8022188	143.0236321	129.0128822	116.5604317	105.4826528	95.61850344	86.82664468	78.98293811
180827A00010	8/27/2018	2.99	8/25/2023	8/27/2018	112.81491	110.7141049	108.6633623	106.6611767	104.7061002	102.7967378	100.9317451	99.10982647	97.32973234
180817A00013	8/17/2018	2.94	2/15/2022	8/17/2018	102.5734	102.1783657	101.7863818	101.3974107	101.0114175	100.628368	100.2482287	99.87096635	99.49654829
180817A00022	8/17/2018	2.87	8/17/2023	8/17/2018	112.71353	110.6329561	108.6015435	106.6178307	104.6804076	102.7879149	100.9390426	99.13252723	97.36715043
180820A00036	8/20/2018	3	8/21/2023	8/20/2018	112.7418	110.654315	108.6163184	106.6263273	104.6829177	102.7847175	100.9304042	99.11870258	97.34838293
180820A00054	8/20/2018	3	8/18/2023	8/20/2018	112.68824	110.6104282	108.5816857	106.6005491	104.6656117	102.775518	100.9289611	99.12468092	97.36146183
180820A00055	8/20/2018	3.37	8/21/2028	8/20/2018	144.21106	135.243762	126.90425	119.1451787	111.9230052	105.1976683	98.93229334	93.09292391	87.64827658
180821A00011	8/21/2018	2.98	8/21/2023	8/21/2018	112.70206	110.6149859	108.5773856	106.5877829	104.6447543	102.7469277	100.8929809	99.0816389	97.31167212
180814A00033	8/14/2018	3.25	8/13/2027	8/14/2018	138.73992	131.2534537	124.2236571	117.6202539	111.4151301	105.5821654	100.0970819	94.93730524	90.08183665

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180815A00011	8/15/2018	2.97	8/15/2022	8/15/2018	106.01866	105.0679278	104.1342397	103.2171353	102.3161753	101.4309358	100.5610077	99.7059959	98.86551883
180815A00021	8/15/2018	3.01	8/15/2023	8/15/2018	112.67572	110.6067718	108.586497	106.6134533	104.6862504	102.8035485	100.9640555	99.16652526	97.40975575
180816A00024	8/16/2018	3.01	8/16/2023	8/16/2018	112.67225	110.6006911	108.5779214	106.6024958	104.673019	102.7881464	100.9465815	99.14707389	97.38841736
180816A00038	8/16/2018	3.38	8/16/2028	8/16/2018	144.20997	135.2607547	126.936887	119.191292	111.9806682	105.2651706	99.00811753	93.17572516	87.73686425
180816A00043	8/16/2018	2.83	8/16/2022	8/16/2018	106.01621	105.0608829	104.1227595	103.2013742	102.2962816	101.4070521	100.5332711	99.67453808	98.83046658
180813A00013	8/13/2018	2.99	12/5/2022	8/13/2018	108.1926	106.8758064	105.5910216	104.337086	103.1128979	101.9174077	100.7496147	99.60856429	98.49334517
180813A00026	8/13/2018	2.87	8/11/2023	8/13/2018	112.60597	110.544806	108.5319707	106.5660371	104.6456294	102.7694215	100.9361345	99.1445349	97.39343256
180813A00037	8/13/2018	2.95	2/14/2022	8/13/2018	102.55846	102.166368	101.7772808	101.3911626	101.0079792	100.6276974	100.2502841	99.87570696	99.50393391
180813A00059	8/13/2018	3.01	8/11/2023	8/13/2018	112.60408	110.5480223	108.5400875	106.578855	104.6629575	102.7910766	100.9619412	99.17432478	97.42704402
180814A00010	8/14/2018	3.1	8/14/2025	8/14/2018	125.97469	121.3466618	116.9158827	112.6729064	108.6087884	104.7150574	100.9836877	97.4070733	93.97800384
180814A00032	8/14/2018	3.1	8/14/2025	8/14/2018	125.97469	121.3466618	116.9158827	112.6729064	108.6087884	104.7150574	100.9836877	97.4070733	93.97800384
180731A00022	7/31/2018	3.47	7/31/2028	7/31/2018	144.64881	135.7418537	127.4532696	119.7367884	112.549832	105.8532004	99.61078723	93.7893213	88.35813045
180801A00013	8/1/2018	3.04	10/15/2021	8/1/2018	100.28201	100.2401666	100.1983782	100.156642	100.114958	100.0733261	100.0317461	99.99021801	99.94874168
180801A00015	8/1/2018	3.16	8/1/2023	8/1/2018	112.69324	110.6671139	108.687775	106.7538638	104.8640685	103.0171235	101.2118078	99.44694261	97.72139017
180802A00006	8/2/2018	2.99	8/2/2023	8/2/2018	112.67665	110.6422654	108.6550188	106.7135317	104.8164785	102.9625801	101.1506029	99.37935605	97.64769034
180808A00009	8/8/2018	3.12	8/7/2023	8/8/2018	112.72533	110.6806211	108.6835063	106.7325892	104.8265249	102.9640162	101.1438119	99.36470466	97.62552945
180810A00028	8/10/2018	2.91	8/10/2023	8/10/2018	112.66632	110.6076023	108.5970916	106.6333653	104.7150527	102.8408329	101.0094316	99.21961993	97.47021207
180730A00033	7/30/2018	3.11	7/29/2022	7/30/2018	105.81215	104.9150061	104.0330603	103.1659241	102.313227	101.4746105	100.6497279	99.8382438	99.03983377
180730A00041	7/30/2018	3.14	7/31/2023	7/30/2018	112.63644	110.6139196	108.6380422	106.7074551	104.8208521	102.9769734	101.174603	99.41256722	97.68973295
180730A00078	7/30/2018	3.14	7/28/2023	7/30/2018	112.58169	110.5686341	108.6018956	106.6801178	104.8019921	102.9662569	101.1716959	99.41713573	97.70144459
180730A00081	7/30/2018	3.5	7/28/2028	7/30/2018	144.83111	135.9283287	127.6428927	119.9286383	112.7430856	106.0471252	99.80473385	93.98271647	88.55047051
180731A00004	7/31/2018	2.97	7/31/2023	7/31/2018	112.60156	110.5740327	108.5933585	106.6581747	104.767167	102.9190672	101.112652	99.34674046	97.6201928
180731A00009	7/31/2018	2.97	7/31/2023	7/31/2018	112.60156	110.5740327	108.5933585	106.6581747	104.767167	102.9190672	101.112652	99.34674046	97.6201928
180727A00028	7/27/2018	3.25	7/27/2026	7/27/2018	132.47799	126.5149578	120.8585723	115.4914451	110.3972624	105.5607147	100.9674297	96.60390981	92.45747481
180727A00037	7/27/2018	3.13	7/27/2023	7/27/2018	112.54432	110.5346069	108.5710968	106.6524344	104.7773102	102.9444623	101.1526743	99.40077303	97.68762714
180727A00038	7/27/2018	3.36	7/25/2025	7/27/2018	126.06187	121.516114	117.1612404	112.9882	108.9884254	105.1537996	101.4766302	97.94962449	94.56586664
180727A00039	7/27/2018	3.48	7/27/2028	7/27/2018	144.66222	135.7689418	127.492258	119.786063	112.6079329	105.9188099	99.68271836	93.86650745	88.43961519
180730A00004	7/30/2018	3.14	7/28/2023	7/30/2018	112.58169	110.5686341	108.6018956	106.6801178	104.8019921	102.9662569	101.1716959	99.41713573	97.70144459
180730A00023	7/30/2018	3.13	7/30/2024	7/30/2018	119.54717	116.2841449	113.1279363	110.0744698	107.1198462	104.2603363	101.4923723	98.81254043	96.21757273
180720A00006	7/20/2018	3.03	7/17/2023	7/20/2018	112.19434	110.217377	108.2855292	106.3974271	104.5517522	102.7472369	100.9826627	99.25685749	97.56869338
180720A00008	7/20/2018	3	7/20/2022	7/20/2018	105.5452	104.6769089	103.8228967	102.9828119	102.1563154	101.3430793	100.5427861	99.75512824	98.97980808
180720A00068	7/20/2018	2.89	7/20/2023	7/20/2018	112.24979	110.258532	108.3129067	106.411537	104.5530991	102.73632	100.959975	99.22288515	97.52391545
180723A00024	10/23/2018	3.1	10/22/2021	10/23/2018	100.41737	100.3559633	100.2946441	100.2334136	100.1722714	100.1112174	100.0502514	99.98937334	99.92858289

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180724A00025	7/24/2018	2.93	7/25/2022	7/24/2018	105.68013	104.7945075	103.9237162	103.067382	102.2251469	101.3966647	100.5816003	99.77962967	98.9904389
180724A00075	7/24/2018	2.98	7/24/2023	7/24/2018	112.49319	110.487626	108.5281559	106.6134093	104.7420655	102.9128527	101.1245462	99.37596601	97.66597501
180719A00011	7/19/2018	3	11/12/2021	7/19/2018	100.80395	100.6834214	100.5631935	100.4432664	100.3236388	100.2043097	100.0852778	99.96654206	99.84810133
180719A00060	7/19/2018	3.05	7/19/2022	7/19/2018	105.56721	104.7018858	103.8507408	103.0134286	102.1896138	101.3789717	100.5811877	99.79595759	99.02298637
180719A00061	7/19/2018	3.07	7/19/2023	7/19/2018	112.30579	110.3217992	108.3831568	106.4884897	104.6364808	102.8258634	101.0554192	99.32397563	97.63040399
180719A00063	7/19/2018	3.21	7/19/2024	7/19/2018	119.12883	115.9170039	112.8093975	109.8020082	106.8910093	104.0727453	101.3437232	98.70060393	96.14019449
180719A00064	7/19/2018	3.3	7/21/2025	7/19/2018	125.74773	121.2211802	116.8843735	112.7283066	108.7444586	104.9247587	101.2615597	97.74761349	94.37604754
180719A00065	7/19/2018	3.36	7/20/2026	7/19/2018	132.02326	126.1240282	120.5265426	115.2137362	110.1695978	105.379103	100.8281474	96.50348557	92.39267397
180716A00054	7/16/2018	3.59	7/16/2040	7/16/2018	216.75752	184.7782394	158.1320821	135.8854349	117.2734406	101.6686936	88.55587724	77.51119131	68.185645
180716A00056	7/16/2018	3.1	7/16/2025	7/16/2018	125.49704	120.97396	116.6404717	112.4875568	108.506679	104.689756	101.0291329	97.51755673	94.14815288
180717A00047	7/17/2018	3.3	9/17/2025	7/17/2018	126.71594	121.976363	117.442832	113.1052729	108.9541584	104.9804763	101.1756987	97.53175347	94.04099736
180717A00076	7/17/2018	3.03	7/17/2023	7/17/2018	112.19434	110.217377	108.2855292	106.3974271	104.5517522	102.7472369	100.9826627	99.25685749	97.56869338
180718A00026	7/18/2018	3.03	7/18/2023	7/18/2018	112.21229	110.2321755	108.2972907	106.4062594	104.557764	102.7505375	100.9833618	99.25506466	97.564518
180719A00004	7/19/2018	3.07	7/19/2023	7/19/2018	112.30579	110.3217992	108.3831568	106.4884897	104.6364808	102.8258634	101.0554192	99.32397563	97.63040399
180706A00013	7/6/2018	3.01	7/6/2023	7/6/2018	111.96003	110.0179615	108.1198492	106.2643018	104.4499893	102.675637	100.9400227	99.24197385	97.58036519
180713A00013	7/13/2018	2.88	7/13/2023	7/13/2018	112.10537	110.1363703	108.2122529	106.3316308	104.4931735	102.6956036	100.9376944	99.21826729	97.5361893
180713A00027	7/13/2018	3.23	7/13/2028	7/13/2018	143.91326	135.041764	126.7849452	119.0968279	111.9351132	105.2608677	99.03823856	93.23419359	87.81828513
180713A00035	7/13/2018	3.02	7/13/2022	7/13/2018	105.43531	104.58886	103.7559911	102.9363819	102.1297173	101.3356922	100.5540108	99.78438667	99.02654212
180716A00016	7/16/2018	3.03	7/14/2023	7/16/2018	112.12023	110.1532531	108.231059	106.3522708	104.5155675	102.7196803	100.9633905	99.2455264	97.56496162
180716A00037	7/16/2018	3.01	7/18/2022	7/16/2018	105.51497	104.6529482	103.8050056	102.9707977	102.1499926	101.3422688	100.5473151	99.76483021	98.99452211
180702A00034	7/2/2018	2.86	7/3/2023	7/2/2018	111.88931	109.9521601	108.0588293	106.2079201	104.3980915	102.6280594	100.8965934	99.20251443	97.54469153
180703A00015	7/3/2018	3.06	7/3/2023	7/3/2018	111.99849	110.0649606	108.1750877	106.3274795	104.520802	102.7537777	101.0251828	99.33384393	97.67863596
180705A00003	7/5/2018	3.04	7/5/2023	7/5/2018	111.99758	110.0581234	108.1625259	106.3093975	104.4974067	102.7252778	100.991788	99.29576429	97.63608139
180705A00060	7/5/2018	3	7/6/2022	7/5/2018	105.28445	104.4601149	103.6486722	102.8498247	102.0632805	101.288757	100.5259798	99.77468323	99.03460928
180705A00061	7/5/2018	3	7/6/2022	7/5/2018	105.28445	104.4601149	103.6486722	102.8498247	102.0632805	101.288757	100.5259798	99.77468323	99.03460928
180705A00062	7/5/2018	3.04	7/6/2023	7/5/2018	112.01554	110.0729465	108.1743147	106.3182577	104.5034453	102.7286024	100.9925065	99.29398491	97.6319121
180627A00027	6/27/2018	2.87	6/27/2023	6/27/2018	111.79891	109.8808719	108.0059616	106.1727921	104.3800362	102.6264238	100.9107387	99.23181548	97.58853738
180627A00030	6/27/2018	3.02	6/27/2023	6/27/2018	111.81593	109.9023211	108.0316663	106.2025824	104.4137495	102.6639046	100.9518382	99.27639117	97.63645259
180627A00057	6/27/2018	2.98	6/27/2022	6/27/2018	105.09625	104.3002041	103.5161986	102.7439633	101.9832345	101.2337565	100.4952809	99.76756694	99.05038048
180629A00008	6/29/2018	3.02	6/29/2023	6/29/2018	111.85273	109.9325749	108.0556304	106.2205001	104.4258529	102.6704149	100.9529661	99.27233812	97.62741085
180629A00071	6/29/2018	3.02	6/29/2023	6/29/2018	111.85273	109.9325749	108.0556304	106.2205001	104.4258529	102.6704149	100.9529661	99.27233812	97.62741085
180702A00012	7/2/2018	3.01	7/3/2023	7/2/2018	111.90641	109.973755	108.0847399	106.2379732	104.4321213	102.6659073	100.9381077	99.24754959	97.59310823
180622A00006	6/22/2018	3.53	12/21/2029	6/22/2018	153.49614	142.3587721	132.1303728	122.7314683	114.0899533	106.1403682	98.82325259	92.08456493	85.87516108

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180622A00018	6/22/2018	2.92	6/22/2023	6/22/2018	111.79749	109.8950218	108.0350553	106.216237	104.4372677	102.6969041	100.9939548	99.32727821	97.69577968
180625A00009	6/25/2018	3	6/27/2022	6/25/2018	105.11149	104.3153742	103.5313048	102.7590061	101.9982146	101.2486746	100.5101377	99.78236293	99.06511634
180625A00040	6/25/2018	3	6/24/2022	6/25/2018	105.05395	104.2671879	103.4921987	102.7287195	101.9764953	101.2352783	100.5048282	99.78491147	99.07530141
180625A00041	6/25/2018	3.06	6/20/2023	6/25/2018	111.75926	109.8678858	108.0185822	106.2100153	104.440905	102.7100253	101.0162017	99.3583083	97.73526515
180627A00026	6/27/2018	2.87	6/27/2023	6/27/2018	111.79891	109.8808719	108.0059616	106.1727921	104.3800362	102.6264238	100.9107387	99.23181548	97.58853738
180620A00038	6/20/2018	3.4	6/20/2028	6/20/2018	143.47054	134.7513431	126.6297194	119.0613401	112.0054068	105.424349	99.28355079	93.55110296	88.19757667
180620A00044	6/20/2018	2.89	6/20/2023	6/20/2018	111.70625	109.8108504	107.9576933	106.1454327	104.3727811	102.6385062	100.941427	99.2804118	97.654375
180621A00017	6/21/2018	3.42	6/21/2028	6/21/2018	143.63716	134.9084902	126.7781622	119.2017791	112.1384794	105.5506357	99.40358058	93.66535814	88.30649734
180622A00003	6/22/2018	2.87	6/22/2022	6/22/2018	104.99715	104.2156308	103.4457364	102.6872086	101.9397968	101.2032579	100.4773556	99.76186071	99.05655027
180622A00004	6/22/2018	3.47	12/22/2028	6/22/2018	146.9763	137.4583608	128.6347757	120.4509416	112.8568372	105.8066184	99.25824682	93.17315421	87.51593758
180622A00005	6/22/2018	3.5	7/2/2029	6/22/2018	150.39084	140.0241999	130.4617213	121.6363994	113.4871654	105.9583316	98.99908955	92.56305681	86.60786886
180619A00020	6/19/2018	3.1	6/19/2025	6/19/2018	125.04728	120.6223731	116.3801289	112.3118986	108.4094999	104.6651899	101.0716376	97.62189946	94.30939599
180619A00021	6/19/2018	3.24	6/19/2028	6/19/2018	143.60872	134.8352321	126.6646425	119.0521387	111.9564809	105.3396975	99.16680899	93.4055757	88.02626858
180619A00023	6/19/2018	3.04	6/19/2023	6/19/2018	111.70475	109.8169747	107.9711452	106.1659259	104.4000424	102.6722745	100.9814527	99.32645598	97.70620908
180620A00014	6/20/2018	3.4	6/20/2028	6/20/2018	143.47054	134.7513431	126.6297194	119.0613401	112.0054068	105.424349	99.28355079	93.55110296	88.19757667
180620A00015	6/20/2018	3.04	6/20/2023	6/20/2018	111.7232	109.8321583	107.9831845	106.1749412	104.4061484	102.6755803	100.9820627	99.32446962	97.70172145
180620A00017	6/20/2018	3.24	6/20/2028	6/20/2018	143.62484	134.8470676	126.6727114	119.0569012	111.9583478	105.3390357	99.16394606	93.40080384	88.01984845
180615A00061	6/15/2018	3.28	6/15/2028	6/15/2018	143.84639	135.0795031	126.9139858	119.3052097	112.2121023	105.5968406	99.42457702	93.66318893	88.2830512
180615A00063	6/15/2018	3.2	6/15/2026	6/15/2018	131.51912	125.7237515	120.2208033	114.9938488	110.0274802	105.3072414	100.8195625	96.55170073	92.4916843
180615A00066	6/15/2018	3	6/14/2024	6/15/2018	118.36071	115.2609866	112.2595351	109.3525613	106.5364513	103.807758	101.163192	98.59961313	96.114022
180618A00011	6/18/2018	3.02	6/20/2022	6/18/2018	104.99209	104.2177207	103.4547725	102.7029898	101.9621285	101.2319518	100.5122295	99.80273802	99.10326026
180618A00025	6/18/2018	3.01	4/13/2022	6/18/2018	103.68808	103.1225651	102.5632189	102.0099436	101.4626404	100.9212131	100.385567	99.8556099	99.3312513
180618A00026	6/18/2018	3.05	4/13/2023	6/18/2018	110.4987	108.8241111	107.1839153	105.5771334	104.0028209	102.4600682	100.9479993	99.46577038	98.0125679
180604A00048	6/4/2018	3.01	6/5/2023	6/4/2018	111.39372	109.5521627	107.7507936	105.9883608	104.2636684	102.5755696	100.9229647	99.30479804	97.72005598
180604A00050	6/4/2018	3.15	6/4/2024	6/4/2018	118.17083	115.1161776	112.1573182	109.2906049	106.5125544	103.8198417	101.209292	98.67787209	96.22268332
180611A00030	6/11/2018	2.91	6/12/2023	6/11/2018	111.5943	109.7248129	107.8965612	106.1082503	104.3586379	102.6465339	100.9707974	99.33033421	97.72409424
180612A00005	6/12/2018	3.09	6/12/2023	6/12/2018	111.66457	109.7988593	107.9742271	106.1893834	104.4430927	102.7341712	101.0614841	99.4239426	97.82050213
180612A00018	6/12/2018	2.88	6/10/2022	6/12/2018	104.77499	104.030839	103.2972513	102.574005	101.8608823	101.1576715	100.4641667	99.78016784	99.10548021
180614A00038	6/14/2018	3.08	6/14/2023	6/14/2018	111.68391	109.8118216	107.9810615	106.1903251	104.438366	102.7239899	101.046052	99.40345441	97.79514377
180530A00072	5/30/2018	3.06	5/30/2024	5/30/2018	117.82831	114.7945561	111.855559	109.007728	106.2476331	103.5719995	100.977699	98.46174255	96.02127282
180531A00014	5/31/2018	2.8	5/31/2023	5/31/2018	111.18026	109.3518147	107.5630862	105.812845	104.0999164	102.4231736	100.7815358	99.17396496	97.59946437
180531A00015	5/31/2018	2.95	5/31/2023	5/31/2018	111.19732	109.373015	107.5882629	105.8418438	104.1325894	102.4593794	100.8211386	99.21683475	97.64547622
180601A00018	6/1/2018	2.87	6/1/2023	6/1/2018	111.32086	109.4880434	107.6950811	105.9407439	104.2238509	102.5432698	100.8979141	99.28674086	97.70874852

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180601A00023	6/1/2018	3.3	6/1/2028	6/1/2018	143.76909	135.0570303	126.939413	119.3723615	112.3154726	105.731522	99.58619729	93.84785478	88.48729785
180604A00047	6/4/2018	2.97	6/3/2022	6/4/2018	104.63068	103.9093135	103.1978761	102.4961669	101.8039874	101.1211444	100.4474499	99.78272101	99.12677955
180530A00027	5/30/2018	3.61	6/1/2032	5/30/2018	169.03962	153.6650436	139.8630723	127.4630037	116.3135514	106.2805432	97.24490272	89.10087737	81.75448367
180530A00028	5/30/2018	3.67	5/31/2033	5/30/2018	175.68201	158.452853	143.1265825	129.4806355	117.3196447	106.4719879	96.78678754	88.13130349	80.38866535
180530A00030	5/30/2018	3.68	5/30/2034	5/30/2018	181.62102	162.5194507	145.6822941	130.8257912	117.7032487	106.1000163	95.82917168	86.72780489	78.65381855
180530A00039	5/30/2018	2.93	5/30/2023	5/30/2018	111.14466	109.323813	107.5423947	105.7991959	104.0930537	102.4228523	100.7875212	99.18603237	97.61739827
180530A00044	5/30/2018	2.87	5/31/2022	5/30/2018	104.50502	103.7932272	103.0911037	102.3984578	101.7150987	101.0408407	100.375503	99.71890951	99.07088889
180530A00069	5/30/2018	2.87	5/31/2022	5/30/2018	104.50502	103.7932272	103.0911037	102.3984578	101.7150987	101.0408407	100.375503	99.71890951	99.07088889
180530A00006	5/30/2018	2.87	5/31/2022	5/30/2018	104.50502	103.7932272	103.0911037	102.3984578	101.7150987	101.0408407	100.375503	99.71890951	99.07088889
180530A00007	5/30/2018	2.66	11/30/2021	5/30/2018	101.10031	100.928612	100.7574974	100.5869601	100.416997	100.2476054	100.0787824	99.91052513	99.74283079
180530A00014	5/30/2018	2.93	5/30/2023	5/30/2018	111.14466	109.323813	107.5423947	105.7991959	104.0930537	102.4228523	100.7875212	99.18603237	97.61739827
180530A00024	5/30/2018	3.44	5/30/2029	5/30/2018	149.32298	139.1231494	129.7067854	121.0092601	112.9716109	105.5400183	98.66533003	92.30263334	86.41086762
180530A00025	5/30/2018	3.49	5/30/2030	5/30/2018	155.76779	143.9200697	133.0846595	123.1691542	114.090065	105.7719116	98.14641338	91.15176755	84.7320024
180530A00026	5/30/2018	3.55	5/30/2031	5/30/2018	162.52779	148.9413959	136.6310945	125.4693328	115.3419669	106.1467869	97.79221076	90.19612723	83.2848706
180529A00042	5/29/2018	3.42	5/30/2028	5/29/2018	143.28476	134.6491241	126.6007037	119.0962885	112.0960744	105.5633803	99.4643864	93.7678957	88.44511718
180529A00043	5/29/2018	2.99	5/30/2023	5/29/2018	111.24913	109.4273391	107.6449955	105.9008886	104.193855	102.5227787	100.8865884	99.28425575	97.71479284
180529A00044	5/29/2018	3.11	5/29/2024	5/29/2018	117.95309	114.9206803	111.9829016	109.1361659	106.3770513	103.7022901	101.1087612	98.59348204	96.15360113
180529A00056	5/29/2018	3	5/26/2023	5/29/2018	111.19475	109.3853257	107.6149043	105.8822942	104.1863514	102.5259782	100.9001207	99.30776708	97.74794472
180529A00063	5/29/2018	2.95	5/31/2022	5/29/2018	104.55979	103.8477842	103.1454516	102.4525986	101.7690343	101.0945731	100.4290342	99.77224132	99.12402316
180529A00066	5/29/2018	2.99	5/26/2023	5/29/2018	111.17746	109.3681872	107.5979181	105.8654575	104.1696614	102.5094322	100.8837162	99.29150142	97.73181551
180522A00019	5/22/2018	3.16	5/22/2023	5/22/2018	111.39778	109.5984203	107.8376676	106.114345	104.4273268	102.7755323	101.157924	99.57350482	98.02131679
180522A00037	5/22/2018	3.01	5/22/2023	5/22/2018	111.38131	109.5778966	107.8132442	106.0861721	104.395548	102.7402854	101.1193408	99.53171215	97.97643623
180522A00038	5/22/2018	3.23	5/22/2025	5/22/2018	125.08791	120.7560397	116.5997292	112.6108263	108.7816102	105.1047647	101.5733547	98.1808034	94.92087178
180522A00039	5/22/2018	3.43	5/22/2028	5/22/2018	144.58175	135.877705	127.764868	120.1997749	113.1423913	106.5558198	100.406038	94.66165943	89.29371535
180524A00024	5/24/2018	3	3/21/2022	5/24/2018	103.24355	102.7473374	102.2559007	101.769169	101.2870748	100.809552	100.3365356	99.86796191	99.40376852
180525A00005	5/25/2018	3.32	5/25/2028	5/25/2018	143.80738	135.1192583	127.0224005	119.4732741	112.431785	105.8609853	99.72680996	93.99783671	88.6450671
180518A00014	5/18/2018	3.17	5/18/2023	5/18/2018	111.34117	109.5542116	107.8054115	106.0936206	104.4177321	102.7766836	101.1694547	99.59506453	98.05257035
180518A00020	5/21/2018	3.08	3/15/2022	5/21/2018	103.16631	102.6879454	102.214021	101.7444783	101.2792566	100.8182962	100.3615386	99.90892639	99.4604032
180521A00005	5/21/2018	3.02	5/22/2023	5/21/2018	111.39851	109.594939	107.8301358	106.1029158	104.4121464	102.7567412	101.1356566	99.54789034	97.9924793
180521A00025	5/21/2018	3.24	5/21/2025	5/21/2018	125.11029	120.7812556	116.6275539	112.6410469	108.8140286	105.1391965	101.6096286	98.21875987	94.96036238
180521A00072	5/21/2018	2.96	5/23/2022	5/21/2018	104.48392	103.7953202	103.1157992	102.4451732	101.7832684	101.1299152	100.4849486	99.84820752	99.21953531
180522A00018	5/22/2018	3.1	5/23/2022	5/22/2018	104.50706	103.8192867	103.140564	102.4707132	101.8095611	101.1569387	100.5126817	99.87662993	99.24862713
180514A00032	5/14/2018	3.27	5/14/2026	5/14/2018	131.34305	125.6621728	120.2632573	115.1307249	110.2499517	105.6071997	101.189558	96.98488818	92.98177367

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180514A00033	5/14/2018	3.36	5/15/2028	5/14/2018	143.94622	135.2892617	127.219208	119.6930084	112.6709962	106.1166061	99.99611502	94.27840678	88.93475672
180514A00034	5/14/2018	3.07	5/14/2024	5/14/2018	118.01782	115.0217011	112.1181347	109.303654	106.5749494	103.928859	101.3623602	98.87256269	96.45670177
180514A00035	5/14/2018	3.07	5/14/2024	5/14/2018	118.01782	115.0217011	112.1181347	109.303654	106.5749494	103.928859	101.3623602	98.87256269	96.45670177
180516A00019	5/16/2018	3.19	5/16/2023	5/16/2018	111.33829	109.5572961	107.8142509	106.1080093	104.4374742	102.801592	101.1993506	99.62977714	98.09193636
180518A00012	5/18/2018	3.1	5/18/2022	5/18/2018	104.40997	103.7375734	103.0738356	102.4185932	101.7716836	101.1329484	100.5022331	99.87938717	99.26426383
180426A00011	4/26/2018	2.94	4/26/2023	4/26/2018	110.78698	109.0665221	107.3819658	105.7322582	104.1163907	102.5333935	100.9823336	99.46231286	97.97246676
180426A00053	4/26/2018	2.94	4/26/2023	4/26/2018	110.78698	109.0665221	107.3819658	105.7322582	104.1163907	102.5333935	100.9823336	99.46231286	97.97246676
180427A00011	4/27/2018	3.03	4/27/2022	4/27/2018	103.96146	103.3535451	102.752727	102.1588849	101.5718979	100.9916478	100.4180191	99.85089893	99.29017702
180430A00078	10/30/2018	3.24	10/30/2023	10/30/2018	114.51429	112.191682	109.9287317	107.7234833	105.5740625	103.4786709	101.4355824	99.44313922	97.49974915
180503A00040	5/3/2018	3.3	5/5/2025	5/3/2018	124.45367	120.2054466	116.1272917	112.2114118	108.4504184	104.8373043	101.3654221	98.02846272	94.82043665
180511A00035	5/11/2018	2.93	5/11/2023	5/11/2018	111.044	109.2763678	107.5462498	105.8525258	104.1941172	102.5699882	100.979143	99.4206248	97.89351303
180411A00001	4/11/2018	2.84	1/25/2022	4/11/2018	102.14642	101.8131715	101.4820981	101.153181	100.826399	100.5017315	100.1791579	99.85865799	99.54021184
180411A00014	4/11/2018	2.88	6/27/2022	4/11/2018	105.02008	104.2243531	103.4406678	102.6687492	101.9083338	101.1591659	100.4209973	99.69358702	98.97670117
180412A00034	4/12/2018	3.23	4/15/2030	4/12/2018	154.31847	142.6206852	131.9146787	122.1107267	113.1276734	104.8920732	97.33742115	90.40346346	84.03558008
180412A00036	4/12/2018	3.54	4/15/2038	4/12/2018	204.23837	177.090851	154.008735	134.3521939	117.5856068	103.2601006	90.99908859	80.48628305	71.45574849
180425A00007	4/25/2018	2.98	4/25/2023	4/25/2018	110.83409	109.1162801	107.4342745	105.7870271	104.1735337	102.5928283	101.0439817	99.52609942	98.03832032
180425A00008	4/25/2018	2.89	4/25/2022	4/25/2018	103.90273	103.3001786	102.7046119	102.115908	101.5339488	100.9586187	100.3898048	99.82739686	99.27128703
180403A00006	4/3/2018	3.07	4/3/2028	4/3/2018	141.14265	132.7339398	124.8882472	117.5648257	110.7260859	104.3373345	98.36653709	92.7841006	87.56267544
180403A00009	4/3/2018	2.91	4/3/2025	4/3/2018	123.0288	118.8971806	114.9283116	111.1148759	107.4499243	103.9268587	100.5394121	97.28162973	94.1478522
180403A00041	4/3/2018	2.91	4/3/2025	4/3/2018	123.0288	118.8971806	114.9283116	111.1148759	107.4499243	103.9268587	100.5394121	97.28162973	94.1478522
180406A00014	4/6/2018	2.95	4/6/2023	4/6/2018	110.21195	108.5609894	106.9436825	105.3590852	103.8062838	102.2843985	100.7925813	99.33001475	97.89591057
180410A00016	4/10/2018	2.89	4/11/2022	4/10/2018	103.58476	103.0255041	102.4722886	101.9250155	101.3835894	100.8479167	100.3179059	99.79346747	99.27451374
180410A00017	4/10/2018	3.02	10/10/2023	4/10/2018	113.68122	111.4280724	109.2318132	107.0906186	105.0027411	102.9665018	100.9802872	99.04254597	97.15178641
180327A00024	3/27/2018	2.79	5/26/2023	3/27/2018	111.074	109.2614191	107.4879833	105.7524935	104.0537999	102.3907991	100.7624319	99.16768135	97.6055703
180328A00008	3/28/2018	2.85	3/25/2022	3/28/2018	103.24578	102.7378127	102.2348393	101.7367888	101.2435889	100.7551692	100.2714603	99.79239415	99.31790421
180328A00010	3/28/2018	3.1	3/28/2025	3/28/2018	123.05238	118.955473	115.0189113	111.2355239	107.5985061	104.1013948	100.7380487	97.50263073	94.3895912
180329A00003	3/29/2018	3.08	3/29/2028	3/29/2018	141.13904	132.7486181	124.9189043	117.6093964	110.7827241	104.4043908	98.44253838	92.86773229	87.65276506
180402A00005	4/2/2018	2.94	4/3/2023	4/2/2018	110.14203	108.5007412	106.8928014	105.3172797	103.7732757	102.2599217	100.7763814	99.32184854	97.89554526
180403A00005	4/3/2018	2.72	4/3/2023	4/3/2018	110.01552	108.3715745	106.7610976	105.1831488	103.636823	102.1212481	100.6355839	99.17902001	97.75077506
180308A00011	3/8/2018	2.9	9/15/2022	3/8/2018	106.53417	105.4844179	104.4553281	103.4462966	102.4567411	101.4861012	100.533838	99.59943301	98.68238694
180308A00015	3/8/2018	2.82	12/15/2021	3/8/2018	101.38193	101.1674542	100.9538945	100.7412494	100.5295129	100.3186792	100.1087423	99.89969656	99.69153624
180308A00016	3/8/2018	2.88	6/1/2022	3/8/2018	104.53068	103.8157544	103.1105896	102.4149851	101.7287476	101.051689	100.3836259	99.72438022	99.07377819
180313A00026	3/13/2018	3.34	3/13/2028	3/13/2018	141.4809	133.1860444	125.4399366	118.2033067	111.4398911	105.1161894	99.20124058	93.66641797	88.48524176

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180320A00007	3/20/2018	2.92	3/21/2022	3/20/2018	103.20492	102.7088212	102.2174939	101.7308709	101.2488846	100.7714689	100.2985589	99.83009099	99.3660026
180323A00013	3/23/2018	3.18	3/23/2028	3/23/2018	141.77548	133.3853091	125.5540542	118.2414613	111.4103758	105.0264924	99.0581228	93.47598257	88.2529973
180223A00026	2/23/2018	2.92	12/15/2022	2/23/2018	108.29843	106.94867	105.6325021	104.3486874	103.0960431	101.8734437	100.6798173	99.51414228	98.37544486
180226A00015	2/26/2018	2.85	9/28/2022	2/26/2018	106.72973	105.6382019	104.5689599	103.5213227	102.4946407	101.4882897	100.5016704	99.53420643	98.5853441
180226A00034	2/26/2018	2.82	6/27/2022	2/26/2018	104.97437	104.1788426	103.3953494	102.6236208	101.8633935	101.1144116	100.3764271	99.64919906	98.93249358
180226A00040	2/26/2018	2.79	2/28/2022	2/26/2018	102.75405	102.3207946	101.891178	101.4651574	101.042688	100.6237255	100.2082265	99.79614826	99.3874488
180306A00005	3/6/2018	2.65	3/4/2022	3/6/2018	102.808	102.3623949	101.9206471	101.4827102	101.0485351	100.6180735	100.1912777	99.76810113	99.34849775
180306A00010	3/6/2018	2.8	2/15/2022	3/6/2018	102.51926	102.1243535	101.732498	101.3436544	100.957788	100.5748647	100.1948509	99.8177132	99.44341917
180216A00004	2/16/2018	2.75	2/16/2023	2/16/2018	109.23873	107.7427876	106.2749252	104.8344151	103.4205561	102.0326701	100.6701021	99.33221803	98.01840503
180222A00023	2/22/2018	2.84	2/22/2022	2/22/2018	102.66423	102.2486279	101.8363943	101.4274841	101.0218572	100.6194741	100.220296	99.82428474	99.43140265
180222A00025	2/22/2018	3.48	2/22/2033	2/22/2018	174.21249	157.3224155	142.2681952	128.8387538	116.848356	106.1334468	96.54989984	87.97061892	80.28344652
180222A00026	2/22/2018	2.98	2/21/2025	2/22/2018	122.60697	118.6200612	114.785386	111.0963167	107.5465476	104.1300807	100.8412091	97.67450076	94.62478432
180222A00027	2/22/2018	3.24	2/22/2028	2/22/2018	141.73502	133.4562862	125.7222177	118.4940647	111.7360305	105.4150294	99.50046778	93.96404478	88.77956898
180223A00022	2/23/2018	2.93	2/23/2023	2/23/2018	109.42942	107.9122939	106.4239705	104.9636961	103.5307432	102.1244092	100.7440149	99.38890378	98.05844101
180206A00013	2/6/2018	2.72	2/6/2024	2/6/2018	115.38991	112.7426736	110.1700081	107.669396	105.2384174	102.8747485	100.5761563	98.3404954	96.16570325
180207A00002	2/7/2018	3.13	2/6/2026	2/7/2018	128.2535	123.006119	118.0054422	113.2385825	108.6933963	104.3584329	100.2228909	96.27657859	92.50987608
180207A00003	2/7/2018	3.28	2/7/2028	2/7/2018	140.4996	132.3669522	124.7649642	117.6561906	111.0060141	104.7824172	98.95577487	93.49866408	88.38568972
180207A00012	2/7/2018	2.53	2/7/2022	2/7/2018	102.30771	101.9361319	101.5672602	101.2010615	100.8375068	100.4765675	100.1182152	99.76242222	99.40916113
180207A00022	2/7/2018	2.79	2/7/2023	2/7/2018	108.93061	107.4697243	106.0357377	104.6279734	103.2457719	101.8884954	100.5555266	99.24626824	97.96014211
180214A00004	2/14/2018	2.71	2/14/2023	2/14/2018	109.14386	107.6552204	106.1944141	104.7607265	103.3534648	101.9719595	100.6155631	99.28364955	97.97561295
180130A00091	1/30/2018	2.74	1/25/2023	1/30/2018	108.67424	107.2441654	105.8421377	104.4673653	103.1190821	101.7965512	100.4990627	99.22593322	97.97650417
180201A00033	2/1/2018	2.53	2/1/2022	2/1/2018	102.20032	101.8464166	101.4949549	101.1459134	100.7992672	100.4549917	100.1130627	99.77345627	99.43614887
180202A00012	2/2/2018	2.57	2/2/2022	2/2/2018	102.23222	101.8753413	101.5209484	101.1690175	100.8195232	100.4724401	100.1277434	99.78540856	99.44541132
180205A00018	2/5/2018	2.66	2/3/2023	2/5/2018	108.86891	107.4184788	105.9945926	104.5965873	103.2238162	101.8756533	100.5514931	99.25074928	97.97285438
180205A00019	2/5/2018	2.88	2/5/2025	2/5/2018	121.96047	118.0425189	114.2723035	110.6434714	107.1499782	103.7860706	100.5462705	97.42536031	94.4183693
180205A00050	2/5/2018	2.81	2/6/2023	2/5/2018	108.95543	107.4973892	106.0661491	104.6610338	103.2813875	101.9265759	100.5959851	99.28902103	98.00510845
180126A00028	1/26/2018	2.69	1/26/2023	1/26/2018	108.60285	107.1724889	105.7698368	104.3941207	103.0445977	101.7205524	100.4212951	99.14616135	97.89451028
180126A00029	1/26/2018	2.88	1/27/2025	1/26/2018	121.2473	117.3865272	113.6701808	110.0920747	106.6463263	103.3273362	100.1297728	97.04855791	94.07885323
180129A00004	1/29/2018	2.63	1/31/2022	1/29/2018	102.18508	101.8344795	101.4862726	101.1404374	100.7969499	100.4557863	100.1169231	99.78033724	99.44600585
180130A00070	1/30/2018	3.14	1/29/2027	1/30/2018	133.87568	127.2653811	121.0253002	115.1327708	109.5666246	104.3070881	99.33568458	94.63514194	90.18930861
180130A00084	1/30/2018	2.59	1/30/2023	1/30/2018	108.70389	107.2655768	105.8537778	104.4678177	103.1070394	101.770808	100.4585094	99.16954968	97.90335421
180130A00085	1/30/2018	2.79	1/30/2025	1/30/2018	121.53311	117.643794	113.900501	110.2969793	106.8272753	103.4857214	100.2669203	97.16573061	94.17725358
180118A00039	1/18/2018	3.09	1/19/2027	1/18/2018	133.43145	126.8671569	120.6691837	114.8151225	109.284052	104.0564335	99.11401281	94.43972819	90.01762664

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180123A00026	1/23/2018	2.57	1/14/2022	1/23/2018	101.85999	101.5589729	101.2597428	100.9622864	100.6665878	100.3726313	100.0804016	99.78988342	99.50106158
180124A00019	1/24/2018	2.41	1/24/2022	1/24/2018	102.01827	101.6878203	101.3595153	101.0333363	100.7092625	100.3872737	100.0673497	99.74947054	99.43361671
180124A00020	1/24/2018	2.53	1/24/2023	1/24/2018	108.54918	107.1182378	105.7157612	104.3409218	102.9929278	101.6710178	100.3744594	99.10254797	97.85460493
180125A00022	1/25/2018	2.69	1/25/2023	1/25/2018	108.60552	107.175939	105.7744054	104.4001182	103.0523118	101.7302494	100.4332215	99.16054472	97.91156083
180125A00023	1/25/2018	2.57	1/25/2022	1/25/2018	102.058	101.7249286	101.394038	101.0653027	100.7387016	100.4142142	100.0918198	99.77149817	99.45322947
180116A00015	1/16/2018	3.06	1/18/2028	1/16/2018	138.64654	130.646038	123.1646464	116.1658902	109.6160412	103.4839009	97.74059828	92.35940402	87.31556073
180116A00031	1/16/2018	2.58	1/17/2023	1/16/2018	108.34663	106.9274673	105.5389111	104.17998	102.8497313	101.5472623	100.2717087	99.02224234	97.79806911
180116A00045	1/16/2018	2.49	1/11/2022	1/16/2018	101.78388	101.4916217	101.2010502	100.9121518	100.6249118	100.3393159	100.0553501	99.77300017	99.49225241
180116A00046	1/16/2018	2.58	1/11/2023	1/16/2018	108.29103	106.8782482	105.4980378	104.1492704	102.8308704	101.5418113	100.2811132	99.04783965	97.84109555
180118A00004	1/18/2018	2.88	1/17/2025	1/18/2018	121.08999	117.2635127	113.5793685	110.0314421	106.6139176	103.3212634	100.1482165	97.08976786	94.14114821
180118A00037	1/18/2018	2.88	1/21/2025	1/18/2018	121.15291	117.3127165	113.6156932	110.0556947	106.6268785	103.3236861	100.1408274	97.07326567	94.11620436
180110A00029	1/10/2018	3.13	1/10/2028	1/10/2018	139.02192	131.0368556	123.5682118	116.5797547	110.0379849	103.9119172	98.17287805	92.79432148	87.75165945
180111A00007	1/11/2018	2.66	1/14/2025	1/11/2018	120.81682	116.9907674	113.3071468	109.7598191	106.3429462	103.050978	99.87863537	96.82089568	93.8729782
180111A00016	1/11/2018	2.57	1/11/2023	1/11/2018	108.27769	106.8650055	105.4848885	104.1362129	102.8179031	101.5289327	100.2683217	99.03513372	97.82847383
180116A00009	1/16/2018	2.49	1/14/2022	1/16/2018	101.83627	101.5352943	101.23611	100.9386991	100.6430458	100.3491345	100.0569497	99.76647621	99.47769889
180116A00010	1/16/2018	2.58	1/17/2023	1/16/2018	108.34663	106.9274673	105.5389111	104.17998	102.8497313	101.5472623	100.2717087	99.02224234	97.79806911
180116A00014	1/16/2018	3.01	1/19/2027	1/16/2018	132.9635	126.4120901	120.2264814	114.3842858	108.8646063	103.6479277	98.71601732	94.05183429	89.63944508
180104A00013	1/4/2018	2.39	1/4/2023	1/4/2018	108.12755	106.7204308	105.3482624	104.0097484	102.7036551	101.4288087	100.1840916	98.968439	97.78083627
180104A00017	1/4/2018	2.77	1/3/2025	1/4/2018	120.48449	116.7125585	113.0798906	109.5804619	106.2085529	102.9587302	99.82583033	96.80494385	93.89140095
180104A00018	1/4/2018	2.97	1/4/2027	1/4/2018	132.5101	126.0215873	119.8933201	114.1032811	108.6309267	103.4570779	98.56382075	93.93441601	89.55321496
180109A00028	1/9/2018	2.6	1/9/2025	1/9/2018	120.52725	116.7220348	113.0581161	109.529384	106.1300367	102.8545605	99.69771369	96.65451059	93.72020749
180110A00027	1/10/2018	2.6	1/10/2023	1/10/2018	108.30599	106.8941346	105.515183	104.1679791	102.8514252	101.5644744	100.3061275	99.07543005	97.87147038
180110A00028	1/10/2018	2.85	1/10/2025	1/10/2018	120.87416	117.0734879	113.4136476	109.8885708	106.4924888	103.2199183	100.0656451	97.02470912	94.09238998
180102A00020	1/2/2018	2.5	1/3/2023	1/2/2018	108.09291	106.689818	105.3218876	103.9877998	102.6863046	101.4162133	100.1763942	98.96576979	97.78331333
180102A00021	1/2/2018	2.82	1/2/2026	1/2/2018	126.259	121.1732502	116.3228911	111.6956562	107.2799947	103.0650258	99.04049512	95.19673452	91.52462461
180103A00007	1/3/2018	2.44	1/7/2022	1/3/2018	101.7002	101.4195816	101.1405144	100.8629884	100.5869907	100.3125088	100.0395301	99.76804232	99.49803316
180103A00011	1/3/2018	2.35	1/3/2023	1/3/2018	108.06362	106.6579876	105.2876269	103.9512168	102.6475018	101.375288	100.133439	98.9208727	97.73655809
180103A00019	1/3/2018	2.51	1/3/2023	1/3/2018	108.10601	106.7028307	105.3348099	104.0006333	102.6990509	101.4288738	100.1889705	98.97826329	97.79572538
180103A00027	1/3/2018	2.51	1/3/2023	1/3/2018	108.10601	106.7028307	105.3348099	104.0006333	102.6990509	101.4288738	100.1889705	98.97826329	97.79572538
171214A00005	12/14/2017	2.29	12/14/2022	12/14/2017	107.65005	106.3052899	104.994001	103.7149467	102.4669494	101.2488882	100.0596957	98.89835473	97.76389533
171218A00020	12/18/2017	2.99	12/20/2027	12/18/2017	137.74505	129.8742617	122.5091914	115.6145379	109.157661	103.1083623	97.43868883	92.12275348	87.13657136
171219A00025	12/19/2017	2.33	12/19/2022	12/19/2017	107.78935	106.4275091	105.0999514	103.8053972	102.5426273	101.3104821	100.1078575	98.9337023	97.78701436
171219A00063	12/19/2017	2.8	12/20/2027	12/19/2017	137.65285	129.739258	122.3357552	115.4066466	108.9189336	102.8420916	97.14787067	91.81011386	86.80459028

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
171220A00004	12/20/2017	2.52	12/20/2021	12/20/2017	101.40763	101.1788733	100.9511637	100.72449	100.4988452	100.2742222	100.050614	99.82801382	99.60641472
171227A00018	12/27/2017	2.83	12/27/2024	12/27/2017	120.5849	116.8334484	113.2198399	109.7381256	106.3826554	103.1480619	100.0292447	97.02135424	94.11977814
171208A00008	12/8/2017	2.25	12/8/2022	12/8/2017	107.49435	106.1699861	104.878123	103.6175795	102.3872274	101.1859918	100.0128485	98.86682079	97.74697681
171211A00033	12/11/2017	2.26	12/12/2022	12/11/2017	107.5772	106.2393821	104.9347092	103.6619627	102.4199817	101.2076607	100.0239469	98.86783672	97.73837296
171212A00024	12/12/2017	2.29	12/12/2022	12/12/2017	107.61462	106.2765533	104.9716334	103.6986442	102.4564245	101.2438688	100.0599242	98.90358687	97.77389965
171212A00027	12/12/2017	2.21	12/13/2021	12/12/2017	101.24267	101.0338342	100.8258704	100.6187771	100.4125487	100.2071798	100.0026649	99.79899856	99.5961755
171213A00019	12/13/2017	2.17	12/13/2021	12/13/2017	101.2344	101.0255775	100.817626	100.610545	100.4043289	100.1989722	99.99446947	99.79081529	99.58800433
171213A00032	12/13/2017	2.17	12/13/2021	12/13/2017	101.2344	101.0255775	100.817626	100.610545	100.4043289	100.1989722	99.99446947	99.79081529	99.58800433
171206A00041	12/6/2017	2.44	12/6/2024	12/6/2017	119.45201	115.7734629	112.2284695	108.8113502	105.5167035	102.3393935	99.27453517	96.31748003	93.46380297
171206A00048	12/6/2017	3.04	12/6/2032	12/6/2017	167.14155	150.9845517	136.564433	123.6839589	112.1692934	101.8671128	92.64208762	84.37468539	76.95925166
171207A00019	12/7/2017	2.41	6/16/2022	12/7/2017	104.46968	103.7095954	102.9605519	102.2223129	101.4946459	100.7773246	100.0701295	99.372847	98.68526971
171207A00036	12/7/2017	2.23	12/7/2022	12/7/2017	107.45211	106.1312431	104.8427218	103.5853666	102.3580573	101.1597269	99.98935818	98.8459813	97.72867067
171208A00006	12/8/2017	2.67	12/8/2026	12/8/2017	131.38662	124.9872487	118.9401989	113.2241266	107.8190982	102.7064929	97.8689084	93.29007394	88.95477037
171208A00007	12/8/2017	2.47	12/9/2024	12/8/2017	119.60022	115.9096072	112.3532635	108.9254644	105.6207672	102.4339979	99.36023576	96.39479917	93.53323192
171205A00013	12/5/2017	2.4	12/6/2021	12/5/2017	101.13915	100.9505825	100.7627219	100.575567	100.3891139	100.2033585	100.018297	99.83392534	99.65023976
171205A00014	12/5/2017	2.49	12/5/2022	12/5/2017	107.57958	106.266835	104.9860267	103.7360011	102.5156585	101.3239511	100.1598798	99.02249163	97.91087693
171206A00008	12/6/2017	2.36	12/6/2021	12/6/2017	101.13167	100.9431102	100.75526	100.5681154	100.3816726	100.1959274	100.0108761	99.82651468	99.64283925
171206A00010	12/6/2017	2.45	12/6/2022	12/6/2017	107.54833	106.2325766	104.9489115	103.6961739	102.4732561	101.2791029	100.1127084	98.973113	97.85940105
171206A00038	12/6/2017	2.69	12/6/2027	12/6/2017	136.69321	128.8597212	121.5288664	114.6656542	108.2377176	102.215103	96.57007671	91.27694826	86.31190919
171206A00040	12/6/2017	2.23	12/6/2022	12/6/2017	107.43458	106.1170513	104.8317098	103.5773838	102.3529611	101.1573822	99.98963713	98.84876268	97.73383951
171122A00009	11/22/2017	2.2	11/22/2022	11/22/2017	107.15285	105.8820777	104.6413264	103.4295432	102.2457229	101.0889061	99.95817682	98.85266035	97.77152052
171127A00016	11/27/2017	2.28	11/27/2023	11/27/2017	113.1882	110.7861807	108.4478022	106.170902	103.95341	101.7933438	99.68880415	97.63797066	95.63909774
171129A00010	11/29/2017	2.32	11/29/2021	11/29/2017	101.00638	100.8378272	100.66983	100.5023902	100.3355051	100.1691719	100.0033881	99.83815088	99.67345761
171129A00020	11/29/2017	2.89	11/30/2026	11/29/2017	131.53732	125.193827	119.197206	113.5265765	108.1624281	103.0865269	98.28182451	93.73237408	89.42325296
171130A00005	11/30/2017	2.45	11/30/2022	11/30/2017	107.44159	106.145829	104.881208	103.646617	102.4409963	101.2633357	100.1126712	98.98808304	97.88869244
171204A00020	12/4/2017	2.48	12/5/2022	12/4/2017	107.56732	106.2546555	104.9739268	103.7239794	102.5037138	101.312082	100.1480851	99.01077018	97.89922756
171101A00021	11/1/2017	2.51	11/1/2023	11/1/2017	112.94406	110.6328194	108.3811437	106.1870742	104.0487343	101.9643236	99.93211405	97.95044675	96.0177282
171101A00022	11/1/2017	2.65	11/1/2024	11/1/2017	119.09393	115.5475784	112.1264874	108.8254813	105.6396359	102.5642605	99.59488562	96.72725093	93.957294
171101A00023	11/1/2017	2.78	11/3/2025	11/1/2017	125.18073	120.3179198	115.672824	111.2344803	106.9925413	102.9372375	99.05934135	95.35013393	91.80137378
171103A00017	11/3/2017	2.09	11/3/2022	11/3/2017	106.69547	105.4882287	104.3081862	103.1544325	102.0260971	100.9223474	99.84238671	98.78545257	97.75081472
171116A00021	11/16/2017	2.16	11/16/2022	11/16/2017	107.00089	105.7502558	104.5287448	103.3353476	102.169102	101.0290894	99.91443225	98.82429172	97.75786562
171120A00017	11/20/2017	2.41	11/21/2022	11/20/2017	107.23342	105.9677235	104.7318106	103.5246407	102.34522	101.1925999	100.0658744	98.96417825	97.88668425
171030A00023	10/30/2017	2.9	11/1/2027	10/30/2017	136.43069	128.7747328	121.6017669	114.8787122	108.5749285	102.6620217	97.11366713	91.90544833	87.01470861

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
171030A00094	10/30/2017	2.13	11/1/2021	10/30/2017	100.52075	100.4313943	100.3421981	100.2531602	100.1642803	100.0755578	99.98699243	99.89858378	99.81033144
171031A00007	10/31/2017	2.15	12/27/2021	10/31/2017	101.43876	101.1900528	100.9425709	100.6963011	100.4512344	100.2073622	99.96467566	99.72316621	99.48282531
171031A00012	10/31/2017	2.28	10/31/2022	10/31/2017	106.71495	105.5193724	104.3504806	103.2073864	102.0892436	100.9952423	99.92460737	98.87659666	97.85049902
171031A00029	10/31/2017	2.43	10/31/2023	10/31/2017	112.75199	110.4460092	108.19941	106.0102406	103.8766325	101.7967926	99.76900027	97.7916031	95.86301401
171031A00061	10/31/2017	2.28	10/31/2022	10/31/2017	106.71495	105.5193724	104.3504806	103.2073864	102.0892436	100.9952423	99.92460737	98.87659666	97.85049902
171026A00009	10/26/2017	2.75	10/27/2025	10/26/2017	124.9437	120.1089846	115.4899443	111.0757568	106.8562093	102.8216567	98.96298648	95.27158646	91.73931396
171026A00010	10/26/2017	2.84	10/26/2026	10/26/2017	130.73491	124.5335531	118.666037	113.1125826	107.8546906	102.8750507	98.15745872	93.68673987	89.44867771
171026A00011	10/26/2017	2.94	10/26/2027	10/26/2017	136.61729	128.9761702	121.8158784	115.1035664	108.8087976	102.9033606	97.36109586	92.15773502	87.270755
171030A00020	10/30/2017	2.16	1/14/2022	10/30/2017	101.7384	101.4376202	101.1386245	100.8414015	100.5459351	100.25221	99.96021049	99.66992146	99.38132778
171030A00021	10/30/2017	2.29	11/30/2022	10/30/2017	107.24776	105.9532563	104.6898781	103.4565093	102.252091	101.0756132	99.92611285	98.80267032	97.70440748
171030A00022	10/30/2017	2.28	10/31/2022	10/30/2017	106.71495	105.5193724	104.3504806	103.2073864	102.0892436	100.9952423	99.92460737	98.87659666	97.85049902
171025A00026	10/25/2017	2.64	10/25/2024	10/25/2017	118.95326	115.4311917	112.0329463	108.7534367	105.5878192	102.5314783	99.58001468	96.72923384	93.9751348
171025A00027	10/25/2017	2.36	10/25/2022	10/25/2017	106.69942	105.5228866	104.3722192	103.2465697	102.145129	101.0671223	100.0118078	98.97847461	97.96644135
171026A00005	10/26/2017	2.16	10/26/2021	10/26/2017	100.42521	100.3526709	100.2802416	100.207925	100.1357207	100.0636286	99.99164846	99.91977995	99.84802286
171026A00006	10/26/2017	2.32	10/26/2022	10/26/2017	106.67259	105.493067	104.339537	103.2111518	102.1070961	101.0265896	99.96888475	98.93326574	97.91904623
171026A00007	10/26/2017	2.47	10/26/2023	10/26/2017	112.76054	110.4694505	108.2370941	106.0615523	103.9409873	101.8736348	99.85780128	97.89185994	95.97424781
171026A00008	10/26/2017	2.6	10/25/2024	10/26/2017	118.82173	115.30179	111.905613	108.6281177	105.4644618	102.4100319	99.46043045	96.61146442	93.85913451
171016A00021	10/16/2017	2.2	10/17/2022	10/16/2017	106.38544	105.2360113	104.1113374	103.0106262	101.9331178	100.8780843	99.84482795	98.83267954	97.8409971
171016A00033	10/16/2017	2.2	10/17/2022	10/16/2017	106.38544	105.2360113	104.1113374	103.0106262	101.9331178	100.8780843	99.84482795	98.83267954	97.8409971
171016A00045	10/16/2017	2.2	10/17/2022	10/16/2017	106.38544	105.2360113	104.1113374	103.0106262	101.9331178	100.8780843	99.84482795	98.83267954	97.8409971
171018A00001	10/18/2017	1.96	10/18/2021	10/18/2017	100.28932	100.2390923	100.1889281	100.1388314	100.0888019	100.0388397	99.98894446	99.93911616	99.88935462
171018A00003	10/18/2017	2.23	10/18/2023	10/18/2017	112.44246	110.1725072	107.9604556	105.8044345	103.7026445	101.6533578	99.65491499	97.70572172	95.80424553
171018A00011	10/18/2017	2.68	10/18/2027	10/18/2017	135.93802	128.3022519	121.1473294	114.4404049	108.151044	102.2510367	96.714223	91.51633333	86.63484253
171010A00038	10/10/2017	2.23	10/11/2022	10/10/2017	106.31485	105.1847396	104.0785787	102.9956114	101.9351138	100.896392	99.87878027	98.88163994	97.90435779
171011A00013	10/11/2017	2.77	10/13/2026	10/11/2017	130.15821	124.0153801	118.2015202	112.6972503	107.4844332	102.54609	97.86632071	93.43022914	89.2238546
171012A00026	10/12/2017	2.09	10/12/2021	10/12/2017	100.19382	100.1603847	100.1269865	100.0936273	100.060307	100.0270256	99.99378299	99.96057908	99.92741382
171012A00027	10/12/2017	2.21	10/12/2022	10/12/2017	106.31064	105.1774065	104.068252	102.9824174	101.9191731	100.8778194	99.85768545	98.85812741	97.87852739
171013A00021	10/13/2017	2	10/17/2022	10/13/2017	106.30602	105.154946	104.0287057	102.926498	101.84756	100.7911606	99.75659909	98.74320366	97.7503297
171016A00005	10/16/2017	2.2	10/17/2022	10/16/2017	106.38544	105.2360113	104.1113374	103.0106262	101.9331178	100.8780843	99.84482795	98.83267954	97.8409971
171005A00003	10/5/2017	2.02	10/5/2022	10/5/2017	106.12437	105.0122336	103.9233132	102.8568858	101.8122602	100.788773	99.78578767	98.8026931	97.8389021
171005A00006	10/5/2017	2.32	10/7/2024	10/5/2017	118.14271	114.6778988	111.3337811	108.1054591	104.9882611	101.9777325	99.06962489	96.25988437	93.54464189
171006A00034	10/6/2017	2.27	10/6/2022	10/6/2017	106.27104	105.1569333	104.0661099	102.9978452	101.951445	100.9262432	99.92160051	98.93690321	97.97156172
171010A00004	10/10/2017	1.92	10/12/2021	10/10/2017	100.1915	100.1580364	100.1246076	100.0912181	100.0578681	100.0245572	99.99128552	99.95805294	99.92485938

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
171010A00005	10/10/2017	2.06	10/11/2022	10/10/2017	106.26871	105.1368058	104.0289254	102.944309	101.8822297	100.8419904	99.82292276	98.82438525	97.84576219
171010A00037	10/10/2017	2.09	10/12/2021	10/10/2017	100.19382	100.1603847	100.1269865	100.0936273	100.060307	100.0270256	99.99378299	99.96057908	99.92741382
170928A00020	9/29/2017	2.29	9/29/2022	9/29/2017	106.17075	105.0792349	104.0100773	102.9626	101.9361488	100.9300958	99.94383761	98.9767947	98.02840981
170929A00057	9/29/2017	2.16	9/29/2023	9/29/2017	111.99784	109.7899182	107.6373607	105.5384129	103.4913924	101.494682	99.54672656	97.64603029	95.79115376
171002A00012	10/2/2017	2.08	10/1/2021	10/2/2017	100.01612	100.0133344	100.0105531	100.0077743	100.0049978	100.0022237	99.99945199	99.99668268	99.99391575
171002A00013	10/2/2017	2.23	11/30/2022	10/2/2017	107.17507	105.8810415	104.6181293	103.3852189	102.1812515	101.0052173	99.85615346	98.73314054	97.63530062
171003A00007	10/3/2017	2.22	10/3/2022	10/3/2017	106.167	105.0629329	103.9817452	102.9227313	101.8852146	100.8685457	99.87210117	98.89528219	97.93751338
171003A00008	10/3/2017	2.88	10/4/2027	10/3/2017	135.90864	128.3651667	121.2927467	114.6594491	108.4356695	102.5939505	97.10881445	91.95661146	87.11537852
170918A00007	9/18/2017	2.8	9/20/2027	9/18/2017	135.17915	127.7080031	120.7009166	114.1266148	107.9560847	102.1624043	96.72058178	91.60740743	86.8013175
170918A00108	9/18/2017	1.97	9/20/2022	9/18/2017	105.8209	104.7575162	103.7154236	102.6939874	101.6925981	100.7106699	99.7476396	98.80296569	97.87612708
170919A00073	9/19/2017	2.28	9/19/2024	9/19/2017	117.74158	114.3413529	111.0578653	107.8864502	104.8226555	101.8622329	99.00112679	96.23546436	93.56154645
170919A00076	9/19/2017	1.97	9/19/2022	9/19/2017	105.8042	104.7440382	103.7050389	102.6865773	101.6880489	100.7088728	99.74849059	98.80636504	97.88197929
170920A00028	9/21/2017	2.16	9/21/2022	9/21/2017	105.90166	104.8366077	103.7929111	102.7699286	101.7670481	100.7836815	99.81926329	98.87324983	97.94511796
170921A00063	9/21/2017	2.23	9/21/2022	9/21/2017	105.97227	104.9068336	103.862754	102.8393939	101.8361409	100.8524069	99.88762625	98.94125518	98.01277044
170912A00031	9/12/2017	1.89	9/12/2022	9/12/2017	105.60869	104.5714554	103.5545164	102.5572828	101.5791861	100.6196794	99.67823647	98.75435082	97.84753472
170913A00003	9/13/2017	2.08	9/13/2022	9/13/2017	105.69829	104.6591399	103.6403553	102.6413412	101.6615262	100.7003606	99.75731584	98.83188294	97.92357192
170913A00027	9/13/2017	2.08	9/13/2022	9/13/2017	105.69829	104.6591399	103.6403553	102.6413412	101.6615262	100.7003606	99.75731584	98.83188294	97.92357192
170914A00039	9/14/2017	2.23	9/16/2024	9/14/2017	117.53681	114.1496949	110.8785678	107.7188079	104.6660034	101.7159436	98.86460837	96.10815829	93.44292546
170915A00001	9/15/2017	2.43	9/16/2024	9/15/2017	117.68194	114.3040598	111.0415818	107.8899161	104.8446822	101.9016987	99.05697296	96.30669141	93.64721052
170915A00031	9/15/2017	2.1	9/15/2023	9/15/2017	111.64849	109.4886531	107.3819477	105.3267264	103.3214047	101.3644583	99.45442	97.58987757	95.7694709
170906A00037	9/6/2017	1.99	9/6/2022	9/6/2017	105.49481	104.4785563	103.4818051	102.5040018	101.5446103	100.6031141	99.67901637	98.77183811	97.88111795
170907A00059	9/7/2017	1.99	9/7/2022	9/7/2017	105.5112	104.4917465	103.491916	102.5111496	101.548906	100.6046642	99.67792261	98.76819828	97.87502569
170908A00017	9/9/2019	2.32	9/9/2024	9/9/2019	117.22881	113.8809448	110.6467629	107.521776	104.5016954	101.5824261	98.76005636	96.03084908	93.39123236
170911A00032	9/11/2017	1.85	9/12/2022	9/11/2017	105.56935	104.5323286	103.5155982	102.5185705	101.5406768	100.5813705	99.64012533	98.71643484	97.80981136
170912A00008	9/12/2017	1.98	12/15/2021	9/12/2017	101.2036	100.9893934	100.7761045	100.5637293	100.3522618	100.141696	99.93202627	99.72324676	99.51535177
170912A00009	9/12/2017	2.11	12/15/2022	9/12/2017	107.28177	105.9388673	104.6294422	103.3522551	102.1061266	100.8899341	99.70260893	98.54313239	97.41053338
170831A00052	8/31/2017	1.78	11/30/2021	8/31/2017	100.95047	100.7789677	100.6080436	100.4376962	100.2679226	100.0987198	99.93008517	99.76201573	99.5945087
170831A00053	8/31/2017	1.81	3/1/2022	8/31/2017	102.39487	101.9591288	101.527082	101.0986861	100.6738951	100.2526636	99.83494712	99.42070179	99.00988453
170831A00054	8/31/2017	1.85	6/30/2022	8/31/2017	104.36404	103.5609214	102.7701109	101.9913288	101.2243026	100.4687679	99.72446813	98.99115425	98.26858462
170906A00006	9/6/2017	1.81	9/6/2022	9/6/2017	105.43269	104.4151151	103.4171014	102.4380867	101.4775326	100.5349209	99.60975244	98.70154658	97.80984015
170906A00020	9/6/2017	2.14	9/6/2023	9/6/2017	111.30155	109.1791847	107.1082878	105.0872877	103.1146712	101.1889818	99.30881659	97.4728243	95.67970281
170906A00036	9/6/2017	1.81	9/6/2022	9/6/2017	105.43269	104.4151151	103.4171014	102.4380867	101.4775326	100.5349209	99.60975244	98.70154658	97.80984015
170830A00030	8/30/2017	2	3/30/2022	8/30/2017	102.90707	102.3854156	101.8690289	101.3578336	100.8517519	100.3507074	99.85462533	99.36343228	98.87705634

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170831A00004	8/31/2017	2	8/31/2023	8/31/2017	111.20783	109.1000351	107.0430143	105.0352279	103.0751935	101.1614834	99.29272236	97.46758524	95.68479487
170831A00006	8/31/2017	1.87	8/31/2022	8/31/2017	105.39233	104.3936834	103.4138722	102.4523698	101.508667	100.5822734	99.67271651	98.77954085	97.90230723
170831A00021	8/31/2017	1.99	2/25/2022	8/31/2017	102.36704	101.9434674	101.5233921	101.1067706	100.6935606	100.2837203	99.8772087	99.47398531	99.07401044
170831A00022	8/31/2017	2.27	2/29/2024	8/31/2017	114.24585	111.5450247	108.9221843	106.3746307	103.8997735	101.4951274	99.15830711	96.88702294	94.67907626
170831A00029	8/31/2017	1.87	8/31/2022	8/31/2017	105.39233	104.3936834	103.4138722	102.4523698	101.508667	100.5822734	99.67271651	98.77954085	97.90230723
170822A00019	8/22/2017	2.44	8/22/2024	8/22/2017	117.33435	114.0427109	110.8610275	107.7850283	104.8106309	101.9339336	99.15120688	96.45888432	93.85355465
170822A00020	8/22/2017	2.59	8/22/2025	8/22/2017	123.28219	118.7008426	114.3159248	110.1179855	106.0980784	102.2477324	98.558924	95.02405079	91.63590745
170824A00038	8/24/2017	2.23	8/24/2023	8/24/2017	111.28025	109.1981716	107.1657054	105.1813635	103.2437124	101.3513712	99.50300881	97.69734225	95.93313431
170825A00025	8/25/2017	2.12	8/25/2022	8/25/2017	105.41921	104.4405693	103.4800382	102.537118	101.6113276	100.7022036	99.80929886	98.93218239	98.07043822
170828A00031	8/28/2017	2.07	8/1/2022	8/28/2017	104.97436	104.0719632	103.1850184	102.3131346	101.4559309	100.6130392	99.78410344	98.96877944	98.16673417
170829A00023	8/29/2017	1.83	8/29/2022	8/29/2017	105.32184	104.3297535	103.3562726	102.4008791	101.4630725	100.5423711	99.63831034	98.75044241	97.87833547
170818A00003	8/18/2017	2.23	8/20/2024	8/18/2017	117.13157	113.8382953	110.655109	107.5777269	104.6020604	101.7242022	98.94041722	96.24713382	93.64093591
170818A00037	8/18/2017	2.08	8/18/2022	8/18/2017	105.26553	104.3092839	103.370358	102.4482869	101.5426198	100.6529217	99.77877292	98.91976838	98.07551695
170821A00038	8/23/2017	2.39	8/23/2024	8/23/2017	117.67226	114.3612173	111.1610744	108.0675108	105.0763983	102.1837921	99.38592163	96.67918206	94.06012577
170822A00012	8/22/2017	2.11	8/22/2022	8/22/2017	105.35973	104.3906606	103.4393599	102.5053454	101.588149	100.6873196	99.80242185	98.93303593	98.07875656
170822A00017	8/22/2017	2.11	8/22/2022	8/22/2017	105.35973	104.3906606	103.4393599	102.5053454	101.588149	100.6873196	99.80242185	98.93303593	98.07875656
170822A00018	8/22/2017	2.25	8/22/2023	8/22/2017	111.26742	109.191918	107.1657385	105.1874056	103.2554978	101.3686459	99.52552976	97.72487688	95.96546001
170804A00020	8/4/2017	2.13	8/1/2022	8/4/2017	105.02608	104.1234379	103.2362503	102.3641266	101.5066858	100.6635598	99.83439244	99.01883955	98.21656801
170808A00036	8/8/2017	2.04	11/15/2021	8/8/2017	100.73687	100.6079824	100.4794422	100.3512446	100.2233882	100.0958714	99.96869299	99.84185156	99.71534573
170808A00037	8/8/2017	2.19	12/15/2022	8/8/2017	107.38218	106.0386009	104.7285099	103.4506682	102.2038961	100.9870709	99.79912333	98.6390346	97.50583328
170809A00005	8/9/2017	2.61	8/11/2025	8/9/2017	123.20766	118.663761	114.313294	110.1470229	106.1561972	102.3325276	98.66815955	95.15564769	91.78793277
170814A00084	8/14/2017	1.91	8/15/2022	8/14/2017	105.16655	104.2185549	103.2875941	102.3732133	101.4749722	100.5924464	99.72522596	98.87291521	98.03513201
170815A00006	8/15/2017	2.5	8/15/2024	8/15/2017	117.41408	114.1432883	110.9810837	107.9232711	104.9658429	102.1049678	99.33698201	96.65838131	94.06581283
170802A00027	8/2/2017	2.16	8/2/2022	8/2/2017	105.06879	104.1628539	103.2724903	102.3972961	101.5368864	100.690889	99.85894434	99.04070455	98.23583321
170803A00013	8/3/2017	2.14	8/3/2022	8/3/2017	105.06827	104.159261	103.2659244	102.3878606	101.5246805	100.6760082	99.84148045	99.02074589	98.21346479
170803A00019	8/3/2017	2.14	8/3/2022	8/3/2017	105.06827	104.159261	103.2659244	102.3878606	101.5246805	100.6760082	99.84148045	99.02074589	98.21346479
170803A00020	8/3/2017	2.84	8/3/2027	8/3/2017	134.77223	127.4825524	120.6362182	114.2039744	108.158638	102.4749433	97.12939773	92.10014865	87.36686122
170803A00021	8/3/2017	2.5	8/5/2024	8/3/2017	117.26296	114.0259753	110.8955256	107.8675373	104.9381113	102.1035185	99.36019131	96.70471594	94.13382477
170803A00032	8/3/2017	2.12	8/3/2023	8/3/2017	111.01062	108.9897501	107.0158228	105.0874674	103.2033616	101.3622302	99.56284269	97.80401197	96.08459196
170728A00033	7/28/2017	2.46	1/29/2024	7/28/2017	114.23217	111.6331428	109.1066619	106.6502903	104.261687	101.9386032	99.67887845	97.48043635	95.34128087
170728A00040	7/28/2017	2.44	1/27/2025	7/28/2017	120.23004	116.3730578	112.6608481	109.0871986	105.6461981	102.3322204	99.13990922	96.06416331	93.10012314
170731A00004	7/31/2017	2.16	7/29/2022	7/31/2017	105.00142	104.1081006	103.2299252	102.366515	101.5175001	100.6825231	99.8612379	99.05331011	98.25841595
170731A00006	7/31/2017	2.16	8/1/2022	7/31/2017	105.05194	104.1491752	103.2618662	102.3896225	101.5320632	100.68882	99.85953694	99.0438696	98.24148494

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170731A00028	7/31/2017	2.16	8/1/2022	7/31/2017	105.05194	104.1491752	103.2618662	102.3896225	101.5320632	100.68882	99.85953694	99.0438696	98.24148494
170731A00029	7/31/2017	2.34	7/31/2023	7/31/2017	111.09697	109.0896638	107.1287022	105.212742	103.3404856	101.510681	99.72212015	97.9736368	96.26410498
170724A00016	7/24/2017	2.5	7/24/2024	7/24/2017	117.0821	113.8851353	110.7924827	107.8001398	104.9042868	102.101273	99.38760757	96.75995218	94.21511284
170725A00047	7/25/2017	2.19	7/25/2022	7/25/2017	104.95938	104.0784858	103.2123371	102.3605648	101.522813	100.6987377	99.88800617	99.09029614	98.3052958
170728A00029	7/28/2017	2.1	1/27/2022	7/28/2017	101.93689	101.5983214	101.2620039	100.9279116	100.5960223	100.2663144	99.93876637	99.61335712	99.29006574
170728A00030	7/28/2017	2.18	7/27/2022	7/28/2017	104.98472	104.0975961	103.2254143	102.3678032	101.5243999	100.6948536	99.87882516	99.07598609	98.28601865
170728A00031	7/28/2017	2.27	1/27/2023	7/28/2017	108.03507	106.6078437	105.2079232	103.8345641	102.4870479	101.1646823	99.86679928	98.59275472	97.34192683
170728A00032	7/28/2017	2.36	7/27/2023	7/28/2017	111.07171	109.0764655	107.1271464	105.222401	103.3609278	101.5414724	99.76282581	98.02382199	96.32333633
170706A00028	7/6/2017	2.09	7/6/2022	7/6/2017	104.65058	103.8278813	103.018082	102.2208812	101.4359866	100.6631148	99.90199103	99.15234896	98.41393017
170706A00090	7/6/2017	2.48	7/6/2023	7/6/2017	110.97927	109.04656	107.1576253	105.3110806	103.5056008	101.7399162	100.0128092	98.32311185	96.66970319
170717A00033	7/17/2017	2.19	7/18/2022	7/17/2017	104.84104	103.9820883	103.1371815	102.3059748	101.4881368	100.6833469	99.89129429	99.11167837	98.34420775
170720A00009	7/20/2017	2.14	7/20/2022	7/20/2017	104.83346	103.9684374	103.1176508	102.2807545	101.4574102	100.6472907	99.85007901	99.06546845	98.29316187
170724A00014	7/24/2017	2.14	7/25/2022	7/24/2017	104.91728	104.0365853	103.1706302	102.3190492	101.4814865	100.6575983	99.84705151	99.04952422	98.26470456
170724A00015	7/24/2017	2.32	7/24/2023	7/24/2017	110.94777	108.9625988	107.0230166	105.1276695	103.2752537	101.4645134	99.6942392	97.96326581	96.27046996
170629A00073	6/29/2017	2.2	6/29/2023	6/29/2017	110.60823	108.6952334	106.8253995	104.9973346	103.209706	101.4612387	99.75071207	98.07695685	96.43885236
170630A00008	6/30/2017	2.35	7/1/2024	6/30/2017	116.74785	113.6164234	110.5859207	107.6523856	104.8120509	102.0613265	99.39678921	96.81517353	94.31336295
170630A00009	6/30/2017	2.53	6/30/2025	6/30/2017	122.91632	118.4960213	114.2599864	110.1994112	106.305972	102.5717957	98.98943273	95.5518306	92.25231006
170630A00010	6/30/2017	2.63	6/30/2026	6/30/2017	128.79511	123.0145516	117.5289423	112.3215442	107.376673	102.6796229	98.21659887	93.97465489	89.94163596
170630A00027	6/30/2017	2.35	6/28/2024	6/30/2017	116.70162	113.5804207	110.5595814	107.6351706	104.8034462	102.0608418	99.40395686	96.8295475	94.33451789
170630A00036	6/30/2017	2.01	6/30/2022	6/30/2017	104.48735	103.6836965	102.8923624	102.1130625	101.345524	100.5894824	99.84468096	99.11087071	98.38780985
170622A00038	6/22/2017	3.32	6/22/2034	6/22/2017	176.58413	157.7138951	141.1013115	126.4614586	113.5468635	102.1423982	92.06089704	83.13938928	75.23585586
170622A00039	6/22/2017	3.36	6/22/2035	6/22/2017	182.47608	161.7019618	143.5797152	127.7527415	113.9142743	101.8001813	91.1828357	81.8658976	73.67986376
170622A00040	6/22/2017	3.41	6/23/2036	6/22/2017	188.55914	165.8096041	146.1435717	129.121196	114.3677245	101.5635597	90.43587949	80.75156734	72.31124327
170623A00028	6/23/2017	2.79	6/23/2027	6/23/2017	133.88641	126.7635636	120.0673527	113.7698564	107.8451396	102.2690979	97.01931827	92.07495015	87.41658801
170628A00056	6/28/2017	1.97	6/28/2022	6/28/2017	104.42342	103.6261106	102.8409336	102.0676146	101.3058865	100.5554903	99.81617463	99.08769564	98.36981645
170629A00067	6/29/2017	2.19	6/29/2022	6/29/2017	104.52821	103.7285152	102.9410191	102.1654405	101.4015105	100.6489683	99.90756092	99.17704272	98.45717528
170616A00018	6/16/2017	2.4	6/16/2025	6/16/2017	122.18069	117.8217504	113.6429809	109.6358568	105.7923107	102.1047076	98.5658184	95.16879538	91.90714941
170616A00019	6/16/2017	2.64	6/16/2027	6/16/2017	133.94351	126.8046411	120.093269	113.7814368	107.8431757	102.2543478	96.99250674	92.0367695	87.36769867
170619A00084	6/19/2017	1.95	6/20/2022	6/19/2017	104.27623	103.5037883	102.7427628	101.9929021	101.2539616	100.5257041	99.80789891	99.10032222	98.40275642
170622A00016	6/22/2017	2.11	6/22/2022	6/22/2017	104.35036	103.5726095	102.8064243	102.0515474	101.3077298	100.5747298	99.85231259	99.14025016	98.43832101
170622A00036	6/22/2017	3.23	6/22/2032	6/22/2017	164.8066	149.5713757	135.9092608	123.6482286	112.6359498	102.7374417	93.83300928	85.81643946	78.59341788
170622A00037	6/22/2017	3.27	6/22/2033	6/22/2017	170.54698	153.5353801	138.4208266	124.9797873	113.0162279	102.3580955	92.85426928	84.37191384	76.79417935
170612A00039	6/12/2017	2.29	6/12/2024	6/12/2017	116.27934	113.2159128	110.2496488	107.3768045	104.5938098	101.8972589	99.28390155	96.75063469	94.29449425

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170613A00032	6/13/2017	2.45	6/13/2025	6/13/2017	122.33699	117.9850632	113.8126263	109.8112022	105.9727711	102.2897418	98.75492568	95.36151239	92.10304744
170613A00033	6/13/2017	2.3	6/13/2024	6/13/2017	116.32359	113.2562991	110.2863784	107.4100701	104.6237932	101.9241317	99.30782604	96.77176419	94.31297377
170614A00012	6/14/2017	1.9	6/14/2022	6/14/2017	104.14112	103.3874001	102.6445701	101.9123915	101.1906362	100.4790825	99.77751526	99.08572512	98.40350863
170615A00015	6/15/2017	2.25	6/14/2024	6/15/2017	116.19461	113.1259413	110.1547859	107.2773772	104.4901252	101.7896059	99.17255183	96.63584379	94.1765027
170615A00034	6/15/2017	2.13	6/15/2022	6/15/2017	104.24851	103.492355	102.747145	102.0126463	101.2886289	100.5748696	99.87115128	99.17726314	98.49300008
170609A00006	6/9/2017	1.89	12/9/2021	6/9/2017	101.11271	100.9154288	100.7189294	100.523207	100.3282569	100.1340744	99.94065507	99.74799426	99.55608746
170609A00007	6/9/2017	1.96	6/9/2022	6/9/2017	104.10211	103.3636828	102.6357095	101.9179675	101.210242	100.5123244	99.82401167	99.14510645	98.47541674
170609A00025	6/9/2017	2.13	6/9/2022	6/9/2017	104.14845	103.4108276	102.6836355	101.9666491	101.2596545	100.5624438	99.87481498	99.19657128	98.52752149
170609A00026	6/9/2017	2.3	6/9/2023	6/9/2017	110.20994	108.3668656	106.5642509	104.8008323	103.0753979	101.3867861	99.73388319	98.11562047	96.53097219
170609A00043	6/9/2017	3.07	6/9/2032	6/9/2017	164.85047	149.5446144	135.8202574	123.5045084	112.4442591	102.5038235	93.56287214	85.51462012	78.26423827
170612A00003	6/12/2017	1.97	6/13/2022	6/12/2017	104.17533	103.4245	102.6844728	101.9550143	101.2358991	100.5269082	99.82782873	99.13845378	98.45858217
170602A00026	6/2/2017	2.25	6/3/2024	6/2/2017	116.02662	112.9958236	110.0604109	107.2167423	104.4613425	101.7908946	99.20223159	96.69232806	94.25829295
170602A00033	6/2/2017	2.09	6/2/2022	6/2/2017	104.00414	103.2882328	102.5821517	101.8856933	101.1986621	100.5208676	99.85212472	99.19225304	98.54107704
170606A00014	6/6/2017	1.9	6/6/2022	6/6/2017	104.0105	103.2815147	102.5627211	101.8539061	101.1548629	100.4653905	99.78529327	99.1143809	98.45246823
170606A00017	6/6/2017	1.9	6/6/2022	6/6/2017	104.0105	103.2815147	102.5627211	101.8539061	101.1548629	100.4653905	99.78529327	99.1143809	98.45246823
170608A00017	6/8/2017	1.95	6/8/2022	6/8/2017	104.07853	103.3432286	102.6182885	101.9034956	101.1986377	100.5035088	99.81790825	99.14164114	98.47451773
170608A00020	6/8/2017	2.27	6/10/2024	6/8/2017	116.19103	113.1353191	110.1763628	107.3104417	104.5340072	101.8436738	99.23621009	96.70853067	94.25768808
170530A00064	5/30/2017	2.32	3/27/2023	5/30/2017	109.05415	107.4428327	105.8639471	104.3165913	102.7999003	101.31304	99.8552062	98.42562299	97.02354156
170531A00003	5/31/2017	1.94	5/31/2022	5/31/2017	103.93998	103.2294155	102.5285287	101.8371243	101.1550112	100.482003	99.8179186	99.16258153	98.51581996
170531A00005	5/31/2017	1.94	5/31/2022	5/31/2017	103.93998	103.2294155	102.5285287	101.8371243	101.1550112	100.482003	99.8179186	99.16258153	98.51581996
170531A00080	5/31/2017	2.3	5/31/2024	5/31/2017	116.12309	113.1006024	110.1729702	107.3365867	104.5880059	101.9239385	99.34124301	96.83691817	94.40809533
170601A00018	6/1/2017	1.96	6/1/2022	6/1/2017	103.97017	103.2564601	102.5525186	101.8581426	101.1731381	100.4973165	99.83049421	99.17249249	98.52313728
170602A00023	6/2/2017	2.09	6/2/2023	6/2/2017	109.97259	108.148917	106.36499	104.6195775	102.9114999	101.2396258	99.60287006	98.00019098	96.43058821
170524A00011	5/24/2017	2.54	5/24/2024	5/24/2017	116.26129	113.2681363	110.3681793	107.5578984	104.8339354	102.1930829	99.63227628	97.14858657	94.73921285
170524A00047	5/24/2017	2.22	5/24/2023	5/24/2017	110.05495	108.2574618	106.4987277	104.7775644	103.0928363	101.443454	99.82837112	98.24658313	96.69712454
170530A00002	5/30/2017	2.15	5/31/2022	5/30/2017	104.01211	103.302214	102.6019725	101.9111905	101.2296776	100.5572483	99.89372209	99.23892319	98.59268043
170530A00006	5/30/2017	2.15	5/31/2022	5/30/2017	104.01211	103.302214	102.6019725	101.9111905	101.2296776	100.5572483	99.89372209	99.23892319	98.59268043
170530A00027	5/30/2017	1.97	5/31/2022	5/30/2017	103.96053	103.2498823	102.5489169	101.8574348	101.1752446	100.5021601	99.83800014	99.18258819	98.53575245
170530A00060	5/30/2017	2.12	3/25/2022	5/30/2017	102.88505	102.3781301	101.8761968	101.379179	100.8870046	100.3996031	99.91690528	99.43884327	98.96535048
170515A00056	5/15/2017	3.2	5/17/2032	5/15/2017	166.12379	150.8397097	137.1243692	124.807288	113.737381	103.7806582	94.81820885	86.74443243	79.46548579
170517A00027	5/17/2017	1.99	5/17/2022	5/17/2017	103.7424	103.0745725	102.4153324	101.7645144	101.1219576	100.4875052	99.86100458	99.24230663	98.6312661
170518A00011	5/18/2017	1.94	5/18/2022	5/18/2017	103.72656	103.0557931	102.3936899	101.7400824	101.0948077	100.4577069	99.82862534	99.20741211	98.59392013
170518A00034	5/18/2017	2.15	5/18/2023	5/18/2017	109.83901	108.0612289	106.3215172	104.6187222	102.951738	101.3195029	99.72099709	98.15524077	96.62129204

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170519A00002	5/19/2017	2.15	5/19/2022	5/19/2017	103.81149	103.1383027	102.4738302	101.8179073	101.1703697	100.5310571	99.89981353	99.27648672	98.6609283
170519A00034	5/19/2017	1.97	5/19/2022	5/19/2017	103.76249	103.0885915	102.4234361	101.7668519	101.1186737	100.4787409	99.84689663	99.22298809	98.60686633
170504A00038	5/4/2017	2.09	5/4/2022	5/4/2017	103.58815	102.959815	102.3390889	101.7258313	101.1199078	100.5211874	99.92954234	99.34484763	98.7669813
170508A00010	5/8/2017	2.43	5/8/2024	5/8/2017	116.13705	113.185689	110.3252317	107.5522896	104.8636269	102.256151	99.72690462	97.27305935	94.89190869
170509A00006	5/9/2017	2.3	5/9/2022	5/9/2017	103.73774	103.0947439	102.459707	101.8324834	101.2129293	100.6009047	99.99627263	99.39889976	98.80865578
170515A00005	5/15/2017	2.04	5/16/2022	5/15/2017	103.75796	103.0930694	102.436694	101.7886671	101.1488301	100.5170282	99.89311053	99.27693004	98.66834328
170515A00010	5/15/2017	2.58	5/15/2024	5/15/2017	116.23498	113.2699841	110.3966308	107.6114915	104.9112896	102.2928946	99.75331387	97.28968566	94.89927241
170515A00054	5/15/2017	3.2	5/17/2032	5/15/2017	166.12379	150.8397097	137.1243692	124.807288	113.737381	103.7806582	94.81820885	86.74443243	79.46548579
170427A00044	4/27/2017	3.02	4/27/2027	4/27/2017	134.50987	127.5664449	121.0284439	114.8699963	109.0670201	103.5970885	98.43930708	93.57420135	88.98361237
170427A00046	4/27/2017	3.1	4/27/2028	4/27/2017	140.41637	131.9957074	124.1425597	116.8155874	109.9766739	103.5906602	97.62509937	92.05003433	86.83779381
170427A00047	4/27/2017	3.18	4/27/2029	4/27/2017	146.56906	136.5974749	127.3859932	118.8724573	111.0001073	103.7170871	96.97599638	90.7334861	84.94989193
170428A00030	4/28/2017	2.25	4/28/2022	4/28/2017	103.51994	102.9105431	102.3083023	101.7130907	101.1247858	100.543268	99.96842041	99.40012885	98.83828171
170501A00008	5/1/2017	2.23	5/2/2022	5/1/2017	103.57575	102.9542505	102.3401912	101.7334363	101.1338562	100.5413243	99.9557169	99.3769132	98.8047952
170502A00028	5/2/2017	2.84	5/3/2027	5/2/2017	134.5689	127.565303	120.9728725	114.7652408	108.917874	103.4079331	98.21414725	93.31669783	88.69711149
170417A00057	4/17/2017	2.32	4/17/2023	4/17/2017	109.39351	107.7161085	106.07333	104.4641803	102.8877023	101.3429746	99.82911007	98.34525443	96.89058438
170417A00068	4/17/2019	2.59	4/17/2024	4/17/2019	115.82431	112.9523396	110.1671763	107.465659	104.8447611	102.3015859	99.83336081	97.43743038	95.11125098
170417A00094	4/17/2017	1.95	4/19/2022	4/17/2017	103.25699	102.6744084	102.0983905	101.52883	100.9656184	100.4086501	99.85782146	99.31303125	98.77418044
170419A00024	4/19/2017	2.45	4/21/2025	4/19/2017	121.55516	117.3912804	113.3935674	109.5544533	105.8667564	102.3236632	98.91870694	95.64574803	92.49895526
170419A00025	4/19/2017	2.72	4/19/2027	4/19/2017	133.62069	126.6937532	120.1714837	114.0280705	108.2394859	102.7833518	97.63881807	92.78644983	88.20812411
170424A00009	4/24/2017	2.04	4/25/2022	4/24/2017	103.40777	102.8068777	102.2129554	101.6258824	101.0455405	100.4718146	99.90459183	99.34376216	98.78921791
170328A00015	3/28/2017	2.75	11/29/2024	3/28/2017	119.87147	116.2212331	112.7024845	109.3096717	106.0375167	102.8809989	99.83534054	96.8959933	94.05862549
170404A00007	4/4/2017	2.22	4/4/2022	4/4/2017	103.10327	102.5662506	102.0348129	101.5088714	100.9883411	100.4731388	99.96318305	99.45839395	98.95869327
170405A00013	4/5/2017	2.07	4/5/2022	4/5/2017	103.09069	102.5501391	102.0152479	101.4859284	100.9620936	100.4436587	99.9305404	99.42265714	98.91992907
170412A00045	4/12/2017	2.01	4/12/2022	4/12/2017	103.17501	102.6134447	102.0579922	101.5085501	100.9650211	100.4273098	99.89532315	99.36896989	98.84816075
170417A00014	4/17/2017	1.95	4/18/2022	4/17/2017	103.2406	102.6610377	102.0879735	101.5213022	100.9609171	100.4067138	99.85859032	99.31644691	98.78018592
170417A00043	4/17/2017	2.14	4/18/2022	4/17/2017	103.28866	102.7096776	102.137177	101.5710528	101.0111987	100.457511	99.90988795	99.36823027	98.83244078
170322A00026	3/22/2017	3.22	3/22/2028	3/22/2017	140.75139	132.4487686	124.6978928	117.4591115	110.6958248	104.3742327	98.4631078	92.9335863	87.7589777
170323A00009	3/23/2017	2.1	3/23/2022	3/23/2017	102.88796	102.3863378	101.8896072	101.3976954	100.9105325	100.4280498	99.95018004	99.4768572	99.00801651
170323A00013	3/23/2017	2.1	3/23/2022	3/23/2017	102.88796	102.3863378	101.8896072	101.3976954	100.9105325	100.4280498	99.95018004	99.4768572	99.00801651
170327A00070	3/29/2017	3.05	3/29/2027	3/29/2017	135.32724	128.4255186	121.9225379	115.7931224	110.0138146	104.5627512	99.41954676	94.56518604	89.98192483
170327A00072	3/29/2017	3.09	3/29/2027	3/29/2017	135.57116	128.6624652	122.1528044	116.016987	110.2315416	104.7745915	99.62573882	94.7659565	90.17748922
170327A00075	3/27/2019	2.47	3/28/2022	3/27/2019	103.11078	102.5943966	102.0831708	101.5770299	101.0758986	100.5797026	100.0883694	99.60182773	99.12000786
170322A00011	3/22/2017	2.48	3/22/2024	3/22/2017	115.5263	112.7315997	110.0196211	107.3874256	104.8321949	102.3512286	99.94193845	97.60184269	95.32856115

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170322A00015	3/22/2017	2.31	3/22/2022	3/22/2017	102.92753	102.4292871	101.9358669	101.4471996	100.9632167	100.483851	100.0090365	99.53870856	99.07280375
170322A00022	3/22/2017	3.89	9/23/2041	3/22/2017	225.26812	190.9039235	162.5254559	139.0355865	119.5448967	103.3313396	89.80791205	78.49671114	69.00809115
170322A00023	3/22/2017	3.82	9/22/2039	3/22/2017	212.82906	182.9315544	157.8075989	136.6551367	118.8114929	103.7284819	90.95207102	80.10574617	70.87688873
170322A00024	3/22/2017	3.72	9/22/2036	3/22/2017	195.40427	171.74989	151.3330715	133.6867426	118.4137504	105.1760675	93.68570964	83.69708745	75.00056121
170322A00025	3/22/2017	3.58	3/22/2033	3/22/2017	173.3554	156.5475033	141.5719711	128.2173268	116.2975916	105.6490873	96.12765735	87.60624663	79.97279249
170314A00006	3/14/2017	2.67	3/14/2024	3/14/2017	115.89455	113.1201891	110.4272168	107.81276	105.2740702	102.8085125	100.4135605	98.08679079	95.82587809
170316A00018	3/16/2017	2.8	3/18/2024	3/16/2017	115.89859	113.1201284	110.4233505	107.8053738	105.263433	102.7948776	100.3971661	98.06786114	95.80462426
170317A00059	3/17/2017	2.47	3/17/2023	3/17/2017	109.33561	107.7484111	106.1926456	104.6674555	103.1720146	101.7055259	100.2672204	98.85635576	97.47221535
170320A00014	3/20/2017	2.22	3/21/2022	3/20/2017	102.9123	102.4164881	101.9254523	101.4391272	100.957445	100.4803394	100.0077452	99.53959858	99.07583677
170321A00013	3/21/2017	2.18	3/21/2022	3/21/2017	102.89299	102.397225	101.906244	101.4199733	100.9383452	100.4612932	99.98875228	99.52065854	99.05694929
170322A00010	3/22/2017	2.11	3/22/2022	3/22/2017	102.87601	102.377362	101.8835473	101.3944968	100.9101417	100.4304144	99.95524873	99.48457979	99.01834383
170313A00027	3/13/2017	2.27	3/14/2022	3/13/2017	102.81548	102.3404978	101.869906	101.4036478	100.9416633	100.4838936	100.0302813	99.58076954	99.1353029
170313A00032	3/13/2017	3.69	6/14/2032	3/13/2017	170.24625	154.7525391	140.8468213	128.3562992	117.1278838	107.0258507	97.92978602	89.73278409	82.33986679
170313A00033	3/13/2017	3.31	3/15/2027	3/13/2017	135.61791	128.7933485	122.3591286	116.2908304	110.5656903	105.1624775	100.0613829	95.24391646	90.6928131
170313A00034	3/13/2017	3.31	3/15/2027	3/13/2017	135.61791	128.7933485	122.3591286	116.2908304	110.5656903	105.1624775	100.0613829	95.24391646	90.6928131
170313A00035	3/13/2017	3.31	3/15/2027	3/13/2017	135.61791	128.7933485	122.3591286	116.2908304	110.5656903	105.1624775	100.0613829	95.24391646	90.6928131
170314A00005	3/14/2017	2.29	3/14/2022	3/14/2017	102.82475	102.3497349	101.8791178	101.4128343	100.9508247	100.4930302	100.0393931	99.58985685	99.14436581
170228A00014	2/28/2017	2.89	3/1/2027	2/28/2017	133.9327	127.1687463	120.7908663	114.7749934	109.0986867	103.7410096	98.68242172	93.90467849	89.39073895
170228A00015	2/28/2017	2.87	5/28/2025	2/28/2017	123.13904	118.8415378	114.7188391	110.7628012	106.9657148	103.3202762	99.81956314	96.45701232	93.22639823
170228A00018	2/28/2017	2.25	2/28/2022	2/28/2017	102.52542	102.0927423	101.6637026	101.2382554	100.8163558	100.3979597	99.98302369	99.57150506	99.16336183
170303A00021	3/3/2017	2.2	3/3/2022	3/3/2017	102.59527	102.1531472	101.7148305	101.28027	100.8494176	100.4222259	99.99864842	99.57863944	99.16215396
170307A00033	3/7/2017	2.2	3/7/2022	3/7/2017	102.66354	102.2095096	101.759494	101.3134421	100.8713013	100.4330205	99.99854908	99.56783745	99.14083687
170310A00032	3/10/2017	2.27	3/10/2022	3/10/2017	102.74639	102.2833291	101.8244506	101.3696936	100.9190024	100.4723227	100.0296009	99.59078432	99.15582146
170223A00003	2/23/2017	2.05	2/23/2022	2/23/2017	102.39775	101.979462	101.5645857	101.1530828	100.7449123	100.3400337	99.9384074	99.53999423	99.14475572
170224A00019	2/24/2017	2.21	2/24/2022	2/24/2017	102.4416	102.0207436	101.6033406	101.1893475	100.7787226	100.3714251	99.96741443	99.56665113	99.16909611
170224A00020	2/24/2017	3.08	2/24/2027	2/24/2017	133.94248	127.2325083	120.9034239	114.9316062	109.2950169	103.9730877	98.94661557	94.19766477	89.70947722
170224A00021	2/24/2017	3.4	2/24/2032	2/24/2017	165.08272	150.3027141	137.0051474	125.0323914	114.24437	104.5165218	95.73800915	87.8101429	80.64499413
170224A00039	5/24/2017	3.17	5/24/2027	5/24/2017	135.84076	128.7658173	122.1081197	115.8407612	109.9387144	104.3786923	99.13901757	94.19950219	89.54133737
170224A00044	5/24/2017	3.29	5/24/2029	5/24/2017	147.93026	137.8072593	128.4614877	119.8288936	111.8510395	104.4745774	97.65078013	91.33511748	85.48687383
170216A00010	2/16/2017	2.37	2/16/2022	2/16/2017	102.37014	101.9726854	101.5783248	101.1870178	100.7987289	100.4134234	100.0310667	99.65162515	99.27506537
170216A00041	2/16/2017	2.37	2/16/2022	2/16/2017	102.37014	101.9726854	101.5783248	101.1870178	100.7987289	100.4134234	100.0310667	99.65162515	99.27506537
170216A00043	2/16/2017	3.17	2/16/2027	2/16/2017	134.34708	127.6561539	121.3432633	115.3850676	109.7597822	104.4470696	99.42793615	94.6846366	90.20058575
170216A00044	2/16/2017	3.52	2/17/2032	2/16/2017	166.41297	151.5911397	138.2512928	126.236246	115.4062772	105.6371052	96.81811112	88.85077326	81.64728783

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170216A00045	2/16/2017	3.73	2/17/2037	2/16/2017	197.8086	173.330128	152.2783774	134.1479488	118.5107371	105.0037469	93.31888279	83.19438425	74.40763447
170217A00014	2/17/2017	2.27	2/14/2022	2/17/2017	102.29741	101.9059337	101.5174617	101.131955	100.7493798	100.3697027	99.99289079	99.61891158	99.24773318
170215A00037	2/15/2017	2.71	5/23/2022	2/15/2017	104.24895	103.5621491	102.8843848	102.2154835	101.5552721	100.9035818	100.2602484	99.62511183	98.99801596
170215A00038	2/15/2017	2.71	8/22/2022	2/15/2017	105.91316	104.9412871	103.9872204	103.0504751	102.1305825	101.2270905	100.3395632	99.46758011	98.61073526
170215A00039	2/15/2017	2.72	11/7/2022	2/15/2017	107.34003	106.1183229	104.9243642	103.7572186	102.6159903	101.499823	100.4078976	99.33943052	98.29367165
170215A00040	2/15/2017	2.59	5/15/2023	2/15/2017	110.30161	108.5327374	106.8015371	105.1068721	103.4476546	101.82284	100.2314247	98.67244432	97.14497116
170215A00041	2/15/2017	2.6	10/16/2023	2/15/2017	112.88181	110.6193582	108.4143806	106.2650216	104.1695029	102.1261167	100.1332222	98.18924285	96.29266275
170215A00043	2/15/2017	2.7	8/28/2024	2/15/2017	118.23274	114.9084096	111.695593	108.5899393	105.5872891	102.6836685	99.87527921	97.15849037	94.52982982
170130A00054	3/30/2017	2.33	4/29/2022	3/30/2017	103.58436	102.9717833	102.366427	101.7681672	101.1768798	100.5924436	100.0147402	99.44365367	98.87907106
170203A00012	2/3/2017	3.63	2/2/2035	2/3/2017	184.7027	164.3666208	146.5529894	130.9316611	117.2174269	105.1636889	94.55705399	85.21270738	76.97045155
170203A00013	2/3/2017	3.67	2/1/2036	2/3/2017	190.94423	168.628706	149.2564714	132.4182941	117.7640215	104.9937737	93.85049079	84.11361716	75.59374461
170203A00031	2/3/2017	2.09	2/3/2022	2/3/2017	102.08082	101.7213722	101.364449	101.0100277	100.6580823	100.3085867	99.96151544	99.61684339	99.27454571
170207A00013	2/7/2017	2.05	2/7/2022	2/7/2017	102.13288	101.7617016	101.3932243	101.0274178	100.6642531	100.3037017	99.9457353	99.59032615	99.23744684
170207A00023	2/7/2017	2.26	2/7/2022	2/7/2017	102.17559	101.8047019	101.4365118	101.0709855	100.7080941	100.3478093	99.99010289	99.63494728	99.28231522
170120A00010	1/20/2017	3.71	1/22/2036	1/20/2017	191.47602	169.1633826	149.7873496	132.9403306	118.2734915	105.4880112	94.32767423	84.57259405	76.03388792
170120A00011	1/20/2017	3.75	1/20/2037	1/20/2017	197.7463	173.39858	152.4430876	134.3817541	118.7923637	105.3166452	93.65028328	83.53453346	74.7491775
170123A00039	1/23/2017	2.79	1/23/2026	1/23/2017	127.17731	121.9804998	117.0270223	112.3041811	107.8000143	103.5032449	99.40323794	95.48996003	91.75394228
170130A00008	1/30/2017	2.58	1/30/2023	1/30/2017	108.49787	107.0641402	105.6567973	104.2751684	102.9186011	101.5864646	100.2781487	98.99306339	97.73063756
170130A00010	1/30/2017	2.92	1/30/2025	1/30/2017	121.43795	117.5643765	113.8359292	110.2464002	106.7898844	103.4607593	100.25367	97.16351516	94.18543348
170130A00031	1/30/2017	2.96	7/30/2025	1/30/2017	124.48625	119.9558739	115.6165782	111.4593041	107.4754719	103.6569511	99.99603455	96.48541381	93.11815688
170117A00037	1/17/2017	2	1/18/2022	1/17/2017	101.78683	101.4741121	101.1633248	100.8544526	100.5474776	100.2423823	99.93914939	99.63776171	99.33820236
170117A00045	1/17/2017	2.21	1/18/2022	1/17/2017	101.8231	101.5106284	101.2000848	100.8914508	100.5847086	100.2798408	99.97683034	99.67566004	99.37631315
170117A00046	1/17/2017	2.55	1/17/2024	1/17/2017	114.26586	111.7026559	109.2103911	106.7866307	104.4290449	102.1354011	99.90355799	97.73146212	95.61714285
170119A00006	1/19/2017	2.85	1/21/2025	1/19/2017	121.04614	117.2078088	113.5125891	109.9543442	106.5272334	103.2256999	100.0444552	96.97846419	94.02293184
170120A00008	1/20/2017	3.63	1/20/2034	1/20/2017	178.81839	160.4407227	144.1891543	129.803673	117.0574151	105.7522866	95.71517888	86.79469957	78.85834551
170120A00009	1/20/2017	3.67	1/22/2035	1/20/2017	185.16437	164.8426244	147.0354063	131.4142628	117.6953783	105.6332972	95.01555852	85.65810484	77.4013504
170111A00011	1/11/2017	3.24	1/11/2029	1/11/2017	145.41007	135.8790512	127.0491018	118.8647572	111.2752269	104.233978	97.69835682	91.62924562	85.99075174
170111A00012	1/11/2017	3.31	1/11/2030	1/11/2017	151.76768	140.6263837	130.401611	121.0127449	112.3866746	104.4570574	97.16365845	90.45175869	84.2716222
170111A00013	1/11/2017	3.4	1/10/2031	1/11/2017	158.47723	145.6446515	133.9768543	123.3612534	113.6967264	104.8923873	96.86650015	89.54551339	82.86320063
170111A00014	1/11/2017	3.47	1/12/2032	1/11/2017	165.23652	150.6215059	137.4565238	125.5888734	114.8827157	105.2171329	96.48441753	88.58856553	81.44394894
170111A00016	1/11/2017	3.51	1/11/2033	1/11/2017	171.30496	154.9069976	140.2713029	127.197339	115.5084242	105.0487823	95.68096924	87.28362785	79.74952852
170111A00020	1/11/2017	2.27	1/11/2022	1/11/2017	101.72049	101.4283558	101.1379039	100.8491243	100.5620028	100.2765249	99.99267638	99.71044338	99.42981201
161223A00028	12/23/2016	2.23	12/23/2021	12/23/2016	101.41595	101.1783958	100.9419624	100.7066438	100.472432	100.2393191	100.0072975	99.77635937	99.54649712

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170109A00031	1/9/2017	2.29	1/10/2022	1/9/2017	101.70936	101.4201115	101.1325171	100.846562	100.5622321	100.2795137	99.99839284	99.71885608	99.44088994
170110A00020	1/10/2017	2.4	1/10/2024	1/10/2017	114.16182	111.6135397	109.1355797	106.7254997	104.3809611	102.0997254	99.87964884	97.71867784	95.61484405
170110A00022	1/10/2017	2.27	1/10/2023	1/10/2017	108.03653	106.6238263	105.2441025	103.8961993	102.579015	101.291499	100.0326482	98.80150526	97.59715513
170110A00023	1/10/2017	2.08	1/10/2022	1/10/2017	101.67867	101.3891531	101.1012945	100.8150807	100.5304976	100.2475311	99.96616746	99.6863929	99.40819393
170111A00009	1/11/2017	3.16	1/11/2028	1/11/2017	139.24657	131.2507372	123.7720756	116.7742991	110.2238576	104.0897187	98.34316517	92.95760995	87.90842698
161213A00014	12/13/2016	2.07	12/13/2021	12/13/2016	101.21373	101.0049357	100.7970151	100.5899649	100.3837794	100.1784533	99.97398096	99.77035713	99.56757642
161213A00017	12/13/2016	2.24	12/13/2022	12/13/2016	107.56982	106.2288254	104.9211347	103.6455195	102.4008105	101.1858949	99.99971265	98.84125345	97.70955393
161214A00023	12/14/2016	3.3	12/15/2031	12/14/2016	164.91527	150.3152843	137.1600624	125.297916	114.5938689	104.9277303	96.19240327	88.29239461	81.14250122
161215A00001	12/15/2016	2.5	12/15/2021	12/15/2016	101.314	101.0996215	100.886165	100.6736227	100.4619887	100.251257	100.0414219	99.83247759	99.62441834
161215A00014	12/15/2016	2.66	12/15/2022	12/15/2016	107.9721	106.6245358	105.3105323	104.0288449	102.7782921	101.5577493	100.3661454	99.20246009	98.06572019
161222A00030	12/22/2016	3.09	12/22/2026	12/22/2016	134.01809	127.4992368	121.3406008	115.5202362	110.017666	104.8137703	99.89068826	95.23172758	90.8212812
161115A00010	11/15/2016	2.09	11/15/2021	11/15/2016	100.74328	100.6143909	100.4858435	100.3576387	100.229775	100.102251	99.97506539	99.84821678	99.7217038
161115A00011	11/15/2016	2.46	11/15/2023	11/15/2016	113.05906	110.7028556	108.4082189	106.1730957	103.9955137	101.8735826	99.80548993	97.7894969	95.82393489
161117A00015	11/17/2016	2.08	11/17/2021	11/17/2016	100.77289	100.6383619	100.5042041	100.3704175	100.2370005	100.1039514	99.97126893	99.83895137	99.70699725
161123A00008	11/23/2016	2.2	11/23/2021	11/23/2016	100.88761	100.7360754	100.5850074	100.4344009	100.2842536	100.1345637	99.98532885	99.8365471	99.68821636
161208A00007	12/8/2016	2.6	12/8/2023	12/8/2016	113.74897	111.3135529	108.9432203	106.6357367	104.3889625	102.2008499	100.0694384	97.99284981	95.96928423
161212A00040	12/12/2016	2.45	12/12/2023	12/12/2016	113.8186	111.3630528	108.9735335	106.6477533	104.3835281	102.178768	100.0314731	97.93972811	95.90169808
161013A00038	10/13/2016	1.52	10/13/2021	10/13/2016	100.19298	100.1567317	100.1205269	100.0843657	100.0482482	100.0121741	99.97614347	99.94015616	99.9042121
161014A00006	10/14/2016	1.74	10/14/2021	10/14/2016	100.21249	100.1734815	100.1345235	100.0956132	100.0567504	100.017935	99.97916708	99.94044643	99.90177298
161020A00002	10/20/2016	1.96	8/15/2023	10/20/2016	110.6082	108.5601256	106.5603093	104.6073243	102.6997919	100.8363834	99.01581748	97.23685846	95.49831417
161031A00006	10/31/2016	1.76	11/1/2021	10/31/2016	100.48775	100.3984262	100.3092592	100.2202504	100.1313996	100.0427062	99.95416984	99.86579015	99.77756673
161031A00007	10/31/2016	1.91	10/31/2022	10/31/2016	106.29891	105.1058672	103.9394651	102.7988226	101.6830941	100.5914707	99.52317837	98.47747566	97.45365232
161109A00018	11/9/2016	2.63	11/9/2026	11/9/2016	129.76055	123.5371822	117.6514299	112.0831435	106.8134902	101.8248569	97.10076398	92.62578655	88.38548078
161004A00034	10/4/2016	1.67	10/4/2021	10/4/2016	100.05991	100.0487752	100.0376518	100.026539	100.0154367	100.0043448	99.99326345	99.98219253	99.97113205
161004A00040	10/4/2016	1.45	10/4/2021	10/4/2016	100.05858	100.0474345	100.0363017	100.0251795	100.0140679	100.0029669	99.99187657	99.98079678	99.96972755
161006A00011	10/6/2016	1.64	10/6/2022	10/6/2016	105.74124	104.628141	103.5383595	102.4711657	101.4258634	100.4017845	99.39828785	98.41475802	97.45060382
161006A00012	10/6/2016	1.98	10/7/2024	10/6/2016	117.04097	113.5937173	110.2666988	107.0550311	103.9540577	100.9593389	98.06664007	95.27192083	92.57132504
161006A00013	10/6/2016	2.07	10/6/2025	10/6/2016	122.35374	117.6220598	113.1001938	108.7777019	104.6447246	100.6919445	96.91055364	93.29222259	89.82907179
161013A00037	10/13/2016	1.52	10/13/2021	10/13/2016	100.19298	100.1567317	100.1205269	100.0843657	100.0482482	100.0121741	99.97614347	99.94015616	99.9042121
160926A00023	9/26/2016	1.74	9/26/2022	9/26/2016	105.55625	104.4775303	103.4207464	102.3852393	101.3703718	100.3755318	99.40013116	98.44360471	97.50540888
160926A00046	9/26/2016	1.66	9/26/2023	9/26/2016	110.90103	108.7143543	106.5823341	104.5032492	102.4754449	100.4973304	98.56737528	96.68410754	94.84611038
160929A00004	9/29/2016	1.74	9/29/2022	9/29/2016	105.60324	104.5149032	103.4488842	102.404501	101.3811005	100.3780558	99.39476455	98.43064812	97.48515018
160930A00005	9/30/2016	2.03	9/30/2024	9/30/2016	116.61124	113.2043264	109.9154731	106.7399155	103.6731129	100.710734	97.8486459	95.0829037	92.40974084

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160930A00010	9/30/2016	1.47	9/30/2022	9/30/2016	105.4702	104.3775286	103.3073557	102.2589965	101.2317898	100.2251012	99.23832129	98.27086448	97.32216806
161003A00004	10/3/2016	1.91	10/3/2023	10/3/2016	111.21152	109.0060447	106.8560199	104.7596899	102.7153643	100.7214181	98.77628877	96.8784738	95.02652744
160922A00049	9/22/2016	1.79	9/22/2022	9/22/2016	105.54421	104.4780108	103.4332607	102.4093152	101.4055577	100.4213958	99.45626008	98.50960294	97.58089766
160922A00050	9/22/2016	2.24	9/22/2025	9/22/2016	122.22477	117.5613433	113.1024276	108.837958	104.7584235	100.8548303	97.11867021	93.5418923	90.11687535
160922A00051	9/22/2016	2.5	9/22/2028	9/22/2016	137.90286	129.0449877	120.8193942	113.1776212	106.0751653	99.47113447	93.32793768	87.61100249	82.2885181
160923A00032	9/23/2016	1.67	9/25/2023	9/23/2016	110.90735	108.7237651	106.5946814	104.5183876	102.4932358	100.5176414	98.5900806	96.70908692	94.87324915
160923A00033	9/23/2016	2.04	9/23/2026	9/23/2016	126.80397	120.7856586	115.0886702	109.6941765	104.5845502	99.74328243	95.15490589	90.80492339	86.67974223
160926A00004	9/26/2016	1.66	9/26/2023	9/26/2016	110.90103	108.7143543	106.5823341	104.5032492	102.4754449	100.4973304	98.56737528	96.68410754	94.84611038
160830A00037	8/30/2016	2.16	8/29/2025	8/30/2016	121.55891	116.9899406	112.6181688	108.4340509	104.4285591	100.5931475	96.91972373	93.4006228	90.02858189
160830A00038	8/30/2016	2.24	8/28/2026	8/30/2016	126.62494	120.7311955	115.146816	109.8539804	104.8359802	100.0771491	95.56279224	91.27912107	87.21319313
160830A00061	8/30/2018	1.89	8/30/2023	8/30/2018	110.68926	108.5951193	106.5512925	104.5562547	102.6085411	100.7067412	98.8494958	97.03549528	95.26347705
160921A00020	9/21/2016	1.97	9/21/2023	9/21/2016	111.18207	109.0137358	106.8991086	104.8365166	102.8243475	100.8610505	98.94513353	97.07516061	95.24974918
160922A00009	9/22/2016	1.55	9/22/2022	9/22/2016	105.42911	104.3616414	103.3156759	102.2905728	101.2857128	100.3005011	99.3343659	98.38675747	97.45714696
160922A00014	9/22/2016	2.06	9/22/2026	9/22/2016	126.90061	120.8832899	115.1870207	109.7930055	104.6836421	99.84244418	95.25396489	90.90372575	86.77815098
160815A00006	8/15/2016	2.23	8/17/2026	8/15/2016	126.43034	120.5782392	115.03162	109.7729809	104.7859093	100.0550101	95.56583732	91.30483131	87.25925953
160815A00007	8/15/2016	2.23	8/17/2026	8/15/2016	126.43034	120.5782392	115.03162	109.7729809	104.7859093	100.0550101	95.56583732	91.30483131	87.25925953
160816A00003	8/16/2016	1.63	8/16/2023	8/16/2016	110.24701	108.1944619	106.1904494	104.2335273	102.3223048	100.4554419	98.63164625	96.84967201	95.10831729
160830A00032	8/30/2016	1.82	8/30/2022	8/30/2016	105.21937	104.2263184	103.2519208	102.2956588	101.3570301	100.4355508	99.53075459	98.64219172	97.76942865
160830A00034	8/30/2016	1.9	8/30/2023	8/30/2016	110.70939	108.6150479	106.571018	104.5757809	102.6278721	100.7258806	98.86844741	97.05426262	95.2820636
160830A00035	8/30/2016	2.06	8/30/2024	8/30/2016	116.26947	112.9689988	109.7796754	106.6971517	103.7172713	100.8360635	98.04973393	95.35465546	92.74735995
160801A00001	8/1/2016	1.97	8/1/2024	8/1/2016	115.59755	112.3981018	109.3037747	106.3105592	103.4146186	100.6122827	97.90003977	95.27452906	92.73253308
160802A00003	8/2/2016	2.53	8/1/2031	8/2/2016	153.94048	140.4421674	128.2481156	117.225159	107.2543608	98.22943168	90.05532789	82.64701065	75.92834793
160804A00014	8/4/2016	1.99	8/5/2024	8/4/2016	115.71232	112.4986367	109.3909038	106.3850662	103.4772436	100.6637249	97.94096	95.30555175	92.75424849
160811A00011	8/11/2016	2.25	8/11/2026	8/11/2016	126.46031	120.6274616	115.0981166	109.8549414	104.8816777	100.1630717	95.68480699	91.43344285	87.39635583
160812A00005	8/12/2016	1.69	8/12/2022	8/12/2016	104.81726	103.8817315	102.9628426	102.0601488	101.1732248	100.30166	99.44505794	98.60303585	97.77522381
160815A00005	8/15/2016	2.23	8/17/2026	8/15/2016	126.43034	120.5782392	115.03162	109.7729809	104.7859093	100.0550101	95.56583732	91.30483131	87.25925953
160714A00023	8/10/2016	2.49	8/10/2028	8/10/2016	137.26621	128.5850659	120.5138364	113.0065225	106.0208173	99.51779152	93.46160802	87.81926163	82.56034216
160714A00029	8/10/2016	2.27	8/10/2026	8/10/2016	126.5541	120.7222143	115.1935898	109.9509151	104.9779536	100.2594713	95.78117033	91.52962626	87.49223083
160714A00054	7/14/2016	2.03	7/15/2024	7/14/2016	115.54776	112.4011456	109.3567736	106.4106954	103.5591398	100.7985065	98.12535652	95.53640418	93.02850892
160718A00010	7/18/2016	1.65	7/18/2023	7/18/2016	109.8722	107.9100255	105.992826	104.1192355	102.2879408	100.4976797	98.74723842	97.03544926	95.3611885
160726A00005	7/26/2016	2.28	7/27/2026	7/26/2016	126.42667	120.6444222	115.1607818	109.9587936	105.0225535	100.3371361	95.88852943	91.6635745	87.64990895
160727A00002	7/27/2016	1.87	7/27/2023	7/27/2016	110.13459	108.1485573	106.2082689	104.3123798	102.4595935	100.6486607	98.87837679	97.14758041	95.45515126
160706A00028	7/6/2016	2.39	7/6/2029	7/6/2016	140.70224	130.709388	121.5007981	113.0107066	105.1792008	97.95166649	91.27829362	85.11362886	79.41617316

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160706A00029	7/6/2016	2.49	7/8/2030	7/6/2016	146.39421	134.8203728	124.2566058	114.6092467	105.7937837	97.73391951	90.36073269	83.61192897	77.43117201
160706A00030	7/6/2016	2.59	7/7/2031	7/6/2016	152.34165	139.1172894	127.1604675	116.342578	106.548705	97.67609815	89.63282716	82.33659028	75.7136604
160707A00032	7/7/2016	1.52	7/7/2023	7/7/2016	109.47397	107.5480357	105.6658791	103.8261229	102.0274433	100.2685715	98.54829081	96.86543407	95.21888079
160712A00023	7/12/2016	1.79	7/12/2023	7/12/2016	109.76801	107.8296044	105.9353422	104.0838536	102.2738279	100.5040065	98.77318125	97.0801913	95.42392099
160714A00020	9/6/2016	2.28	9/4/2026	9/6/2016	126.93272	121.0072234	115.3938354	110.07451	105.0323337	100.2514514	95.71699526	91.4150178	87.33243051
160705A00006	7/5/2016	1.38	7/5/2022	7/5/2016	104.0763	103.2591706	102.4548152	101.662938	100.8832503	100.1154725	99.35933318	98.61456944	97.88092606
160705A00104	7/5/2016	2.1	7/6/2026	7/5/2016	125.2176	119.5339324	114.1414743	109.0236957	104.1651054	99.55117477	95.16827236	91.00360291	87.04515108
160706A00006	7/6/2016	1.47	7/6/2023	7/6/2016	109.36745	107.4454751	105.5671582	103.7311202	101.9360366	100.1806386	98.46370936	96.78408201	95.14063663
160706A00010	7/6/2016	1.99	7/7/2025	7/6/2016	120.17593	115.8045069	111.6161497	107.6021237	103.7541699	100.0644733	96.5256352	93.13064881	89.87287542
160706A00026	7/6/2016	2.19	7/6/2027	7/6/2016	130.23272	123.1740511	116.5422757	110.3092808	104.448962	98.93706431	93.75104125	88.86992462	84.27420546
160706A00027	7/6/2016	2.29	7/6/2028	7/6/2016	135.30814	126.816691	118.9159609	111.5617096	104.7132391	98.33309354	92.38678332	86.84253495	81.67106292
160701A00019	7/1/2016	1.73	7/3/2023	7/1/2016	109.54916	107.6388905	105.7718363	103.9466123	102.1618971	100.4164256	98.70898534	97.03841443	95.40359833
160701A00020	7/1/2016	2.13	7/1/2026	7/1/2016	125.31249	119.6427386	114.2627988	109.1562304	104.307623	99.70252652	95.3273847	91.16947444	87.21684931
160701A00027	7/1/2016	1.93	7/1/2024	7/1/2016	115.06391	111.9671738	108.9702143	106.0691249	103.2601851	100.5398487	97.90473439	95.35161608	92.87741486
160701A00028	7/1/2016	2.16	7/1/2026	7/1/2016	125.46864	119.7950225	114.4113661	109.3012179	104.4491615	99.84074078	95.4623939	91.30139249	87.34578509
160701A00039	7/1/2016	1.92	7/1/2026	7/1/2016	125.10002	119.4077296	114.0072743	108.8820584	104.0165287	99.39610328	95.00710425	90.83669628	86.8728293
160705A00005	7/5/2016	1.49	7/5/2023	7/5/2016	109.39072	107.4714605	105.5957655	103.7622515	101.9695927	100.2165191	98.50181335	96.82430829	95.18288396
160628A00040	6/28/2016	1.56	6/28/2023	6/28/2016	109.4212	107.5225077	105.6666401	103.8522135	102.0779073	100.3424575	98.64465411	96.98333806	95.35739831
160628A00049	6/28/2016	1.88	6/27/2025	6/28/2016	120.23383	115.8762263	111.7004813	107.6979108	103.8603035	100.1798919	96.64932569	93.261646	90.01026168
160628A00050	6/28/2016	1.56	6/28/2023	6/28/2016	109.4212	107.5225077	105.6666401	103.8522135	102.0779073	100.3424575	98.64465411	96.98333806	95.35739831
160630A00011	6/30/2016	1.8	6/30/2023	6/30/2016	109.63521	107.7329265	105.8735734	104.0557624	102.2781679	100.5395217	98.83860936	97.17426773	95.54538197
160630A00012	6/30/2016	2.11	6/30/2025	6/30/2016	120.57531	116.2181608	112.0427186	108.0403033	104.2027118	100.5221847	96.99137953	93.60334462	90.35149595
160630A00021	6/30/2016	1.59	6/30/2023	6/30/2016	109.50529	107.599645	105.7370879	103.9162235	102.1357193	100.3943002	98.69074599	97.02388754	95.3926046
160624A00010	6/24/2016	1.66	6/24/2022	6/24/2016	104.0447	103.2621827	102.4913957	101.7320745	100.9839649	100.24682	99.52039999	98.80447223	98.09881066
160624A00011	6/24/2016	1.83	6/26/2023	6/24/2016	109.63064	107.7406874	105.8931635	104.0867101	102.3200242	100.5918585	98.9010189	97.24636084	95.62678724
160627A00025	6/27/2016	1.65	6/27/2022	6/27/2016	104.08313	103.2913868	102.5116391	101.7436164	100.9870558	100.2417023	99.50730839	98.78363394	98.07044564
160628A00031	6/28/2016	1.77	6/28/2023	6/28/2016	109.55081	107.6554627	105.8027828	103.9913946	102.219984	100.4872938	98.79212013	97.13330949	95.5097563
160628A00038	6/28/2016	1.88	6/27/2025	6/28/2016	120.23383	115.8762263	111.7004813	107.6979108	103.8603035	100.1798919	96.64932569	93.261646	90.01026168
160628A00039	6/28/2016	2.01	6/29/2026	6/28/2016	125.54472	119.8481118	114.4431204	109.3131762	104.442751	99.81728555	95.42312332	91.24744851	87.2782291
160613A00047	6/15/2016	2.18	6/16/2025	6/15/2016	120.66905	116.3563698	112.221848	108.2570632	104.4540468	100.8052568	97.30355137	93.94216515	90.71468637
160615A00031	6/15/2016	2.51	6/17/2030	6/15/2016	148.13051	136.4702356	125.823333	116.0961581	107.2041982	99.07113233	91.62799656	84.81243864	78.56805165
160616A00027	6/16/2016	2.27	6/16/2026	6/16/2016	125.84274	120.2107895	114.8642675	109.7871073	104.9642463	100.3815522	96.02576029	91.88441413	87.94581181
160616A00028	6/16/2016	1.81	6/16/2023	6/16/2016	109.446	107.5884631	105.7720964	103.9956028	102.2577357	100.5573013	98.89315513	97.26420007	95.66938343

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160616A00034	6/16/2016	1.97	6/17/2024	6/16/2016	114.98672	111.9356642	108.9817382	106.121187	103.3504291	100.6660486	98.0647864	95.54353126	93.09931213
160620A00015	6/20/2016	1.71	6/20/2023	6/20/2016	109.57587	107.7003656	105.8667225	104.0736065	102.3197413	100.6039045	98.92492519	97.28168104	95.67309569
160510A00012	5/10/2016	1.49	10/12/2021	5/10/2016	100.17713	100.1436694	100.1102525	100.0768751	100.0435369	100.010238	99.97697821	99.94375751	99.91057582
160524A00027	5/24/2016	3.06	5/27/2031	5/24/2016	157.03096	143.7291536	131.6826145	120.7655898	110.8655621	101.8817916	93.72402734	86.31136382	79.57122894
160606A00004	6/6/2016	2.43	6/8/2026	6/6/2016	126.55777	120.9356173	115.5969311	110.525835	105.7074376	101.1277625	96.77368673	92.63288324	88.69376775
160606A00005	6/6/2016	2.92	6/6/2031	6/6/2016	155.61621	142.3464276	130.334002	119.4525468	109.5890216	100.642255	92.5216414	85.14598633	78.44248381
160606A00043	6/8/2016	2.23	12/15/2021	6/8/2016	101.25668	101.0423877	100.8290182	100.6165627	100.4050151	100.1943696	99.98462033	99.77576158	99.56778762
160610A00009	6/10/2016	1.89	6/12/2023	6/10/2016	109.52911	107.6830677	105.8777349	104.1118278	102.3841213	100.6934419	99.03866426	97.41870904	95.8325405
160330A00056	3/30/2016	2.26	3/31/2025	3/30/2016	120.52114	116.445584	112.5307311	108.7693615	105.1546175	101.6799873	98.33928512	95.12663339	92.03644519
160331A00024	3/31/2016	1.91	3/31/2022	3/31/2016	102.87736	102.3528482	101.8336665	101.3197312	100.8109632	100.3072851	99.80862093	99.31489615	98.8260378
160401A00016	4/1/2016	2.42	4/1/2025	4/1/2016	120.55099	116.4868863	112.5827703	108.8314561	105.226126	101.7603055	98.42784425	95.22289752	92.13990944
160420A00002	4/20/2016	1.96	11/16/2022	4/20/2016	106.61785	105.3719916	104.1551195	102.9662325	101.8043739	100.6686299	99.55812781	98.47203317	97.40954809
160422A00026	4/22/2016	2.62	4/22/2026	4/22/2016	126.8699	121.396653	116.1926897	111.2433013	106.534663	102.0537765	97.78841607	93.72707839	89.85893549
160504A00004	5/4/2016	2.3	5/4/2026	5/4/2016	126.28846	120.7626149	115.5112351	110.5191944	105.7722855	101.2571588	96.96126517	92.87280364	88.98067236
160328A00014	3/28/2016	2.49	3/27/2026	3/28/2016	126.69695	121.2902202	116.1466559	111.2520487	106.5930304	102.1570215	97.93218138	93.90735984	90.07205381
160328A00045	3/28/2016	2.49	3/27/2026	3/28/2016	126.69695	121.2902202	116.1466559	111.2520487	106.5930304	102.1570215	97.93218138	93.90735984	90.07205381
160329A00006	3/29/2016	2.12	3/29/2023	3/29/2016	108.77424	107.159234	105.5768517	104.0261832	102.5063555	101.0165273	99.55588691	98.12365179	96.71906662
160329A00044	3/29/2016	1.79	3/29/2022	3/29/2016	102.83208	102.3129935	101.7991366	101.2904272	100.7867885	100.2881448	99.79442225	99.30554824	98.82145166
160329A00045	3/29/2016	2.12	3/29/2024	3/29/2016	114.68238	111.8768565	109.155081	106.5140485	103.9508841	101.4628341	99.04725996	96.7016327	94.42352767
160330A00054	3/30/2016	2.9	3/31/2031	3/30/2016	156.35633	143.2098884	131.2911708	120.4785446	110.6630293	101.7469219	93.64257654	86.27132217	79.56250182
160216A00002	2/16/2016	1.88	2/16/2022	2/16/2016	102.17926	101.7822658	101.3883602	100.9975055	100.6096665	100.2248082	99.84289622	99.46389684	99.08777674
160216A00028	2/16/2016	1.69	2/16/2022	2/16/2016	102.14157	101.7442421	101.3500115	100.9588399	100.5706916	100.1855316	99.80332535	99.42403888	99.04763874
160307A00026	3/7/2016	2.2	3/7/2023	3/7/2016	108.55651	107.0089002	105.4913464	104.003041	102.5432093	101.1111031	99.70599985	98.32720185	96.97403475
160307A00027	3/7/2016	2.71	3/6/2026	3/7/2016	126.69108	121.3784051	116.3204458	111.5036532	106.9152676	102.5432711	98.37634034	94.40380278	90.61559592
160307A00028	3/7/2016	2.91	3/7/2028	3/7/2016	138.29862	130.1312566	122.5047736	115.3804876	108.7226743	102.4983276	96.67693989	91.23030088	86.1323132
160328A00013	3/28/2016	2.17	3/28/2024	3/28/2016	114.80009	111.9961393	109.2757892	106.6360441	104.0740372	101.5870224	99.17236847	96.8275532	94.55015833
160129A00068	1/29/2016	1.97	1/30/2023	1/29/2016	107.84185	106.4099032	105.0043637	103.6245521	102.2698144	100.9395188	99.63305419	98.34982947	97.08927277
160211A00033	2/11/2016	1.67	2/11/2022	2/11/2016	102.02149	101.6393653	101.2601052	100.8836773	100.5100501	100.1391923	99.77107301	99.40566201	99.04292942
160211A00035	2/11/2016	2.25	2/11/2025	2/11/2016	119.21373	115.3371456	111.6075981	108.0187372	104.5645223	101.2392042	98.03731013	94.95362852	91.98319515
160212A00029	2/12/2016	1.8	2/11/2022	2/12/2016	102.0703	101.6880583	101.3086853	100.9321452	100.5584063	100.1874374	99.81920772	99.45368689	99.09084507
160212A00043	2/12/2016	1.8	2/14/2022	2/12/2016	102.11697	101.7259277	101.3378808	100.9527968	100.570642	100.1913829	99.81498656	99.44142066	99.07065327
160212A00044	2/12/2016	1.93	2/13/2023	2/12/2016	107.81125	106.3391965	104.8945787	103.4766891	102.0848482	100.7183989	99.37670572	98.05915382	96.76514825
160119A00029	1/19/2016	3.39	1/20/2032	1/19/2016	164.40578	149.8039526	136.6546927	124.8047432	114.117795	104.4725293	95.76089829	87.886611	80.76379861

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160119A00030	1/19/2016	3.44	1/18/2033	1/19/2016	170.48877	154.1106602	139.4966318	126.4456204	114.7805044	104.345143	95.00179166	86.62884859	79.11888653
160120A00010	1/20/2016	1.99	10/20/2021	1/20/2016	100.31755	100.2617853	100.2060988	100.1504898	100.0949579	100.0395031	99.98412522	99.92882404	99.87359944
160122A00029	1/22/2016	2.48	1/22/2025	1/22/2016	120.2985	116.456126	112.7575475	109.1965812	105.767347	102.4642507	99.28196839	96.21543176	93.25981399
160129A00066	1/29/2016	3.04	1/29/2031	1/29/2016	156.9291	144.0007884	132.2579582	121.585212	111.8789468	103.0460978	95.00301721	87.67447833	80.9927888
160129A00067	1/29/2016	2.53	1/29/2026	1/29/2016	126.03651	120.8457986	115.8991591	111.1838506	106.6878655	102.3998809	98.30921647	94.40579438	90.68010223
160113A00030	1/13/2016	2.52	1/13/2025	1/13/2016	120.30526	116.4912313	112.8191859	109.2830004	105.8768518	102.5952046	99.43279402	96.38461161	93.44589041
160119A00019	1/19/2016	2.95	1/19/2027	1/19/2016	132.61253	126.0707899	119.8944547	114.0611583	108.5500221	103.3415483	98.41752069	93.76091386	89.35580891
160119A00025	1/19/2016	3.05	1/19/2028	1/19/2016	138.59058	130.5884459	123.1057491	116.1059808	109.5553847	103.4227366	97.67914111	92.29784662	87.25407507
160119A00026	1/19/2016	3.14	1/19/2029	1/19/2016	144.70897	135.17593	126.3464051	118.1646322	110.5795491	103.544376	97.01623471	90.95580449	85.32700932
160119A00027	1/19/2016	3.25	1/18/2030	1/19/2016	151.31024	140.1629201	129.9348566	120.5450683	111.9201154	103.9933612	96.70430865	89.99800524	83.82450808
160119A00028	1/19/2016	3.34	1/21/2031	1/19/2016	158.00843	145.1569992	133.4758583	122.8516361	113.1825136	104.3769912	96.35279409	89.03589853	82.35966529
151223A00074	12/23/2015	3.01	12/23/2027	12/23/2015	139.16039	131.1874542	123.728187	116.7466311	110.2095472	104.0861905	98.34810862	92.96895828	87.92433744
151223A00077	12/23/2015	3.57	12/24/2035	12/23/2015	192.17806	169.7062585	150.1905931	133.2212684	118.4474988	105.5687321	94.32721509	84.50169235	75.90206204
151229A00079	12/29/2015	3	12/30/2025	12/29/2015	127.04768	121.954256	117.0960007	112.4606708	108.0367382	103.8133436	99.78025296	95.92781767	92.24693671
151229A00080	12/29/2015	3.49	12/30/2030	12/29/2015	159.25975	146.4312939	134.7630755	124.1432309	114.4712698	105.6568592	97.61874538	90.28379643	83.58614974
151229A00081	12/29/2015	3.76	12/31/2035	12/29/2015	191.9925	169.7337037	150.3923735	133.5649515	118.9059049	106.1191043	94.95051997	85.18203226	76.62617963
160104A00014	1/4/2016	2.49	1/4/2023	1/4/2016	108.0912	106.6870872	105.3178063	103.9820646	102.678634	101.4063459	100.1640877	98.95079943	97.7654707
151211A00007	12/11/2015	2.73	12/15/2025	12/11/2015	126.30874	121.2600198	116.443162	111.8461766	107.4577651	103.2672798	99.26468118	95.44049973	91.78579951
151211A00055	12/11/2015	2.62	12/11/2024	12/11/2015	120.14665	116.4404429	112.8691923	109.4271332	106.1087883	102.9089514	99.82267144	96.84523834	93.97216924
151223A00065	12/23/2015	2.15	12/23/2021	12/23/2015	101.39717	101.1596443	100.9232413	100.687953	100.4537713	100.2206885	99.98869677	99.75778846	99.52795592
151223A00066	12/23/2015	2.34	12/23/2022	12/23/2015	107.87351	106.4981689	105.1577685	103.8509873	102.5765725	101.3333329	100.1201354	98.93590092	97.77960163
151223A00070	12/23/2015	2.57	12/26/2023	12/23/2015	114.32795	111.8233746	109.3870742	107.0166459	104.7097959	102.4643321	100.2781578	98.14926727	96.07574027
151223A00072	12/23/2015	2.81	12/23/2025	12/23/2015	126.79904	121.712918	116.8613309	112.2320876	107.8137116	103.5953906	99.56693356	95.71873066	92.04171633
151002A00081	10/2/2015	2.29	10/2/2023	10/2/2015	112.31966	110.0991074	107.9343919	105.8237419	103.7654542	101.7578922	99.79948215	97.88871055	96.02412137
151005A00053	10/5/2015	1.99	10/5/2021	10/5/2015	100.07935	100.0654249	100.0515162	100.037621	100.0237393	100.0098711	99.99601633	99.98217507	99.96834723
151106A00011	11/6/2015	3.1	1/15/2026	11/6/2015	127.76011	122.5984218	117.6767366	112.9825604	108.5041243	104.2303355	100.1507343	96.25545413	92.53518445
151109A00020	11/9/2015	2.79	11/9/2023	11/9/2015	113.69686	111.3521793	109.068366	106.8434021	104.6753518	102.5623591	100.5026437	98.49449697	96.5362788
151116A00025	11/16/2015	3.04	11/14/2025	11/16/2015	126.51231	121.5838217	116.8770584	112.3807928	108.0844289	103.9779671	100.051966	96.29750819	92.70616806
151211A00004	12/11/2015	2.48	12/15/2023	12/11/2015	113.93689	111.4707529	109.0711161	106.7356747	104.4622212	102.2486439	100.0929223	97.99312188	95.94738949
150826A00039	8/26/2015	3.22	8/27/2029	8/26/2015	150.44467	139.7980914	129.9948225	120.9634099	112.6388093	104.9617788	97.87833363	91.339255	85.29964668
150827A00029	8/27/2015	2.74	8/27/2024	8/27/2015	118.82342	115.4819966	112.2527399	109.1312643	106.1133828	103.1950949	100.3725778	97.64217696	95.00039785
150904A00021	9/4/2015	2.52	9/5/2023	9/4/2015	112.3437	110.2082972	108.1246515	106.0911855	104.1063771	102.1687613	100.2769271	98.42951538	96.62521665
150923A00041	9/23/2015	2.23	9/23/2022	9/23/2015	106.13495	105.0604504	104.0076347	102.9758531	101.9644799	100.9729142	100.0005784	99.04691707	98.11139617

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
151002A00041	10/2/2015	1.76	10/4/2021	10/2/2015	100.06203	100.050887	100.0397513	100.0286262	100.0175118	100.006408	99.99531476	99.98423211	99.97316003
151002A00075	10/2/2015	2.04	10/3/2022	10/2/2015	106.11138	105.0056264	103.9228248	102.8622635	101.8232629	100.8051709	99.80736139	98.82923305	97.87020813
150824A00040	8/24/2015	2.36	8/24/2022	8/24/2015	105.62521	104.648609	103.6900205	102.7489488	101.8249173	100.9174659	100.0261516	99.15054654	98.29023814
150824A00072	8/24/2015	2.14	8/24/2022	8/24/2015	105.52844	104.5507776	103.591169	102.6491222	101.7241585	100.8158164	99.92365072	99.0472323	98.18614692
150824A00095	8/24/2015	2.34	8/24/2023	8/24/2015	111.77986	109.6874583	107.6449841	105.6509396	103.7038795	101.8024118	99.94519496	98.13093581	96.35838761
150824A00097	8/24/2015	2.67	8/25/2025	8/24/2015	124.33225	119.7012137	115.2693594	111.0270697	106.9652434	103.0752647	99.34897426	95.77864316	92.35694737
150825A00007	8/25/2015	2.46	8/25/2022	8/25/2015	105.73575	104.7554956	103.7933698	102.8488752	101.9215306	101.0108719	100.1164517	99.23783864	98.37461623
150826A00038	8/26/2015	2.94	8/26/2026	8/26/2015	131.3011	125.265015	119.5446003	114.1216946	108.9792727	104.1013705	99.47301374	95.08015119	90.90959327
150817A00099	8/17/2015	3.19	8/17/2027	8/17/2015	137.25041	129.8366505	122.8753055	116.336381	110.1920203	104.4163422	98.98529112	93.87649939	89.06916066
150819A00011	8/19/2015	2.53	8/19/2022	8/19/2015	105.69335	104.73187	103.7878472	102.8608121	101.9503091	101.0558985	100.1771564	99.31367348	98.46505461
150819A00012	8/19/2015	3.04	8/19/2025	8/19/2015	125.13381	120.5246546	116.1123095	111.8873363	107.8407965	103.9642253	100.2496037	96.6893326	93.27620894
150819A00013	8/19/2015	3.51	8/19/2030	8/19/2015	157.29401	145.0691806	133.9115273	123.7217313	114.4102149	105.8961367	98.10649851	90.97534791	84.44306523
150821A00017	8/21/2015	2.22	8/23/2022	8/21/2015	105.58536	104.6105029	103.6535941	102.7141434	101.7916764	100.8857355	99.99587955	99.12168289	98.26273484
150821A00018	8/21/2015	2.6	8/21/2024	8/21/2015	118.2919	114.977727	111.7742955	108.6772946	105.6826101	102.7863103	99.98463686	97.27399628	94.6509515
150721A00027	7/21/2015	3.74	7/22/2030	7/21/2015	159.1527	146.9496611	135.8015191	125.6108906	116.2898778	107.7590973	99.94681495	92.78817147	86.22449134
150727A00013	7/27/2015	3.04	7/28/2025	7/27/2015	124.78665	120.2566888	115.9175259	111.7601122	107.7758809	103.9567141	100.2949177	96.78319629	93.41463073
150803A00053	8/3/2015	2.49	8/3/2022	8/3/2015	105.37199	104.4615233	103.5667515	102.6872697	101.8226885	100.9726318	100.1367358	99.31464888	98.50603102
150814A00004	8/14/2015	2.32	8/15/2022	8/14/2015	105.53668	104.5868444	103.6540672	102.7378927	101.8378802	100.9536046	100.0846558	99.2306375	98.39116721
150817A00077	8/17/2015	2.49	8/17/2023	8/17/2015	111.96203	109.8890688	107.8651253	105.8887351	103.9584924	102.0730422	100.2310782	98.43134087	96.67261545
150817A00097	8/17/2015	3.1	8/17/2026	8/17/2015	131.08853	125.1181984	119.4578472	114.0897587	108.9973219	104.1649537	99.57803059	95.22282441	91.0864432
150623A00025	6/23/2015	2.65	6/30/2022	6/23/2015	104.89942	104.0951113	103.3031018	102.5231131	101.7548733	100.9981186	100.2525929	99.51804796	98.79424253
150630A00008	6/30/2015	2.41	6/30/2022	6/30/2015	104.79561	103.9906342	103.1979914	102.4173968	101.6485774	100.8912684	100.145213	99.41016187	98.68587294
150710A00040	7/10/2015	2.63	7/11/2022	7/10/2015	105.08399	104.2452281	103.4198412	102.607508	101.8079206	101.0207805	100.2457984	99.48269401	98.73119567
150715A00009	7/15/2015	2.67	7/15/2022	7/15/2015	105.18927	104.3377969	103.5000929	102.6758257	101.8646734	101.0663247	100.280478	99.50684094	98.74513049
150720A00011	7/20/2015	2.69	7/20/2023	7/20/2015	111.87091	109.8833499	107.9413476	106.043531	104.1885786	102.3752192	100.6022299	98.86843372	97.17269726
150720A00012	7/20/2015	2.99	7/21/2025	7/20/2015	125.12474	120.5928254	116.2514604	112.0915831	108.1046167	104.2824384	100.6173528	97.10206685	93.7296665
150603A00017	6/3/2015	2.84	6/3/2025	6/3/2015	123.74048	119.3950274	115.2273077	111.2289946	107.3922063	103.7094785	100.1737392	96.77828573	93.51676232
150603A00018	6/3/2015	2.84	6/3/2025	6/3/2015	123.74048	119.3950274	115.2273077	111.2289946	107.3922063	103.7094785	100.1737392	96.77828573	93.51676231
150610A00008	6/10/2015	3.58	6/10/2030	6/10/2015	158.72378	146.6139968	135.5430231	125.4156286	116.1458089	107.6558469	99.87547268	92.74111254	86.19521738
150610A00009	6/10/2015	3.03	6/10/2025	6/10/2015	124.61426	120.2282607	116.0223211	111.9879661	108.1171769	104.4023617	100.83633	97.41226836	94.12371842
150610A00017	6/10/2015	2.9	6/15/2023	6/10/2015	111.38056	109.5081834	107.6772009	105.8863065	104.1342496	102.4198324	100.7419066	99.09937091	97.49116898
150610A00037	6/10/2015	2.48	6/10/2022	6/10/2015	104.48961	103.7465996	103.0141462	102.2920228	101.5800118	100.8779017	100.1854869	99.50256737	98.82894864
150601A00737	6/1/2015	2.68	12/31/2024	6/1/2015	120.53259	116.7558656	113.1186452	109.6148715	106.238798	102.9849681	99.84819777	96.82355967	93.90636851

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00768	6/1/2015	2.34	5/13/2022	6/1/2015	103.81129	103.1560551	102.5090874	101.8702269	101.2393218	100.6162239	100.0007888	99.39287563	98.79234699
150601A00830	6/1/2015	6.743	7/31/2025	6/1/2015	140.50587	135.6326299	130.9620046	126.4844474	122.190915	118.072836	114.1220838	110.3309512	106.6921266
150601A00916	6/1/2015	7.27	4/5/2030	6/1/2015	190.52216	177.3579304	165.2663035	154.1525247	143.930739	134.5231103	125.859031	117.8744139	110.511057
150601A00930	6/1/2015	7.1	8/30/2030	6/1/2015	193.04095	179.1327804	166.4039273	154.7462394	144.0620861	134.2632776	125.2701043	117.0104789	109.4191693
150601A01024	6/1/2015	5.33	2/27/2026	6/1/2015	138.83255	133.2645267	127.9587665	122.9014709	118.0796391	113.4810196	109.0940632	104.9078788	100.9121928
150601A00694	6/1/2015	3.56	3/6/2030	6/1/2015	154.55787	143.0852637	132.5698627	122.9263355	114.0773874	105.9529622	98.48952976	91.62944758	85.32038714
150601A00696	6/1/2015	2.83	3/13/2025	6/1/2015	121.6505	117.6281081	113.7615819	110.0440329	106.4689151	103.030007	99.72139316	96.53744796	93.47281929
150601A00717	6/1/2015	2.13	4/1/2022	6/1/2015	102.99142	102.4636125	101.9411978	101.424093	100.9122175	100.4054924	99.90384026	99.40718532	98.91545328
150601A00731	6/1/2015	2.4	4/29/2022	6/1/2015	103.60639	102.9937398	102.3883093	101.7899759	101.1986156	100.614107	100.0363318	99.46517411	98.9005209
150601A00733	6/1/2015	2.72	5/1/2025	6/1/2015	122.59951	118.3831437	114.3358899	110.4499993	106.7181213	103.1332851	99.68887741	96.37862155	93.19655852
150601A00734	6/1/2015	2.92	5/1/2025	6/1/2015	122.7534	118.5501391	114.5150458	110.6404305	106.9189986	103.3438316	99.90836484	96.60636731	93.4319226
150601A00665	6/1/2015	3.82	1/14/2033	6/1/2015	174.70878	158.1022255	143.2758686	130.0273825	118.1784901	107.5719919	98.0691726	89.54753951	81.89884729
150601A00666	6/1/2015	3.88	1/16/2035	6/1/2015	187.50475	167.0484039	149.1154374	133.3769121	119.548531	107.3843653	96.67149342	87.2254124	78.88610877
150601A00667	6/1/2015	3.88	1/16/2036	6/1/2015	193.33831	170.9145323	151.4344734	134.4902631	119.7327576	106.8628054	95.6238495	85.79565847	77.18900716
150601A00668	6/1/2015	3.89	1/16/2037	6/1/2015	199.22752	174.7816837	153.7355312	135.5905127	119.9239387	106.3770765	94.64516617	84.46903899	75.62807479
150601A00688	6/1/2015	2.61	2/21/2025	6/1/2015	121.11248	117.152328	113.3436475	109.6798355	106.1546135	102.7620092	99.49634043	96.35219887	93.32443566
150601A00689	6/1/2015	2.81	2/28/2025	6/1/2015	121.37744	117.402225	113.5795415	109.902717	106.3654078	102.9615808	99.68549684	96.53169468	93.49497589
150601A00642	6/1/2015	2.6	3/31/2022	6/1/2015	103.21184	102.686334	102.1661622	101.651244	101.1415004	100.6368537	100.1372279	99.64254833	99.15274203
150601A00644	6/1/2015	2.64	6/30/2022	6/1/2015	104.86386	104.0597025	103.2678439	102.4880044	101.7199122	100.9633035	100.2179223	99.48352034	98.75985643
150601A00646	6/1/2015	2.68	9/30/2022	6/1/2015	106.55356	105.4567669	104.3824874	103.3300371	102.298756	101.2880104	100.2971917	99.32571515	98.37301858
150601A00648	6/1/2015	2.71	12/30/2022	6/1/2015	108.26517	106.8672224	105.5052723	104.1779423	102.8839253	101.621979	100.3909225	99.18963194	98.01703756
150601A00650	6/1/2015	2.75	3/31/2023	6/1/2015	109.73172	108.1028859	106.5070507	104.9432941	103.4107301	101.9085047	100.4357945	98.99180549	97.5757714
150601A00664	6/1/2015	3.78	1/16/2032	6/1/2015	168.35307	153.5576243	140.2271092	128.207392	117.3613549	107.5669323	98.71538606	90.70978645	83.46367335
150601A00530	6/1/2015	3.08	7/24/2024	6/1/2015	119.15973	115.9213087	112.7885364	109.7573603	106.8239076	103.9844769	101.2355296	98.57368182	95.99569621
150601A00531	6/1/2015	3.28	7/24/2024	6/1/2015	119.28469	116.055052	112.9305404	109.9071254	106.9809614	104.1483723	101.4058436	98.75001365	96.17766652
150601A00594	6/1/2015	3.2	10/20/2026	6/1/2015	132.39531	126.1703893	120.2790345	114.7015595	109.419543	104.4157432	99.67401677	95.17924195	90.917249
150601A00615	6/1/2015	2.67	6/30/2022	6/1/2015	104.88665	104.0823978	103.2904424	102.5105073	101.7423205	100.9856182	100.2401444	99.50565081	98.78189619
150601A00616	6/1/2015	2.72	9/30/2022	6/1/2015	106.59439	105.4973596	104.4228538	103.3701804	102.3386793	101.3277169	100.3366843	99.36499675	98.41209207
150601A00640	6/1/2015	2.57	12/31/2021	6/1/2015	101.6034	101.3430334	101.083996	100.8262757	100.5698627	100.314747	100.060919	99.80836879	99.55708699
150601A00495	6/1/2015	2.99	6/27/2024	6/1/2015	118.43555	115.2924622	112.2501596	109.3047009	106.452335	103.6894865	101.0127461	98.41886134	95.90472781
150601A00512	6/1/2015	3.79	7/16/2029	6/1/2015	152.69387	142.1838752	132.4906022	123.5459093	115.2876885	107.6593037	100.6090812	94.08985011	88.05852835
150601A00514	6/1/2015	3.07	11/15/2024	6/1/2015	121.09678	117.4594097	113.9518435	110.5686504	107.3046679	104.1549823	101.1149149	98.18000924	95.34601897
150601A00515	6/1/2015	2.95	1/16/2024	6/1/2015	115.49567	112.9128549	110.4015289	107.9592331	105.5836126	103.2724113	101.0234663	98.83470354	96.70413334

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00522	6/1/2015	4.52	7/25/2030	6/1/2015	166.40954	153.8656768	142.3994171	131.9116033	122.3127178	113.5218954	105.4660451	98.07906531	91.30114195
150601A00523	6/1/2015	4.55	7/25/2031	6/1/2015	174.02578	159.6402156	146.610464	134.8001006	124.087141	114.3624429	105.5282918	97.49714995	90.19054759
150601A00222	6/1/2015	2.2	9/27/2022	6/1/2015	106.01299	104.9285984	103.8663087	102.8254494	101.8053774	100.8054747	99.82514791	98.86382646	97.92096191
150601A00404	6/1/2015	4.29	1/17/2029	6/1/2015	153.62583	143.7638679	134.6224654	126.1448135	118.2788766	110.9769688	104.1953687	97.89396975	92.03596297
150601A00405	6/1/2015	4.63	1/17/2034	6/1/2015	192.27088	173.0579704	156.0409082	140.953024	127.5614919	115.6628726	105.0792605	95.65495393	87.25357509
150601A00470	6/1/2015	2.98	5/31/2024	6/1/2015	117.93815	114.8900384	111.9374043	109.0766158	106.3042079	103.6168725	101.0114503	98.4849229	96.03440532
150601A00485	6/1/2015	3.09	6/21/2024	6/1/2015	118.61802	115.4918469	112.4653623	109.5346991	106.6961675	103.9462494	101.281589	98.6989835	96.19537539
150601A00490	6/1/2015	3.19	7/2/2024	6/1/2015	118.64462	115.4927652	112.4421319	109.4887659	106.6289028	103.8589539	101.1754967	98.57526552	96.05514299
150506A00014	5/6/2015	2.21	5/6/2022	5/6/2015	103.69542	103.0607241	102.4337847	101.8144611	101.202615	100.5981115	100.000819	99.4106088	98.82735549
150512A00029	5/12/2015	3.03	5/12/2025	5/12/2015	123.51711	119.2639495	115.1819872	111.2633389	107.50053	103.8864746	100.4144521	97.07808636	93.87132568
150518A00026	5/18/2015	2.08	11/18/2021	5/18/2015	100.80437	100.6668303	100.5296836	100.392925	100.2565528	100.1205653	99.98496083	99.84973779	99.7148945
150519A00012	5/19/2015	2.44	5/19/2022	5/19/2015	104.00011	103.3262264	102.6610635	102.0044566	101.3562412	100.7162569	100.0843477	99.46036117	98.8441489
150519A00013	5/19/2015	2.98	5/19/2025	5/19/2015	123.43213	119.158013	115.0567154	111.1202365	107.3409978	103.7118171	100.2258843	96.87674031	93.65825635
150601A00182	6/1/2015	3.85	7/18/2022	6/1/2015	106.16199	105.2970229	104.4461657	103.6090766	102.7854228	101.9748823	101.1771434	100.391904	99.61887169
150407A00009	4/7/2015	2.03	4/7/2022	4/7/2015	103.10288	102.556362	102.0156339	101.4806017	100.9511755	100.4272676	99.9087918	99.39566395	98.88780149
150407A00010	4/7/2015	2.21	4/10/2023	4/7/2015	109.32641	107.6669543	106.0415533	104.4492384	102.8890774	101.3601728	99.86166005	98.39270616	96.95250807
150408A00004	4/8/2015	2.17	4/10/2023	4/8/2015	109.26258	107.6036569	105.9787797	104.386979	102.827323	101.2989144	99.80088887	98.3324137	96.89268605
150413A00034	4/13/2015	2.25	4/13/2022	4/13/2015	103.27156	102.7073701	102.1493393	101.597369	101.0513608	100.5112184	99.97684736	99.44815555	98.9250526
150422A00017	4/22/2015	2.16	4/22/2022	4/22/2015	103.36664	102.7755512	102.1912084	101.6135006	101.0423153	100.4775422	99.919074	99.36680531	98.82063332
150422A00019	4/22/2015	2.62	4/22/2025	4/22/2015	121.62158	117.4689201	113.4816904	109.6523648	105.9738033	102.4392314	99.04221901	95.77666084	92.63675783
150317A00012	3/17/2015	2.46	3/18/2024	3/17/2015	115.41021	112.6296005	109.9309587	107.311378	104.7680778	102.2983933	99.89976972	97.56975692	95.30600466
150317A00013	3/17/2015	2.58	3/17/2025	3/17/2015	121.5173	117.4691901	113.5788166	109.8391684	106.2435876	102.7857482	99.45963741	96.25953824	93.1800134
150319A00012	3/19/2015	3.13	3/19/2029	3/19/2015	145.54666	135.7583017	126.7072236	118.3338585	110.5837486	103.4070826	96.75827716	90.59559781	84.88081528
150319A00013	3/19/2015	3.25	3/19/2030	3/19/2015	152.27425	140.8520084	130.3889083	120.798994	112.0044412	103.9347498	96.52601887	89.72029837	83.46500651
150331A00004	3/31/2015	2.08	3/31/2022	3/31/2015	103.01224	102.4867378	101.9665806	101.4516862	100.9419752	100.4373696	99.93779312	99.44317095	98.95342974
150401A00008	4/1/2015	2.62	4/1/2025	4/1/2015	121.30601	117.2280532	113.310483	109.5461039	105.9280838	102.4499345	99.10549213	95.88889953	92.79458865
150206A00017	2/6/2015	2.05	2/7/2022	2/6/2015	102.13288	101.7617016	101.3932243	101.0274178	100.6642531	100.3037017	99.9457353	99.59032615	99.23744684
150213A00025	2/13/2015	2.37	2/14/2022	2/13/2015	102.3358	101.9442329	101.5556704	101.1700738	100.7874092	100.4076431	100.0307428	99.65667561	99.28540976
150220A00020	2/20/2015	2.42	2/18/2022	2/20/2015	102.42424	102.0208517	101.620644	101.2235785	100.8296182	100.4387268	100.0508685	99.66600791	99.28411042
150220A00021	2/20/2015	2.72	2/20/2024	2/20/2015	115.24565	112.5617805	109.9545598	107.4213651	104.9596754	102.5670712	100.2412291	97.97991796	95.78099432
150220A00022	2/20/2015	2.8	2/20/2025	2/20/2015	121.35701	117.4105207	113.6144721	109.9623252	106.4478622	103.0651675	99.80861181	96.6728366	93.65273945
150316A00043	3/16/2015	2.37	3/16/2023	3/16/2015	109.16661	107.5837704	106.0322218	104.5111136	103.0196246	101.5569628	100.1223637	98.71508952	97.33442785
150105A00027	1/5/2015	2.23	1/5/2022	1/5/2015	101.63641	101.3613312	101.0877486	100.8156475	100.5450157	100.2758414	100.0081126	99.74181782	99.47694544

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150116A00040	1/16/2015	2.07	1/18/2022	1/16/2015	101.78001	101.4676202	101.157162	100.8486129	100.5419554	100.2371718	99.93424514	99.63315827	99.33389444
150121A00004	1/21/2015	1.97	1/24/2022	1/21/2015	101.87538	101.5452241	101.217213	100.8913264	100.5675437	100.2458445	99.92620874	99.60861647	99.29304811
150123A00010	1/23/2015	2.02	1/31/2022	1/23/2015	102.00676	101.6561694	101.3079841	100.9621756	100.6187195	100.2775921	99.93876963	99.60222899	99.26794719
150130A00050	1/30/2015	1.87	1/31/2022	1/30/2015	101.95509	101.6046115	101.2565369	100.9108383	100.5674918	100.2264732	99.88775915	99.55132633	99.21715181
150203A00005	2/3/2015	2.11	2/3/2022	2/3/2015	102.05526	101.6962438	101.3397464	100.9857435	100.6342091	100.2851173	99.93844283	99.59416068	99.25224614
141017A00020	10/17/2014	2.28	10/18/2021	10/17/2014	100.30538	100.2551299	100.2049523	100.1548422	100.1047995	100.0548239	100.0049154	99.95507385	99.90529907
141024A00010	10/24/2014	2.81	10/24/2024	10/24/2014	120.00829	116.4600694	113.0366334	109.7328522	106.5438408	103.4649451	100.4917289	97.61996289	94.84561292
141028A00012	10/28/2014	2.73	10/28/2022	10/28/2014	107.16496	105.9761503	104.8136527	103.6766035	102.5641741	101.4755712	100.4100355	99.36683946	98.34528598
141202A00012	12/2/2014	2.32	12/2/2021	12/2/2014	101.07671	100.8993644	100.7226417	100.5465395	100.3710544	100.1961831	100.0219226	99.84826952	99.67522075
141208A00008	12/8/2014	3.02	12/16/2024	12/8/2014	121.06657	117.3420449	113.7532021	110.2942352	106.9596297	103.7441448	100.6427972	97.65084646	94.76378159
150105A00026	1/5/2015	2.54	1/5/2024	1/5/2015	114.41926	111.8830255	109.4165204	107.0172965	104.6830173	102.4114482	100.2004512	98.04797964	95.95207339
140908A00064	9/8/2014	2.57	11/30/2021	9/8/2014	101.06573	100.8942847	100.7234143	100.5531181	100.3833932	100.2142367	100.0456458	99.87761778	99.71014985
140908A00065	9/8/2014	2.63	2/28/2022	9/8/2014	102.68631	102.2532236	101.8237779	101.3979272	100.9756266	100.5568319	100.1414997	99.72958731	99.32105266
140911A00027	9/11/2014	3.18	9/16/2024	9/11/2014	120.0585	116.6435122	113.3448867	110.1579996	107.0784388	104.1019929	101.2246401	98.44253944	95.75202067
140922A00026	9/22/2014	3.02	9/30/2024	9/22/2014	120.29216	116.815218	113.4585276	110.2172337	107.0867107	104.0625466	101.1405317	98.31664812	95.5870599
141015A00020	10/15/2014	2.13	10/15/2021	10/15/2014	100.24818	100.2063298	100.1645284	100.1227798	100.0810838	100.0394403	99.99784928	99.95631055	99.91482405
141015A00025	10/15/2014	2.48	10/17/2022	10/15/2014	106.68894	105.5377206	104.4112886	103.3088453	102.2296304	101.1729152	100.1380014	99.12421915	98.13092596
140710A00027	7/10/2014	2.8	7/17/2023	7/10/2014	112.02623	110.0460815	108.1112155	106.2202486	104.3718551	102.5647611	100.7977418	99.06961912	97.37925989
140815A00029	8/15/2014	2.56	10/15/2021	8/15/2014	100.26195	100.2201213	100.1783496	100.1366301	100.0949627	100.0533474	100.011784	99.97027245	99.92881267
140815A00030	8/15/2014	2.96	10/16/2023	8/15/2014	113.65703	111.3860891	109.1727978	107.0152946	104.9117961	102.8605898	100.8600303	98.90853644	97.00458817
140815A00032	8/15/2014	3.59	10/15/2029	8/15/2014	152.93496	142.0727051	132.0794904	122.8808078	114.4089197	106.6022082	99.40459249	92.76500386	86.63691376
140820A00026	8/20/2014	2.94	8/19/2024	8/20/2014	119.31065	115.9873046	112.7746842	109.6684943	106.6646299	103.7591674	100.9483562	98.22860958	95.59649685
140827A00038	8/27/2014	3.07	8/30/2024	8/27/2014	119.4174	116.0685291	112.8320472	109.7035598	106.6788703	103.7539695	100.9250257	98.18837644	95.54051956
140313A00030	3/13/2014	3.27	3/15/2024	3/13/2014	117.47792	114.6797261	111.963569	109.3265569	106.765918	104.2789951	101.8632402	99.51620981	97.23555917
140411A00009	4/11/2014	3.1	4/11/2024	4/11/2014	117.51591	114.6312587	111.833411	109.1192146	106.4856559	103.9298507	101.4490371	99.0405697	96.70191386
140423A00036	4/23/2014	4.03	4/23/2029	4/23/2014	153.76692	143.5290308	134.0646815	125.3109498	117.2103547	109.7103625	102.7629364	96.3241286	90.35371244
140521A00019	5/21/2014	3.43	5/22/2028	5/21/2014	144.58175	135.877705	127.764868	120.1997749	113.1423913	106.5558198	100.406038	94.66165943	89.29371535
140626A00036	6/26/2014	3.55	6/26/2029	6/26/2014	152.35629	141.8638129	132.1848358	123.2515839	115.0022905	107.3806326	100.3352224	93.81914921	87.78956632
140702A00034	7/2/2014	2.7	7/1/2022	7/2/2014	105.03777	104.2286966	103.4320573	102.6475697	101.8749574	101.1139525	100.3642948	99.62573206	98.89801931
131113A00036	11/13/2013	3.14	11/15/2021	11/13/2013	100.87801	100.7489699	100.6202701	100.4919132	100.3638978	100.2362224	100.1088858	99.98188655	99.85522325
131217A00023	12/17/2013	3.74	1/2/2024	12/17/2013	116.87076	114.3215513	111.8419649	109.4295555	107.0819856	104.7970207	102.5725238	100.4064496	98.2968401
131217A00024	12/17/2013	4.34	1/2/2029	12/17/2013	154.26397	144.4329339	135.316354	126.8580784	119.0066721	111.7149982	104.9398349	98.6415299	92.78368633
140113A00012	1/13/2014	3.48	1/17/2023	1/13/2014	109.56269	108.1347523	106.7375816	105.3701883	104.0316251	102.7209853	101.4374005	100.1800385	98.94810141

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
140131A00025	1/31/2014	3.28	1/30/2023	1/31/2014	109.47021	108.029303	106.6149109	105.2263577	103.8629875	102.5241657	101.2092792	99.91773448	98.64895751
140307A00011	3/7/2014	3.19	3/15/2023	3/7/2014	110.396	108.8063241	107.2480013	105.7201818	104.2220437	102.7527945	101.3116692	99.89792942	98.51086209
130904A00036	9/4/2013	3.57	9/15/2023	9/4/2013	114.68273	112.4909044	110.3528601	108.2669264	106.2315004	104.2450401	102.3060615	100.4131358	98.56488726
130904A00039	9/4/2013	4.19	9/15/2028	9/4/2013	152.47446	143.0600801	134.3075856	126.1666818	118.5911506	111.538503	104.9696604	98.8486634	93.14240808
130926A00009	9/26/2013	4	10/2/2028	9/26/2013	151.3011	141.8636269	133.0948458	124.943573	117.3628087	110.3093727	103.7435743	97.62891324	91.93180731
131011A00006	10/11/2013	3.28	10/15/2021	10/11/2013	100.29204	100.2501893	100.2083925	100.166648	100.1249557	100.0833154	100.0417272	100.0001908	99.95870619
131024A00019	10/24/2013	3.23	10/30/2023	10/24/2013	114.82851	112.4958708	110.2232442	108.0086657	105.8502461	103.7461732	101.6947077	99.69417939	97.7429843
131106A00003	11/6/2013	3.57	11/15/2023	11/6/2013	115.5488	113.1642994	110.8419616	108.5797137	106.3755664	104.2276127	102.1340242	100.0930468	98.10299718
130531A00021	5/31/2013	3.22	5/30/2028	5/31/2013	143.13691	134.4540323	126.3635681	118.8218065	111.7884956	105.2265488	99.10177901	93.38265687	88.04009003
130606A00013	6/6/2013	2.94	6/15/2023	6/6/2013	111.4521	109.579058	107.7474261	105.9558945	104.2032123	102.4881813	100.8096529	99.16652562	97.55774262
130702A00018	7/2/2013	3.17	7/17/2023	7/2/2013	112.72385	110.7369339	108.7954247	106.8979423	105.0431574	103.2297923	101.4566188	99.72245579	98.02616667
130712A00005	7/12/2013	3.25	7/17/2023	7/12/2013	112.87469	110.8863074	108.9433618	107.0444707	105.1883038	103.3735828	101.5990787	99.86360966	98.1660384
130821A00018	8/21/2013	3.37	8/30/2022	8/21/2013	106.79482	105.7920137	104.8080237	103.8423274	102.8944181	101.9638077	101.0500255	100.1526182	99.27114839
130821A00019	8/21/2013	3.81	8/29/2025	8/21/2013	129.24289	124.4979871	119.9565664	115.6088011	111.4453946	107.4575469	103.6369247	99.97563492	96.46619828
130424A00004	4/24/2013	2.46	4/24/2025	4/24/2013	121.63882	117.4634651	113.4550401	109.6059189	105.9088741	102.3570495	98.94393886	95.66336563	92.50946429
130424A00005	4/24/2013	3.07	4/24/2030	4/24/2013	152.89327	141.2238199	130.5477917	120.775016	111.8239615	103.6208661	96.09895876	89.19776363	82.86247588
130508A00013	5/8/2013	2.23	5/15/2023	5/8/2013	109.92736	108.1576839	106.425769	104.7304778	103.0707181	101.4454411	99.85363918	98.29434418	96.76662507
130513A00007	5/13/2013	2.54	5/15/2023	5/13/2013	110.21676	108.4486378	106.7181725	105.0242289	103.3657195	101.7416002	100.1508678	98.59255809	97.06574384
130517A00013	5/17/2013	2.07	5/17/2022	5/17/2013	103.794	103.1259798	102.4665521	101.8155482	101.1728071	100.5381722	99.91149052	99.2926132	98.68139489
130528A00028	5/28/2013	2.63	5/30/2023	5/28/2013	110.62232	108.8061823	107.0293909	105.2907325	103.5890469	101.9232206	100.2921854	98.6949155	97.13042545
130211A00017	2/11/2013	3.27	2/15/2028	2/11/2013	140.55618	132.3914411	124.7612696	117.6278151	110.9560974	104.7137729	98.87092264	93.39985907	88.27494887
130212A00016	2/12/2013	2.13	2/15/2022	2/12/2013	102.26015	101.8658665	101.4746251	101.0863921	100.7011328	100.3188132	99.9393996	99.56285885	99.18915838
130212A00017	2/12/2013	2.29	2/15/2023	2/12/2013	108.37521	106.8921066	105.436747	104.0084175	102.6064279	101.2301109	99.87882122	98.55193481	97.24884776
130314A00027	3/14/2013	2.38	3/15/2023	3/14/2013	109.16533	107.5854995	106.0368457	104.5185212	103.0297094	101.5696222	100.1374992	98.73260663	97.35423557
130405A00006	4/5/2013	2.41	4/7/2025	4/5/2013	121.19269	117.0817152	113.1334315	109.3404956	105.6959366	102.1931367	98.82581185	95.58799212	92.47400462
130405A00007	4/5/2013	2.91	4/17/2028	4/5/2013	140.18131	131.7541814	123.8948516	116.5619941	109.7175061	103.3262364	97.35574262	91.7760684	86.55954045
121116A00022	11/16/2012	2.78	11/16/2029	11/16/2012	147.67558	136.8384786	126.884837	117.7377726	109.3274804	101.5905485	94.46934122	87.9114445	81.86916727
121121A00003	11/21/2012	2.3	11/30/2022	11/21/2012	107.25987	105.9652921	104.7018362	103.468391	102.2638975	101.0873459	99.93777275	98.81425861	97.71592529
121227A00024	12/27/2012	2.2	12/30/2021	12/27/2012	101.50072	101.2433806	100.9873415	100.7325927	100.4791244	100.226927	99.97599112	99.72630731	99.47786626
130107A00002	1/7/2013	3.22	1/18/2028	1/7/2013	139.77071	131.7335215	124.2171807	117.185108	110.6034837	104.4410235	98.66877614	93.25993683	88.18967765
130117A00010	1/17/2013	1.98	1/31/2022	1/17/2013	101.99298	101.6424206	101.2942649	100.9484857	100.6050588	100.2639604	99.92516684	99.58865495	99.25440176
130117A00011	1/17/2013	2.18	1/30/2023	1/17/2013	108.13383	106.6997281	105.2920685	103.9101743	102.5533906	101.2210845	99.91264386	98.62747664	97.36501003
120907A00024	9/7/2012	2.31	9/16/2024	9/7/2012	117.79088	114.3997894	111.12479	107.9612571	104.9047757	101.9511317	99.09630198	96.33644406	93.66788721

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
121031A00004	10/31/2012	2.07	10/31/2022	10/31/2012	106.62144	105.4242162	104.253751	103.109158	101.9895871	100.8942251	99.82229396	98.7730483	97.7457742
121101A00011	11/1/2012	2.03	11/1/2022	11/1/2012	106.59343	105.3931892	104.2198488	103.0725143	101.950329	100.8524735	99.77816355	98.72664821	97.69720827
121116A00006	11/16/2012	2.64	11/13/2025	11/16/2012	124.70446	119.8182402	115.1521846	110.6951321	106.4365572	102.3665265	98.47566115	94.75510301	91.19648222
121116A00007	11/16/2012	1.99	11/16/2021	11/16/2012	100.74499	100.6133018	100.481971	100.3509969	100.2203779	100.0901126	99.96019947	99.83063717	99.7014242
121116A00021	11/16/2012	2.35	11/17/2025	11/16/2012	124.16886	119.2604228	114.574335	110.099276	105.8245677	101.7401353	97.83646929	94.10459082	90.5360182
120517A00007	5/17/2012	2.42	5/31/2023	5/17/2012	110.5167	108.6942724	106.9114406	105.1669857	103.4597364	101.7885689	100.1524051	98.55020997	96.98098951
120709A00015	7/9/2012	2.5	7/15/2022	7/9/2012	105.05101	104.2001589	103.3630721	102.539415	101.728866	100.9311139	100.1458571	99.37280361	98.61167032
120709A00016	7/9/2012	3.2	7/15/2027	7/9/2012	136.8213	129.5348398	122.6872437	116.2496855	110.1953898	104.4994711	99.13879	94.09182164	89.33853428
120726A00001	7/26/2012	2.36	8/1/2022	7/26/2012	105.22435	104.3207575	103.4326391	102.5595957	101.7012461	100.8572219	100.0271669	99.21073663	98.40759774
120824A00023	8/24/2012	2.4	8/30/2022	8/24/2012	105.76769	104.7718038	103.7946078	102.8355839	101.894229	100.9700584	100.062605	99.17141833	98.29606422
120907A00023	9/7/2012	2.05	9/15/2022	9/7/2012	105.8168	104.7690716	103.7420176	102.7350336	101.7475355	100.7789619	99.82877259	98.89644773	97.98148703
120320A00005	3/20/2012	3.18	3/30/2022	3/20/2012	103.50687	102.983434	102.4652819	101.9523341	101.4445125	100.9417407	100.4439436	99.95104782	99.46298123
120330A00009	3/30/2012	2.98	3/30/2022	3/30/2012	103.40521	102.8820749	102.364222	101.8515713	101.3440446	100.8415655	100.3440592	99.85145197	99.36367193
120411A00012	4/11/2012	2.87	4/15/2022	4/11/2012	103.643	103.0717673	102.5068286	101.9480846	101.3954335	100.8487758	100.3080144	99.77305394	99.24380143
120411A00013	4/11/2012	3.59	4/15/2027	4/11/2012	137.8224	130.8258241	124.2341674	118.0217745	112.1647489	106.6408253	101.4292506	96.51067226	91.86703735
120503A00014	5/3/2012	2.4	5/16/2022	5/3/2012	103.98912	103.3233836	102.6661706	102.0173139	101.3766545	100.7440375	100.119312	99.50233084	98.89295044
120515A00020	5/15/2012	2.28	5/16/2022	5/15/2012	103.91206	103.2466122	102.5896784	101.9410983	101.300713	100.6683677	100.0439115	99.42719724	98.81808139
120130A00009	1/30/2012	2.79	1/31/2022	1/30/2012	102.24019	101.8894639	101.5411392	101.1951868	100.8515826	100.510303	100.1713243	99.83462355	99.50017786
120202A00020	2/2/2012	2.7	2/15/2022	2/2/2012	102.48058	102.0857733	101.6940095	101.305257	100.9194813	100.5366481	100.1567238	99.77967524	99.4054698
120228A00010	2/28/2012	2.34	3/2/2022	2/28/2012	102.63829	102.1989852	101.7634385	101.3315976	100.9034153	100.4788453	100.057842	99.64036063	99.22635714
120306A00004	3/6/2012	2.95	3/15/2023	3/6/2012	109.83559	108.2536385	106.7028444	105.1823644	103.6913835	102.2291151	100.7948002	99.3877061	98.00712512
120312A00009	3/12/2012	2.72	3/15/2024	3/12/2012	116.04161	113.2621849	110.5643663	107.9452771	105.4021585	102.9323657	100.533363	98.20271811	95.93809752
120315A00021	3/15/2012	3.12	3/15/2022	3/15/2012	103.18495	102.7065277	102.232552	101.7629584	101.297686	100.8366754	100.3798679	99.92720607	99.4786336
120113A00012	1/13/2012	3.62	1/15/2027	1/13/2012	136.46481	129.8306194	123.5647901	117.6448353	112.049764	106.7599723	101.7571447	97.02416226	92.54501752
120113A00013	1/13/2012	3.87	1/15/2032	1/13/2012	170.05062	155.1693458	141.7587928	129.6643878	118.7486049	108.8890049	99.97650685	91.9138669	84.61433635
120119A00010	1/18/2012	2.43	1/31/2022	1/18/2012	102.14798	101.7970943	101.4486067	101.1024974	100.7587421	100.4173169	100.0781983	99.74136292	99.40678791
120126A00006	1/26/2012	2.93	1/31/2022	1/26/2012	102.2884	101.9375753	101.5891475	101.2430925	100.8993863	100.558005	100.2189254	99.88212407	99.54757836
120127A00018	1/27/2012	3.64	2/1/2027	1/27/2012	136.86803	130.1642158	123.8351173	117.8578074	112.2108791	106.8743347	101.8294866	97.05886444	92.54613044
120127A00019	1/27/2012	3.87	1/30/2032	1/27/2012	170.304	155.3505379	141.8796853	129.7352293	118.7782073	108.8849254	99.94520865	91.86086097	84.54430624
111031A00013	10/31/2011	2.82	11/1/2021	10/31/2011	100.5913	100.5017893	100.4124392	100.3232488	100.2342175	100.1453449	100.0566308	99.96807453	99.87967582
111201A00005	12/1/2011	3.16	12/15/2021	12/1/2011	101.45412	101.2395264	101.0258572	100.8131028	100.6012575	100.3903152	100.1802702	99.97111672	99.762849
111216A00001	12/16/2011	3.95	12/30/2031	12/16/2011	170.72937	155.8751001	142.4825331	130.3985362	119.4868355	109.6260744	100.7081062	92.63649041	85.32516784
111223A00006	12/23/2011	2.98	12/30/2021	12/23/2011	101.69912	101.4414479	101.1850744	100.9299924	100.6761922	100.4236643	100.1723992	99.92238739	99.67361962

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
120112A00013	1/12/2012	2.76	1/16/2024	1/12/2012	115.13206	112.5536917	110.0467172	107.6086781	105.2372227	102.9300976	100.6851424	98.50028589	96.37354069
120112A00014	1/12/2012	3.43	1/15/2032	1/12/2012	166.96291	152.1325338	138.7777308	126.7427379	115.8890325	106.0933393	97.24587898	89.24882613	82.01495095
110825A00016	8/25/2011	3.06	8/31/2022	8/25/2011	106.52142	105.5169051	104.5313067	103.5640927	102.6147524	101.6827939	100.7677429	99.86914254	98.98655217
111006A00022	10/6/2011	3.08	10/15/2021	10/6/2011	100.28368	100.2418371	100.2000472	100.1583097	100.1166243	100.074991	100.0334096	99.99188014	99.95040243
111006A00023	10/6/2011	3.81	10/15/2026	10/6/2011	135.95086	129.6495676	123.6838306	118.0339258	112.6813968	107.6089651	102.8004483	98.24068483	93.91546405
111024A00010	10/24/2011	3.11	10/30/2023	10/24/2011	114.56468	112.2349769	109.9652336	107.7534787	105.5978252	103.4964624	101.4476525	99.44972712	97.50108362
111024A00022	10/24/2011	3.11	10/30/2023	10/24/2011	114.56468	112.2349769	109.9652336	107.7534787	105.5978252	103.4964624	101.4476525	99.44972712	97.50108362
111024A00027	10/24/2011	3.11	10/30/2023	10/24/2011	114.56468	112.2349769	109.9652336	107.7534787	105.5978252	103.4964624	101.4476525	99.44972712	97.50108362
110103A00009	1/3/2011	3.99	1/3/2022	1/3/2011	102.06995	101.7998564	101.5311911	101.2639462	100.9981104	100.7336726	100.4706218	100.2089471	99.94863759
110302A00007	3/2/2011	4.86	3/16/2026	3/2/2011	137.30009	131.7074691	126.3814162	121.307746	116.4731052	111.8649187	107.4713403	103.2812067	99.28399382
110505A00022	5/5/2011	4.59	5/15/2026	5/5/2011	137.15406	131.3568567	125.8449039	120.602529	115.6150081	110.8685065	106.3500192	102.0473165	97.94889303
110805A00014	8/5/2011	4.06	8/17/2026	8/5/2011	136.22859	130.1278085	124.3419599	118.8530998	113.6443978	108.7000639	104.0052783	99.54612714	95.30954242
110818A00012	8/18/2011	2.86	8/31/2022	8/18/2011	106.33166	105.3281283	104.3435026	103.3772485	102.4288557	101.4978324	100.5837048	99.68601621	98.80432613
110824A00004	8/24/2011	3.11	8/30/2023	8/24/2011	113.43061	111.3029238	109.2263352	107.1992939	105.2203101	103.2879492	101.4008293	99.55761868	97.75703393
090226A00006	2/26/2009	4.55	3/1/2024	2/26/2009	120.51002	117.7172214	115.0048107	112.3700051	109.8101319	107.3226271	104.9050306	102.5549808	100.2702106
091112A00011	11/12/2009	4.77	11/15/2024	11/12/2009	126.95911	123.225018	119.6233342	116.1485352	112.7953703	109.5588415	106.4341897	103.4168811	100.5025955
091210A00005	12/10/2009	5.08	12/16/2024	12/10/2009	128.16923	124.3248135	120.6193607	117.0469489	113.6019513	110.2790194	107.073067	103.9792555	100.9929793
100809A00029	8/9/2010	4.23	8/15/2025	8/9/2010	130.06644	125.3705317	120.8735137	116.5658932	112.4386824	108.4833682	104.6918835	101.0565824	97.57021535
100824A00009	8/24/2010	3.91	9/2/2025	8/24/2010	129.05689	124.3209376	119.7881908	115.4488295	111.2935637	107.3135995	103.5006103	99.84670898	96.34442274
100930A00008	9/30/2010	3.82	9/30/2025	9/30/2010	129.19413	124.358052	119.7335196	115.31011	111.07797	107.0277839	103.1507411	99.43850591	95.88318909
081205A00033	12/5/2008	4.77	12/7/2023	12/5/2008	118.74315	116.2525112	113.8280543	111.4675109	109.1687122	106.9295827	104.7481344	102.6224632	100.5507438
081209A00008	12/9/2008	4.87	12/15/2023	12/9/2008	119.15682	116.6363246	114.1833266	111.7954903	109.4705845	107.2064742	105.0011165	102.8525546	100.7589144
081211A00029	12/11/2008	4.57	12/15/2023	12/11/2008	118.45697	115.9447173	113.4997865	111.1198461	108.8026699	106.5461282	104.3481824	102.2068808	100.1203534
081215A00091	12/15/2008	4.19	12/15/2023	12/15/2008	117.93278	115.4194776	112.9736924	110.5930849	108.2754176	106.0185505	103.8204354	101.6791113	99.59269977
081217A00076	12/17/2008	3.86	12/22/2023	12/17/2008	117.30381	114.7761261	112.3168678	109.9236456	107.5941738	105.326267	103.1178346	100.9668758	98.87147485
081219A00069	12/19/2008	4.26	12/22/2023	12/19/2008	117.88096	115.3537291	112.8947364	110.501602	108.1720512	105.9039088	103.695094	101.5436148	99.44756398
060808A00022	8/8/2006	5.57	6/15/2026	8/8/2006	142.83779	136.7928798	131.0484229	125.5876897	120.3949798	115.4555563	110.7555803	106.2820507	102.0227485
061220A00034	12/20/2006	5.07	12/30/2021	12/20/2006	102.25693	101.998026	101.7404275	101.4841291	101.2291209	100.9753932	100.7229365	100.4717411	100.2217978
061221A00005	12/21/2006	5.28	12/30/2021	12/21/2006	102.28416	102.0254926	101.7681328	101.5120685	101.2572898	101.0037872	100.7515512	100.5005722	100.2508411
071231A00068	12/31/2007	4.93	12/30/2022	12/31/2007	111.36536	109.9430578	108.5572588	107.2065684	105.8896626	104.6052833	103.3522341	102.1293768	100.9356277
080909A00042	9/9/2008	4.74	9/11/2023	9/9/2008	117.00253	114.7992162	112.6495579	110.5519002	108.5046534	106.5062877	104.5553303	102.6503634	100.7900211
080910A00065	9/10/2008	5.03	9/15/2023	9/10/2008	117.39886	115.1839914	113.0232394	110.9149322	108.8574605	106.8492758	104.8888878	102.9748615	101.1058152
020920A00012	9/20/2002	5.4	9/20/2022	9/20/2002	109.14388	108.0641646	107.0059258	105.9685263	104.9513536	103.9538188	102.9753561	102.0154208	101.0734892

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
050902A00032	9/2/2005	4.69	8/22/2025	9/2/2005	132.83627	128.041646	123.4508962	119.0542381	114.8424137	110.8066567	106.9386632	103.2305654	99.67490552
050923A00096	9/23/2005	4.86	9/22/2025	9/23/2005	134.24698	129.3140644	124.5950662	120.0795099	115.7574908	111.6196413	107.6570994	103.8614781	100.2248372
051003A00009	10/3/2005	5.15	10/15/2025	10/3/2005	135.30136	130.2868692	125.4920558	120.9060379	116.5185352	112.3198325	108.3007454	104.4525881	100.7671435
051107A00075	11/7/2005	5.29	11/17/2025	11/7/2005	137.41782	132.2229277	127.2599194	122.5170711	117.9833263	113.6482505	109.5019921	105.5352465	101.7392221
060308A00014	3/8/2006	5.44	3/16/2026	3/8/2006	140.12304	134.4648384	129.0755193	123.9407956	119.0472176	114.3821189	109.9335667	105.6903151	101.641762
090429A00044	4/29/2009	4.1	4/29/2024	4/29/2014	101.30104	101.1319305	100.9633838	100.7953982	100.6279709	100.4610993	100.2933984	99.98796573	99.21237862
100707A00014	7/7/2010	3.19	7/7/2025	7/7/2015	101.17856	101.0084922	100.8389957	100.670068	100.5017061	100.3339072	100.0409067	98.93894829	97.34791769
111215A00019	12/15/2011	2.53	12/15/2026	12/15/2021	101.60428	101.3474928	101.0920087	100.8378181	100.5849114	100.2298273	98.87234306	96.70828918	94.40585416
130416A00025	4/16/2013	2.27	4/18/2028	4/16/2018	101.02793	100.8573156	100.6872786	100.5178135	100.3489174	99.72615385	97.44883786	94.63558332	91.81473914
140508A00011	5/8/2014	2.32	5/8/2024	5/8/2019	101.02687	100.8578223	100.6893449	100.5214316	100.3540793	100.1829291	99.66456487	98.53891449	97.28482521
140723A00038	7/23/2014	2.3	7/23/2024	7/23/2019	101.02445	100.8552523	100.6866244	100.5185613	100.35106	100.1783631	99.59739013	98.38846501	97.05988513
210405A00013	4/5/2021	1.82	4/7/2036	4/5/2026	119.9706	115.295721	110.4937724	105.0095535	98.94442243	92.8508833	87.06225817	81.69627095	76.77029509
210910A00009	9/10/2021	1.77	9/10/2036	9/10/2026	121.87053	116.7352061	111.5066342	105.6750953	99.35057447	93.05207329	87.08900912	81.5735237	76.5212857
210924A00016	9/24/2021	1.91	9/24/2036	9/24/2026	122.55836	117.4101386	112.215057	106.4656028	100.2052341	93.91955914	87.9357903	82.38619958	77.2932778
201202A00016	12/2/2020	1.32	12/3/2035	12/2/2025	116.78204	112.4609717	107.7923405	102.2166458	96.12253041	90.13895897	84.53861836	79.38437018	74.66491494
201202A00017	12/2/2020	1.32	12/3/2035	12/2/2025	116.78204	112.4609717	107.7923405	102.2166456	96.12253003	90.13895842	84.53861767	79.38436936	74.66491403
201229A00003	12/29/2020	1.28	12/30/2030	12/30/2025	117.3056	112.8002546	108.0261076	102.4706687	96.41025347	90.40347035	84.71285212	79.41872211	74.52474831
201230A00018	12/30/2020	1.52	12/28/2035	12/28/2027	126.52111	119.3128366	111.6510926	103.0142953	94.03738124	85.49234662	77.70081205	70.72317198	64.51700124
210108A00007	1/8/2021	1.65	1/8/2036	1/8/2026	120.70785	115.8662601	110.5036197	103.6389586	95.6860085	87.73705533	80.33136678	73.62749477	67.62217783
210225A00010	2/25/2021	2.02	2/25/2041	2/25/2026	121.74018	116.8277846	111.6146819	105.1300199	97.5534604	89.89287044	82.72984039	76.24105591	70.43092898
201029A00008	10/29/2020	0.92	10/29/2030	10/29/2025	113.46604	109.7728884	105.9826542	101.8848198	97.64860123	93.5162092	89.58341001	85.87235211	82.37905958
201030A00025	10/30/2020	2.02	10/28/2050	10/30/2025	121.33999	116.7275422	111.5037095	103.7089076	93.68521593	83.62414586	74.62410533	66.87911179	60.27934519
201116A00019	11/16/2020	1.32	11/15/2030	11/16/2025	117.51619	113.0145964	108.2779866	102.796621	96.80835319	90.85008829	85.19237762	79.92022781	75.04054122
201118A00015	11/18/2020	1.66	11/18/2036	11/18/2027	127.18789	120.0596497	112.4594771	103.7529351	94.57551624	85.792698	77.78782483	70.64130793	64.31121218
201118A00017	11/18/2020	1.66	11/18/2036	11/18/2027	127.18789	120.0596497	112.4594771	103.7529351	94.57551624	85.792698	77.78782483	70.64130793	64.31121218
201118A00018	11/18/2020	1.85	11/18/2036	11/18/2027	127.37121	120.2766298	112.7491714	104.139216	95.03750359	86.30295774	78.32444751	71.19098934	64.86575813
200430A00021	4/30/2020	1.2	4/30/2030	4/30/2025	113.55993	110.164797	106.7383684	103.0248924	99.08167788	95.15374548	91.37392608	87.78456412	84.39124553
200505A00010	5/5/2020	0.89	5/6/2030	5/5/2025	113.08926	109.6796598	106.1993964	102.393349	98.37474462	94.39987937	90.59205072	86.98521164	83.58022305
200512A00023	5/12/2020	1.78	5/11/2035	5/12/2025	120.54798	116.403658	111.5898921	105.3653297	98.26243001	91.15301249	84.46466583	78.33513818	72.77589962
200609A00003	6/9/2020	1.66	6/8/2035	6/9/2025	118.18626	114.0788804	109.5964029	103.5627143	96.12147439	88.45482104	81.22417761	74.634911	68.70396827
200612A00001	6/12/2020	0.75	6/12/2030	6/12/2025	112.65532	109.2382603	105.7128409	101.8300274	97.75240388	93.74802298	89.92507272	86.31021682	82.90115957
201022A00008	10/22/2020	1.02	10/22/2035	10/22/2025	115.73212	111.5612455	106.9566238	101.364958	95.26749137	89.32622417	83.78555845	78.69335964	74.03257439
200316A00032	3/16/2020	1.35	3/15/2030	3/16/2025	113.93169	110.7083618	107.4976273	104.0237866	100.2327749	96.36039164	92.58766984	88.98451751	85.56961596

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200318A00015	3/18/2020	1.69	3/18/2030	3/18/2023	107.91669	106.3796163	104.8721217	103.2639318	100.8121474	97.30893727	93.46147917	89.68475862	86.0842496
200326A00035	3/26/2020	1.68	3/26/2030	3/26/2025	114.47017	111.2454938	108.0573464	104.651278	100.92538	97.08596626	93.31911265	89.71115709	86.28532319
200423A00008	4/23/2020	1.59	4/23/2030	4/23/2025	117.41778	113.4889299	109.4873751	104.7394583	99.06416876	93.05838803	87.19224289	81.65751891	76.50432016
200423A00009	4/23/2020	1.59	4/23/2030	4/23/2025	117.41778	113.4889299	109.4873751	104.7394583	99.06416876	93.05838803	87.19224289	81.65751891	76.50432016
200423A00010	4/23/2020	1.59	4/23/2030	4/23/2025	117.41777	113.4889187	109.4873674	104.7394549	99.06417057	93.05839544	87.19225576	81.65753692	76.50434291
200110A00012	1/10/2020	2.57	1/10/2035	1/10/2025	118.10235	114.6664165	111.2908653	107.5618475	102.9896691	97.80608295	92.502942	87.37894894	82.56352847
200115A00023	1/15/2020	2.16	1/15/2030	1/15/2025	115.39627	112.2880291	109.2546141	106.1060686	102.6464866	98.97309069	95.28751433	91.71157976	88.29259007
200115A00025	1/15/2020	2.1	1/15/2025	1/15/2023	107.28174	105.9476292	104.6372646	103.3469103	101.981608	100.2140878	97.98798955	95.5968075	93.21527232
200306A00021	3/6/2020	1.16	3/6/2030	3/6/2025	112.84158	109.6440239	106.4007278	102.8198036	98.9516321	95.07119412	91.32934197	87.7730368	84.40935532
200309A00013	3/9/2020	1.1	3/8/2030	3/9/2025	112.65441	109.4590233	106.2048722	102.6006008	98.71914584	94.8363618	91.0989023	87.54950339	84.19348472
200316A00030	3/16/2020	1.35	3/15/2030	3/16/2025	113.93169	110.708361	107.4976269	104.023787	100.2327766	96.36039464	92.5876742	88.98452314	85.56962274
191031A00036	10/31/2019	2.9	10/31/2039	10/31/2024	119.4294	115.9562888	112.5155998	108.5642104	103.2709011	96.91836406	90.31147052	83.9859013	78.13772133
191031A00037	10/31/2019	2.59	10/30/2034	10/31/2024	117.76349	114.4182327	111.1373227	107.5313566	103.1004725	98.03491097	92.82284298	87.77227117	83.01382292
191220A00029	12/20/2019	2.57	12/19/2031	12/20/2024	117.07904	113.8670478	110.7376321	107.4625251	103.7006574	99.52346729	95.22722343	91.0180943	86.99771164
200102A00020	1/2/2020	2.78	1/3/2040	1/2/2025	120.04505	116.4343635	112.8831273	108.8050398	103.3757962	96.89892304	90.18187546	83.76193236	77.83592971
200108A00009	1/8/2020	2.4	1/8/2035	1/8/2025	118.07866	114.6162722	111.2269425	107.4862478	102.8006063	97.40654227	91.88517651	86.58450904	81.6327816
200108A00040	1/8/2020	2.52	1/8/2030	1/8/2025	118.58933	115.0229347	111.5299799	107.7484832	103.2405683	98.16454246	92.94105547	87.84666253	83.00469772
190827A00044	8/27/2019	1.9	8/27/2029	8/27/2024	113.87127	111.0636316	108.3210114	105.4573047	102.2420073	98.76247799	95.23986744	91.81145094	88.52644435
190930A00079	9/30/2019	2.04	10/1/2029	9/30/2024	114.56597	111.6766685	108.8602069	105.9466992	102.7071913	99.20782509	95.65913903	92.19489133	88.87238505
190930A00083	9/30/2019	2.04	10/1/2029	9/30/2024	114.56597	111.6766685	108.8602069	105.946699	102.7071908	99.20782417	95.65913766	92.19488957	88.87238295
191007A00012	10/7/2019	2	10/5/2029	10/7/2024	114.0401	111.1627299	108.3476574	105.3929381	102.078473	98.52049847	94.93833857	91.4617815	88.13641031
191007A00013	10/7/2019	2	10/5/2029	10/7/2024	114.0401	111.162726	108.3476547	105.3929373	102.0784753	98.52050459	94.93834858	91.46179522	88.13642746
191028A00015	10/28/2019	2.49	10/27/2034	10/28/2024	117.21484	114.0247046	110.9011196	107.4772275	103.1969681	98.19907504	92.99575587	87.9331668	83.1530958
190409A00017	4/9/2019	3.01	4/9/2029	4/9/2024	116.65159	113.8727491	111.1722259	108.4278742	105.1851531	101.1562206	96.61219995	91.9362718	87.34958971
190430A00020	4/30/2019	3.41	4/28/2034	4/28/2026	133.97948	128.2428804	122.4610665	116.1043835	108.9695275	101.41517	93.89529951	86.71943233	80.04284211
190520A00018	5/20/2019	3.7	5/20/2044	5/20/2024	118.92502	115.9668816	113.0940317	110.0849062	105.8440327	99.63051054	92.29804279	84.92793384	78.06919773
190530A00044	5/30/2019	2.85	5/30/2034	5/30/2024	116.18188	113.4094934	110.710886	107.8884547	104.3574279	99.93932204	95.07204004	90.18165082	85.48529801
190807A00041	8/7/2019	2.27	8/7/2034	7/7/2024	115.41054	112.4932834	109.6238871	106.3872298	102.1637465	97.17612388	92.00669417	87.00120803	82.29391318
190807A00044	8/7/2019	2.27	8/7/2034	8/7/2024	116.14894	113.0616787	110.0225247	106.604119	102.2463446	97.20120142	92.01368974	87.00320054	82.29448343
190111A00040	1/11/2019	3.74	1/11/2034	1/11/2024	117.04775	114.4868534	111.9955229	109.5126042	106.5473338	102.3745898	97.11534944	91.41293811	85.75708624
190116A00015	1/16/2019	3.61	1/17/2034	1/16/2024	115.82538	113.3871706	111.0144091	108.6448625	105.8884819	102.2866149	97.9754276	93.39795214	88.84617125
190204A00054	2/4/2019	3.98	2/6/2034	2/2/2024	117.98607	115.3244588	112.7368621	110.132136	106.9271588	102.4343877	96.85294741	90.84798666	84.89483812
190222A00023	2/22/2019	3.66	2/22/2034	2/22/2026	133.43372	128.0672021	122.819125	117.1299323	110.49309	103.186456	95.75475733	88.58647099	81.87621617

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190301A00015	3/1/2019	3.86	3/1/2034	3/2/2026	131.13507	125.8772635	120.8109875	115.5774351	109.6466163	103.0379829	96.15188242	89.36483972	82.92155732
190409A00016	4/9/2019	2.91	4/9/2029	4/9/2024	115.89856	113.2110134	110.5988357	107.9531816	104.878686	101.1375711	96.97279323	92.71011684	88.53658994
180315A00030	3/15/2018	3.76	3/15/2033	3/17/2025	125.05151	121.0325074	117.1536109	113.2105494	108.6292578	103.1415136	97.07513029	90.88231187	84.87461669
180504A00024	5/4/2018	3.62	5/4/2028	5/4/2023	112.50015	110.6595321	108.8586208	107.0913936	105.2229869	102.7079165	99.1899487	95.00278344	90.59179985
180627A00005	6/27/2018	3.63	6/30/2033	6/30/2023	113.03474	111.1210631	109.251001	107.4077742	105.3533752	102.5020729	98.73451871	94.47407723	90.13048071
180703A00033	7/3/2018	3.4	7/3/2028	7/3/2023	111.61035	109.8220023	108.0739443	106.3598205	104.5903197	102.4981816	99.97725071	97.19465618	94.34580599
180712A00016	7/12/2018	3.66	7/12/2033	7/12/2028	140.27788	132.7510584	125.6447457	118.73661	111.8784527	105.1437456	98.67013042	92.56194793	86.86665166
181212A00026	12/12/2018	3.22	12/12/2028	12/12/2023	114.22202	111.9632495	109.7648854	107.6055213	105.3397956	102.75123	99.84676111	96.80391838	93.75665974
171005A00047	10/5/2017	3.29	10/5/2032	10/5/2022	107.80158	106.6257539	105.4759264	104.3468781	102.9813082	100.217311	95.7436056	90.57886663	85.42275986
171016A00037	10/16/2017	3.39	10/18/2032	10/16/2022	107.97216	106.7864079	105.6269427	104.4878998	103.0747031	100.0762615	95.16904916	89.50694316	83.86241922
180105A00005	1/5/2018	3.07	1/5/2028	1/5/2023	108.54314	107.2287581	105.9382522	104.6700672	103.3757857	101.7702566	99.60111808	97.05242213	94.38866566
180105A00006	1/5/2018	3.07	1/5/2028	1/5/2023	108.54314	107.2287565	105.9382509	104.6700662	103.3757851	101.770257	99.60112045	97.05242709	94.38867341
180130A00087	1/30/2018	2.92	1/31/2028	1/30/2023	108.34979	107.0373199	105.7486934	104.4818663	103.1745777	101.5105712	99.26380242	96.67204313	93.98540453
180302A00003	3/2/2018	3.89	3/2/2033	3/2/2023	111.54377	109.9299556	108.3487664	106.7905089	104.9907941	101.9659431	97.33623179	91.85097791	86.20175554
170519A00006	5/19/2017	3	5/19/2032	5/19/2022	104.55657	103.8601766	103.1731748	102.4952925	101.7669677	100.1523034	96.86117061	92.81807057	88.71786413
170705A00037	7/5/2017	2.85	7/6/2032	7/6/2027	128.13399	122.5322841	117.1928316	111.9815595	106.825743	101.7855271	96.94248387	92.34726551	88.01898836
170721A00021	7/21/2017	2.95	7/21/2032	7/21/2022	106.20388	105.2339398	104.2820409	103.3463126	102.2766564	100.1515018	96.59425469	92.45064416	88.2962436
170802A00074	8/2/2017	2.92	8/2/2027	8/2/2022	106.1269	105.1415823	104.1746307	103.2250514	102.2193359	100.5361355	97.65139814	94.15691568	90.57160852
170809A00042	8/9/2017	2.35	8/9/2027	8/9/2022	105.45786	104.5248777	103.6090369	102.7093647	101.7643379	100.3338368	98.13923097	95.60221277	93.02837411
171004A00022	10/4/2017	2.74	10/4/2027	10/4/2022	107.08501	105.9316005	104.8035727	103.6976735	102.4779556	100.4831995	97.44746479	93.93478559	90.35844513
161012A00009	10/12/2016	2.56	10/14/2031	10/12/2021	101.07942	100.9083587	100.7378792	100.5679736	100.3920914	99.18125615	95.66313136	91.64480025	87.68720028
161012A00020	10/11/2016	2.96	10/14/2031	10/11/2023	113.86632	111.6022789	109.3925859	107.0737611	103.7979482	98.9942702	93.2740008	87.38156912	81.69577293
161118A00013	11/18/2016	2.96	11/18/2026	11/18/2021	101.15012	100.9785516	100.8075612	100.6371472	100.4673067	100.1411649	98.0281415	94.57157431	90.85621989
170113A00025	1/13/2017	3.59	1/13/2032	1/13/2022	102.52186	102.1736896	101.8278924	101.4844437	101.1431119	100.6669824	98.77114307	95.33266872	91.46889907
170411A00031	4/11/2017	3.39	4/12/2032	4/11/2022	104.72031	104.0243929	103.3378415	102.6604456	101.9639788	100.6681749	97.77796269	93.93174748	89.9156805
170515A00052	5/15/2017	3.78	5/15/2042	5/15/2024	121.04627	117.9636706	114.9442141	111.7059898	107.4458083	101.7212031	95.07072629	88.25159872	81.74019295
141119A00005	11/19/2014	2.53	11/19/2024	11/19/2019	101.04057	100.8713356	100.7026713	100.5345693	100.3670271	100.1939566	99.58358527	98.26865964	96.80828446
150108A00029	1/8/2015	3.16	1/9/2035	1/10/2022	102.43261	102.0723399	101.7145364	101.3591778	100.9985179	99.73855963	95.55299659	90.45164281	85.43314338
150202A00006	2/2/2015	1.92	2/3/2025	2/3/2020	100.96299	100.7934616	100.6245027	100.4561103	100.2882817	100.0195338	98.88851816	97.32411364	95.72884712
150223A00011	2/23/2015	3.54	2/22/2030	2/23/2022	102.99369	102.5673882	102.1446421	101.7254048	101.3090791	100.7667861	99.11153974	96.20504491	92.92690716
151223A00007	12/23/2015	3.76	12/23/2030	12/23/2022	109.72005	108.3320505	106.9794599	105.6534445	104.1133877	101.3931513	97.10708098	91.99713598	86.73157178
161006A00023	10/6/2016	2.49	10/6/2031	10/6/2021	101.06752	100.8964858	100.7260236	100.5561353	100.3772264	99.00856088	95.39974599	91.3596139	87.40189944
110701A00011	7/1/2011	3.87	7/1/2026	7/1/2011	118.8436	115.858676	112.9861839	110.2209047	107.5579044	104.9925141	102.5203132	100.1371145	97.83895055

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
110719A00017	7/19/2011	3.68	7/20/2026	7/19/2011	118.30757	115.3348518	112.4741704	109.7203235	107.0683931	104.5137251	102.0519127	99.67878218	97.39037831
110909A00006	9/9/2011	2.26	9/9/2026	9/9/2011	114.74523	111.7646991	108.899661	106.1446338	103.4944332	100.9441583	98.48917393	96.12509432	93.8477682
111115A00005	11/15/2011	2.26	11/15/2021	11/15/2011	100.64045	100.5327248	100.4252402	100.3180001	100.2110036	100.1042499	99.997738	99.89146715	99.78543646
111220A00025	12/20/2011	2.17	12/20/2021	12/20/2011	100.9457	100.7834457	100.6217789	100.4606979	100.3001992	100.1402795	99.98093542	99.82216353	99.66396053
120330A00013	3/30/2012	2.98	4/2/2024	3/30/2012	114.97987	112.4380367	109.9699954	107.5731242	105.244914	102.9829611	100.7849623	98.64870993	96.57208685
210915A00024	9/15/2021	1.1	9/15/2026	9/15/2021	119.00315	113.7207311	108.7128345	103.9636411	99.45833017	95.18300903	91.12465017	87.27103274	83.61068838
210915A00018	9/15/2021	0.74	9/16/2024	9/15/2021	111.7059	108.5895044	105.5786855	102.6692588	99.85723102	97.13879009	94.51029578	91.96827085	89.5093928
210913A00014	9/13/2021	1.15	9/13/2028	9/13/2021	116.37195	111.913403	107.6862736	103.6763342	99.87034599	96.25598056	92.82175087	89.55694803	86.45158319
210915A00023	9/15/2021	0.74	9/16/2024	9/15/2021	111.7059	108.5895044	105.5786855	102.6692588	99.85723102	97.13879009	94.51029578	91.96827085	89.5093928
210809A00014	8/9/2021	1.06	8/7/2026	8/9/2021	118.49438	113.3348761	108.4382519	103.7896631	99.37518229	95.18173635	91.19704936	87.40959013	83.80852321
210809A00015	8/9/2021	1.06	8/7/2026	8/9/2021	118.49438	113.3348761	108.4382519	103.7896631	99.37518229	95.18173635	91.19704936	87.40959013	83.80852321
210809A00016	8/9/2021	0.66	8/9/2024	8/9/2021	109.50214	106.9739223	104.5244834	102.1508655	99.85024318	97.61991368	95.45729085	93.35989941	91.3253695
210913A00015	9/13/2021	1.08	9/14/2026	9/13/2021	117.6404	112.7607279	108.1281879	103.7287339	99.54919936	95.57723499	91.80125386	88.21038009	84.79440141
210915A00026	9/15/2021	1.1	9/15/2026	9/15/2021	119.00315	113.7207311	108.7128345	103.9636411	99.45833017	95.18300903	91.12465017	87.27103274	83.61068838
210915A00025	9/15/2021	1.09	9/15/2026	9/15/2021	118.4809	113.3488976	108.481226	103.8627261	99.47919025	95.31729841	91.36455746	87.60924565	84.04036083
210714A00015	7/14/2021	1.11	7/14/2026	7/14/2021	118.10709	113.1488565	108.4383641	103.9617528	99.70601873	95.65895648	91.80910479	88.14569701	84.65861497
210714A00016	7/14/2021	0.75	7/12/2024	7/14/2021	110.99609	108.1149529	105.3260542	102.6258391	100.0109174	97.47805269	95.02415481	92.64627151	90.34158144
210714A00017	7/14/2021	0.73	7/12/2024	7/14/2021	110.16292	107.5017927	104.9239822	102.4263094	100.0057426	97.65938697	95.38447756	93.17837224	91.03854536
210714A00018	7/14/2021	0.75	7/12/2024	7/14/2021	110.99609	108.1149529	105.3260542	102.6258391	100.0109174	97.47805269	95.02415481	92.64627151	90.34158144
210809A00012	8/9/2021	1.06	8/7/2026	8/9/2021	118.49438	113.3348761	108.4382519	103.7896631	99.37518229	95.18173635	91.19704936	87.40959013	83.80852321
210809A00013	8/9/2021	1.05	8/7/2026	8/9/2021	117.99322	112.9780791	108.2162478	103.6934829	99.3964217	95.31251849	91.42999087	87.73776923	84.22544996
210714A00009	7/14/2021	0.75	7/12/2024	7/14/2021	111.15044	108.2260089	105.3955766	102.6555117	100.0023533	97.43279779	94.94369079	92.53201893	90.1949026
210714A00010	7/14/2021	0.75	7/12/2024	7/14/2021	111.15044	108.2260089	105.3955766	102.6555117	100.0023533	97.43279779	94.94369079	92.53201893	90.1949026
210714A00011	7/14/2021	0.75	7/12/2024	7/14/2021	111.15043	108.2260078	105.395576	102.6555115	100.0023535	97.43279842	94.94369178	92.53202026	90.19490426
210714A00012	7/14/2021	1.12	7/14/2026	7/14/2021	118.60837	113.5084819	108.6656168	104.0653356	99.6940887	95.53916074	91.58861385	87.83123571	84.2564913
210714A00013	7/14/2021	1.12	7/14/2026	7/14/2021	118.60837	113.5084819	108.6656168	104.0653356	99.6940887	95.53916074	91.58861385	87.83123571	84.2564913
210714A00014	7/14/2021	1.12	7/14/2026	7/14/2021	118.60837	113.5084819	108.6656168	104.0653356	99.6940887	95.53916074	91.58861385	87.83123571	84.2564913
210611A00007	6/11/2021	0.61	6/11/2024	6/11/2021	110.47781	107.6520284	104.9149664	102.263227	99.69357019	97.20290454	94.78827889	92.44687488	90.17599985
210611A00008	6/11/2021	0.61	6/11/2024	6/11/2021	110.57156	107.7187737	104.9557787	102.2791309	99.68554745	97.17189614	94.73518701	92.37256475	90.08130149
210611A00009	6/11/2021	0.61	6/11/2024	6/11/2021	110.47781	107.6520284	104.9149664	102.263227	99.69357019	97.20290454	94.78827889	92.44687488	90.17599985
210611A00010	6/11/2021	1.02	6/11/2026	6/11/2021	117.85656	112.8707803	108.1324665	103.6278593	99.34404936	95.26891775	91.39108248	87.69984918	84.18516529
210611A00011	6/11/2021	1.02	6/11/2026	6/11/2021	117.85656	112.8707803	108.1324665	103.6278593	99.34404936	95.26891775	91.39108248	87.69984918	84.18516529
210611A00012	6/11/2021	1.02	6/11/2026	6/11/2021	117.85656	112.8707803	108.1324665	103.6278593	99.34404936	95.26891775	91.39108248	87.69984918	84.18516529

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210423A00001	4/23/2021	1.72	4/23/2036	4/23/2021	134.94978	124.8626057	115.7835387	107.5977865	100.2047685	93.51624275	87.45469293	81.95193728	76.94792756
210423A00003	4/23/2021	1.31	4/23/2031	4/23/2021	121.76234	115.7378667	110.1256685	104.892914	100.0096649	95.44860166	91.18477496	87.19538297	83.45957094
210512A00008	5/12/2021	0.66	5/10/2024	5/12/2021	110.33456	107.5986644	104.9464467	102.3747984	99.88074939	97.46146095	95.11421851	92.83642546	90.62559699
210512A00009	5/12/2021	0.66	5/10/2024	5/12/2021	110.33456	107.5986644	104.9464467	102.3747984	99.88074939	97.46146095	95.11421851	92.83642546	90.62559699
210512A00011	5/12/2021	1.16	5/12/2026	5/12/2021	118.29623	113.3761156	108.6965249	104.2442947	100.0070585	95.97319393	92.13177351	88.47251898	84.98575892
210512A00012	5/12/2021	1.16	5/12/2026	5/12/2021	118.29623	113.3761156	108.6965249	104.2442947	100.0070585	95.97319393	92.13177351	88.47251898	84.98575892
210331A00007	3/31/2021	1.25	3/31/2031	3/31/2021	120.39424	114.5089238	109.0222702	103.9028265	99.12188818	94.65323932	90.47291886	86.55901044	82.891453
210408A00007	4/8/2021	1.05	4/8/2031	4/8/2021	120.25076	114.3012539	108.7588445	103.5911211	98.76852575	94.26408512	90.05316567	86.1132538	82.42375796
210412A00007	4/12/2021	0.66	4/12/2024	4/12/2021	110.08224	107.4277932	104.8527722	102.3542998	99.92962616	97.57611927	95.29125855	93.07262953	90.91791853
210412A00008	4/12/2021	0.66	4/12/2024	4/12/2021	110.08224	107.4277932	104.8527722	102.3542998	99.92962616	97.57611927	95.29125855	93.07262953	90.91791853
210412A00009	4/12/2021	0.37	4/12/2022	4/12/2021	102.20597	101.6540111	101.1080309	100.5679344	100.0336269	99.50501521	98.98200851	98.46451774	97.95245573
210420A00035	4/20/2021	1.92	4/20/2034	4/20/2021	135.68977	125.5238782	116.3522262	108.0650869	100.5658084	93.76916067	87.5999044	81.99154836	76.88526867
210212A00006	2/12/2021	0.77	2/12/2026	2/12/2021	116.06771	111.3919515	106.9354346	102.6867001	98.63495056	94.77000594	91.08226475	87.56266835	84.20266744
210212A00007	2/12/2021	0.76	2/12/2026	2/12/2021	115.7845	111.1879844	106.8059157	102.6271181	98.64105525	94.83779215	91.20795781	87.74271024	84.43370388
210217A00005	2/17/2021	0.83	2/14/2031	2/17/2021	118.71154	112.9384989	107.5543517	102.5285828	97.8333291	93.44313097	89.33470725	85.48675329	81.87975876
210319A00008	3/19/2021	0.63	3/19/2024	3/19/2021	109.78649	107.2036839	104.6964842	102.2622231	99.89834325	97.60239387	95.37202502	93.20498297	91.09910556
210319A00009	3/19/2021	1.1	3/19/2026	3/19/2021	117.62159	112.8685592	108.3417159	104.0290189	99.91913734	96.00140148	92.26576051	88.70274331	85.30342186
210319A00012	3/19/2021	0.83	12/19/2024	3/19/2021	112.79502	109.4034732	106.1347839	102.9837063	99.94525457	97.01469025	94.18750776	91.45942134	88.82635249
201221A00022	12/21/2020	0.51	12/19/2025	12/21/2020	114.60082	110.2769938	106.1481816	102.2043772	98.43615261	94.83462017	91.39139831	88.0985791	84.94869834
201228A00013	12/28/2020	0.84	12/30/2030	12/28/2020	117.61927	112.0195362	106.7901373	101.902501	97.3304997	93.0502244	89.03978036	85.27910276	81.74979062
210107A00008	1/7/2021	0.54	1/5/2024	1/7/2021	108.88637	106.5246697	104.2274527	101.9924722	99.81757552	97.70070366	95.63988614	93.63323645	91.67894759
210107A00009	1/7/2021	0.54	1/5/2024	1/7/2021	108.88637	106.5246697	104.2274527	101.9924722	99.81757552	97.70070366	95.63988614	93.63323645	91.67894759
210107A00010	1/7/2021	0.54	1/5/2024	1/7/2021	108.88637	106.5246697	104.2274527	101.9924722	99.81757552	97.70070366	95.63988614	93.63323645	91.67894759
210212A00004	2/12/2021	1.1	2/12/2036	2/12/2021	128.81682	119.2944702	110.7139592	102.9690956	95.96671417	89.62497088	83.87187601	78.64402786	73.88551775
201029A00004	10/29/2020	1.49	10/29/2038	10/29/2020	150.43205	132.3069232	116.804453	103.5161627	92.10017825	82.26998285	73.78512789	66.44354974	60.07520749
201103A00005	11/3/2020	0.89	11/4/2030	11/3/2020	117.76158	112.2056391	107.0140894	102.1590378	97.61496058	93.35848487	89.36819217	85.62444088	82.10920604
201110A00003	11/10/2020	1.12	11/10/2027	11/10/2020	122.46276	115.8349073	109.6206463	103.7917628	98.32212321	93.18750776	88.36545987	83.83514844	79.57724151
201203A00007	12/3/2020	0.58	12/1/2023	12/3/2020	108.65791	106.3948137	104.1914877	102.0459011	99.95610882	97.92024808	95.93653456	94.0032581	92.118779
201207A00009	12/7/2020	1.01	12/7/2027	12/7/2020	121.93725	115.2584614	109.0009518	103.1356744	97.6357477	92.47628095	87.63421575	83.08818104	78.81836036
201207A00021	12/7/2020	1.85	12/7/2050	12/7/2020	163.71884	139.8392723	120.4189873	104.5319541	91.45712115	80.63095769	71.6113724	64.05020185	57.67217206
200716A00004	7/16/2020	0.97	7/16/2027	7/16/2020	120.72203	114.485382	108.6203849	103.1027629	97.90996193	93.02101377	88.41641592	84.07802138	79.98893717
200724A00011	7/24/2020	1.41	7/26/2038	7/24/2020	148.64467	130.933007	115.7555026	102.7221013	91.50558246	81.83108167	73.46741062	66.21985947	59.92422172
200806A00004	8/6/2020	0.3	3/6/2024	8/6/2020	105.28588	103.8901686	102.5266348	101.1942608	99.89206659	98.61911167	97.37449297	96.15734307	94.96682845

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200814A00003	8/14/2020	0.96	8/14/2035	8/14/2020	126.76993	117.7168232	109.5309909	102.1175805	95.39303557	89.28366325	83.72439181	78.65769284	74.03264571
200818A00012	8/18/2020	0.97	8/18/2027	8/18/2020	120.93859	114.6050033	108.6537481	103.0596139	97.79918082	92.85068451	88.19389085	83.80998082	79.68144457
200910A00006	9/10/2020	0.96	9/10/2027	9/10/2020	121.03223	114.6313501	108.6206963	102.9742769	97.667968	92.67936831	87.98766761	83.5735257	79.41896115
200610A00006	6/10/2020	1.11	6/10/2027	6/10/2020	121.31699	115.1534097	109.3517305	103.8885845	98.74224353	93.89249648	89.32053466	85.00884649	80.94112075
200612A00004	6/12/2020	1.42	6/12/2040	6/12/2020	138.44127	124.844173	112.9822995	102.6058892	93.50392768	85.49779723	78.43601545	72.18986718	66.6497725
200616A00005	6/16/2020	0.74	6/17/2030	6/16/2020	117.15234	111.8530359	106.8880752	102.232777	97.86448404	93.76238547	89.90735314	86.28179353	82.86951359
200623A00028	6/23/2020	1.23	6/23/2038	6/23/2020	133.75392	122.3637442	112.2582272	103.273208	95.26722592	88.11819477	81.72058613	75.98304203	70.82634918
200709A00018	7/9/2020	0.59	7/7/2023	7/9/2020	107.29743	105.4461608	103.6367725	101.8679443	100.1384132	98.44696894	96.7924505	95.173744	93.58978006
200709A00019	7/9/2020	0.77	7/9/2025	7/9/2020	114.40123	110.3738945	106.5135708	102.8123366	99.26269806	95.85756175	92.59021037	89.45428038	86.44374096
200512A00021	5/12/2020	0.86	5/12/2025	5/12/2020	114.26991	110.4081501	106.7009183	103.1411136	99.72200856	96.43722479	93.28071236	90.24673076	87.32983104
200514A00008	5/14/2020	1.23	5/14/2030	5/14/2020	126.94007	118.5432039	110.8211104	103.714402	97.16927545	91.13695774	85.57320833	80.43787319	75.6944851
200520A00009	5/20/2020	1.63	5/20/2038	5/20/2020	151.32819	133.7241358	118.5962855	105.5687503	94.325479	84.60038214	76.16913619	68.8423745	62.46002384
200522A00009	5/22/2020	0.96	5/22/2030	5/22/2020	117.46158	112.1461709	107.1692939	102.5057112	98.13227502	94.02774321	90.17260823	86.54894304	83.1402615
200605A00018	6/5/2020	0.91	6/5/2025	6/5/2020	114.66197	110.7237534	106.9454373	103.3195586	99.83905255	96.49722723	93.28774185	90.20458568	87.24205862
200608A00001	6/8/2020	1.34	6/7/2030	6/8/2020	127.99374	119.4794081	111.6533866	104.4547222	97.82823162	91.72392381	86.09648224	80.90480211	76.11157564
200512A00011	5/12/2020	1.48	5/10/2030	5/12/2020	131.64536	122.1934187	113.5282987	105.5793705	98.28272797	91.58051736	85.42033242	79.75467398	74.54046554
200512A00013	5/12/2020	1.17	5/12/2027	5/12/2020	121.46231	115.371773	109.6345408	104.2280753	99.13140305	94.32499577	89.79066285	85.51145226	81.47155946
200512A00014	5/12/2020	1.17	5/12/2027	5/12/2020	121.46231	115.371773	109.6345408	104.2280753	99.13140305	94.32499577	89.79066285	85.51145226	81.47155946
200512A00017	5/12/2020	0.85	5/12/2025	5/12/2020	113.76153	110.0406643	106.4670977	103.0340967	99.73528173	96.56460299	93.51632133	90.58499012	87.76543847
200512A00018	5/12/2020	0.85	5/12/2025	5/12/2020	113.76153	110.0406643	106.4670977	103.0340967	99.73528173	96.56460299	93.51632133	90.58499012	87.76543847
200512A00020	5/12/2020	0.86	5/12/2025	5/12/2020	114.26991	110.4081501	106.7009183	103.1411136	99.72200856	96.43722479	93.28071236	90.24673076	87.32983104
200429A00030	4/29/2020	1.41	4/29/2030	4/29/2020	129.8896	120.8817844	112.6117152	105.0138539	98.02885262	91.6029392	85.68736467	80.23790779	75.21443106
200430A00027	4/30/2020	1.31	4/30/2035	4/30/2020	127.86727	118.9921246	110.9462573	103.6410482	96.99820712	90.94848579	85.43056174	80.39006828	75.77874956
200501A00002	5/1/2020	1.3	5/1/2035	5/1/2020	127.91948	118.9882104	110.8959686	103.552644	96.87867319	90.80372531	85.26555802	80.20902268	75.58519886
200501A00009	5/4/2020	0.67	5/1/2025	5/4/2020	107.85917	105.7912735	103.7858093	101.8403721	99.95266569	98.12049953	96.34178302	94.61452018	92.93680468
200512A00001	5/12/2020	1.17	5/12/2027	5/12/2020	121.46231	115.371773	109.6345408	104.2280753	99.13140305	94.32499577	89.79066285	85.51145226	81.47155946
200512A00010	5/12/2020	1.48	5/10/2030	5/12/2020	131.64536	122.1934187	113.5282987	105.5793705	98.28272798	91.58051736	85.42033242	79.75467398	74.54046554
200413A00013	4/13/2020	1.19	4/12/2030	4/13/2020	118.36671	113.1323337	108.2217501	103.6114858	99.27996307	95.20733263	91.37532295	87.76710366	84.36716163
200414A00009	4/14/2020	0.82	4/14/2025	4/14/2020	108.00527	105.9795413	104.0139509	102.1062077	100.2541284	98.45562934	96.7087207	95.01150185	93.36215654
200414A00024	4/14/2020	1.37	4/14/2027	4/14/2020	122.42157	116.3699039	110.6650655	105.2851972	100.2099332	95.42029366	90.89858289	86.62829546	82.59403
200421A00026	4/21/2020	1.34	4/19/2030	4/21/2020	127.67291	119.2916035	111.5791358	104.4770402	97.93230785	91.89685257	86.32702706	81.18318926	76.42931318
200424A00022	4/24/2020	1.39	4/24/2030	4/24/2020	128.10544	119.6893932	111.9456632	104.8154062	98.24528439	92.18691888	86.59640204	81.43386004	76.6630605
200428A00009	4/28/2020	1.08	4/29/2030	4/28/2020	117.80751	112.5971568	107.7091705	103.120179	98.80869443	94.75495051	90.94075271	87.34934199	83.96527132

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200406A00032	4/6/2020	1.09	4/4/2025	4/6/2020	114.7961	111.0261866	107.403625	103.9218143	100.5744891	97.35569952	94.25979324	91.28139908	88.41541112
200406A00033	4/6/2020	1.09	4/4/2025	4/6/2020	114.79609	111.0261777	107.4036195	103.921812	100.5744899	97.35570312	94.25979955	91.28140794	88.41542239
200406A00035	4/6/2020	1.05	4/4/2025	4/6/2020	113.67188	110.1792747	106.8201654	103.5886415	100.4790858	97.4861621	94.60479969	91.83017831	89.15771433
200406A00036	4/6/2020	1.09	4/4/2025	4/6/2020	114.79609	111.0261777	107.4036195	103.921812	100.5744899	97.35570312	94.25979955	91.28140794	88.41542239
200406A00037	4/6/2020	0.9	4/6/2023	4/6/2020	106.81789	105.2296185	103.6736916	102.1492023	100.6552725	99.19105651	97.75573918	96.34853485	94.96868585
200413A00009	4/13/2020	0.77	4/13/2027	4/13/2020	111.99513	108.7425968	105.6287127	102.6463148	99.788665	97.04942126	94.42261215	91.90261236	89.48412029
200330A00058	3/30/2020	1.49	3/29/2030	3/30/2020	128.73741	120.3462161	112.620483	105.5023809	98.93944866	92.88406849	87.29299287	82.12692013	77.3501133
200330A00079	3/30/2020	1.51	3/30/2035	3/30/2020	129.43804	120.5082093	112.4081064	105.049541	98.35454228	92.25409894	86.68705887	81.59917175	76.94225474
200406A00014	4/6/2020	1.33	4/6/2035	4/6/2020	129.44172	120.4159067	112.2359202	104.8111656	98.06162593	91.91654412	86.31327817	81.19630601	76.51635899
200406A00027	4/6/2020	1.31	4/5/2030	4/6/2020	128.66665	120.2195051	112.4456177	105.2862238	98.68803854	92.6027165	86.98636779	81.7991233	77.00474485
200406A00029	4/6/2020	1.61	4/5/2030	4/6/2020	132.54555	123.1332918	114.4968042	106.5671077	99.28173235	92.58406735	86.4227825	80.75130903	75.52737416
200406A00030	4/6/2020	1.61	4/5/2030	4/6/2020	132.54555	123.1332918	114.4968042	106.5671077	99.28173235	92.58406735	86.4227825	80.75130903	75.52737416
200319A00035	3/19/2020	1.72	3/18/2033	3/19/2020	132.83046	123.622398	115.2525984	107.6348264	100.6924407	94.35726029	88.56857249	83.27226328	78.42005434
200323A00090	3/23/2020	1.55	3/23/2027	3/23/2020	114.63716	111.1468053	107.8108065	104.6209555	101.5695386	98.64930675	95.8534444	93.17554041	90.60956145
200326A00032	3/26/2020	1.49	3/26/2030	3/26/2020	119.74063	114.4959133	109.5728683	104.9483567	100.6010968	96.5114994	92.6615212	89.03453159	85.61519222
200327A00084	3/27/2020	1.1	3/27/2025	3/27/2020	114.27726	110.6637309	107.1892254	103.8475786	100.6329394	97.53974877	94.56272331	91.69683986	88.9373212
200327A00094	3/27/2020	1.6	3/27/2030	3/27/2020	129.61634	121.1788513	113.4098855	106.2513875	99.65069266	93.55999506	87.93587311	82.73886401	77.93308177
200330A00047	3/30/2020	1.5	3/30/2035	3/30/2020	129.35204	120.4281467	112.3334331	104.9797637	98.28921968	92.19283553	86.62949984	81.54499834	76.89118024
200309A00084	3/9/2020	1.06	3/9/2027	3/9/2020	120.34892	114.4770387	108.936732	103.7074288	98.76993841	94.10635473	89.69996316	85.53515538	81.5973505
200311A00015	3/11/2020	1.26	3/11/2027	3/11/2020	121.51071	115.5883503	110.0004993	104.7263838	99.74663355	95.04317556	90.59914052	86.39877647	82.42736906
200311A00026	3/11/2020	1.34	3/11/2030	3/11/2020	128.95697	120.1222426	112.0017722	104.5329352	97.65894925	91.32829515	85.4942025	80.11418788	75.14964025
200317A00009	3/17/2020	1.61	3/16/2035	3/17/2020	130.29821	121.3096101	113.1561385	105.7490318	99.00981939	92.86904651	87.26516711	82.14358065	77.45579256
200317A00043	3/17/2020	1.29	3/15/2030	3/17/2020	119.53702	114.2829079	109.3518245	104.7204852	100.3674785	96.27309858	92.41919785	88.78905223	85.36723957
200318A00012	3/18/2020	1.68	3/18/2033	3/18/2020	132.47899	123.2959238	114.9488833	107.3518583	100.4284104	94.11053887	88.33769188	83.05589899	78.21701009
200306A00057	3/6/2020	0.92	3/8/2027	3/6/2020	119.40517	113.8567311	108.6161594	103.6645132	98.98412086	94.55848804	90.37221265	86.41090695	82.66112542
200306A00058	3/6/2020	1.06	3/6/2030	3/6/2020	117.5622	112.4132245	107.5799856	103.0397779	98.77171818	94.75658331	90.97666652	87.41564704	84.05847177
200309A00034	3/9/2020	0.96	3/9/2035	3/9/2020	126.12604	117.3834071	109.4555548	102.2556735	95.70703608	89.74175042	84.29967205	79.32745868	74.77774638
200309A00081	3/9/2020	1.18	3/8/2030	3/9/2020	128.51035	119.4092368	111.0537943	103.3781833	96.3227306	89.83331785	83.86083729	78.36070312	73.29241294
200309A00082	3/9/2020	1.18	3/8/2030	3/9/2020	128.51033	119.4092255	111.0537899	103.378185	96.3227376	89.83332948	83.86085295	78.36072226	73.29243508
200309A00083	3/9/2020	0.82	3/9/2023	3/9/2020	106.39769	104.8923154	103.4162558	101.9687219	100.5489541	99.15621973	97.78981111	96.44904489	95.13326093
200220A00026	2/20/2020	2.22	2/21/2040	2/20/2020	147.6944	133.5491825	121.1806198	110.33692	100.8047539	92.40305302	84.97784866	78.39797435	72.55148147
200221A00012	2/21/2020	2.14	2/21/2040	2/21/2020	146.64229	132.6011485	120.3236127	109.5597359	100.0977545	91.75792929	84.38742192	77.85602908	72.05262429
200227A00046	2/27/2020	1.52	3/1/2027	2/27/2020	113.53355	110.3417078	107.282231	104.3484413	101.5340522	98.83313907	96.24011585	93.74971352	91.35695975

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200303A00028	3/3/2020	1.54	3/4/2030	3/3/2020	129.00003	120.6429629	112.9441737	105.84686	99.2994552	93.25511891	87.67127884	82.50921934	77.7337117
200306A00048	3/6/2020	1.04	3/6/2035	3/6/2020	126.8058	118.0163212	110.0459705	102.807475	96.22370034	90.22639351	84.75509031	79.75616463	75.1820004
200306A00050	3/6/2020	0.87	3/6/2030	3/6/2020	117.40709	112.2465363	107.4032352	102.8543227	98.57877248	94.55723292	90.77188218	87.20629631	83.84532971
200206A00032	2/6/2020	2.15	2/6/2030	2/6/2020	136.8605	127.3628001	118.6324951	110.6026398	103.2124822	96.4068632	90.13567428	84.35337023	79.01853135
200206A00033	2/6/2020	2.15	2/6/2030	2/6/2020	136.86049	127.3627929	118.6324911	110.6026384	103.2124832	96.40686622	90.13567906	84.35337652	79.01853892
200206A00034	2/6/2020	1.84	2/6/2025	2/6/2020	116.89997	113.2450604	109.7267367	106.3391543	103.0767497	99.93422655	96.90654091	93.98888817	91.17669028
200206A00035	2/6/2020	1.78	2/6/2023	2/6/2020	107.37587	105.9535128	104.5572892	103.1865411	101.840628	100.5189301	99.22084801	97.9458014	96.69322861
200206A00038	2/6/2020	1.78	2/6/2023	2/6/2020	107.37587	105.9535128	104.5572892	103.1865411	101.840628	100.5189301	99.22084801	97.9458014	96.69322861
200212A00013	2/12/2020	1.98	2/12/2027	2/12/2020	125.39071	119.4001318	113.7426387	108.3978531	103.3467483	98.57155311	94.05566318	89.78355824	85.74072602
200115A00013	1/15/2020	2.18	1/15/2030	1/15/2020	130.36679	122.8684689	115.9229303	109.4845674	103.5118397	97.96688947	92.81519326	88.02524854	83.56829163
200116A00012	1/16/2020	2.16	1/19/2027	1/16/2020	126.15847	120.2102476	114.5890256	109.2749495	104.2494817	99.49530397	94.99623087	90.73712939	86.70384485
200130A00046	1/30/2020	1.81	1/29/2027	1/30/2020	114.24321	111.0801702	108.0465919	105.1360179	102.3423653	99.65989826	97.08320563	94.60718027	92.22699983
200206A00008	2/6/2020	1.64	2/6/2025	2/6/2020	116.18943	112.6537412	109.2491898	105.9701789	102.8113793	99.76771759	96.83436253	94.00671187	91.2803804
200206A00027	2/6/2020	2.15	2/6/2030	2/6/2020	136.86049	127.3627929	118.6324911	110.6026384	103.2124832	96.40686622	90.13567906	84.35337652	79.01853892
200206A00031	2/6/2020	2.15	2/6/2030	2/6/2020	136.86049	127.3627929	118.6324911	110.6026384	103.2124832	96.40686622	90.13567906	84.35337652	79.01853892
200109A00008	1/9/2020	1.95	1/9/2030	1/9/2020	122.53027	117.2495827	112.2878579	107.6224796	103.2326205	99.09908798	95.20418433	91.53157959	88.06619616
200110A00037	1/10/2020	2.32	1/10/2030	1/10/2020	138.10701	128.6145423	119.8828032	111.845835	104.4437621	97.62220065	91.33172629	85.52739628	80.1683198
200110A00038	1/10/2020	2.32	1/10/2030	1/10/2020	138.10701	128.6145423	119.8828032	111.845835	104.4437621	97.62220065	91.33172629	85.52739628	80.1683198
200110A00039	1/10/2020	2.32	1/10/2030	1/10/2020	138.10701	128.6145423	119.8828032	111.845835	104.4437621	97.62220065	91.33172629	85.52739628	80.1683198
200110A00043	1/10/2020	2.32	1/10/2030	1/10/2020	138.10701	128.6145423	119.8828032	111.845835	104.4437621	97.62220065	91.33172629	85.52739628	80.1683198
200110A00053	1/10/2020	1.99	1/10/2025	1/10/2020	117.10425	113.5217114	110.0708104	106.7458942	103.5415921	100.4527982	97.47465671	94.60254801	91.83207515
191203A00013	12/3/2019	1.93	12/3/2024	12/3/2019	116.44416	112.9833478	109.6465193	106.428442	103.3241436	100.328895	97.43819577	94.64776223	91.95351476
191206A00005	12/6/2019	2.18	12/7/2026	12/6/2019	125.81448	119.9986994	114.4968717	109.2901925	104.3610898	99.69313933	95.27098277	91.08025239	87.10750126
191209A00005	12/9/2019	2.22	12/10/2029	12/9/2019	133.77608	125.35517	117.5806138	110.3978978	103.7574381	97.61410762	91.92681109	86.65810202	81.77383858
191224A00002	12/24/2019	2.17	12/24/2029	12/24/2019	122.62368	117.408893	112.5055581	107.8918208	103.547535	99.45412067	95.5944314	91.95263329	88.51409538
200103A00002	1/3/2020	2.07	1/3/2030	1/3/2020	134.10911	125.57467	117.701392	110.4330245	103.7184482	97.51117791	91.76891615	86.4531524	81.52880286
200109A00006	1/9/2020	1.95	1/9/2030	1/9/2020	122.53028	117.2495921	112.2878637	107.6224822	103.2326202	99.0990851	95.20417913	91.53157231	88.06618703
191112A00024	11/12/2019	2.09	11/12/2024	11/12/2019	116.71284	113.3067914	110.0209231	106.8502487	103.7900234	100.8357295	97.98306395	95.22792676	92.56640977
191113A00013	11/13/2019	2.17	11/13/2026	11/13/2019	125.49224	119.7572522	114.3285317	109.1879342	104.3184935	99.70433851	95.33061571	91.18341845	87.24972109
191122A00003	11/22/2019	2.32	11/22/2039	11/22/2019	159.14457	141.3728489	126.1127676	112.9733145	101.628029	91.80388171	83.27213712	75.84083411	69.34858989
191203A00009	12/3/2019	2.21	12/3/2029	12/3/2019	136.76042	127.446777	118.8721508	110.9730699	103.6918676	96.97612015	90.77814257	85.05453557	79.76577798
191203A00010	12/3/2019	2.21	12/3/2029	12/3/2019	136.76042	127.446777	118.8721508	110.9730699	103.6918676	96.97612015	90.77814257	85.05453557	79.76577798
191203A00011	12/3/2019	2.21	12/3/2029	12/3/2019	136.76042	127.446777	118.8721508	110.9730699	103.6918676	96.97612015	90.77814257	85.05453557	79.76577798

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191031A00025	10/31/2019	1.91	10/31/2024	10/31/2019	108.88641	107.1204525	105.401441	103.727733	102.097756	100.5100052	98.96303959	97.45547864	95.98599956
191101A00004	11/1/2019	1.91	11/1/2029	11/1/2019	132.29691	124.0129663	116.3600293	109.2853257	102.7408111	96.68272153	91.07116826	85.86977378	81.04534359
191101A00005	11/1/2019	1.83	11/2/2026	11/1/2019	124.40219	118.7174035	113.3355833	108.2388299	103.4104017	98.83463376	94.49686246	90.38335593	86.48124959
191105A00012	11/5/2019	2.07	11/3/2034	11/5/2019	134.9715	125.845008	117.5499039	109.9995017	103.1169772	96.83417252	91.09055058	85.83228323	81.01145425
191112A00022	11/12/2019	2.36	11/13/2029	11/12/2019	137.86324	128.5461475	119.9635462	112.0527465	104.7567521	98.02371669	91.80645204	86.06198546	80.75116139
191112A00023	11/12/2019	2.36	11/13/2029	11/12/2019	137.86325	128.5461511	119.9635483	112.0527474	104.7567519	98.02371547	91.80645001	86.06198274	80.75115809
191004A00026	10/4/2019	1.74	10/4/2024	10/4/2019	115.10487	111.8436185	108.6945379	105.653107	102.715018	99.87616234	97.13261969	94.4806484	91.91667615
191008A00007	10/8/2019	1.67	10/9/2029	10/8/2019	120.55998	115.5177974	110.772065	106.3022833	102.0895361	98.11635735	94.36661035	90.82537668	87.47885584
191008A00014	10/8/2019	1.85	10/8/2026	10/8/2019	123.38027	117.8211761	112.5546394	107.5635956	102.8320684	98.34509484	94.08865545	90.04960972	86.21563622
191009A00009	10/9/2019	1.8	10/9/2026	10/9/2019	113.61719	110.6174646	107.7356131	104.9659631	102.3031622	99.74215359	97.27815785	94.90665542	92.62337093
191011A00027	10/11/2019	1.84	10/11/2029	10/11/2019	121.38973	116.3129108	111.5345857	107.0341092	102.7924344	98.79197506	95.016483	91.45093703	88.08144155
191015A00025	10/15/2019	2.01	10/15/2029	10/15/2019	121.43265	116.3714711	111.6071363	107.1191582	102.8886328	98.89810237	95.13143528	91.57371537	88.21114205
190930A00028	9/30/2019	1.95	9/30/2024	9/30/2019	115.26211	112.1007775	109.0469151	106.0962204	103.2445944	100.4881263	97.82308402	95.24590414	92.75318377
191004A00017	10/4/2019	2.02	10/4/2029	10/4/2019	134.5349	125.5098459	117.1895308	109.5144126	102.4302978	95.88783817	89.84207257	84.25201493	79.08028292
191004A00019	10/4/2019	2.02	10/4/2029	10/4/2019	134.53489	125.5098388	117.189527	109.5144115	102.4302992	95.88784168	89.84207787	84.25202177	79.08029105
191004A00022	10/4/2019	2.02	10/4/2029	10/4/2019	134.5349	125.5098428	117.1895292	109.5144121	102.4302984	95.88783968	89.84207485	84.25201788	79.08028642
191004A00023	10/4/2019	2.02	10/4/2029	10/4/2019	134.53488	125.5098285	117.189521	109.5144094	102.4303005	95.88784594	89.84208477	84.25203099	79.0803023
191004A00025	10/4/2019	1.74	10/4/2024	10/4/2019	115.10487	111.8436185	108.6945379	105.653107	102.715018	99.87616234	97.13261969	94.4806484	91.91667615
190910A00044	9/10/2019	2.02	9/10/2026	9/10/2019	123.9865	118.4867353	113.2722186	108.3265556	103.6343804	99.18128657	94.95376282	90.93913212	87.12549609
190911A00016	9/11/2019	1.9	9/11/2029	9/11/2019	121.48535	116.4562685	111.7201633	107.2569455	103.0480666	99.07638914	95.32606942	91.78245078	88.43196623
190913A00018	9/13/2019	2.11	9/11/2026	9/13/2019	114.31211	111.3426539	108.4882711	105.7434983	103.1031697	100.5624017	98.11657568	95.76132156	93.49250288
190925A00009	9/25/2019	2	9/25/2026	9/25/2019	122.84356	117.6068445	112.6391322	107.9249727	103.4498928	99.200326	95.16355084	91.3276334	87.68137442
190926A00002	9/30/2019	2.01	9/29/2034	9/30/2019	134.0653	125.1118415	116.9647736	109.5409162	102.7664556	96.57582052	90.91069727	85.71916962	80.95496626
190930A00026	9/30/2019	1.95	9/30/2024	9/30/2019	115.26211	112.100785	109.0469206	106.096224	103.2445961	100.4881263	97.82308224	95.24590072	92.75317879
190905A00018	9/5/2019	1.85	9/5/2029	9/5/2019	131.35209	123.2569589	115.7685167	108.8368527	102.4164529	96.46579059	90.94695579	85.82532137	81.06924133
190905A00019	9/5/2019	2.08	9/5/2029	9/5/2019	134.76513	125.8093063	117.5463004	109.918127	102.8719596	96.35964933	90.3372878	84.76481238	79.60565046
190905A00021	9/5/2019	2.08	9/5/2029	9/5/2019	134.76513	125.8093062	117.5463004	109.918127	102.8719596	96.35964934	90.33728782	84.76481241	79.60565049
190905A00023	9/5/2019	2.08	9/5/2029	9/5/2019	134.76513	125.8093062	117.5463004	109.918127	102.8719596	96.35964934	90.33728782	84.76481241	79.60565049
190905A00024	9/5/2019	2.08	9/5/2029	9/5/2019	134.76513	125.8093062	117.5463004	109.918127	102.8719596	96.35964934	90.33728782	84.76481241	79.60565049
190905A00025	9/5/2019	2.08	9/5/2029	9/5/2019	134.76513	125.8093063	117.5463004	109.918127	102.8719596	96.35964933	90.3372878	84.76481238	79.60565046
190813A00057	8/13/2019	1.9	8/13/2024	8/13/2019	114.96437	111.8562299	108.8502667	105.9425529	103.1293355	100.4070265	97.77219443	95.22155649	92.7519714
190813A00064	8/13/2019	1.9	8/13/2024	8/13/2019	114.96437	111.8562299	108.8502667	105.9425529	103.1293355	100.4070265	97.77219443	95.22155649	92.7519714
190813A00067	8/13/2019	1.9	8/13/2024	8/13/2019	114.96437	111.8562299	108.8502667	105.9425529	103.1293355	100.4070265	97.77219443	95.22155649	92.7519714

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190826A00032	8/26/2019	1.72	8/24/2029	8/26/2019	120.42946	115.494688	110.8447991	106.4604193	102.3236507	98.41794667	94.72800018	91.23964238	87.93974988
190829A00032	8/29/2019	1.69	8/28/2026	8/29/2019	113.36179	110.4562651	107.6620755	104.9739848	102.387039	99.89655304	97.49809385	95.18746543	92.96069431
190829A00039	8/29/2019	1.85	8/29/2034	8/29/2019	132.52703	123.7316853	115.7239046	108.4228955	101.7569167	95.6621957	90.08198191	84.96571838	80.26831689
190712A00016	7/12/2019	2.39	7/12/2029	7/12/2019	122.64605	117.6904389	113.0175002	108.6082183	104.4450125	100.5116164	96.79297002	93.27512212	89.94514059
190718A00012	7/18/2019	2.55	7/18/2029	7/18/2019	135.02308	126.8883247	119.3518401	112.3652138	105.8842427	99.86854022	94.28118577	89.08840869	84.25930249
190731A00013	7/31/2019	2.23	7/22/2022	7/31/2019	102.78027	102.2963805	101.8182208	101.3456804	100.8786491	100.4170201	99.9606893	99.50955551	99.06352024
190802A00011	8/2/2019	2.01	8/2/2029	8/2/2019	121.81291	116.8225864	112.1202593	107.6863517	103.5027767	99.55281236	95.82098907	92.29298676	88.95554153
190813A00051	8/13/2019	2.19	8/13/2029	8/13/2019	135.46689	126.5379646	118.2945348	110.6796504	103.641394	97.1324116	91.10948879	85.53316881	80.3674073
190813A00052	8/13/2019	2.24	8/13/2029	8/13/2019	135.88871	126.9370893	118.6725493	111.0380127	103.9814486	97.45539895	91.41655417	85.82537023	80.64572272
190708A00025	7/8/2019	2.21	7/1/2024	7/8/2019	115.33756	112.3419838	109.4419522	106.633741	103.9138047	101.2787634	98.72539346	96.25061937	93.85150511
190708A00026	7/8/2019	2.21	7/1/2024	7/8/2019	115.33756	112.3419838	109.4419522	106.633741	103.9138047	101.2787634	98.72539346	96.25061937	93.85150511
190708A00028	7/8/2019	2.57	7/2/2029	7/8/2019	138.23262	129.2708833	120.9878431	113.3276847	106.2394964	99.67681504	93.59721262	87.96192444	82.73551313
190708A00029	7/8/2019	2.57	7/2/2029	7/8/2019	138.23266	129.2709082	120.9878606	113.3276954	106.2395009	99.67681373	93.59720603	87.96191302	82.73549727
190708A00030	7/8/2019	2.57	7/2/2029	7/8/2019	138.23266	129.2709082	120.9878606	113.3276954	106.2395009	99.67681373	93.59720603	87.96191302	82.73549727
190708A00032	7/8/2019	2.58	7/2/2029	7/8/2019	138.31644	129.3502865	121.0631347	113.3991439	106.307381	99.74136304	93.65864413	88.020443	82.79130707
190605A00025	6/5/2019	2.64	6/5/2029	6/5/2019	138.50838	129.6104966	121.3806625	113.7644031	106.7119873	100.1779924	94.12090792	88.50277762	83.2888766
190605A00027	6/5/2019	2.64	6/5/2029	6/5/2019	138.50838	129.6104966	121.3806625	113.7644031	106.7119873	100.1779924	94.12090792	88.50277762	83.2888766
190619A00010	6/19/2019	2.04	6/17/2022	6/19/2019	102.48068	102.0443664	101.6126908	101.1855712	100.7629277	100.3446823	99.9307591	99.52108388	99.11558427
190620A00033	6/20/2019	2.1	6/20/2029	6/20/2019	121.8287	116.9406899	112.3295933	107.9769054	103.8655043	99.97954049	96.30433351	92.82627723	89.53275378
190702A00068	7/2/2019	2.69	7/1/2039	7/2/2019	171.73667	151.0968785	133.4856284	118.4216459	105.5039672	94.39803671	84.82428896	76.54875519	69.37532555
190702A00071	7/2/2019	2.69	7/1/2039	7/2/2019	171.73651	151.0967758	133.4855673	118.4216191	105.5039686	94.39806112	84.82433225	76.54881388	69.37539675
190510A00049	5/10/2019	2.58	5/8/2026	5/10/2019	114.47813	111.7466214	109.1137049	106.5749709	104.1262424	101.7635594	99.48316581	97.28149742	95.15517089
190515A00035	5/15/2019	2.82	2/15/2029	5/15/2019	138.7339	130.1334023	122.1563461	114.7536467	107.8803479	101.4952503	95.56057941	90.04168333	84.90675967
190529A00061	5/29/2019	2.46	5/29/2026	5/29/2019	114.39491	111.6168706	108.9405805	106.3614366	103.8750756	101.4773633	99.16438062	96.93241115	94.7779291
190605A00007	6/5/2019	2.47	6/5/2026	6/5/2019	125.19468	119.9309772	114.9274566	110.1697123	105.6442191	101.3382765	97.23995361	93.33803725	89.62198475
190605A00023	6/5/2019	2.64	6/5/2029	6/5/2019	138.5084	129.610511	121.3806721	113.7644083	106.7119885	100.1779901	94.12090251	88.50276941	83.2888659
190605A00024	6/5/2019	2.64	6/5/2029	6/5/2019	138.50838	129.6104966	121.3806625	113.7644031	106.7119873	100.1779924	94.12090792	88.50277762	83.2888766
190404A00015	4/4/2019	2.88	4/3/2026	4/4/2019	126.4099	121.2896099	116.4144836	111.7713722	107.3479096	103.132457	99.11405627	95.28238663	91.62772369
190411A00022	4/11/2019	2.68	4/11/2022	4/11/2019	102.89357	102.4287627	101.9685868	101.5129695	101.0618409	100.6151323	100.1727765	99.73470767	99.30086132
190501A00015	5/1/2019	2.78	5/1/2029	5/1/2019	124.02978	119.1240106	114.492768	110.1179081	105.9826348	102.0713868	98.36973838	94.86430807	91.54267624
190502A00016	5/2/2019	2.87	5/1/2026	5/2/2019	126.74276	121.5295352	116.5693352	111.8484035	107.3538096	103.0733957	98.99572619	95.11004029	91.40620849
190506A00025	5/6/2019	3.03	5/4/2029	5/6/2019	141.36597	132.411547	124.1218346	116.4431966	109.3266233	102.7273063	96.60425627	90.91995755	85.64005589
190506A00026	5/6/2019	3.03	5/4/2029	5/6/2019	141.36597	132.411547	124.1218346	116.4431966	109.3266233	102.7273063	96.60425627	90.91995755	85.64005589

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190401A00017	4/1/2019	2.55	4/1/2022	4/1/2019	103.19171	102.6682836	102.1501835	101.6373279	101.1296375	100.6270343	100.1294422	99.63678641	99.14899372
190402A00005	4/2/2019	2.77	4/2/2032	4/2/2019	139.59042	130.5521866	122.2793891	114.6985604	107.7438822	101.3563345	95.48294829	90.07614406	85.09314708
190403A00010	4/3/2019	3.08	4/3/2029	4/3/2019	141.38442	132.5197431	124.3068608	116.6936703	109.6325192	103.0798015	96.99559258	91.34332017	86.08946568
190403A00013	4/3/2019	3.05	4/3/2029	4/3/2019	139.83014	131.2998183	123.389586	116.0501912	109.2365702	102.9074697	97.02510477	91.55484927	86.46495523
190403A00014	4/3/2019	3.05	4/3/2029	4/3/2019	139.83015	131.2998263	123.3895918	116.050195	109.236572	102.9074698	97.02510329	91.55484632	86.46495095
190403A00015	4/3/2019	3.05	4/3/2029	4/3/2019	139.83016	131.2998336	123.3895967	116.0501977	109.2365729	102.907469	97.02510102	91.55484278	86.46494631
190315A00019	3/15/2019	2.88	3/15/2034	3/15/2019	140.04838	131.05065	122.8349279	115.3232227	108.4460522	102.1414476	96.35408372	91.03451454	86.13850301
190315A00023	3/15/2019	2.88	3/15/2034	3/15/2019	140.04839	131.0506561	122.8349327	115.3232263	108.4460546	102.1414489	96.35408393	91.03451369	86.13850112
190315A00029	3/15/2019	2.88	3/15/2034	3/15/2019	140.04841	131.0506714	122.8349437	115.3232333	108.4460579	102.1414488	96.3540807	91.03450758	86.13849239
190322A00008	3/22/2019	2.64	3/20/2026	3/22/2019	114.41696	111.7358211	109.1499844	106.6552467	104.2476209	101.9233247	99.67876831	97.51054324	95.41541201
190327A00035	3/27/2019	2.68	3/27/2034	3/27/2019	138.38264	129.4912148	121.3726241	113.9497878	107.1540317	100.9241091	95.20533966	89.94885485	85.11093465
190329A00067	3/29/2019	2.61	3/29/2024	3/29/2019	114.30327	111.7347454	109.2409775	106.8193192	104.4672317	102.1822826	99.9621407	97.80457107	95.7074304
190305A00017	3/5/2019	3.12	3/5/2026	3/5/2019	125.96053	121.1550042	116.5723087	112.2007915	108.0294724	104.0480034	100.2466281	96.61614511	93.1478731
190308A00016	3/8/2019	3.18	3/8/2034	3/8/2019	161.01087	146.5606894	133.6828475	122.1910677	111.9224037	102.7341875	94.50139019	87.11434119	80.47675262
190308A00026	3/8/2019	3.18	3/8/2034	3/8/2019	161.01087	146.5606894	133.6828475	122.1910677	111.9224037	102.7341875	94.50139019	87.11434119	80.47675262
190313A00039	3/13/2019	2.7	6/13/2022	3/13/2019	104.57946	103.8356037	103.1023877	102.3795814	101.6669636	100.9643195	100.2714402	99.58812256	98.91416914
190313A00044	3/13/2019	2.7	6/13/2022	3/13/2019	104.57946	103.8356037	103.1023877	102.3795814	101.6669636	100.9643195	100.2714402	99.58812256	98.91416914
190315A00017	3/15/2019	2.88	3/15/2034	3/15/2019	140.04844	131.0506985	122.8349626	115.3232448	108.4460628	102.1414478	96.35407437	91.03449649	86.13847703
190205A00022	2/5/2019	3.32	2/5/2029	2/5/2019	141.2287	132.7922136	124.9566908	117.6753486	110.9053048	104.6072304	98.7450373	93.28559465	88.19847183
190205A00023	2/5/2019	3.32	2/5/2029	2/5/2019	141.2287	132.7922136	124.9566908	117.6753486	110.9053048	104.6072304	98.7450373	93.28559465	88.19847183
190205A00025	2/5/2019	2.88	2/7/2022	2/5/2019	102.39074	102.0210219	101.6539782	101.289584	100.9278107	100.56863	100.212014	99.8579352	99.50636664
190207A00003	2/7/2019	2.68	2/7/2024	2/7/2019	114.12251	111.686529	109.3179261	107.0144354	104.773881	102.5941728	100.4733034	98.40934367	96.40043944
190227A00033	2/27/2019	2.65	2/27/2026	2/27/2019	114.57985	111.9365771	109.3860601	106.9242515	104.5473092	102.2515867	100.0336218	97.8901258	95.81797348
190305A00015	3/5/2019	3.32	3/5/2029	3/5/2019	141.60688	133.0676468	125.1426713	117.7836645	110.9463992	104.5903497	98.6783629	93.17636073	88.05306963
190131A00013	1/31/2019	3.48	1/31/2034	1/31/2019	165.75533	150.3822605	136.7039465	124.5186946	113.650076	103.943628	95.26400243	87.49249878	80.5249266
190131A00023	1/31/2019	3.02	1/30/2034	1/31/2019	140.69838	131.7770275	123.6217505	116.1570113	109.3154241	103.0368124	97.26738228	91.9589957	87.06853217
190205A00017	2/5/2019	3.36	2/5/2029	2/5/2019	141.54081	133.0889059	125.238966	117.9441342	111.1614609	104.8515544	98.97826931	93.50842176	88.41153238
190205A00019	2/5/2019	2.94	2/5/2024	2/5/2019	114.98037	112.4411478	109.9726064	107.5723728	105.2381662	102.967796	100.7591571	98.61022625	96.51905852
190205A00020	2/5/2019	3.32	2/5/2029	2/5/2019	141.2287	132.7922136	124.9566908	117.6753486	110.9053048	104.6072304	98.7450373	93.28559465	88.19847183
190205A00021	2/5/2019	3.32	2/5/2029	2/5/2019	141.2287	132.7922136	124.9566908	117.6753486	110.9053048	104.6072304	98.7450373	93.28559465	88.19847183
190104A00034	1/4/2019	3.18	1/4/2029	1/4/2019	133.9018	127.0197841	120.5924516	114.58599	108.9693257	103.7138859	98.79338234	94.18361463	89.86229201
190104A00035	1/4/2019	3.1	1/5/2026	1/4/2019	125.79853	121.0373034	116.4920007	112.1514975	108.0053119	104.0435643	100.2569386	96.63664695	93.17439551
190104A00038	1/4/2019	3.25	1/4/2029	1/4/2019	140.2841	131.9822226	124.2662491	117.0908657	110.414527	104.1991221	98.40967101	93.0140507	87.98274568

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190111A00038	1/11/2019	2.63	1/11/2022	1/11/2019	101.83031	101.541339	101.2540292	100.9683675	100.6843396	100.4019314	100.1211289	99.84191827	99.56428595
190118A00006	1/18/2019	3.14	1/18/2034	1/18/2019	141.6918	132.708073	124.4957144	116.978672	110.0890998	103.7664096	97.95643886	92.6107193	87.68583402
190129A00073	1/29/2019	3.11	1/29/2029	1/29/2019	124.55461	119.8380724	115.375451	111.1505475	107.1483284	103.3548302	99.75707568	96.34299764	93.10136845
181218A00040	12/18/2018	3.23	6/18/2030	12/18/2018	129.60249	123.7634235	118.291742	113.1603895	108.3445232	103.8213203	99.5697992	95.57065829	91.80612896
181218A00086	12/18/2018	3.06	10/18/2023	12/18/2018	112.98024	110.857448	108.7878139	106.7696313	104.8012603	102.8811258	101.0077151	99.17957414	97.39530549
181218A00089	12/18/2018	3.05	6/19/2023	12/18/2018	111.07368	109.2926928	107.5509008	105.8470674	104.1800067	102.548583	100.951708	99.38833805	97.85747197
181226A00030	12/26/2018	2.91	12/26/2028	12/26/2018	124.13215	119.4690814	115.0551381	110.8745449	106.9126468	103.1558255	99.59141909	96.20764752	92.99354551
190103A00020	1/3/2019	3.12	1/5/2026	1/3/2019	126.34393	121.4885454	116.8545353	112.4304658	108.2055613	104.1696665	100.3132065	96.62715015	93.10297498
190104A00006	1/4/2019	2.83	1/5/2026	1/4/2019	114.39494	111.812638	109.3193093	106.9111314	104.5844707	102.335877	100.1620722	98.05994068	96.02652004
181116A00006	11/16/2018	3.18	11/17/2025	11/16/2018	114.72565	112.2326757	109.8229765	107.4930639	105.2396227	103.0595008	100.9496998	98.90736647	96.92978461
181119A00008	11/19/2018	3.23	11/17/2023	11/19/2018	113.79415	111.5826679	109.4280672	107.3284523	105.2820102	103.2870032	101.3417648	99.44469659	97.59426442
181128A00004	11/28/2018	3.08	11/28/2023	11/28/2018	114.53676	112.193166	109.9111549	107.6886416	105.5236283	103.414202	101.3585296	99.35485425	97.40149116
181128A00011	11/28/2018	3.27	11/28/2023	11/28/2018	114.6288	112.2891365	110.0108338	107.7918175	105.6301005	103.52378	101.4710325	99.47010991	97.51933601
181129A00005	11/29/2018	3.21	11/29/2023	11/29/2018	114.51017	112.1694444	109.8901672	107.6702614	105.5077353	103.4006808	101.3472702	99.34575109	97.39444329
181214A00030	12/14/2018	3.47	12/14/2033	12/14/2018	167.38132	151.9419884	138.1950063	125.9400821	115.0019029	105.2268855	96.48036402	88.64415493	81.6144486
180925A00116	9/25/2018	3.28	9/25/2028	9/25/2018	124.94726	120.4134163	116.1144634	112.0359367	108.1643767	104.4872516	100.9928867	97.67039993	94.5096426
181003A00019	10/3/2018	3.44	10/3/2025	10/3/2018	126.36504	121.7842553	117.4018901	113.2082048	109.1939935	105.350552	101.6696473	98.14348936	94.76470497
181003A00032	10/3/2018	3.23	10/3/2025	10/3/2018	114.56227	112.1225872	109.7630483	107.4803459	105.2713329	103.1330151	101.0625425	99.05720107	97.11440582
181010A00025	10/10/2018	3.48	10/10/2030	10/10/2018	133.07468	126.8321734	120.9967536	115.5374251	110.4258144	105.6359277	101.1439334	96.92796709	92.96795522
181105A00015	11/5/2018	3.57	11/5/2025	11/5/2018	127.4494	122.7424068	118.2427679	113.9401228	109.8246877	105.8872233	102.1190008	98.51177025	95.05773202
181115A00044	11/15/2018	3.26	11/15/2023	11/15/2018	114.17931	111.9063812	109.6922721	107.5350194	105.4327418	103.3836358	101.3859726	99.43809366	97.53840757
180913A00012	9/13/2018	3.31	9/13/2033	9/13/2018	141.97696	133.2147444	125.1864429	117.821378	111.0563274	104.8346826	99.10570682	93.82388094	88.9483265
180913A00033	9/13/2018	3.31	9/13/2033	9/13/2018	141.97697	133.2147476	125.186445	117.8213792	111.0563278	104.8346823	99.10570605	93.82387974	88.94832496
180913A00062	9/13/2018	3.05	9/13/2023	9/13/2018	112.69781	110.6275435	108.607453	106.6359893	104.7116663	102.833054	100.9987759	99.20750672	97.45796995
180914A00049	9/14/2018	3.37	9/14/2033	9/14/2018	142.46285	133.6706934	125.6149573	118.2247248	111.4365572	105.1936523	99.44509984	94.14522482	89.25300906
180924A00033	9/24/2018	3.08	9/22/2023	9/24/2018	112.89423	110.8388954	108.833798	106.877366	104.968093	103.1045301	101.2852841	99.50901386	97.77442876
180925A00013	9/25/2018	3.41	9/25/2028	9/25/2018	124.80309	120.2890062	116.0082243	111.9464139	108.0902329	104.4272571	100.94591	97.63539974	94.48566005
180809A00032	8/9/2018	3.08	8/9/2023	8/9/2018	112.34202	110.3511681	108.4065435	106.5067873	104.6505897	102.8366878	101.0638637	99.33094225	97.63678988
180809A00034	8/9/2018	3.08	8/9/2023	8/9/2018	112.34202	110.3511681	108.4065435	106.5067873	104.6505897	102.8366878	101.0638637	99.33094225	97.63678988
180813A00045	8/13/2018	2.89	8/13/2025	8/13/2018	113.57585	111.2476749	108.9936589	106.8108187	104.6963105	102.6474262	100.6615856	98.73632946	96.86931299
180905A00017	9/5/2018	3.43	9/6/2033	9/5/2018	165.40223	150.5694279	137.3287953	125.4956967	114.9080627	105.4235102	96.91684667	89.27790168	82.40964348
180906A00032	9/6/2018	3.24	9/5/2025	9/6/2018	125.07348	120.6127051	116.3417827	112.2515638	108.3333927	104.579076	100.9808552	97.53138134	94.22369096
180907A00013	9/7/2018	3.27	9/8/2025	9/7/2018	124.8345	120.4390669	116.2301328	112.1987123	108.3363068	104.6348715	101.0867892	97.68484501	94.42220277

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180712A00044	7/12/2018	3.44	7/12/2033	7/12/2018	141.10067	132.5484167	124.7014635	117.4928533	110.8625973	104.756899	99.12746746	93.93091236	89.12820859
180713A00031	7/13/2018	3.06	7/14/2025	7/13/2018	113.35175	111.0816575	108.8825428	106.7515898	104.6861136	102.6835557	100.7414778	98.85755462	97.02956791
180716A00062	7/16/2018	2.91	7/16/2025	7/16/2018	113.35007	111.0746174	108.8704575	106.7347553	104.664809	102.6580446	100.7120088	98.82436241	96.9928743
180717A00021	7/17/2018	3.34	7/17/2028	7/17/2018	136.77418	129.4770959	122.6570778	116.2795847	110.3127823	104.7273139	99.49609346	94.59411762	89.99829418
180717A00026	7/17/2018	3.24	7/16/2025	7/17/2018	123.27651	119.1812594	115.25287	111.4835187	107.8658	104.3926989	101.0575674	97.85410352	94.77633057
180718A00008	7/18/2018	3.37	7/18/2028	7/18/2018	140.83311	132.6023148	124.927138	117.7666435	111.0831335	104.8418765	99.01085852	93.56055597	88.46372934
180517A00024	5/17/2018	3.46	5/17/2033	5/17/2018	142.02191	133.4964283	125.6671107	118.4685027	111.8419004	105.7346028	100.0992535	94.89325748	90.07826597
180605A00031	6/5/2018	3.37	6/5/2030	6/5/2018	130.37291	124.4998056	118.9961684	113.8347944	108.9907046	104.4409506	100.1644351	96.14174941	92.35502601
180615A00021	6/15/2018	3.02	6/15/2023	6/15/2018	110.92399	109.1605939	107.4358014	105.7483977	104.0972218	102.4811612	100.8991498	99.35016458	97.83322426
180628A00068	6/28/2018	3.12	6/28/2028	6/28/2018	132.57753	126.1576485	120.1377577	114.4897126	109.1875318	104.207222	99.52661291	95.12520812	90.98404817
180628A00078	6/28/2018	2.73	6/28/2023	6/28/2018	106.1907	105.1843862	104.1974146	103.2292182	102.2792503	101.3469862	100.4319216	99.53357212	98.65147197
180702A00022	7/2/2018	2.84	6/30/2023	7/2/2018	111.09154	109.2824983	107.513859	105.7843212	104.0926432	102.4376366	100.8181633	99.23313318	97.68150134
180322A00044	3/22/2018	3.18	3/22/2033	3/22/2018	139.28492	131.0406908	123.4610123	116.4841595	110.0547005	104.1228076	98.64364772	93.57684421	88.88599993
180402A00013	4/2/2018	2.99	4/3/2028	4/2/2018	131.00797	124.8319128	119.0303082	113.5775328	108.4498784	103.6253975	99.08376313	94.80613964	90.77506468
180403A00014	4/3/2018	3.11	4/3/2025	4/3/2018	122.22034	118.2854262	114.5032674	110.8670481	107.3702958	104.006863	100.7709093	97.65688347	94.65950827
180410A00002	4/10/2018	3.14	4/11/2033	4/10/2018	139.2494	130.9488081	123.3216418	116.3049722	109.8423221	103.8829565	98.38125533	93.29615921	88.59067835
180420A00011	4/20/2018	2.74	4/20/2023	4/20/2018	105.63809	104.7268612	103.8325387	102.9546354	102.0926831	101.2462321	100.4148499	99.59812091	98.7956451
180517A00018	5/17/2018	3.46	5/17/2033	5/17/2018	142.02192	133.4964341	125.6671146	118.4685051	111.8419014	105.7346027	100.0992524	94.8932556	90.07826343
180206A00048	2/6/2018	2.72	2/6/2023	2/6/2018	108.63587	107.2107846	105.8118811	104.4384929	103.0899771	101.765712	100.4650964	99.18754811	97.93250387
180215A00034	2/15/2018	2.9	2/15/2023	2/15/2018	109.04896	107.5920425	106.1623488	104.7591728	103.3818352	102.0296791	100.7020694	99.39839226	98.1180535
180220A00107	2/20/2018	3.13	2/20/2025	2/20/2018	120.80726	117.1688282	113.6657252	110.292131	107.0425134	103.9116078	100.894403	97.98612729	95.18223589
180305A00030	3/5/2018	3.12	3/5/2025	3/5/2018	121.81513	117.9751753	114.281181	110.7267749	107.3058998	104.0127952	100.841982	97.78824625	94.84662526
180309A00011	3/9/2018	3.19	3/10/2025	3/9/2018	122.1503	118.2874694	114.5719972	110.997424	107.5576124	104.2467271	101.0592187	97.9898079	95.03347044
180322A00040	3/22/2018	3.16	3/21/2031	3/22/2018	137.90258	130.0469941	122.7911912	116.082913	109.8748712	104.1242396	98.79220304	93.8435554	89.24633946
180104A00041	1/4/2018	3.08	1/4/2033	1/4/2018	158.29555	144.5755171	132.2634106	121.2031299	111.2568444	102.3027552	94.23314323	86.95266579	80.37686728
180125A00027	1/25/2018	2.69	1/24/2025	1/25/2018	111.91562	109.7942218	107.7358554	105.7381327	103.798773	101.9155988	100.0865303	98.30958054	96.58285014
180126A00011	1/26/2018	2.72	1/26/2028	1/26/2018	120.57995	116.615358	112.8390653	109.2403532	105.8091975	102.5362172	99.412629	96.43020493	93.58123349
180202A00027	2/2/2018	3.02	2/3/2025	2/2/2018	120.97718	117.2509007	113.6629946	110.207563	106.8789926	103.6719383	100.5813096	97.602256	94.73015543
180206A00045	2/6/2018	2.71	2/6/2023	2/6/2018	108.5441	107.132089	105.7460081	104.3852005	103.0490285	101.7368754	100.4481447	99.18225929	97.9386604
180206A00046	2/6/2018	2.72	2/6/2023	2/6/2018	108.63587	107.2107838	105.8118804	104.4384923	103.0899767	101.7657118	100.4650963	99.18754823	97.93250417
171207A00025	12/7/2017	2.91	12/7/2027	12/7/2017	133.14546	126.25421	119.7882332	113.7185528	108.0183363	102.6627234	97.62866936	92.89480271	88.44129389
171207A00026	12/7/2017	2.93	12/7/2027	12/7/2017	134.25829	127.1306199	120.447246	114.1777307	108.2938946	102.7696368	97.58076984	92.70486873	88.12113258
171219A00009	12/19/2017	2.3	12/19/2024	12/19/2017	110.30683	108.4212028	106.5877141	104.8044804	103.0697025	101.3816603	99.73870859	98.1392732	96.58184743

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
171219A00067	12/19/2017	2.72	12/20/2027	12/19/2017	131.50522	124.9404059	118.7761535	112.9852651	107.542552	102.4246779	97.61001155	93.07849189	88.81150523
180104A00023	1/4/2018	2.91	1/4/2028	1/4/2018	129.49905	123.4573714	117.7739944	112.4249606	107.3880708	102.6427419	98.16987896	93.95175871	89.97192299
180104A00024	1/4/2018	2.98	1/4/2028	1/4/2018	133.90466	126.9092308	120.349749	114.1962226	108.420902	102.9980962	97.90400828	93.11658483	88.6153785
171013A00024	10/13/2017	2.47	10/15/2024	10/13/2017	116.88371	113.6800142	110.5858495	107.5967937	104.7086326	101.917348	99.21910712	96.61025308	94.08729544
171109A00016	11/9/2017	2.94	11/9/2032	11/9/2017	155.71282	142.3877839	130.4162923	119.6498671	109.9572199	101.222173	93.34183949	86.22503187	79.79086873
171204A00009	12/4/2017	2.23	12/4/2024	12/4/2017	109.93984	108.1062609	106.3224644	104.5866805	102.8972146	101.2524459	99.65082322	98.09086181	96.57113958
171204A00024	12/4/2017	2.71	12/4/2024	12/4/2017	119.01071	115.5033597	112.121386	108.8595037	105.7126878	102.6761586	99.74536821	96.91598726	94.18389282
171207A00022	12/7/2017	2.45	12/7/2022	12/7/2017	107.41349	106.1216721	104.8612107	103.6309729	102.4298774	101.2568944	100.1110422	98.99138406	97.89702637
171207A00024	12/7/2017	2.93	12/7/2027	12/7/2017	134.25829	127.1306199	120.447246	114.1777307	108.2938946	102.7696368	97.58076984	92.70486873	88.12113258
170829A00066	8/29/2017	2.11	8/29/2024	8/29/2017	116.20259	113.0275687	109.9583501	106.9908107	104.1210089	101.3451787	98.6597214	96.06119677	93.54631526
170901A00030	9/1/2017	1.82	9/1/2022	9/1/2017	105.17441	104.208341	103.2603159	102.3298347	101.416411	100.5195766	99.63887993	98.7738861	97.92417552
170921A00052	9/21/2017	2.21	9/21/2022	9/21/2017	105.81144	104.7718098	103.7528401	102.7539185	101.7744553	100.8138835	99.87165827	98.94725554	98.04017099
170921A00053	9/21/2017	2.22	9/21/2022	9/21/2017	105.86106	104.8141253	103.7880491	102.7822107	101.7960139	100.8288859	99.88027594	98.94965433	98.03651144
170921A00055	9/21/2017	2.82	9/21/2027	9/21/2017	131.68295	125.0640487	118.8420796	112.9907763	107.4857532	102.304363	97.4255632	92.82979394	88.49886606
170921A00057	9/21/2017	2.79	9/21/2027	9/21/2017	129.98649	123.7334866	117.8487679	112.3082066	107.0893901	102.1714931	97.53515649	93.16237635	89.0364018
170710A00079	7/10/2017	2.76	7/12/2032	7/10/2017	134.11857	126.6330409	119.7192707	113.3267773	107.4099883	101.9277226	96.84273493	92.12131005	87.73290186
170711A00010	7/11/2017	2.38	7/12/2027	7/11/2017	117.90635	114.3319613	110.9157089	107.6491495	104.5243521	101.533867	98.67069284	95.92824644	93.30033515
170713A00021	7/13/2017	3.25	7/13/2037	7/13/2017	175.26407	156.2115727	139.6904083	125.3357301	112.8380223	101.9343805	92.40120982	84.04810366	76.71270952
170727A00003	7/27/2017	1.97	7/29/2024	7/27/2017	108.5469	106.9213709	105.3366317	103.7913114	102.2840948	100.8137216	99.37898399	97.97872378	96.61182989
170802A00013	8/2/2017	2.5	8/2/2024	8/2/2017	116.56824	113.4699101	110.4722711	107.5714916	104.7639102	102.0460245	99.4144834	96.86607947	94.3977421
170804A00005	8/4/2017	1.94	8/5/2024	8/4/2017	108.72112	107.0489977	105.4195956	103.8314598	102.2831992	100.7734809	99.30102769	97.86461509	96.46306861
170619A00092	6/16/2017	2.79	6/16/2027	6/16/2017	130.39861	124.0943687	118.1539647	112.5540862	107.2730572	102.2907095	97.58826836	93.14824811	88.95435632
170619A00095	6/16/2017	2.79	6/16/2027	6/16/2017	130.39861	124.0943687	118.1539647	112.5540862	107.2730572	102.2907095	97.58826836	93.14824811	88.95435632
170619A00096	6/16/2017	2.79	6/16/2027	6/16/2017	130.39861	124.0943687	118.1539647	112.5540862	107.2730572	102.2907095	97.58826836	93.14824811	88.95435632
170619A00097	6/16/2017	2.74	6/16/2027	6/16/2017	128.68925	122.7289245	117.1066609	111.8010101	106.7920154	102.0610992	97.59095947	93.36547457	89.36961549
170619A00101	6/16/2017	2.74	6/16/2027	6/16/2017	128.68925	122.7289245	117.1066609	111.8010101	106.7920154	102.0610992	97.59095947	93.36547457	89.36961549
170707A00007	7/7/2017	2.65	7/8/2024	7/7/2017	116.6577	113.6275729	110.6943311	107.8542301	105.1036963	102.4393202	99.85784734	97.35617015	94.93132007
170524A00037	5/24/2017	2.46	5/24/2024	5/24/2017	114.96164	112.1821976	109.4877453	106.8751058	104.3412408	101.8832484	99.49835483	97.18390863	94.93737373
170526A00017	5/26/2017	2.16	5/28/2024	5/26/2017	107.90665	106.4309154	104.9899598	103.5826612	102.2079454	100.8647813	99.55217973	98.26919056	97.01490133
170602A00019	6/2/2017	2.42	6/3/2024	6/2/2017	115.49215	112.5854307	109.7691287	107.0398116	104.3942058	101.8291861	99.34176773	96.92909907	94.58845426
170602A00030	6/2/2017	1.88	6/2/2022	6/2/2017	103.86766	103.1628605	102.4676917	101.7819529	101.1054529	100.4380053	99.7794289	99.12954731	98.48818872
170615A00006	6/15/2017	2.15	6/17/2024	6/15/2017	108.12895	106.6044202	105.1165668	103.6641919	102.246146	100.8613269	99.50867715	98.18718197	96.89586698
170619A00089	6/16/2017	2.79	6/16/2027	6/16/2017	130.39861	124.0943687	118.1539647	112.5540862	107.2730572	102.2907095	97.58826836	93.14824811	88.95435632

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170407A00001	4/6/2017	2.97	4/6/2027	4/6/2017	129.21028	123.4059991	117.9216255	112.737444	107.8350679	103.1973423	98.80825454	94.65285232	90.7171672
170504A00012	5/4/2017	2.28	5/4/2026	5/4/2017	114.33345	111.5510263	108.8706537	106.2877056	103.797802	101.3967928	99.08074445	96.84592673	94.68880096
170504A00049	5/4/2017	2.63	5/6/2024	5/4/2017	115.67618	112.8449472	110.0998104	107.4375858	104.8552318	102.3498404	99.91863044	97.55894072	95.26822419
170511A00011	5/11/2017	2.41	5/11/2027	5/11/2017	117.54094	114.0779899	110.7645064	107.5926803	104.5551712	101.6450749	98.85589449	96.18151341	93.61617066
170518A00027	5/18/2017	2.11	5/18/2022	5/18/2017	103.72841	103.0656718	102.4114477	101.7655711	101.1278826	100.4982268	99.87645214	99.26241091	98.65595906
170524A00027	5/24/2017	2.32	5/24/2027	5/24/2017	117.24325	113.7883424	110.4826011	107.3182301	104.287901	101.3847209	98.60220383	95.9342437	93.37508955
170406A00029	4/6/2017	3.01	4/6/2027	4/6/2017	130.85339	124.7242855	118.9387194	113.4753269	108.3141893	103.4367298	98.82561644	94.46467131	90.33878795
170406A00032	4/6/2017	3.01	4/6/2027	4/6/2017	130.85339	124.7242855	118.9387194	113.4753269	108.3141893	103.4367298	98.82561644	94.46467131	90.33878795
170406A00033	4/6/2017	3.01	4/6/2027	4/6/2017	130.85339	124.7242814	118.9387166	113.4753252	108.3141886	103.43673	98.82561746	94.46467307	90.33879037
170406A00034	4/6/2017	3.01	4/6/2027	4/6/2017	130.85339	124.7242814	118.9387166	113.4753252	108.3141886	103.43673	98.82561746	94.46467307	90.33879037
170406A00036	4/6/2017	3.07	4/6/2032	4/6/2017	134.43551	127.1308095	120.371013	114.1090655	108.302386	102.9124124	97.90419221	93.24601846	88.90910384
170406A00037	4/6/2017	3.07	4/6/2032	4/6/2017	134.43551	127.1308039	120.3710093	114.1090635	108.3023855	102.912413	97.90419392	93.24602106	88.9091072
170322A00033	3/22/2017	3.61	3/24/2042	3/22/2017	174.72399	156.1699664	140.1519165	126.2801936	114.2295367	103.7278539	94.54704654	86.49548446	79.41182732
170330A00060	3/30/2017	2.06	3/30/2022	3/30/2017	102.95129	102.4348296	101.9235683	101.4174307	100.91634	100.4202209	99.92899961	99.4426037	98.96096227
170406A00023	4/6/2017	2.24	4/6/2022	4/6/2017	103.12122	102.5827506	102.0499252	101.5226544	101.0008516	100.4844317	99.97331161	99.46740992	98.96664681
170406A00024	4/6/2017	2.61	4/8/2024	4/6/2017	115.02964	112.3207716	109.6922608	107.1412134	104.6648636	102.2605632	99.9257758	97.65807092	95.4551191
170406A00026	4/6/2017	2.61	4/8/2024	4/6/2017	115.02964	112.3207716	109.6922608	107.1412134	104.6648636	102.2605632	99.9257758	97.65807092	95.4551191
170406A00027	4/6/2017	2.61	4/8/2024	4/6/2017	115.02964	112.3207716	109.6922608	107.1412134	104.6648636	102.2605632	99.9257758	97.65807092	95.4551191
170309A00042	3/9/2017	2.18	3/11/2024	3/9/2017	107.89133	106.4607364	105.063142	103.6975019	102.3628104	101.0581027	99.78245197	98.53496834	97.31479657
170313A00045	3/13/2017	3.22	3/15/2032	3/13/2017	135.20013	127.9106331	121.1610829	114.905158	109.1009159	103.7103481	98.69898229	94.03552688	89.69155418
170317A00039	3/17/2017	2.73	3/18/2024	3/17/2017	115.03175	112.3819658	109.8092374	107.3108558	104.8842229	102.5268483	100.2363439	98.01041937	95.84687718
170317A00040	3/17/2017	2.74	3/18/2024	3/17/2017	115.23161	112.5492626	109.9451457	107.4165063	104.9607039	102.5752073	100.2575896	98.00552297	95.81677421
170317A00041	3/17/2017	2.73	3/18/2024	3/17/2017	115.03175	112.3819658	109.8092374	107.3108558	104.8842229	102.5268483	100.2363439	98.01041937	95.84687718
170317A00044	3/17/2017	3.11	3/17/2027	3/17/2017	129.73652	123.9651705	118.5090219	113.3488217	108.4666067	103.8456057	99.47015419	95.32561507	91.39830579
170224A00009	2/24/2017	2.39	2/24/2023	2/24/2017	108.45727	106.9807787	105.5323304	104.1111931	102.7166556	101.3480306	100.0046544	98.68588535	97.39110307
170301A00031	3/1/2017	2.11	3/1/2024	3/1/2017	107.56021	106.1774864	104.8260548	103.504933	102.2131767	100.9498794	99.71417085	98.50521483	97.32220781
170303A00004	3/3/2017	2.8	3/4/2024	3/3/2017	115.17324	112.5318533	109.9663727	107.474162	105.052697	102.6995562	100.4124162	98.18904713	96.02730797
170307A00013	3/7/2017	2.33	3/7/2024	3/7/2017	107.89361	106.4662784	105.0717936	103.7091192	102.3772567	101.0752472	99.8021704	98.55714198	97.33931215
170309A00014	3/9/2017	2.58	3/9/2027	3/9/2017	117.61987	114.2551878	111.0320751	107.9433037	104.9820685	102.1419607	99.41694191	96.80132013	94.28972756
170309A00016	3/9/2017	2.39	3/8/2024	3/9/2017	108.183	106.7488788	105.3478286	103.978801	102.6407887	101.3328249	100.0539813	98.8033663	97.58012319
170126A00004	1/26/2017	2.13	1/26/2022	1/26/2017	101.94773	101.6139129	101.2822922	100.9528466	100.6255548	100.3003956	99.97734817	99.65639189	99.33750647
170201A00016	2/1/2017	2.49	2/1/2024	2/1/2017	114.26282	111.7273146	109.2623472	106.8655495	104.53465	102.2674664	100.0619018	97.91594049	95.82764451
170207A00055	2/7/2017	2.36	2/8/2027	2/7/2017	116.67461	113.3866927	110.2353398	107.2136539	104.3151411	101.5336818	98.86350666	96.29917408	93.83554922

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170221A00028	2/21/2017	2.31	2/18/2022	2/21/2017	102.36668	101.965819	101.5681137	101.1735234	100.7820115	100.3935419	100.0080793	99.62558867	99.24603566
170221A00033	2/21/2017	2.31	2/18/2022	2/21/2017	102.36668	101.965819	101.5681137	101.1735234	100.7820115	100.3935419	100.0080793	99.62558867	99.24603566
170224A00008	2/24/2017	2.18	2/24/2022	2/24/2017	102.414	101.9958517	101.5811217	101.169771	100.7617585	100.3570436	99.95558647	99.55734777	99.16228892
170105A00012	1/5/2017	2.68	1/5/2024	1/5/2017	113.95464	111.5054968	109.1230759	106.8050477	104.5491871	102.353366	100.2155476	98.13378218	96.10620175
170106A00030	1/6/2017	2.39	1/6/2027	1/6/2017	116.53359	113.2995382	110.1980675	107.2225561	104.3667648	101.624811	98.99114588	96.460533	94.0280286
170112A00015	1/12/2017	2.32	1/12/2027	1/12/2017	116.31637	113.0879911	109.9919772	107.0217206	104.1709913	101.4339154	98.80495242	96.27887384	93.85074325
170120A00028	1/20/2017	2.34	1/20/2022	1/20/2017	101.88544	101.5690899	101.2547189	100.9423089	100.6318415	100.3232986	100.0166621	99.71191434	99.40903787
170124A00017	1/24/2017	2.82	1/23/2032	1/24/2017	133.03481	125.9471278	119.3783251	113.2843792	107.6253901	102.3651611	97.47082777	92.91252667	88.66309891
170126A00003	1/26/2017	2.86	1/26/2027	1/26/2017	128.6594	123.0433456	117.7277466	112.6946174	107.9271533	103.4096439	99.12739588	95.06666157	91.21457315
161214A00034	12/14/2016	2.65	12/14/2026	12/14/2016	116.60529	113.4275369	110.3780838	107.4506069	104.639146	101.9380773	99.34209212	96.84617689	94.44559482
161222A00013	12/22/2016	2.93	12/22/2026	12/22/2016	128.62692	123.098554	117.8618636	112.899515	108.1953164	103.7341319	99.50180646	95.48509588	91.67160265
161227A00073	12/27/2016	2.83	12/28/2026	12/27/2016	125.48974	120.552431	115.8661562	111.4162948	107.189176	103.1720098	99.35282455	95.72040903	92.26425958
161229A00018	12/29/2016	2.46	12/29/2026	12/29/2016	116.51771	113.3325471	110.2763256	107.3426741	104.5255876	101.8194008	99.21876675	96.71863686	94.31424177
161229A00019	12/29/2016	2.46	12/29/2026	12/29/2016	116.5177	113.332541	110.276321	107.3426711	104.5255859	101.8194004	99.21876763	96.71863891	94.31424494
170105A00010	1/5/2017	2.61	1/5/2027	1/5/2017	116.7196	113.4896159	110.391743	107.4193998	104.5663813	101.8268367	99.19524628	96.66640041	94.23538009
161014A00029	10/14/2016	2.51	10/15/2031	10/14/2016	130.2826	123.5069675	117.2165599	111.3710559	105.933835	100.8716097	96.15409782	91.75372923	87.64538293
161102A00014	11/2/2016	1.99	11/2/2023	11/2/2016	111.45304	109.2241101	107.0523526	104.9358897	102.8729216	100.8617218	98.90063323	96.98806513	95.12248952
161116A00006	11/16/2016	2.39	11/16/2026	11/16/2016	115.58111	112.4801683	109.5027634	106.6428814	103.8948472	101.2533028	98.71318683	96.26971658	93.91837043
161128A00006	11/28/2016	1.93	11/29/2021	11/28/2016	100.95653	100.7884463	100.6209219	100.4539546	100.2875416	100.1216802	99.95636763	99.7916012	99.62737824
161202A00001	12/2/2016	2.65	12/1/2023	12/2/2016	113.35086	111.0096091	108.7300723	106.5101484	104.347831	102.2411986	100.1884105	98.18770267	96.23738343
161207A00014	12/7/2016	2.75	12/8/2031	12/7/2016	132.32019	125.3270476	118.8420903	112.8225074	107.2294658	102.0277134	97.18522198	92.67286883	88.46415165
161004A00070	10/4/2016	1.92	10/4/2023	10/4/2016	110.91209	108.771168	106.6837764	104.6482193	102.6628656	100.7261478	98.8365587	96.99264906	95.19302446
161005A00016	10/5/2016	2.32	10/6/2031	10/5/2016	128.09577	121.4580905	115.2945329	109.5657917	104.2361558	99.27315755	94.64725482	90.33154556	86.30151269
161005A00031	10/5/2016	1.43	10/5/2021	10/5/2016	100.07295	100.0590162	100.0450995	100.0311965	100.0173071	100.0034314	99.98956935	99.97572087	99.96188599
161012A00011	10/12/2016	1.53	10/12/2023	10/12/2016	105.86149	104.6806879	103.5255657	102.3953375	101.2892449	100.2065593	99.14658086	98.10863685	97.09208041
161014A00019	10/14/2016	2.39	10/15/2031	10/14/2016	128.53998	121.8790668	115.6939733	109.9452429	104.5970344	99.61676207	94.97477669	90.64407896	86.60006343
161014A00026	10/14/2016	2.16	10/14/2031	10/14/2016	128.05075	121.3907906	115.2077799	109.4620882	104.1177188	99.14195144	94.50501985	90.17982365	86.14166989
160908A00034	9/8/2016	2.17	9/8/2026	9/8/2016	122.84274	117.7967121	113.0047668	108.4525348	104.1265378	100.0141305	96.10344511	92.38333887	88.84334624
160908A00035	9/8/2016	2.3	9/8/2031	9/8/2016	127.75958	121.1930689	115.092122	109.4184101	104.1370879	99.21645435	94.62764594	90.34436188	86.34261787
160908A00036	9/8/2016	2.3	9/8/2031	9/8/2016	127.7596	121.1930813	115.0921303	109.4184146	104.1370889	99.21645228	94.62764103	90.3443544	86.34260804
160908A00037	9/8/2016	1.4	9/8/2023	9/8/2016	106.45847	105.1268033	103.8239456	102.5490276	101.3012183	100.0797185	98.88375948	97.71260168	96.56553301
160923A00009	9/23/2016	2.24	9/23/2031	9/23/2016	127.38595	120.8380158	114.7544021	109.0968686	103.8306576	98.92414874	94.34855233	90.07763557	86.0874766
160930A00025	9/30/2016	1.66	9/30/2027	9/30/2016	115.83091	112.2193295	108.7715099	105.4785129	102.3319551	99.32397151	96.44717941	93.69464579	91.05985669

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160908A00027	9/8/2016	2.21	9/8/2026	9/8/2016	124.08221	118.7723499	113.7341071	108.9519917	104.4114793	100.0989479	96.0016173	92.10749243	88.405311
160908A00028	9/8/2016	2.21	9/8/2026	9/8/2016	124.08221	118.7723499	113.7341071	108.9519917	104.4114793	100.0989479	96.0016173	92.10749243	88.405311
160908A00030	9/8/2016	2.21	9/8/2026	9/8/2016	124.08221	118.7723452	113.734104	108.9519901	104.411479	100.0989489	96.00161943	92.1074956	88.40531511
160908A00031	9/8/2016	2.21	9/8/2026	9/8/2016	124.08221	118.7723452	113.734104	108.9519901	104.411479	100.0989489	96.00161943	92.1074956	88.40531511
160908A00032	9/8/2016	2.17	9/8/2026	9/8/2016	122.84274	117.7967121	113.0047668	108.4525348	104.1265378	100.0141305	96.10344511	92.38333887	88.84334624
160908A00033	9/8/2016	2.17	9/8/2026	9/8/2016	122.84274	117.7967121	113.0047668	108.4525348	104.1265378	100.0141305	96.10344511	92.38333887	88.84334624
160908A00019	9/8/2016	1.87	9/8/2023	9/8/2016	110.35049	108.3111221	106.3209832	104.378566	102.4824214	100.6311545	98.82342217	97.05793094	95.33343451
160908A00022	9/8/2016	2.21	9/8/2026	9/8/2016	124.08221	118.7723499	113.7341071	108.9519917	104.4114793	100.0989479	96.0016173	92.10749243	88.405311
160908A00023	9/8/2016	2.21	9/8/2026	9/8/2016	124.08221	118.7723452	113.734104	108.9519901	104.411479	100.0989489	96.00161943	92.1074956	88.40531511
160908A00024	9/8/2016	2.21	9/8/2026	9/8/2016	124.08221	118.7723452	113.734104	108.9519901	104.411479	100.0989489	96.00161943	92.1074956	88.40531511
160908A00025	9/8/2016	2.21	9/8/2026	9/8/2016	124.08221	118.7723452	113.734104	108.9519901	104.411479	100.0989489	96.00161943	92.1074956	88.40531511
160908A00026	9/8/2016	2.21	9/8/2026	9/8/2016	124.08221	118.7723452	113.734104	108.9519901	104.411479	100.0989489	96.00161943	92.1074956	88.40531511
160824A00019	8/24/2016	1.98	8/25/2031	8/24/2016	126.51287	120.0395357	114.0229472	108.425676	103.2136819	98.35598273	93.82435753	89.59308007	85.63868013
160906A00027	9/6/2016	2.03	9/8/2031	9/6/2016	127.02409	120.471395	114.3844662	108.7248694	103.4576767	98.55111787	93.97627223	89.70679196	85.71865438
160907A00041	9/7/2016	1.83	9/7/2023	9/7/2016	110.37504	108.3193949	106.3134092	104.3555615	102.4443913	100.5784927	98.7565121	96.97714552	95.23913668
160907A00049	9/7/2016	1.41	9/9/2024	9/7/2016	108.06493	106.3564241	104.6924597	103.0715044	101.4920872	99.95279977	98.45229276	96.98927304	95.56250089
160908A00016	9/8/2016	1.87	9/8/2023	9/8/2016	110.35049	108.3111221	106.3209832	104.378566	102.4824214	100.6311545	98.82342217	97.05793094	95.33343451
160908A00017	9/8/2016	1.87	9/8/2023	9/8/2016	110.35049	108.3111221	106.3209832	104.378566	102.4824214	100.6311545	98.82342217	97.05793094	95.33343451
160810A00027	8/10/2016	2.13	8/10/2026	8/10/2016	122.36697	117.4090608	112.6972823	108.2179109	103.9580658	99.90565046	96.04930116	92.37833838	88.88272218
160810A00028	8/10/2016	2.19	8/10/2026	8/10/2016	124.27816	118.9114566	113.8176433	108.9813157	104.3880202	100.0241903	95.87708712	91.934745	88.18592051
160810A00029	8/10/2016	2.17	8/10/2026	8/10/2016	123.57258	118.3580169	113.4063815	108.7028942	104.233687	99.98574083	95.94682894	92.1054646	88.45085255
160810A00030	8/10/2016	2.24	8/11/2031	8/10/2016	127.17814	120.6949261	114.6679486	109.059906	103.8368674	98.96794353	94.42499197	90.18235273	86.21661121
160810A00035	8/10/2016	2.1	8/10/2026	8/10/2016	122.2236	117.2705619	112.5634284	108.0884906	103.8328787	99.78450699	95.93202149	92.26475205	88.77266755
160812A00006	8/12/2016	2.16	8/12/2026	8/12/2016	123.30306	118.2926417	113.5316317	109.0060908	104.7029323	100.609869	96.71535963	93.00856039	89.47927849
160711A00004	7/11/2016	1.51	7/13/2026	7/11/2016	112.65755	109.8189729	107.0875949	104.4584333	101.9267734	99.48815353	97.13835038	94.87336396	92.68940444
160713A00015	7/13/2016	1.57	7/13/2026	7/13/2016	112.82379	109.9810402	107.2456451	104.6126164	102.0772325	99.63502529	97.2817652	95.0134464	92.82627349
160719A00026	7/19/2016	1.87	7/20/2026	7/19/2016	113.21685	110.3715391	107.6334713	104.9976674	102.4594198	100.0142729	97.65800858	95.38663127	93.19635487
160801A00002	8/1/2016	1.58	8/3/2026	8/1/2016	113.04588	110.1498819	107.3647656	104.6853192	102.1066137	99.62398745	97.23302946	94.92956415	92.70963716
160802A00026	8/2/2016	1.84	8/2/2023	8/2/2016	109.88326	107.9359551	106.0335398	104.1747086	102.358201	100.5828013	98.84733655	97.15067471	95.49172302
160810A00025	8/10/2016	2.17	8/10/2026	8/10/2016	123.57258	118.3580169	113.4063815	108.7028942	104.233687	99.98574083	95.94682894	92.1054646	88.45085255
160608A00033	6/8/2016	2.44	6/9/2031	6/8/2016	127.98268	121.566616	115.5952474	110.0327323	104.8464214	100.0065532	95.48597826	91.25991043	87.3057042
160608A00034	6/8/2016	2.44	6/9/2031	6/8/2016	127.98266	121.5665947	115.5952324	110.0327232	104.8464177	100.0065545	95.48598402	91.25992036	87.30571797
160616A00029	6/16/2016	1.58	6/16/2026	6/16/2016	112.65528	109.8646546	107.1779251	104.5903234	102.0973332	99.69467814	97.37830755	95.14438287	92.98926499

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160629A00066	6/29/2016	2.61	6/30/2036	6/29/2016	161.4115	144.740503	130.1687725	117.40955	106.2173354	96.3817073	87.72210096	80.08339161	73.33215431
160705A00008	7/5/2016	1.7	7/6/2026	7/5/2016	119.1474	114.7360426	110.5331912	106.5275249	102.7084115	99.06586021	95.59047943	92.27343656	89.10642133
160705A00010	7/5/2016	1.68	7/5/2023	7/5/2016	109.22859	107.3662016	105.5458129	103.7660909	102.0257622	100.3236064	98.65845396	97.02918286	95.4347166
160608A00024	6/8/2016	2.36	6/8/2026	6/8/2016	123.83084	118.7747999	113.9662825	109.3916366	105.0380485	100.8934847	96.94663897	93.1868841	89.60422686
160608A00025	6/8/2016	2.36	6/8/2026	6/8/2016	123.83084	118.7747999	113.9662825	109.3916366	105.0380485	100.8934847	96.94663897	93.1868841	89.60422686
160608A00027	6/8/2016	2.36	6/8/2026	6/8/2016	123.83084	118.7747999	113.9662825	109.3916366	105.0380485	100.8934847	96.94663897	93.1868841	89.60422686
160608A00028	6/8/2016	2.36	6/8/2026	6/8/2016	123.83084	118.7747999	113.9662825	109.3916366	105.0380485	100.8934847	96.94663897	93.1868841	89.60422686
160608A00029	6/8/2016	2.36	6/8/2026	6/8/2016	123.83084	118.7747999	113.9662825	109.3916366	105.0380485	100.8934847	96.94663897	93.1868841	89.60422686
160608A00030	6/8/2016	2.36	6/8/2026	6/8/2016	123.83084	118.7747999	113.9662825	109.3916366	105.0380485	100.8934847	96.94663897	93.1868841	89.60422686
160606A00018	6/6/2016	1.74	6/5/2026	6/6/2016	113.08876	110.2881252	107.5917194	104.9947604	102.4927198	100.0813093	97.75646709	95.51434379	93.35128992
160608A00019	6/8/2016	2.36	6/8/2026	6/8/2016	123.83084	118.7747999	113.9662825	109.3916366	105.0380485	100.8934847	96.94663897	93.1868841	89.60422686
160608A00020	6/8/2016	2.36	6/8/2026	6/8/2016	123.83084	118.7747999	113.9662825	109.3916366	105.0380485	100.8934847	96.94663897	93.1868841	89.60422686
160608A00021	6/8/2016	1.91	6/8/2023	6/8/2016	109.18825	107.4171204	105.6846289	103.9895764	102.3308096	100.7072229	99.11775595	97.56139135	96.03715234
160608A00022	6/8/2016	1.91	6/8/2023	6/8/2016	109.18825	107.4171204	105.6846289	103.9895764	102.3308096	100.7072229	99.11775595	97.56139135	96.03715234
160608A00023	6/8/2016	2.36	6/8/2026	6/8/2016	123.83085	118.7748089	113.9662888	109.3916404	105.03805	100.893484	96.94663627	93.18687953	89.60422055
160511A00016	5/11/2016	2.48	5/12/2031	5/11/2016	127.94022	121.5817708	115.6605914	110.1416877	104.9931692	100.1859466	95.6934661	91.49146974	87.55778019
160523A00086	5/23/2016	2.2	5/26/2026	5/23/2016	122.68124	117.8870237	113.3229837	108.9765926	104.8360787	100.8903793	97.12909323	93.54243765	90.12120701
160524A00028	5/24/2016	2.06	5/24/2023	5/24/2016	109.30782	107.5634176	105.8564362	104.1857349	102.5502202	100.9488428	99.38059498	97.84450894	96.33965452
160524A00101	5/24/2016	2.98	5/23/2031	5/24/2016	148.386	137.2149284	127.0467251	117.7837437	109.3384206	101.6321843	94.59448345	88.16192608	82.27751447
160603A00014	6/3/2016	1.74	6/3/2026	6/3/2016	113.08832	110.2878209	107.5915366	104.9946881	102.4927476	100.0814279	97.75666775	95.51461859	93.35163156
160603A00029	6/3/2016	2.18	6/3/2031	6/3/2016	127.32678	120.9207188	114.9597559	109.4079354	104.2325171	99.40366268	94.89415739	90.67916002	86.73597871
160414A00042	4/13/2016	2.48	4/13/2026	4/13/2016	123.76749	118.863951	114.1939988	109.7451127	105.5055133	101.4641158	97.61048549	93.93479543	90.42778797
160421A00016	4/21/2016	2.26	4/21/2026	4/21/2016	122.59371	117.8882312	113.4049646	109.1320146	105.0581969	101.1729877	97.46648128	93.92934991	90.55280662
160427A00004	4/27/2016	2.09	4/27/2026	4/27/2016	113.18409	110.4835314	107.8804345	105.3704456	102.9494359	100.613491	98.35889794	96.18213365	94.07985367
160428A00028	4/28/2016	2	4/28/2026	4/28/2016	113.36609	110.6539678	108.0399423	105.5196206	103.0888388	100.7436496	98.48030934	96.29526625	94.18514897
160504A00022	5/4/2016	2	5/4/2023	5/4/2016	108.92051	107.2357625	105.586342	103.9712068	102.389354	100.8398197	99.32167689	97.83403409	96.37603324
160511A00015	5/11/2016	2.42	5/11/2026	5/11/2016	123.80535	118.82508	114.0852991	109.5729306	105.2756887	101.1820237	97.28107322	93.56261748	90.01703723
160413A00014	4/13/2016	2.55	4/14/2031	4/13/2016	128.20549	121.8862897	115.9983871	110.5075135	105.3824148	100.5945646	96.1179065	91.92862177	88.00492147
160413A00016	4/13/2016	2.55	4/14/2031	4/13/2016	128.20549	121.8862899	115.9983872	110.5075135	105.3824148	100.5945646	96.11790641	91.92862166	88.00492133
160413A00018	4/13/2016	1.78	4/13/2026	4/13/2016	112.78358	110.0862907	107.4865095	104.9798743	102.5622489	100.2297119	97.97854395	95.80521634	93.70637945
160413A00020	4/13/2016	2.48	4/13/2026	4/13/2016	123.76749	118.863951	114.1939988	109.7451127	105.5055133	101.4641158	97.61048549	93.93479543	90.42778797
160413A00021	4/13/2016	2.48	4/13/2026	4/13/2016	123.76749	118.863951	114.1939988	109.7451127	105.5055133	101.4641158	97.61048549	93.93479543	90.42778797
160413A00033	4/13/2016	2.32	4/13/2026	4/13/2016	120.08673	115.8945602	111.8921994	108.0697468	104.4178804	100.9278188	97.59128656	94.40048192	91.3480469

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160307A00024	3/7/2016	2.17	3/6/2026	3/7/2016	113.196	110.5442449	107.9867005	105.5192104	103.1378364	100.8388418	98.6186802	96.4739842	94.40155512
160328A00038	3/28/2016	2.54	3/30/2026	3/28/2016	122.87968	118.2364978	113.8097235	109.5879318	105.5603623	101.7168815	98.04794255	94.54454787	91.19821464
160329A00017	3/29/2016	2.48	3/30/2026	3/29/2016	122.61243	117.977627	113.5588788	109.3447712	105.324561	101.4881308	97.82594886	94.32903222	90.98891159
160401A00005	4/1/2016	2.02	4/3/2023	4/1/2016	108.50115	106.9086506	105.3484545	103.819653	102.3213736	100.8527759	99.41304981	98.00141415	96.61711556
160404A00019	4/4/2016	2.48	4/4/2031	4/4/2016	127.78411	121.4859698	115.6176556	110.1450165	105.0369087	100.2649059	95.80304272	91.62758359	87.71681516
160412A00029	4/12/2016	2.48	4/14/2031	4/12/2016	127.78537	121.4867998	115.6181248	110.1451845	105.0368267	100.2646181	95.8025867	91.62699168	87.71611495
160210A00054	2/10/2016	1.78	2/10/2026	2/10/2016	112.36436	109.7732139	107.272926	104.8595378	102.5292891	100.2786109	98.10411437	96.00258023	93.97094924
160211A00038	2/11/2016	1.83	2/11/2026	2/11/2016	112.11749	109.5382212	107.0492251	104.6465675	102.3265194	100.0855411	97.92027117	95.82751605	93.80424065
160212A00006	2/12/2016	1.57	2/13/2023	2/12/2016	104.04866	103.2405872	102.4470452	101.6676159	100.901897	100.1495023	99.41006078	98.68321573	97.96862413
160212A00047	2/12/2016	1.94	2/12/2026	2/12/2016	112.39495	109.8092623	107.3140746	104.9054434	102.5796302	100.333086	98.16244074	96.06449279	94.03619921
160301A00012	3/1/2016	2.02	3/1/2023	3/1/2016	108.04131	106.5463703	105.0800966	103.6417341	102.23055	100.8458364	99.48690981	98.15310958	96.84379731
160303A00035	3/3/2016	2.14	3/3/2026	3/3/2016	113.56835	110.8168449	108.1647593	105.6076356	103.1412492	100.7615963	98.46488045	96.24750076	94.10603993
160201A00016	2/1/2016	2.1	2/2/2026	2/1/2016	112.79629	110.2021155	107.6986983	105.2820852	102.9485288	100.6944722	98.51653718	96.41151435	94.3763534
160203A00017	2/3/2016	2.07	2/3/2023	2/3/2016	107.6938	106.2826146	104.8972043	103.5369207	102.2011352	100.8892398	99.60064601	98.33478416	97.09110279
160209A00006	2/9/2016	1.91	2/9/2026	2/9/2016	112.31852	109.7348013	107.2414953	104.8346695	102.5105891	100.2657091	98.09666271	96.00025155	93.97343577
160209A00008	2/9/2016	2.45	2/10/2031	2/9/2016	127.10188	120.9458991	115.2034412	109.8421381	104.8324271	100.1472897	95.76201422	91.65398208	87.80247566
160210A00049	2/10/2016	1.78	2/10/2026	2/10/2016	112.36436	109.7732074	107.2729214	104.859535	102.5292881	100.2786116	98.10411658	96.00258393	93.97095435
160210A00051	2/10/2016	2.28	2/10/2031	2/10/2016	127.06355	120.8861617	115.1248317	109.7469184	104.7226162	100.0246902	95.62823552	91.51046148	87.6504966
151229A00026	12/29/2015	2.28	12/29/2025	12/29/2015	113.1639	110.6497898	108.2212189	105.874545	103.6063095	101.4132265	99.29217294	97.24017917	95.25442033
160104A00020	1/4/2016	2.47	1/4/2023	1/4/2016	107.92007	106.5419294	105.1977915	103.8863951	102.6065445	101.3571021	100.1369845	98.9451595	97.78064328
160106A00042	1/6/2016	2.43	1/6/2026	1/6/2016	113.39743	110.83748	108.3657432	105.9784242	103.6719208	101.4428122	99.28784848	97.2039408	95.18815215
160115A00011	1/15/2016	2.18	1/15/2026	1/15/2016	112.77887	110.2322429	107.7733945	105.3985518	103.1041296	100.8867235	98.74309885	96.67018126	94.66504754
160119A00072	1/19/2016	2.77	1/21/2031	1/19/2016	129.65661	123.1689387	117.1304612	111.5050316	106.2597171	101.3644877	96.79194007	92.51704862	88.5169429
160126A00004	1/26/2016	2.52	1/26/2026	1/26/2016	124.37485	119.5376869	114.9234501	110.5206129	106.3183053	102.3062752	98.47485018	94.81490136	91.31781007
151210A00011	12/10/2015	2.16	12/12/2022	12/10/2015	104.10794	103.3855315	102.6759165	101.9787219	101.2935866	100.6201639	99.95812119	99.30713906	98.66691067
151215A00039	12/15/2015	2.46	12/15/2025	12/15/2015	113.23661	110.7278661	108.3042565	105.9621676	103.698166	101.5089891	99.39153561	97.34285595	95.36014404
151216A00006	12/16/2015	2.3	12/16/2021	12/16/2015	101.2868	101.0702476	100.8546316	100.6399496	100.4261956	100.2133634	100.001447	99.79044046	99.58033791
151223A00036	12/23/2015	2.64	12/23/2025	12/23/2015	116.25997	113.1446124	110.1529498	107.2790384	104.5172638	101.8623219	99.30919993	96.85315769	94.48971107
151223A00078	12/23/2015	2.28	12/23/2025	12/23/2015	113.16221	110.6485481	108.2203841	105.8740832	103.6061895	101.4134194	99.29265203	97.24091977	95.25539961
151228A00013	12/28/2015	2.27	12/29/2025	12/28/2015	113.13949	110.6259186	108.1978703	105.8517015	103.5839541	101.3913432	99.27074616	97.21919412	95.23386278
151120A00019	11/20/2015	2.72	11/20/2030	11/20/2015	128.93338	122.8292781	117.1265634	111.7944355	106.8047188	102.1316177	97.75149843	93.64269232	89.78531822
151124A00007	11/24/2015	1.98	11/23/2022	11/24/2015	103.6583	102.9843318	102.321554	101.6696608	101.0283542	100.3973477	99.77636581	99.16514327	98.56342472
151125A00037	11/25/2015	2.41	11/25/2025	11/25/2015	112.88187	110.4282326	108.0565879	105.7634985	103.5456988	101.4000841	99.32370109	97.31373947	95.36752406

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
151201A00004	12/1/2015	2.44	12/1/2022	12/1/2015	107.32268	106.0459086	104.7997229	103.583028	102.3947837	101.2339984	100.0997261	98.99106363	97.90714883
151204A00011	12/4/2015	2.28	12/4/2025	12/4/2015	113.15688	110.6446186	108.2177407	105.8726197	103.6058077	101.4140286	99.29416827	97.24326542	95.25850283
151209A00024	12/9/2015	2.22	12/9/2025	12/9/2015	113.01197	110.5025744	108.0784839	105.736073	103.471896	101.2826792	99.16531074	97.11683136	95.13442602
151030A00004	10/30/2015	2.48	10/30/2025	10/30/2015	119.71015	115.8835414	112.2163247	108.7007693	105.3295722	102.0958293	98.99300981	96.01493473	93.15575501
151030A00026	10/30/2015	3.29	10/30/2030	10/30/2015	146.14739	136.2205063	127.1202231	118.7710288	111.1047798	104.0599404	97.58090536	91.61739596	86.12392029
151102A00024	11/2/2015	2.37	11/2/2022	11/2/2015	106.74375	105.5602908	104.4032372	103.2717079	102.1648633	101.0819002	100.0220503	98.98457749	97.96877704
151113A00035	11/13/2015	1.8	11/14/2022	11/13/2015	103.61155	102.9389607	102.2774989	101.626858	100.9867437	100.3568726	99.73697239	99.12678059	98.52604458
151118A00025	11/18/2015	2.4	11/18/2022	11/18/2015	106.94089	105.7259767	104.5391207	103.379357	102.2457608	101.1374488	100.0535775	98.9933402	97.95596586
151118A00037	11/18/2015	2.75	11/18/2025	11/18/2015	120.36835	116.4883775	112.7713195	109.2092108	105.7945272	102.5201587	99.37938419	96.36584739	93.47353497
150929A00087	9/29/2015	2.09	9/29/2025	9/29/2015	112.017	109.6715987	107.4022297	105.2057892	103.0793205	101.0200094	99.02517649	97.09226924	95.2188554
151001A00023	10/1/2015	2.02	10/1/2025	10/1/2015	112.07452	109.6820852	107.3683932	105.130191	102.9643808	100.8680159	98.83829148	96.87253722	94.96820966
151005A00084	10/5/2015	2.25	10/5/2022	10/5/2015	106.1405	105.0465595	103.9752919	102.9260005	101.8980127	100.8906831	99.90339216	98.93554481	97.98656949
151006A00050	10/6/2015	2.21	10/6/2022	10/6/2015	103.5239	102.9017114	102.2889997	101.685526	101.091059	100.5053756	99.92826031	99.35950527	98.79890951
151013A00033	10/13/2015	2.23	10/14/2025	10/13/2015	112.22213	109.8313175	107.5190847	105.2821843	103.1175289	101.0221813	98.99334565	97.02836002	95.12468873
151029A00008	10/29/2015	2.28	10/29/2025	10/29/2015	112.34284	109.9484421	107.6327855	105.3926187	103.2248455	101.1265203	99.0948395	97.12713386	95.22086089
150825A00008	8/25/2015	2.82	8/25/2025	8/25/2015	121.57363	117.5203126	113.6346771	109.9087903	106.3351358	102.9065933	99.61641544	96.45820619	93.42590056
150828A00018	8/28/2015	1.7	8/29/2022	8/28/2015	102.59814	102.1117011	101.631094	101.1562	100.6869057	100.2231008	99.76467797	99.311533	98.86356442
150911A00007	9/10/2015	2.51	9/9/2022	9/10/2015	105.97017	104.9555709	103.9605142	102.9844377	102.0268006	101.0870829	100.1647837	99.25942083	98.37052964
150925A00034	9/25/2015	2.36	9/25/2025	9/25/2015	112.29383	109.9484475	107.6789363	105.4821997	103.3552936	101.2954155	99.29989687	97.3661951	95.49188723
150929A00076	9/29/2015	2.28	9/29/2025	9/29/2015	112.11244	109.7705439	107.5044218	105.3109806	103.1872793	101.1305183	99.13803169	97.20727979	95.33584215
150929A00083	9/29/2015	2.09	9/29/2025	9/29/2015	112.017	109.6715987	107.4022297	105.2057892	103.0793205	101.0200094	99.02517649	97.09226924	95.2188554
150804A00022	8/4/2015	2.37	8/4/2022	8/4/2015	105.22184	104.3198737	103.4334391	102.5621394	101.7055887	100.8634142	100.0352553	99.22076364	98.41960228
150805A00015	8/5/2015	2.29	8/5/2022	8/5/2015	105.26902	104.3625148	103.4716964	102.5961586	101.7355098	100.8893717	100.057379	99.23917832	98.43442802
150812A00052	8/14/2015	2.13	8/14/2025	8/14/2015	111.8721	109.5786188	107.3582025	105.2079063	103.1249287	101.1066013	99.15038215	97.25384826	95.41468944
150814A00029	8/14/2015	2.39	8/14/2025	8/14/2015	112.1217	109.8284625	107.6081374	105.4577921	103.3746357	101.3560103	99.39938299	97.50233967	95.66257815
150824A00033	8/24/2015	2.22	8/25/2025	8/24/2015	111.74579	109.4594206	107.2457867	105.1019597	103.0251539	101.0127159	99.0621179	97.17095016	95.33691502
150824A00050	8/24/2015	2.03	8/25/2025	8/24/2015	111.65223	109.3624461	107.1456517	104.9989012	102.919394	100.9044631	98.95156763	97.05828588	95.22230897
150803A00037	8/3/2015	3.41	8/2/2030	8/3/2015	146.25448	136.539344	127.6148903	119.410537	111.8624321	104.9127719	98.50919674	92.60424884	87.1548876
150803A00038	8/3/2015	3.41	8/2/2030	8/3/2015	146.25451	136.5393686	127.6149072	119.4105473	111.8624365	104.9127712	98.50919156	92.6042398	87.15487523
150803A00039	8/3/2015	3.01	8/2/2030	8/3/2015	128.89651	122.9808755	117.4436817	112.2566236	107.3937494	102.8312474	98.54725433	94.52168211	90.73606079
150803A00040	8/3/2015	3.01	8/2/2030	8/3/2015	128.89655	122.9809068	117.4437045	112.2566387	107.3937573	102.8312488	98.54724978	94.52167209	90.73604575
150803A00041	8/3/2015	3.01	8/2/2030	8/3/2015	128.89649	122.9808633	117.4436729	112.2566179	107.3937465	102.8312471	98.54725645	94.52168644	90.73606714
150803A00042	8/3/2015	3.01	8/2/2030	8/3/2015	128.89652	122.9808826	117.4436865	112.2566264	107.3937503	102.8312467	98.54725223	94.52167875	90.73605632

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150722A00033	7/22/2015	2.47	7/22/2025	7/22/2015	112.06113	109.8161902	107.6414719	105.5341846	103.4916718	101.5114025	99.59096402	97.72805566	95.92048268
150722A00035	7/22/2015	2.92	7/22/2025	7/22/2015	121.54339	117.5763183	113.7701324	110.1173247	106.6107848	103.2437743	100.0099046	96.90311706	93.91766382
150729A00028	7/29/2015	2.25	7/29/2025	7/29/2015	111.90648	109.6589391	107.4818612	105.3724408	103.3280073	101.3460163	99.4240429	97.55977458	95.75100565
150729A00041	7/29/2015	2.44	7/29/2025	7/29/2015	111.99781	109.7536244	107.5796599	105.4731242	103.4313608	101.4518385	99.53214452	97.66997795	95.86314377
150803A00033	8/3/2015	3.41	8/2/2030	8/3/2015	146.25451	136.5393686	127.6149072	119.4105473	111.8624365	104.9127712	98.50919156	92.6042398	87.15487523
150803A00036	8/3/2015	3.41	8/2/2030	8/3/2015	146.25451	136.5393686	127.6149072	119.4105473	111.8624365	104.9127712	98.50919156	92.6042398	87.15487523
150617A00018	6/17/2015	2.45	6/17/2025	6/17/2015	111.77464	109.5832562	107.4592493	105.3999767	103.4029232	101.465691	99.58599313	97.76164785	95.99057261
150617A00030	6/17/2015	2.91	6/16/2025	6/17/2015	121.05652	117.1930867	113.4833069	109.9200583	106.4965964	103.2065332	100.0438156	97.00270529	94.07776045
150617A00036	6/17/2015	2.44	6/15/2022	6/17/2015	104.38719	103.6450478	102.9135689	102.1925226	101.4816862	100.7808428	100.0897819	99.40829891	98.73619479
150624A00077	6/24/2015	2.54	6/24/2022	6/24/2015	104.61335	103.8440103	103.0861058	102.3393791	101.6035833	100.8784787	100.1638327	99.45941937	98.76501918
150701A00056	7/1/2015	2.34	7/1/2025	7/1/2015	112.09439	109.8451222	107.6662874	105.5550807	103.508833	101.525002	99.60116456	97.73501032	95.92433574
150714A00003	7/14/2015	3.76	7/12/2030	7/14/2015	133.86438	127.742635	122.0106718	116.6394752	111.6024311	106.8751108	102.4350759	98.26170162	94.33601747
150529A00055	5/29/2015	1.78	5/31/2022	5/29/2015	102.11181	101.7176804	101.3273529	100.9407657	100.5578588	100.1785738	99.8028535	99.43064198	99.06188459
150603A00012	6/3/2015	2.77	6/3/2030	6/3/2015	127.97674	122.1903692	116.7689588	111.6855681	106.915473	102.4359635	98.22616511	94.26687764	90.54042876
150603A00032	6/3/2015	2.21	6/3/2025	6/3/2015	111.574	109.3826038	107.2586663	105.1995403	103.2027054	101.2657587	99.3864086	97.56246896	95.79185321
150604A00039	6/4/2015	2.82	6/4/2030	6/4/2015	128.25118	122.4523936	117.0193538	111.9250614	107.1447387	102.6556266	98.43680553	94.46903375	90.73460081
150615A00024	6/15/2015	2.26	6/16/2025	6/15/2015	111.68496	109.4903946	107.3634269	105.3014067	103.301806	101.3622149	99.48033529	97.65397473	95.88104087
150617A00017	6/17/2015	2.27	6/17/2025	6/17/2015	111.70665	109.5115762	107.3841252	105.32164	103.3215914	101.3815689	99.49927343	97.67251193	95.89919134
150311A00003	3/11/2015	2.72	3/31/2025	3/11/2015	119.39851	115.7753302	112.2898434	108.9359764	105.707959	102.6003083	99.60781334	96.72551947	93.94871431
150320A00019	3/20/2015	2.25	3/20/2025	3/20/2015	116.67854	113.4190562	110.2792067	107.2538245	104.3379945	101.5270435	98.81652613	96.20221284	93.68007779
150410A00021	4/10/2015	2.27	4/10/2025	4/10/2015	110.92164	108.84178	106.823642	104.8648826	102.9632614	101.11664	99.32297658	97.58032064	95.88680829
150414A00037	4/14/2015	2.34	4/14/2025	4/14/2015	111.0651	108.9822332	106.9611993	104.9996413	103.0953145	101.2460767	99.44988198	97.70477634	96.00889242
150420A00012	4/20/2015	2.07	4/20/2022	4/20/2015	103.25634	102.6761229	102.102444	101.5351978	100.9742762	100.4195736	99.87098684	99.32841492	98.79175908
150427A00014	4/27/2015	2.98	4/27/2035	4/27/2015	142.69946	132.7986495	123.8227586	115.6729636	108.2619558	101.5125087	95.35623399	89.73249956	84.58748771
150203A00027	2/3/2015	2.26	2/4/2030	2/3/2015	124.32744	118.916911	113.8360494	109.0612968	104.5709679	100.3450919	96.3652646	92.61451446	89.077181
150213A00014	2/13/2015	2.41	2/13/2025	2/13/2015	111.0093	109.0175201	107.0828649	105.2032149	103.3765487	101.6009351	99.87452844	98.19556422	96.56235468
150219A00016	2/19/2015	2.68	2/19/2025	2/19/2015	118.87033	115.3247719	111.9100834	108.6206619	105.4511782	102.3965603	99.45197866	96.61283428	93.87474567
150223A00017	2/23/2015	1.77	2/23/2022	2/23/2015	102.3043	101.8806304	101.4604246	101.0436401	100.6302351	100.2201687	99.81340056	99.40989102	99.00960103
150224A00010	2/24/2015	2.34	2/24/2025	2/24/2015	111.58312	109.3749067	107.234236	105.1584962	103.1451939	101.191949	99.29648843	97.45664115	95.67033248
150227A00011	2/27/2015	2.33	2/27/2025	2/27/2015	116.70191	113.4906362	110.3954775	107.4114907	104.5339745	101.7584551	99.08067347	96.49657405	94.00229363
141017A00022	10/17/2014	2.78	10/17/2024	10/17/2014	117.47191	114.3191525	111.2735215	108.3307054	105.4865908	102.7372553	100.0789577	97.50812828	95.02135992
141107A00027	11/7/2014	1.98	11/8/2021	11/7/2014	100.55489	100.4570873	100.3594786	100.2620663	100.1648498	100.0678286	99.97100194	99.87436935	99.77793019
141203A00039	12/3/2014	3.6	12/4/2034	12/3/2014	147.85876	137.7333657	128.5380293	120.1749605	112.5575878	105.6091869	99.26168342	93.45460864	88.13418902

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150114A00029	1/14/2015	1.99	1/14/2022	1/14/2015	101.15392	100.9491057	100.7452544	100.5423563	100.3404043	100.1393911	99.93930965	99.74015293	99.54191398
150115A00031	1/15/2015	1.42	1/18/2022	1/15/2015	101.07364	100.8658889	100.6591352	100.4533716	100.2485905	100.0447841	99.84194492	99.64006536	99.439138
150203A00012	2/3/2015	1.61	2/3/2022	2/3/2015	101.29042	101.0449729	100.800924	100.5582563	100.316957	100.0770136	99.83841379	99.60114532	99.36519614
140821A00040	8/21/2014	3.41	8/21/2031	8/21/2014	154.54937	142.8808357	132.2737083	122.6230094	113.8347757	105.8248439	98.51777649	91.84591155	85.74851984
140908A00080	9/8/2014	2.51	3/8/2024	9/8/2014	112.82347	110.5521812	108.3439272	106.1965439	104.1079532	102.0761619	100.099258	98.17540638	96.30284557
140917A00030	9/17/2014	3.23	9/17/2029	9/17/2014	140.9224	132.5506035	124.7967688	117.6104308	110.9455539	104.7601212	99.01576109	93.67741114	88.71301468
140924A00057	9/24/2014	3.25	9/25/2028	9/24/2014	140.2505	132.2001041	124.7008455	117.7113686	111.1936539	105.1127291	99.43640917	94.13505975	89.18138154
141015A00027	10/15/2014	2.01	10/15/2021	10/15/2014	100.24317	100.201318	100.1595208	100.1177764	100.0760846	100.0344452	99.99285835	99.95132377	99.90984141
141015A00029	10/15/2014	2.32	10/15/2024	10/15/2014	115.23577	112.3580562	109.5757234	106.8849787	104.2822013	101.7639379	99.32689341	96.9679231	94.68402432
140618A00019	6/18/2014	3.08	6/18/2024	6/18/2014	109.79466	108.2014603	106.6473436	105.1310128	103.6512258	102.2067925	100.7965715	99.41946792	98.0744311
140703A00026	7/3/2014	3.11	7/3/2024	7/3/2014	116.97342	114.1034412	111.3234913	108.6301042	106.0199718	103.4899395	101.0369968	98.65827007	96.35101487
140717A00027	7/17/2014	3.14	7/17/2026	7/17/2014	126.17904	121.2860995	116.6303869	112.1988527	107.9792398	103.9600348	100.1304181	96.48021831	92.99986924
140730A00035	7/30/2014	2.67	1/30/2023	7/30/2014	104.76238	103.9880733	103.2276741	102.4807738	101.7469812	101.0259206	100.3172317	99.62056812	98.93559736
140730A00037	7/30/2014	2.83	1/30/2024	7/30/2014	108.25499	106.9093262	105.5934848	104.3065363	103.0475896	101.8157896	100.6103148	99.43037625	98.27521552
140821A00030	8/21/2014	2.27	8/21/2024	8/21/2014	109.26782	107.5858404	105.9468853	104.3494919	102.7922569	101.2738361	99.79294146	98.34833803	96.9388415
130614A00018	6/14/2013	2.83	6/14/2023	6/14/2013	106.14341	105.1413625	104.158507	103.1942762	102.2481303	101.3195507	100.4080392	99.51311692	98.63432345
131018A00006	10/18/2013	3.28	10/20/2025	10/18/2013	124.09687	119.9211091	115.9224383	112.0922138	108.4222637	104.9048625	101.5327043	98.29887685	95.19683824
140219A00005	2/19/2014	3.13	2/20/2029	2/19/2014	125.64862	120.8219139	116.2582448	111.9406518	107.8534003	103.981887	100.3125506	96.83279021	93.53089079
140313A00028	3/13/2014	2.86	3/13/2024	3/13/2014	114.0402	111.6761265	109.3785137	107.1450566	104.9735471	102.861868	100.8079886	98.80996074	96.86591471
140318A00003	3/17/2014	3.08	3/18/2024	3/17/2014	116.40369	113.7102836	111.0954023	108.556275	106.0902485	103.6947801	101.367432	99.10586605	96.90783927
140428A00015	4/28/2014	2.35	4/29/2024	4/28/2014	108.39306	106.9078028	105.4576063	104.0413426	102.6579264	101.3063169	99.98551493	98.69456142	97.43253514
120820A00009	8/20/2012	2.4	8/22/2022	8/20/2012	105.44157	104.5037721	103.5829604	102.6786692	101.7904539	100.9178862	100.0605527	99.21805444	98.39000644
120820A00011	8/20/2012	2.4	8/22/2022	8/20/2012	105.44156	104.5037718	103.5829602	102.678669	101.7904538	100.9178862	100.0605527	99.21805449	98.39000654
121016A00013	10/16/2012	1.64	10/14/2022	10/16/2012	103.19002	102.567865	101.9552433	101.3519086	100.7576266	100.1721715	99.59532535	99.02687763	98.46662517
121114A00020	11/14/2012	1.74	11/14/2022	11/14/2012	106.1986	105.0120704	103.8526235	102.7193366	101.6113257	100.5277462	99.46779085	98.43068781	97.41569862
130206A00009	2/6/2013	2.83	2/7/2028	2/6/2013	128.59709	122.6702838	117.0948228	111.8472079	106.905655	102.2499609	97.86138005	93.72251115	89.81719337
130422A00020	4/22/2013	1.98	4/22/2025	4/22/2013	110.33809	108.2681816	106.2597446	104.3104379	102.4180288	100.5803863	98.79547546	97.06135274	95.37616085
120517A00021	5/17/2012	1.85	5/17/2024	5/17/2012	107.89466	106.3716911	104.8853831	103.4345412	102.018016	100.6347052	99.28355144	97.96354008	96.67369681
120806A00014	8/6/2012	1.77	8/8/2022	8/6/2012	102.78323	102.2574474	101.7384278	101.2260272	100.7201054	100.2205266	99.72715899	99.23987436	98.7585484
120806A00015	8/6/2012	2.38	8/6/2027	8/6/2012	117.57616	113.9725648	110.5299498	107.2396435	104.0935105	101.0839115	98.20367028	95.44604217	92.80468498
120807A00025	8/7/2012	1.82	8/8/2022	8/7/2012	102.80887	102.2829562	101.7638089	101.2512821	100.7452359	100.2455342	99.75204509	99.26464052	98.78319606
120807A00026	8/7/2012	2.42	8/9/2027	8/7/2012	117.71606	114.1080499	110.6612236	107.3669023	104.2169392	101.2036848	98.31995293	95.5589898	92.91444468
120808A00006	8/8/2012	2.06	8/9/2027	8/8/2012	117.02106	113.4236135	109.9872535	106.7032848	103.5635493	100.560388	97.68660718	94.93544632	92.30054952

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
011115A00014	11/15/2001	5.19	11/16/2021	11/15/2001	101.17932	101.0469824	100.9150044	100.7833863	100.6521266	100.5212238	100.3906765	100.260483	100.1306421
020918A00047	9/18/2002	4.72	9/19/2022	9/18/2002	108.5643	107.4890121	106.4350989	105.4019294	104.3888944	103.3954085	102.4209086	101.4648532	100.5267214
030605A00010	6/5/2003	3.97	6/5/2023	6/5/2003	109.66472	108.3278325	107.0174862	105.7329029	104.4733395	103.238082	102.0264441	100.8377658	99.67141229
050812A00050	8/12/2005	4.97	8/12/2025	8/12/2005	120.88875	118.0480137	115.3036824	112.6517314	110.0883336	107.6098469	105.2128035	102.8939013	100.6499943
050823A00085	8/23/2005	4.78	8/25/2025	8/23/2005	129.73926	125.4830898	121.4013104	117.4857083	113.7285044	110.1223285	106.6601951	103.3354817	100.1419073
050823A00088	8/23/2005	4.78	8/25/2025	8/23/2005	129.73933	125.4831456	121.4013563	117.4857448	113.728532	110.1223477	106.6602065	103.3354856	100.1419043
210409A00010	4/9/2021	1.05	4/9/2031	4/9/2021	119.95589	114.1097575	108.6608234	103.5775979	98.83135641	94.39587868	90.24721229	86.36345988	82.7245878
210514A00007	5/14/2021	0.95	5/15/2028	5/14/2021	114.44163	110.5214458	106.7950541	103.2510004	99.87860095	96.66788163	93.60952576	90.69482626	87.91564151
210514A00010	5/14/2021	1.34	5/14/2031	5/14/2021	121.68306	115.7266092	110.1772061	105.0023815	100.1725358	95.66066575	91.44211791	87.49436656	83.79681456
970806A00017	8/1/1997	7.02	7/23/2026	8/1/1997	126.71215	123.6767018	120.7532317	117.9366025	115.2219571	112.6046967	110.0804654	107.6451356	105.2947939
970806A00018	8/1/1997	6.7	10/23/2026	8/1/1997	127.19213	123.987087	120.9054213	117.9412669	115.089083	112.3436326	109.6999639	107.1533928	104.6994861
970806A00059	8/1/1997	8.25	9/22/2025	8/1/1997	144.86767	140.0036935	135.3439616	130.8786381	126.5984186	122.4944988	118.5585436	114.7826604	111.1593724
200330A00010	3/30/2020	0.61	3/30/2022	3/30/2020	101.29027	100.9874967	100.6869448	100.3885855	100.0923924	99.7983392	99.50640028	99.21655035	98.92876456
200331A00056	3/31/2020	0.96	3/29/2030	3/31/2020	117.65169	112.5431591	107.7469642	103.2406672	99.00362718	95.01684442	91.26281819	87.72541777	84.38976536
200401A00011	4/1/2020	0.68	4/3/2023	4/1/2020	103.69541	102.8064766	101.9339619	101.077395	100.2363234	99.41031233	98.59894374	97.80181553	97.01854077
200402A00050	4/6/2020	0.73	4/5/2024	4/6/2020	105.83063	104.3898867	102.9829938	101.6088622	100.2664492	98.95475446	97.6728176	96.4197164	95.19456486
200428A00018	4/28/2020	1.33	4/27/2035	4/28/2020	127.32194	118.7120778	110.8965637	103.7911678	97.32142391	91.42141924	86.03274367	81.10357474	76.58788083
200521A00005	5/21/2020	0.75	5/21/2030	5/21/2020	116.9116	111.7243873	106.8601939	102.2954234	98.00840051	93.97919956	90.18949132	86.62240344	83.2623942
200311A00028	3/11/2020	1.04	3/12/2024	3/11/2020	106.45833	104.9679153	103.512925	102.0922001	100.704626	99.3491349	98.02470327	96.73034937	95.46513134
200316A00008	3/16/2020	1.31	3/15/2030	3/16/2020	118.52071	113.4156097	108.6211522	104.115099	99.87699141	95.8879923	92.13074585	88.5892505	85.24874361
200317A00022	3/17/2020	0.97	3/17/2022	3/17/2020	101.3688	101.072196	100.7776906	100.4852611	100.1948834	99.90653374	99.62018886	99.33582575	99.05342181
200317A00024	3/17/2020	1.09	3/17/2025	3/17/2020	108.31948	106.3454459	104.4288389	102.5675083	100.7593999	99.00255192	97.29508989	95.63522245	94.02123682
200326A00037	3/26/2020	1.78	3/26/2035	3/26/2020	130.67759	121.963371	114.0454983	106.8401857	100.2732895	94.27912544	88.79943509	83.78248605	79.18228734
200327A00004	3/27/2020	0.63	3/28/2022	3/27/2020	101.29211	100.990314	100.6907149	100.3932901	100.0980134	99.80485907	99.51380176	99.22481656	98.937879
200130A00027	1/31/2020	1.79	1/31/2025	1/31/2020	109.23516	107.3418755	105.5016685	103.7126073	101.9728418	100.2806035	98.63420161	97.03201866	95.47250691
200203A00046	2/3/2020	1.98	2/3/2040	2/3/2020	143.52391	130.6998958	119.4204256	109.4735921	100.6790015	92.88280458	85.95354963	79.77871438	74.26180163
200210A00007	2/10/2020	1.78	2/10/2025	2/10/2023	114.66322	111.5745732	108.5959112	105.7226187	102.9503013	100.2747739	97.6920501	95.19833109	92.78999585
200225A00049	2/25/2020	1.79	2/24/2040	2/25/2020	141.44665	128.7551619	117.5956392	107.7576014	99.06189895	91.35577185	84.50872348	78.4090704	72.96105324
200310A00067	3/10/2020	0.94	3/10/2025	3/10/2020	108.03338	106.0634917	104.1509019	102.2934664	100.4891364	98.73595502	97.03205262	95.37564235	93.76501569
200311A00027	3/11/2020	1.52	3/9/2035	3/11/2020	128.66055	120.0414136	112.2116982	105.0882343	98.59743441	92.67411399	87.26046466	82.30515968	77.76257423
191114A00013	11/14/2019	1.9	11/14/2022	11/14/2019	103.58347	102.914276	102.2561172	101.6086897	100.9717023	100.3448748	99.72793743	99.12063071	98.52270457
191114A00014	11/14/2019	1.9	11/14/2023	11/14/2019	106.34568	105.1254732	103.9310572	102.7616529	101.6165102	100.4949087	99.39615621	98.31958719	97.26456157
191115A00029	11/15/2019	2.07	11/15/2029	11/15/2019	121.37668	116.391647	111.6982509	107.2763383	103.1073142	99.17401103	95.46056884	91.95232638	88.63572191

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191216A00013	12/16/2019	1.95	12/16/2024	12/16/2019	109.30264	107.4563348	105.6607922	103.9141841	102.2147652	100.5608668	98.95089289	97.38331581	95.85667325
191231A00021	12/31/2019	1.9	2/28/2023	12/31/2019	103.84698	103.1259753	102.417828	101.722157	101.0385953	100.3667911	99.70640696	99.05711896	98.41861621
191231A00027	12/31/2019	1.9	4/28/2023	12/31/2019	103.83979	103.1189107	102.4108907	101.7153433	101.0319017	100.3602142	99.69994334	99.05076556	98.41236999
190102A00024	1/2/2019	2.97	1/3/2034	1/2/2019	138.12058	129.7849511	122.1478438	115.1414144	108.7050623	102.7846022	97.33153379	92.30240018	87.65822263
190327A00030	3/27/2019	2.9	3/27/2036	3/27/2019	141.91919	131.9905671	123.019002	114.8981645	107.5346455	100.8462789	94.7606947	89.21406773	84.15003568
190520A00020	5/20/2019	2.39	5/20/2026	5/20/2019	114.38357	111.6452131	109.0066291	106.4633138	104.0109983	101.6456376	99.36339731	97.16064095	95.03391837
190628A00007	6/28/2019	2.28	6/28/2034	6/28/2019	134.21225	125.7650924	118.050908	110.9962224	104.5356433	98.6109062	93.17004025	88.16663835	83.55921634
190823A00009	8/23/2019	1.8	8/23/2029	8/23/2019	120.37114	115.5417809	110.9884898	106.6926073	102.636885	98.80537149	95.1833057	91.75701951	88.5138491
191114A00012	11/14/2019	1.89	11/15/2021	11/14/2019	100.60075	100.4930456	100.3855851	100.278369	100.1713964	100.0646666	99.95817866	99.85193169	99.74592485
181029A00097	10/29/2018	3.53	10/27/2028	10/29/2018	137.46208	130.1951855	123.4115334	117.0753124	111.1535817	105.6160282	100.4347424	95.58401402	91.04014641
181211A00042	12/11/2018	3.7	12/11/2028	12/11/2023	138.98912	131.4930932	124.5045007	117.9850818	111.8997015	106.2160778	100.9045332	95.93776952	91.29066312
181220A00006	12/20/2018	2.93	12/20/2022	12/20/2018	104.54192	103.819854	103.1105786	102.4137141	101.7288987	101.0557851	100.3940402	99.74334413	99.10338979
190102A00015	1/2/2019	2.97	1/3/2034	1/2/2019	138.12093	129.785197	122.1480034	115.1415007	108.7050865	102.7845739	97.3314613	92.30229059	87.65808208
190102A00020	1/2/2019	2.97	1/3/2034	1/2/2019	138.12067	129.7850149	122.1478842	115.1414352	108.7050668	102.7845931	97.33151346	92.3023706	87.65818551
190102A00022	1/2/2019	2.97	1/3/2034	1/2/2019	138.12047	129.7848725	122.1477915	115.1413846	108.7050518	102.7846082	97.33155394	92.30243233	87.65826499
171206A00020	12/6/2017	2.62	12/6/2027	12/6/2017	118.87436	115.1207547	111.5410201	108.125448	104.8649491	101.7510079	98.77564287	95.93136898	93.21116345
180126A00018	1/26/2018	2.34	1/26/2023	1/26/2018	104.49144	103.7230614	102.9685386	102.2274625	101.4994404	100.7840955	100.081066	99.39000494	98.71057872
180529A00057	5/29/2018	3.09	5/30/2028	5/29/2018	126.75179	121.6342976	116.8047214	112.2441554	107.9350775	103.8612366	100.007553	96.36002548	92.90564748
180716A00046	7/16/2018	2.9	7/16/2025	7/16/2018	112.84083	110.65846	108.5429255	106.4916137	104.502031	102.5718003	100.6986544	98.88043071	97.11506496
180725A00034	7/25/2018	2.79	7/25/2022	7/25/2018	103.09414	102.6088733	102.129368	101.6555143	101.1872012	100.7243204	100.266767	99.81443858	99.36723578
180725A00035	7/25/2018	2.85	7/25/2023	7/25/2018	106.53348	105.4879991	104.4629248	103.4576561	102.4716159	101.50425	100.5550259	99.62343189	98.70897559
170313A00041	3/13/2017	3.21	3/15/2032	3/13/2017	133.38973	126.5225633	120.1527664	114.2382524	108.7408749	103.626032	98.86230977	94.42116429	90.27663779
170315A00005	3/15/2017	2.1	3/15/2022	3/15/2017	101.69352	101.3971631	101.1028908	100.8106808	100.5205094	100.2323531	99.94618884	99.66199404	99.37974636
170612A00024	6/12/2017	1.72	6/13/2022	6/12/2017	102.33287	101.8992999	101.4703103	101.0458199	100.6257505	100.2100258	99.79857112	99.39131378	98.98818276
170616A00003	6/16/2017	1.91	6/17/2024	6/16/2017	108.14872	106.5886894	105.06689	103.582055	102.1329688	100.7184665	99.33743123	97.98879149	96.67151925
170705A00029	7/5/2017	1.98	7/5/2022	7/5/2017	102.63289	102.1559639	101.6845787	101.218625	100.7579991	100.3026003	99.85233028	99.40709339	98.96679651
170929A00046	9/29/2017	2.49	9/30/2027	9/29/2017	117.78149	114.2005559	110.7800149	107.5111782	104.3858972	101.3965238	98.53587648	95.79720817	93.17417727
160930A00032	9/30/2016	2.15	9/30/2031	9/30/2016	125.97687	119.6985671	113.8589241	108.4221373	103.3556428	98.62979779	94.21759692	90.09441768	86.23779261
160930A00033	9/30/2016	1.8	9/30/2026	9/30/2016	113.24021	110.3370958	107.5459122	104.8613518	102.2784019	99.79232329	97.39863382	95.09309224	92.87168368
170130A00036	1/30/2017	3.11	1/31/2033	1/30/2017	135.85814	128.1466537	121.04162	114.4875962	108.4347255	102.8381298	97.6573745	92.85599459	88.40107428
170130A00039	1/30/2017	2.74	1/31/2028	1/30/2017	120.27206	116.2692259	112.4582178	108.8280332	105.3683821	102.0696371	98.92278647	95.91939091	93.05154319
170130A00043	1/30/2017	2.64	1/29/2027	1/30/2017	117.20598	113.8753267	110.6831254	107.6223989	104.6865751	101.8694575	99.16520173	96.56829284	94.07352482
170130A00046	1/30/2017	2.52	1/30/2026	1/30/2017	114.1435	111.4597465	108.8703838	106.3713208	103.9586698	101.6287371	99.37801257	97.20315906	95.10100286

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160928A00030	9/28/2016	2.52	9/29/2036	9/28/2016	142.3538	131.3953742	121.5592423	112.7135759	104.7434324	97.54845108	91.04087923	85.1438799	79.79007877
160928A00032	9/28/2016	2.52	9/29/2036	9/28/2016	142.3538	131.3953742	121.5592423	112.7135759	104.7434324	97.54845108	91.04087923	85.1438799	79.79007877
160928A00033	9/28/2016	2.46	9/29/2036	9/28/2016	141.79462	130.868599	121.0621604	112.2437507	104.2986691	97.1267698	90.64049122	84.76316651	79.42757304
160928A00041	9/28/2016	3.26	9/29/2036	9/30/2019	149.25033	137.8922687	127.6899185	118.5080871	110.2288468	102.7491868	95.97899799	89.83934508	84.26098267
160928A00042	9/28/2016	3.05	9/29/2036	9/28/2021	147.29321	136.0485554	125.950132	116.8636988	108.6721752	101.2733024	94.57763996	88.50684821	82.99221264
160928A00044	9/28/2016	2.89	9/29/2036	9/28/2023	145.80207	134.6438215	124.6245804	115.6108315	107.4861396	100.148819	93.50993861	87.49161249	82.02553072
150601A01040	6/1/2015	5.4	10/2/2026	6/1/2015	139.98463	134.2614615	128.8285613	123.6693326	118.7682257	114.1106647	109.682981	105.4723513	101.4667413
150601A01041	6/1/2015	5.99	10/2/2036	6/1/2015	181.09327	167.1878346	154.7091962	143.4907784	133.3871242	124.2710498	116.031201	108.5699525	101.8016007
150601A01047	6/1/2015	5.35	12/30/2024	6/1/2015	127.64965	124.0099747	120.5007809	117.1164952	113.8518232	110.7017343	107.6614468	104.7264132	101.8923072
150601A01048	6/1/2015	5.27	1/3/2025	6/1/2015	127.47511	123.8268849	120.3097795	116.9181961	113.6468153	110.490582	107.4446902	104.5045689	101.6658682
150601A01051	6/1/2015	4.91	2/7/2025	6/1/2015	127.0131	123.2691876	119.6628434	116.1882183	112.8397428	109.6121141	106.5002823	103.4994367	100.6049928
160928A00029	9/28/2016	2.52	9/29/2036	9/28/2016	142.3538	131.3953742	121.5592423	112.7135759	104.7434324	97.54845108	91.04087923	85.1438799	79.79007877
150601A01008	6/1/2015	5.08	4/15/2025	6/1/2015	115.58997	113.5397613	111.5493327	109.616431	107.7389093	105.9147177	104.1418982	102.4185797	100.7429736
150601A01011	6/1/2015	5.05	9/8/2025	6/1/2015	117.20931	114.9043848	112.6723045	110.5101437	108.4151182	106.3845759	104.4159903	102.5069527	100.6551665
150601A01012	6/1/2015	5.43	9/15/2023	6/1/2015	117.48775	115.3670275	113.297709	111.2782022	109.3069789	107.3825692	105.5035586	103.6685853	101.8763382
150601A01013	6/1/2015	5.21	9/29/2023	6/1/2015	117.38151	115.2202245	113.1123161	111.0560996	109.0499597	107.0923434	105.1817575	103.3167659	101.4959864
150601A01015	6/1/2015	5.61	10/28/2025	6/1/2015	134.2228	129.6379716	125.2493446	121.0472749	117.0226501	113.1668587	109.4717598	105.9296538	102.5332564
150601A01016	6/1/2015	5.73	10/28/2025	6/1/2015	134.69387	130.0993584	125.7013688	121.490237	117.4568383	113.5925498	109.8892191	106.3391364	102.9350073
150601A00978	6/1/2015	6.32	11/24/2033	6/1/2015	159.9618	150.8638131	142.5023032	134.8075791	127.7172345	121.1753293	115.1316668	109.5411571	104.3632557
150601A00988	6/1/2015	4.57	3/22/2024	6/1/2015	110.36354	108.9765992	107.6213256	106.2967155	105.0018086	103.7356834	102.497455	101.2862731	100.1013209
150601A00993	6/1/2015	5.37	6/9/2034	6/1/2015	162.66029	151.9716356	142.229969	133.3392563	125.2141006	117.7784805	110.9646489	104.7121681	98.96706406
150601A00994	6/1/2015	5.86	6/24/2022	6/1/2015	107.07277	106.2931495	105.5251008	104.768362	104.0226835	103.2878227	102.5635442	101.8496195	101.1458265
150601A00997	6/1/2015	5.46	9/30/2022	6/1/2015	109.25844	108.1747511	107.1130484	106.0726674	105.0529667	104.0533306	103.0731678	102.1119098	101.1690103
150601A01005	6/1/2015	5.82	3/10/2025	6/1/2015	130.17069	126.3396973	122.6516066	119.1002113	115.6796159	112.3842143	109.2086735	106.1479191	103.1971209
150601A00955	6/1/2015	5.84	7/15/2032	6/1/2015	150.53902	142.8293861	135.6844974	129.0558193	122.8994428	117.1756083	111.8482817	106.8847755	102.2554124
150601A00960	6/1/2015	6.49	12/16/2032	6/1/2015	156.50807	148.259409	140.6329729	133.5737048	127.0319494	120.9628779	115.3259809	110.0846181	105.2056172
150601A00964	6/1/2015	5.25	1/6/2033	6/1/2015	148.9771	140.9835458	133.5999574	126.7718899	120.4502768	114.5908555	109.1536596	104.1025677	99.4049031
150601A00966	6/1/2015	4.84	2/3/2023	6/1/2015	105.99428	105.2513356	104.5216604	103.8048713	103.1005976	102.4084838	101.728188	101.0593822	100.4017509
150601A00971	6/1/2015	6.42	6/20/2033	6/1/2015	165.89295	155.7484206	146.4422623	137.8949796	130.0353332	122.7994168	116.1298477	109.9750519	104.2886321
150601A00976	6/1/2015	6.8	9/22/2033	6/1/2015	169.71948	159.3876155	149.9157817	141.221512	133.2310092	125.8781709	119.1037282	112.8544859	107.0826539
150601A00943	6/1/2015	6.44	5/9/2031	6/1/2015	154.629	146.8320371	139.574729	132.8137871	126.5097599	120.6266641	115.1316548	109.9947297	105.1884621
150601A00946	6/1/2015	6.28	8/22/2031	6/1/2015	155.24433	147.1883992	139.7040169	132.7442884	126.2665592	120.232005	114.6052597	109.3540826	104.4490597
150601A00948	6/1/2015	6.04	10/22/2031	6/1/2015	147.30905	140.2839638	133.7413944	127.6423063	121.9511816	116.6356728	111.6662952	107.0161517	102.660686

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00950	6/1/2015	6.76	12/18/2031	6/1/2015	159.54587	151.1270335	143.3187496	136.0697504	129.3335135	123.0677903	117.2341822	111.7977618	106.7267333
150601A00952	6/1/2015	6.34	2/13/2032	6/1/2015	158.80891	150.1408199	142.1161467	134.6798211	127.781961	121.3773434	115.4249356	109.8874761	104.7311005
150601A00953	6/1/2015	6.6	6/10/2032	6/1/2015	162.86753	153.6977795	145.2282457	137.3973829	130.1495847	123.4345707	117.2068377	111.4251704	106.0522063
150601A00927	6/1/2015	6.08	8/7/2030	6/1/2015	142.91389	136.8462466	131.1527859	125.8061736	120.7813095	116.0551285	111.6064211	107.4156698	103.464902
150601A00928	6/1/2015	5.94	8/21/2030	6/1/2015	142.40599	136.3280236	130.6264926	125.2737941	120.2445874	115.5155943	111.065415	106.8743634	102.9243167
150601A00929	6/1/2015	5.91	8/30/2030	6/1/2015	147.16748	140.2778346	133.8346497	127.8042377	122.1557287	116.8608161	111.8935261	107.2300086	102.8483485
150601A00931	6/1/2015	7.13	9/20/2030	6/1/2015	154.50365	147.2957581	140.5542008	134.2438149	128.3323817	122.7903569	117.5906295	112.7083042	108.1205047
150601A00935	6/1/2015	6.46	11/21/2030	6/1/2015	151.39159	144.1909516	137.4642342	131.1751323	125.2904262	119.7796948	114.6150595	109.7709536	105.2239143
150601A00939	6/1/2015	5.79	1/17/2031	6/1/2015	147.59629	140.5091743	133.894289	127.7149941	121.9378015	116.5320799	111.4697907	106.7252497	102.2749125
150601A00900	6/1/2015	6.06	6/28/2024	6/1/2015	113.99776	112.401481	110.8439252	109.3238227	107.8399533	106.3911468	104.9762809	103.5942787	102.2441066
150601A00905	6/1/2015	6.14	10/29/2029	6/1/2015	143.34683	137.3245635	131.6567204	126.3188382	121.2883348	116.5443547	112.0676251	107.8403245	103.8459636
150601A00906	6/1/2015	6.2	11/1/2029	6/1/2015	144.07821	137.970674	132.2255374	126.8175913	121.7235825	116.9220488	112.393168	108.1186214	104.0814692
150601A00912	6/1/2015	5.96	11/30/2029	6/1/2015	142.93945	136.8599501	131.1418993	125.760119	120.6913855	115.9142656	111.4089662	107.1571971	103.1420465
150601A00918	6/1/2015	5.62	4/28/2025	6/1/2015	117.51199	115.3588079	113.2690265	111.2402471	109.2701829	107.3566506	105.4975652	103.6909343	101.9348541
150601A00919	6/1/2015	7.41	6/7/2030	6/1/2015	154.57515	147.5643454	140.9957191	134.8367139	129.0574346	123.6304134	118.5303958	113.7341465	109.2202737
150601A00883	6/1/2015	6.21	11/30/2028	6/1/2015	138.46761	133.324226	128.4525396	123.8355562	119.4574809	115.3036221	111.3603062	107.6148002	104.0552407
150601A00888	6/1/2015	5.92	3/1/2029	6/1/2015	138.81083	133.4261626	128.3371952	123.5247665	118.9711068	114.6597284	110.5753246	106.7036764	103.0315679
150601A00889	6/1/2015	6.55	3/2/2029	6/1/2015	142.73703	137.1065498	131.7876435	126.76003	122.0049024	117.5048154	113.2435769	109.2061496	105.3785603
150601A00893	6/1/2015	6.49	4/6/2029	6/1/2015	142.51753	136.8783506	131.5531658	126.5213935	121.7639611	117.2631859	113.0026645	108.9671708	105.142564
150601A00897	6/1/2015	6.15	5/28/2029	6/1/2015	141.02471	135.4114769	130.1132288	125.1091519	120.3799725	115.9078327	111.6761762	107.6696442	103.8739811
150601A00899	6/1/2015	7.07	6/14/2029	6/1/2015	140.89226	135.7032351	130.7964747	126.1536155	121.7576405	117.5927722	113.6443733	109.898856	106.3435995
150601A00864	6/1/2015	7.37	3/31/2028	6/1/2015	140.16414	135.3819264	130.8340008	126.5066822	122.3871957	118.4636039	114.7247471	111.1601864	107.7601529
150601A00865	6/1/2015	6	4/3/2028	6/1/2015	131.66085	127.478847	123.4953955	119.6991151	116.0793677	112.6262051	109.3303183	106.1829927	103.1760655
150601A00868	6/1/2015	7.08	6/5/2028	6/1/2015	140.10255	135.1861537	130.5163244	126.0783648	121.8585643	117.8441291	114.0231144	110.3843616	106.9174421
150601A00871	6/1/2015	6.74	7/31/2028	6/1/2015	139.46941	134.4757238	129.7361785	125.2354307	120.9591853	116.8941132	113.0277795	109.3485772	105.8456663
150601A00872	6/1/2015	7.42	7/31/2028	6/1/2015	141.83275	136.8245695	132.0696462	127.5527535	123.2596966	119.1772379	115.293025	111.5955263	108.0739698
150601A00875	6/1/2015	7.14	9/29/2028	6/1/2015	141.97197	136.8009357	131.8978387	127.2462228	122.8307729	118.6372256	114.6522895	110.8635722	107.2595135
150601A00739	6/1/2015	2.35	5/6/2025	6/1/2015	110.69383	108.6732304	106.7125969	104.8096443	102.9621925	101.1681606	99.42556191	97.732499	96.08715877
150601A00772	6/1/2015	1.84	5/13/2022	6/1/2015	101.76899	101.4414535	101.1168563	100.795159	100.4763186	100.1602928	99.84704034	99.53652069	99.22869419
150601A00832	6/1/2015	7.17	8/28/2025	6/1/2015	121.43095	119.0848328	116.8120887	114.6097958	112.4751687	110.4055542	108.3984232	106.4513646	104.5620786
150601A00847	6/1/2015	6.59	1/31/2022	6/1/2015	103.444	103.1007174	102.7597618	102.4211101	102.084739	101.7506255	101.4187468	101.0890804	100.7616043
150601A00848	6/1/2015	6.36	2/18/2022	6/1/2015	102.0245	101.8189848	101.6146592	101.4115162	101.2095444	101.0087327	100.80907	100.6105454	100.4131482
150601A00851	6/1/2015	7.12	4/30/2027	6/1/2015	133.24136	129.3506575	125.6269056	122.0614412	118.6461156	115.3732616	112.2356614	109.2265171	106.3394234

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00660	6/1/2015	2.26	1/5/2022	6/1/2015	101.62975	101.3557524	101.0832433	100.8122084	100.5426357	100.2745132	100.0078294	99.74257249	99.47873112
150601A00678	6/1/2015	2.12	1/30/2025	6/1/2015	109.59216	107.727193	105.914668	104.1526669	102.4393581	100.772991	99.15189187	97.57445982	96.03916298
150601A00690	6/1/2015	2.34	2/28/2025	6/1/2015	110.12838	108.2262166	106.3781736	104.5822523	102.8365464	101.1392343	99.48857505	97.88290375	96.32062781
150601A00714	6/1/2015	1.67	4/1/2022	6/1/2015	101.42638	101.155621	100.8869016	100.6201987	100.3554872	100.0927423	99.83193978	99.57305583	99.31606702
150601A00732	6/1/2015	1.91	4/29/2022	6/1/2015	101.71356	101.4004821	101.0900996	100.782375	100.4772704	100.1747488	99.87477378	99.57730974	99.28232176
150601A00736	6/1/2015	2.87	5/1/2030	6/1/2015	125.75574	120.4147635	115.3993472	110.6860851	106.2534495	102.0816281	98.15237536	94.44887717	90.95562804
150601A00496	6/1/2015	2.27	6/27/2024	6/1/2015	108.38081	106.8625711	105.3815051	103.936381	102.526017	101.1492803	99.80508515	98.49238979	97.21019475
150601A00509	6/1/2015	2.52	7/8/2024	6/1/2015	108.60676	107.0738754	105.5787121	104.1200114	102.6965704	101.3072366	99.95090491	98.62651546	97.33305133
150601A00527	6/1/2015	2.5	7/26/2024	6/1/2015	108.73572	107.1718403	105.6469344	104.1596932	102.7088654	101.2932515	99.91170205	98.56311442	97.24643087
150601A00543	6/1/2015	2.23	8/8/2024	6/1/2015	108.6496	107.0658291	105.5218952	104.0164531	102.5482164	101.1159523	99.71847938	98.35466472	97.02342157
150601A00558	6/1/2015	2.51	8/30/2024	6/1/2015	109.03558	107.4146817	105.8351154	104.2954736	102.7944103	101.3306366	99.90291673	98.51006622	97.15094894
150601A00624	6/1/2015	2.48	12/8/2021	6/1/2015	101.20019	101.0062225	100.8130117	100.6205527	100.4288409	100.2378719	100.0476415	99.8581452	99.66937874
150601A00426	6/1/2015	3.37	2/21/2029	6/1/2015	124.50687	119.9546426	115.6453769	111.5636191	107.6950235	104.0262652	100.5449603	97.23959276	94.09944721
150601A00448	6/1/2015	2.61	4/26/2024	6/1/2015	108.15178	106.7303658	105.3423029	103.9865187	102.6619849	101.3677151	100.1027625	98.8662178	97.65720771
150601A00459	6/1/2015	2.42	5/16/2024	6/1/2015	108.03989	106.5928436	105.1801678	103.8007455	102.4535086	101.1374326	99.85153421	98.5948696	97.36653236
150601A00473	6/1/2015	2.22	5/31/2024	6/1/2015	108.10909	106.6320208	105.1905143	103.7834036	102.4095725	101.0679504	99.75751052	98.47726761	97.2262757
150601A00475	6/1/2015	3.04	6/1/2029	6/1/2015	123.96489	119.2545922	114.8041914	110.5966473	106.6161771	102.8481528	99.27900838	95.89615506	92.68790415
150601A00477	6/1/2015	3.21	6/1/2029	6/1/2015	129.10544	123.540068	118.2992258	113.3609259	108.7048352	104.3121425	100.1654341	96.24858052	92.54663313
150601A00390	6/1/2015	2.39	5/20/2022	6/1/2015	102.63084	102.190757	101.7556149	101.3253217	100.8997876	100.4789252	100.0626492	99.65087648	99.24352607
150601A00395	6/1/2015	2.86	1/3/2024	6/1/2015	107.46982	106.2294551	105.0159568	103.8284989	102.6662862	101.5285552	100.414573	99.32363509	98.25506469
150601A00396	6/1/2015	3.61	1/3/2029	6/1/2015	125.03358	120.5538597	116.3091558	112.284751	108.4669658	104.8430807	101.401262	98.13049392	95.02051643
150601A00410	6/1/2015	2.68	1/24/2024	6/1/2015	107.43408	106.1634488	104.9207229	103.7050401	102.5155694	101.3515134	100.2121063	99.09661236	98.00432427
150601A00411	6/1/2015	3.38	1/24/2029	6/1/2015	124.30164	119.8054714	115.5469956	111.5112245	107.6842367	104.0530936	100.605763	97.33104957	94.21853014
150601A00425	6/1/2015	2.64	2/21/2024	6/1/2015	107.63574	106.3189983	105.0317662	103.7731175	102.542167	101.3380648	100.1599944	99.00717174	97.87884289
150601A00033	6/1/2015	5.96	12/24/2025	6/1/2015	137.55392	132.6391525	127.9422136	123.4520096	119.15809	115.0506008	111.1202473	107.3582578	103.7563508
150601A00035	6/1/2015	5.73	4/1/2038	6/1/2015	175.07931	161.8132694	149.9517292	139.3227447	129.7773979	121.1865098	113.4378442	106.4337285	100.0890274
150601A00038	6/1/2015	5.77	6/2/2023	6/1/2015	115.77322	113.9521636	112.1704705	110.4269218	108.720353	107.0496473	105.4137332	103.8115821	102.2422062
150601A00165	6/1/2015	2.66	6/4/2032	6/1/2015	131.14358	124.2379452	117.8436317	111.9165175	106.4166928	101.3080221	96.55775861	92.1362012	88.01638729
150601A00261	6/1/2015	3.19	2/11/2033	6/1/2015	152.04598	140.2751416	129.6473179	120.0399719	111.3445912	103.4649959	96.31586224	89.82143148	83.91437923
150601A00270	6/1/2015	3.12	3/21/2031	6/1/2015	148.99233	138.1511338	128.2612111	119.2316924	110.980928	103.4355085	96.52938865	90.20310995	84.40310861
150601A00018	6/1/2015	4.91	9/5/2025	6/1/2015	131.09869	126.6507692	122.3891706	118.3049833	114.3897698	110.6355416	107.0347331	103.5801767	100.2650797
150601A00019	6/1/2015	5.64	10/3/2022	6/1/2015	109.58761	108.484744	107.4044927	106.3461652	105.3090956	104.2926449	103.2961994	102.3191697	101.3609893
150601A00022	6/1/2015	5.43	10/26/2037	6/1/2015	170.42281	157.7668766	146.4234454	136.2351277	127.0651865	118.7946453	111.3198218	104.5502225	98.40674326

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00023	6/1/2015	5.46	10/30/2037	6/1/2015	181.72787	166.6630584	153.2517613	141.288413	130.5951099	121.0176651	112.4222505	104.6925384	97.72726404
150601A00024	6/1/2015	5.58	11/8/2022	6/1/2015	110.4625	109.2430278	108.05104	106.8856057	105.7458398	104.630896	103.5399653	102.4722733	101.427079
150601A00030	6/1/2015	5.28	11/26/2027	6/1/2015	147.1201	139.933777	133.1799553	126.829609	120.8558394	115.2337033	109.9400587	104.9534253	100.2538546
140911A00033	9/11/2014	3.02	9/13/2027	9/11/2014	126.01886	120.9353895	116.1209028	111.5589276	107.2341115	103.1321392	99.23965692	95.54420131	92.03413506
141124A00024	11/24/2014	2.27	11/30/2021	11/24/2014	101.04693	100.8718786	100.6974148	100.5235399	100.3502508	100.1775447	100.0054186	99.83386967	99.66289502
141126A00006	11/26/2014	2.41	11/30/2021	11/26/2014	101.05192	100.8768524	100.702376	100.5284862	100.35518	100.1824546	100.0103071	99.83873467	99.66773442
150601A00001	6/1/2015	5.43	6/15/2037	6/1/2015	179.34621	164.8151562	151.8453547	140.2466311	129.8539069	120.5236844	112.131049	104.5671077	97.73679985
150601A00005	6/1/2015	4.84	6/9/2025	6/1/2015	129.15645	125.0074885	121.0237629	117.1976177	113.5218061	109.9894634	106.5940839	103.3294997	100.1898606
150601A00011	6/1/2015	5.17	8/3/2022	6/1/2015	107.60115	106.6945396	105.8034357	104.9274432	104.0661784	103.2192706	102.3863616	101.5671048	100.7611652
130624A00019	6/24/2013	3.4	6/26/2023	6/24/2013	112.00881	110.1530363	108.338353	106.5634561	104.8270948	103.1280713	101.4652382	99.83749592	98.24378981
130913A00018	9/13/2013	3.72	9/13/2028	9/13/2013	128.38684	123.3415901	118.5670547	114.0460461	109.7626067	105.7019088	101.8501672	98.19455863	94.72314786
130925A00035	9/25/2013	1.53	6/25/2025	9/25/2013	111.71879	109.1687696	106.7033363	104.3189082	102.0120866	99.77964429	97.61851625	95.52578954	93.49869466
140311A00039	3/11/2014	3.06	3/11/2024	3/11/2014	114.17191	111.7931146	109.4805007	107.2317972	105.0448234	102.9174874	100.8477819	98.83378043	96.87363312
140314A00026	3/14/2014	2.99	3/14/2024	3/14/2019	115.34706	112.7861357	110.2982625	107.8808996	105.5316079	103.2480483	101.0279775	98.8692431	96.76977946
140414A00009	4/14/2014	2.32	4/30/2024	4/14/2014	109.80767	108.0323461	106.3018206	104.614579	102.9691692	101.3642	99.79833823	98.27030542	96.77887551
121214A00014	12/14/2012	2.16	12/14/2027	12/14/2017	118.19633	114.3221753	110.6391719	107.1360125	103.8021543	100.6277579	97.60363484	94.72120035	91.9724287
121217A00009	12/17/2012	2.02	12/17/2027	12/17/2012	117.81099	113.9092316	110.2003601	106.6729529	103.316354	100.1206196	97.07646498	94.17521619	91.40876516
121220A00023	12/20/2012	1.82	12/20/2022	12/20/2012	106.38574	105.1702386	103.9847118	102.8280395	101.699157	100.5970518	99.52076018	98.46936442	97.44198995
130206A00004	2/6/2013	2.14	2/7/2028	2/6/2013	119.11008	115.0297337	111.1480095	107.453366	103.9350171	100.58288	97.38752487	94.34012784	91.43242833
130207A00012	2/7/2013	2.9	2/7/2033	2/7/2013	134.95211	127.1071802	119.8944637	113.2548263	107.1352138	101.4879828	96.27030765	91.44365641	86.97332715
130624A00017	6/24/2013	3.4	6/26/2023	6/24/2013	112.00881	110.1530363	108.338353	106.5634561	104.8270948	103.1280713	101.4652382	99.83749592	98.24378981
120827A00052	8/27/2012	2.01	8/27/2027	8/27/2012	118.68323	114.6431455	110.7938829	107.124692	103.625513	100.2869229	97.10009109	94.05673802	91.14909743
120907A00005	9/7/2012	1.76	9/7/2022	9/7/2012	105.28846	104.2701818	103.2715151	102.2918969	101.3307864	100.3876628	99.46202501	98.5533902	97.66129325
120907A00026	9/7/2012	1.71	9/7/2022	9/7/2012	105.352	104.3317395	103.331149	102.3496672	101.3867506	100.4418766	99.51454174	98.60426119	97.71056789
120907A00032	9/7/2012	1.86	9/9/2024	9/7/2012	113.71826	110.9388653	108.2484113	105.6434845	103.1208214	100.6773039	98.30995166	96.01591511	93.79246904
121120A00010	11/20/2012	1.93	11/22/2027	11/20/2012	117.0635	113.2749192	109.671778	106.2432183	102.9791048	99.86997121	96.90697066	94.08183091	91.38681292
121120A00011	11/20/2012	2.22	11/22/2027	11/20/2012	124.48649	119.0305089	113.8903731	109.0453481	104.476197	100.1650615	96.09535501	92.25166401	88.61965832
120410A00005	4/10/2012	2.35	4/12/2027	4/10/2012	118.18641	114.5109548	110.9996185	107.6435198	104.4343279	101.3642228	98.42586086	95.61234219	92.91718086
120614A00013	6/14/2012	1.89	6/14/2022	6/14/2012	104.16602	103.4035758	102.652171	101.9115642	101.1815238	100.4618251	99.75224956	99.05258476	98.36262425
120614A00015	6/14/2012	1.89	6/14/2022	6/14/2012	104.16602	103.4035758	102.652171	101.9115642	101.1815238	100.4618251	99.75224956	99.05258476	98.36262425
120621A00009	6/21/2012	3.18	6/21/2032	6/21/2012	144.70832	134.7780046	125.7349456	117.4900629	109.9639204	103.0856156	96.7918069	91.02585841	85.73708569
120716A00025	7/16/2012	1.83	7/18/2022	7/17/2017	104.54517	103.6875645	102.8439905	102.0141013	101.197566	100.3940641	99.60328514	98.82492878	98.05870389
120827A00048	8/27/2012	2.01	8/27/2027	8/27/2012	118.68322	114.643142	110.7938807	107.124691	103.6255131	100.286924	97.10009305	94.05674076	91.14910088

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
111128A00006	11/28/2011	3.03	11/28/2031	11/28/2011	132.22644	125.4963611	119.2576367	113.4684686	108.0909932	103.09088	98.43697577	94.10098578	90.05719012
120119A00015	1/19/2012	2.27	1/19/2024	1/19/2012	111.1305	109.0936444	107.1098277	105.1772871	103.2943281	101.4593253	99.67071847	97.92701004	96.2267617
120210A00004	2/10/2012	1.98	2/10/2022	2/10/2012	102.17848	101.7926529	101.4097044	101.0296016	100.6523126	100.2778064	99.90605215	99.53701947	99.17067851
120210A00005	2/10/2012	1.64	2/10/2022	2/10/2012	102.04798	101.6634558	101.2818014	100.902983	100.5269691	100.1537285	99.78323054	99.41544496	99.05034201
120217A00007	2/17/2012	2.25	2/20/2024	2/17/2012	111.59152	109.4519901	107.3697636	105.3429295	103.3696503	101.4481612	99.57676691	97.75383867	95.97781094
120315A00002	3/14/2012	2.56	3/15/2027	3/14/2022	118.42166	114.8318951	111.4004535	108.1188886	104.9792636	101.9741216	99.09645255	96.33966437	93.69755466
070518A00023	5/18/2007	5.46	5/18/2027	5/18/2007	128.62481	124.6826686	120.9165064	117.3167527	113.8744341	110.581133	107.4289487	104.4104624	101.5187037
080220A00035	2/20/2008	4.65	2/22/2022	2/20/2008	103.43827	103.0203081	102.6057296	102.194495	101.7865637	101.3818962	100.9804531	100.582196	100.1870871
080423A00066	4/23/2008	4.41	4/24/2023	4/23/2008	109.03099	107.8531869	106.6970971	105.5621276	104.44771	103.3532966	102.2783592	101.222389	100.184895
110414A00007	4/14/2011	3.95	1/21/2025	4/14/2011	115.53725	113.1809954	110.8959948	108.6795082	106.5289175	104.4417243	102.4155437	100.4480982	98.53721194
110824A00006	8/24/2011	2.69	8/24/2026	8/24/2011	118.51383	115.0459167	111.7193631	108.5272196	105.4629285	102.5202991	99.69348446	96.97696008	94.3655041
111007A00007	10/7/2011	3.92	10/7/2031	10/7/2011	152.05687	141.4921837	131.8614127	123.0732985	115.0461183	107.7066352	100.9891682	94.83476828	89.1904898
061013A00024	10/13/2006	5.53	10/15/2021	10/13/2006	100.38608	100.3441515	100.3022766	100.2604541	100.2186838	100.1769657	100.1352996	100.0936856	100.0521234
081219A00006	12/19/2008	3.88	12/22/2023	12/19/2008	117.35097	114.8227216	112.3629143	109.9691548	107.6391572	105.3707356	103.161799	101.0103465	98.91446191
111024A00013	10/24/2011	3.24	10/25/2021	10/24/2011	100.48408	100.4142694	100.3445676	100.2749722	100.2054831	100.1361	100.0668227	99.99765097	99.92858455
111213A00004	12/13/2011	2.96	12/13/2021	12/13/2011	101.37437	101.1655855	100.9576719	100.7506255	100.5444409	100.3391126	100.1346352	99.93100338	99.72821188
120419A00009	4/19/2012	2.76	4/19/2022	4/19/2012	103.65563	103.0724864	102.4958999	101.9257632	101.3619684	100.8044101	100.2529849	99.707592	99.16813267
120531A00008	5/31/2012	2.27	5/31/2022	5/31/2012	104.09426	103.3840496	102.6834944	101.9924017	101.3105811	100.637847	99.9740189	99.31892091	98.67238184
200131A00029	1/31/2020	1.78	10/31/2024	1/31/2020	116.20159	112.7054552	109.3331198	106.0794691	102.9396326	99.90897088	96.98306335	94.15769612	91.42885106
200131A00031	1/31/2020	1.74	1/31/2024	1/31/2020	112.48181	109.8984862	107.387503	104.9464335	102.5729488	100.2648113	98.01987026	95.836058	93.71138628
191002A00038	1/13/2020	1.76	1/13/2023	1/13/2020	107.21587	105.8087136	104.4333378	103.0886656	101.7736697	100.4873683	99.2288234	97.99713789	96.7914535
191002A00042	1/13/2020	1.76	1/13/2023	1/13/2020	107.21587	105.8087136	104.4333378	103.0886656	101.7736697	100.4873683	99.2288234	97.99713789	96.7914535
191002A00043	2/3/2020	1.75	2/3/2023	2/3/2020	107.40025	105.9638375	104.5536783	103.1691108	101.8094974	100.474221	99.16268421	97.8743089	96.60853502
191002A00044	2/3/2020	1.75	2/3/2023	2/3/2020	107.40025	105.9638375	104.5536783	103.1691108	101.8094974	100.474221	99.16268421	97.8743089	96.60853502
191002A00045	2/14/2020	1.75	2/14/2023	2/14/2020	107.5844	106.1105741	104.6642658	103.244773	101.8514126	100.4835241	99.14046896	97.82162916	96.52640686
191002A00046	2/14/2020	1.75	2/14/2023	2/14/2020	107.5844	106.1105741	104.6642658	103.244773	101.8514126	100.4835241	99.14046896	97.82162916	96.52640686
190904A00037	9/4/2019	1.73	6/15/2022	9/4/2019	103.95753	103.2025597	102.4585257	101.725191	101.0023259	100.2897073	99.58711838	98.89434839	98.21119249
190904A00040	9/4/2019	1.73	6/22/2022	9/4/2019	104.06633	103.2897627	102.5247526	101.7710385	101.0283718	100.2965107	99.57522082	98.86427428	98.16344977
190904A00043	9/4/2019	1.72	12/15/2022	9/4/2019	106.79227	105.452666	104.1464875	102.8724914	101.6295001	100.4163925	99.23210121	98.0756091	96.94594637
190904A00044	9/4/2019	1.72	12/30/2022	9/4/2019	107.02757	105.6382382	104.284752	102.9657366	101.6798892	100.4259718	99.20280738	98.00927614	96.84431197
190917A00030	1/10/2020	2.03	1/10/2023	1/10/2020	107.54739	106.1409392	104.7672915	103.4252978	102.1138632	100.8319434	99.57854144	98.35270566	97.15352653
190917A00033	1/10/2020	2.03	1/10/2023	1/10/2020	107.54739	106.1409392	104.7672915	103.4252978	102.1138632	100.8319434	99.57854144	98.35270566	97.15352653
190829A00076	8/29/2019	1.81	6/30/2023	8/29/2019	109.65354	107.7510804	105.8915573	104.0735796	102.2958215	100.5570147	98.8559448	97.19144845	95.56241076

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190829A00078	8/29/2019	1.8	12/15/2023	8/29/2019	111.995	109.5588758	107.188433	104.881398	102.6355925	100.4489329	98.31942485	96.24515914	94.22430668
190829A00080	8/29/2019	1.8	12/29/2023	8/29/2019	112.18613	109.7053138	107.2923302	104.9447905	102.6604101	100.4370056	98.27248941	96.1648642	94.11221835
190830A00020	8/31/2020	1.67	8/31/2023	8/31/2020	110.26022	108.1674905	106.1251154	104.1315743	102.1853993	100.2851766	98.42954429	96.61718983	94.84684808
190904A00034	9/4/2019	1.74	6/1/2022	9/4/2019	103.74697	103.035085	102.3329248	101.640296	100.9570056	100.2828661	99.61769464	98.96131335	98.313549
190904A00036	9/4/2019	1.74	6/8/2022	9/4/2019	103.85586	103.1224309	102.3993278	101.686336	100.9832443	100.2898477	99.60594651	98.93134677	98.26585959
190829A00016	8/29/2019	1.82	8/29/2022	8/29/2019	105.20348	104.213592	103.2422499	102.2889345	101.3531479	100.4344102	99.5322592	98.64624894	97.77594948
190829A00017	8/29/2019	1.8	8/29/2023	8/29/2019	110.4937	108.4045929	106.3656164	104.3752593	102.432064	100.5346264	98.6815938	96.87166236	95.10357526
190829A00028	8/29/2019	1.78	8/29/2024	8/29/2019	115.38386	112.1001233	108.9269897	105.8601302	102.8954108	100.0288819	97.2567693	94.57546484	91.98151855
190829A00072	8/29/2019	1.81	12/15/2022	8/29/2019	106.90523	105.5648663	104.2579386	102.9832061	101.7394908	100.5256713	99.34067992	98.18349909	97.05315876
190829A00073	8/29/2019	1.81	3/15/2023	8/29/2019	108.10521	106.5370823	104.999863	103.4927141	102.0148274	100.565423	99.14374845	97.74907706	96.38070714
190829A00075	8/29/2019	1.8	6/15/2023	8/29/2019	109.4133	107.5591318	105.746008	103.9726361	102.2377752	100.5402367	98.87888126	97.25261647	95.66039407
190726A00014	7/26/2019	2.23	7/24/2024	7/26/2019	116.27104	113.0861362	110.0052361	107.0243551	104.1396831	101.3475785	98.6445595	96.02729615	93.49260268
190805A00031	8/5/2020	1.77	8/4/2023	8/5/2020	110.05685	108.0477989	106.085418	104.1683475	102.2952735	100.4649289	98.67609095	96.92757973	95.21825621
190815A00040	8/15/2019	1.86	8/15/2023	8/15/2019	110.4113	108.3652069	106.3673391	104.4162644	102.5106054	100.6490343	98.830271	97.05308067	95.31627211
190815A00041	8/15/2019	1.86	8/15/2024	8/15/2019	115.44865	112.2076685	109.0745212	106.0450371	103.1152329	100.2813005	97.53959892	94.88664523	92.31910725
190826A00046	8/26/2019	1.77	8/26/2024	8/26/2019	115.31405	112.0407506	108.8774293	105.8197886	102.8637282	100.0053302	97.24084975	94.56670696	91.97947811
190829A00013	8/29/2019	1.78	8/29/2024	8/29/2019	115.38386	112.1001233	108.9269897	105.8601302	102.8954108	100.0288819	97.2567693	94.57546484	91.98151855
190621A00037	6/21/2019	2.21	5/15/2024	6/21/2019	115.20226	112.2516059	109.3922543	106.6207863	103.933936	101.328583	98.80174441	96.35056797	93.97232509
190621A00039	6/21/2019	2.21	6/17/2024	6/21/2019	115.68064	112.6196235	109.6559837	106.7859531	104.0059425	101.3125287	98.70244544	96.17257489	93.71993944
190722A00047	11/22/2019	2.03	11/22/2021	11/22/2019	100.84602	100.697354	100.5491324	100.4013568	100.2540251	100.1071353	99.96068547	99.81467355	99.6690976
190722A00051	11/22/2019	2.03	11/22/2021	11/22/2019	100.84602	100.697354	100.5491324	100.4013568	100.2540251	100.1071353	99.96068547	99.81467355	99.6690976
190722A00054	12/19/2019	2.02	12/20/2021	12/19/2019	101.29446	101.0658912	100.8383604	100.611865	100.3863978	100.1619518	99.93852008	99.71609563	99.49467165
190722A00056	12/19/2019	2.02	12/20/2021	12/19/2019	101.29446	101.0658912	100.8383604	100.611865	100.3863978	100.1619518	99.93852008	99.71609563	99.49467165
190530A00049	5/30/2019	2.44	5/30/2023	5/30/2019	110.2915	108.4783496	106.7044884	104.9687057	103.2698425	101.6067872	99.97847274	98.38387481	96.82200934
190604A00019	6/4/2019	2.27	6/4/2024	6/4/2019	115.66124	112.6421331	109.7179649	106.8851131	104.1401211	101.4796899	98.90066932	96.40005012	93.97495641
190607A00040	6/7/2019	2.12	6/7/2022	6/7/2019	104.10805	103.3766382	102.6554769	101.9443539	101.2430606	100.5513941	99.86915715	99.19615792	98.53220964
190607A00041	6/7/2019	2.12	6/7/2022	6/7/2019	104.10805	103.3766382	102.6554769	101.9443539	101.2430606	100.5513941	99.86915715	99.19615792	98.53220964
190621A00034	6/21/2019	2.17	6/15/2023	6/21/2019	110.07502	108.2147219	106.3955911	104.6163252	102.8756802	101.1724643	99.50553522	97.87379751	96.27620018
190621A00035	6/21/2019	2.19	12/15/2023	6/21/2019	112.90481	110.4579654	108.0770351	105.7597355	103.5038814	101.3073827	99.1682391	97.08453511	95.05443601
190501A00014	5/1/2019	2.62	5/1/2024	5/1/2019	116.12874	113.2084252	110.3773539	107.6322265	104.9698924	102.3873388	99.88168393	97.45016977	95.09015624
190515A00030	5/15/2019	2.49	5/15/2024	5/15/2019	115.98378	113.0222705	110.152323	107.3705091	104.673555	102.0583323	99.52185103	97.06125162	94.67379874
190515A00032	5/15/2019	2.49	5/15/2024	5/15/2019	115.98378	113.0222705	110.152323	107.3705091	104.673555	102.0583323	99.52185103	97.06125162	94.67379874
190520A00048	5/20/2019	2.53	5/20/2024	5/20/2019	116.17191	113.192353	110.3052768	107.5072003	104.7948025	102.164911	99.61449419	97.14065363	94.74061741

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190523A00035	5/23/2019	2.34	11/23/2021	5/23/2019	100.9087	100.7571444	100.6060508	100.4554187	100.305246	100.1555306	100.0062704	99.85746336	99.70910739
190530A00048	5/30/2019	2.41	5/31/2022	5/30/2019	104.19011	103.4795243	102.7786032	102.0871482	101.4049686	100.7318789	100.0676985	99.41225158	98.76536682
190325A00022	3/25/2019	2.55	11/25/2022	3/25/2019	107.47197	106.1919729	104.9423793	103.722114	102.5301536	101.3655218	100.2272868	99.1145588	98.02648743
190327A00027	3/27/2019	2.66	1/15/2025	3/27/2019	120.27968	116.473522	112.808913	109.2797574	105.8802653	102.6049309	99.44851689	96.40603908	93.47275279
190329A00012	3/29/2019	2.61	3/29/2024	3/29/2019	115.57584	112.7671678	110.0420829	107.3975928	104.8308346	102.3390658	99.91965849	97.57009337	95.28795493
190405A00040	4/3/2020	3.12	4/5/2030	4/3/2020	151.2783	139.835823	129.3601943	119.7642782	110.9692246	102.9036449	95.50286944	88.70828365	82.46673202
190422A00030	4/22/2019	2.93	12/22/2025	4/22/2019	126.60226	121.5450952	116.7204735	112.1163444	107.7213563	103.5248126	99.51662971	95.68729775	92.02784398
190426A00023	4/26/2019	2.91	6/24/2026	4/26/2019	129.26568	123.5222069	118.0698922	112.8923137	107.9740733	103.3007273	98.85872153	94.63533094	90.61860365
190311A00068	3/25/2019	2.76	9/26/2022	3/25/2019	106.59991	105.5153766	104.4528621	103.411705	102.391266	101.3909314	100.4101112	99.44823851	98.50476811
190311A00072	3/25/2019	2.79	9/25/2023	3/25/2019	112.93441	110.7352264	108.5907318	106.4992056	104.458998	102.4685231	100.526255	98.63072557	96.78052164
190311A00073	3/14/2019	2.81	3/14/2024	3/14/2019	115.859	113.0935904	110.4091348	107.8027868	105.2718175	102.8136108	100.4256577	98.10555139	95.85098245
190311A00076	3/14/2019	2.88	9/16/2024	3/14/2019	119.10788	115.7077312	112.4235647	109.2507662	106.1849362	103.2218752	100.3575733	97.58820023	94.91009661
190318A00016	3/19/2019	2.7	3/18/2022	3/19/2019	103.04399	102.5571551	102.0749249	101.5972342	101.1240191	100.6552166	100.190765	99.73060404	99.27467417
190318A00017	3/19/2019	2.7	3/18/2022	3/19/2019	103.04399	102.5571551	102.0749249	101.5972342	101.1240191	100.6552166	100.190765	99.73060404	99.27467417
190122A00017	1/22/2019	2.94	5/2/2022	1/22/2019	104.00317	103.3801991	102.7646814	102.1564805	101.5554666	100.961513	100.3744957	99.79429389	99.22078933
190122A00018	1/22/2019	2.98	12/1/2022	1/22/2019	108.10301	106.7997051	105.5277747	104.2860917	103.0735868	101.8892403	100.7320798	99.60117697	98.49564546
190123A00059	1/23/2019	2.95	1/24/2022	1/23/2019	102.16365	101.8332399	101.5049721	101.1788254	100.8547793	100.5328135	100.2129079	99.89504289	99.57919884
190206A00009	2/12/2019	2.84	2/11/2022	2/12/2019	102.46075	102.0776025	101.6973262	101.3198879	100.9452558	100.5733986	100.2042854	99.83788595	99.4741703
190206A00010	2/12/2019	2.84	2/11/2022	2/12/2019	102.46075	102.0776025	101.6973262	101.3198879	100.9452558	100.5733986	100.2042854	99.83788595	99.4741703
190221A00012	2/21/2019	2.83	8/23/2022	2/21/2019	106.04264	105.0670109	104.1093109	103.1690475	102.2457476	101.3389548	100.4482293	99.57314663	98.71329711
181029A00051	2/5/2019	3.69	2/5/2029	2/5/2019	149.52654	139.7480684	130.6916405	122.2999461	114.5205046	107.3052381	100.6100816	94.39462905	88.62181198
181031A00070	3/1/2019	3.77	3/1/2029	3/1/2019	150.62927	140.7118688	131.532702	123.0326776	115.1577276	107.8583595	101.0892469	94.80885917	88.97912511
181203A00039	12/3/2018	3.27	12/1/2023	12/3/2018	115.17158	112.7410623	110.3749411	108.0710275	105.8272226	103.641517	101.5119856	99.43678352	97.41414193
181206A00018	12/6/2018	3.13	12/6/2023	12/6/2018	114.939	112.4958155	110.1177202	107.8024794	105.5479596	103.3521186	101.2130006	99.12873195	97.09751683
181220A00041	12/20/2018	3.36	12/18/2026	12/20/2018	134.50033	128.0155383	121.8871869	116.0936662	110.6147991	105.4317397	100.5268778	95.88375009	91.48695913
181227A00001	12/27/2018	2.92	12/27/2021	12/27/2018	101.62814	101.3791201	101.1313245	100.8847421	100.639364	100.3951816	100.1521861	99.91036876	99.66972117
180912A00017	9/12/2018	3.13	9/12/2023	9/12/2018	113.40457	111.2416905	109.1316044	107.0726891	105.06338	103.1021715	101.1876142	99.3183124	97.4929217
180919A00013	9/19/2018	3.14	9/19/2022	9/19/2018	106.85087	105.7868722	104.7440481	103.7217741	102.7194468	101.7364862	100.7723345	99.82645524	98.89833226
180925A00033	9/25/2018	3.26	9/25/2023	9/25/2018	113.91707	111.7074163	109.552661	107.4510801	105.4010182	103.4008832	101.4491437	99.54432633	97.6850126
181001A00031	10/1/2018	3.23	9/29/2023	10/1/2018	113.92962	111.7070971	109.5400946	107.4268592	105.3657076	103.3550218	101.3932455	99.47888154	97.61048927
181003A00023	10/3/2018	3.17	4/4/2022	10/3/2018	103.59965	103.0611128	102.5281743	102.000743	101.4787341	100.9620641	100.4506513	99.94441596	99.44327954
181016A00019	10/18/2018	3.32	10/16/2023	10/18/2018	114.43225	112.15282	109.931215	107.7655675	105.6540893	103.5950629	101.5868384	99.62783004	97.71651359
180726A00046	7/26/2018	3.2	12/26/2023	7/26/2018	115.45731	112.9465593	110.5040339	108.1273412	105.8141943	103.5624073	101.3698893	99.23463991	97.15474373

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180727A00017	7/27/2018	3.16	7/27/2023	7/27/2018	112.6017	110.5914176	108.6273546	106.70815	104.8324939	102.9991243	101.2068242	99.45442047	97.74078132
180821A00029	8/21/2018	3.01	8/21/2023	8/21/2018	112.76166	110.6739796	108.6357849	106.6455995	104.7019994	102.8036124	100.9491158	99.13723441	97.36673834
180910A00037	9/10/2018	3.03	9/9/2022	9/10/2018	106.55718	105.5259229	104.5146094	103.522664	102.5495339	101.5946871	100.6576116	99.73781439	98.8348205
180910A00039	9/10/2018	3.03	9/9/2022	9/10/2018	106.55718	105.5259229	104.5146094	103.522664	102.5495339	101.5946871	100.6576116	99.73781439	98.8348205
180911A00007	9/11/2018	3.12	9/8/2023	9/11/2018	113.31014	111.1609535	109.0639375	107.0174953	105.0200896	103.0702403	101.1665227	99.30756404	97.49204207
180613A00047	6/13/2018	3.17	1/12/2024	6/13/2018	115.68583	113.1204537	110.625726	108.1992027	105.8385472	103.5415221	101.3059839	99.12987806	97.01123463
180615A00039	6/15/2018	3.49	6/15/2028	6/15/2018	144.0668	135.3453044	127.2200073	119.6467848	112.5850159	105.9972862	99.8491175	94.10872132	88.74677509
180618A00036	6/18/2018	3.89	6/18/2048	6/18/2018	269.27834	217.9862001	177.974433	146.6286526	121.9591018	102.4480756	86.9353003	74.53167318	64.554229
180621A00068	6/21/2018	3.32	6/23/2025	6/21/2018	125.36159	120.9341746	116.689516	112.6189588	108.7143122	104.9678253	101.3721603	97.92036742	94.60586176
180625A00012	6/25/2018	3.07	6/23/2023	6/25/2018	111.83293	109.9315639	108.0726564	106.2548506	104.4768492	102.7374103	101.0353441	99.36951033	97.73881558
180709A00081	7/9/2018	3.05	7/7/2023	7/9/2018	112.05204	110.1061274	108.2042873	106.3451313	104.5273301	102.7496093	101.0107467	99.30956965	97.64495232
180518A00046	5/25/2018	3.62	5/18/2027	5/25/2018	138.5552	131.4215839	124.7063391	118.382596	112.4253553	106.81135	101.5189151	96.52786925	91.81940464
180518A00048	5/25/2018	3.65	5/18/2028	5/25/2018	144.8044	136.1591816	128.0983077	120.5790009	113.5618379	107.0104733	100.8913826	95.17362885	89.82864954
180518A00071	5/25/2018	3.56	5/18/2026	5/25/2018	131.9975	126.3142961	120.9127613	115.7773494	110.8934598	106.2473767	101.8262098	97.6178397	93.61086766
180529A00072	5/29/2018	3	5/30/2023	5/29/2018	111.26654	109.4445935	107.6620956	105.9178374	104.2106553	102.5394331	100.9030996	99.30062631	97.73102526
180612A00031	6/12/2018	3.04	6/13/2022	6/12/2018	104.87194	104.1193013	103.3774629	102.6461932	101.9252671	101.2144662	100.513578	99.82239592	99.14071918
180613A00046	6/13/2018	3	1/13/2022	6/13/2018	101.96861	101.6702574	101.3736576	101.078799	100.785666	100.4942435	100.2045165	99.91647002	99.63008951
180328A00015	3/28/2018	2.93	3/28/2023	3/28/2018	110.01914	108.3969578	106.8074661	105.2497562	103.7229545	102.226219	100.7587376	99.31972687	97.90843096
180328A00042	3/28/2018	2.95	3/28/2023	3/28/2018	110.05025	108.4278208	106.8380797	105.2801249	103.7530827	102.256111	100.7883975	99.34915865	97.93763857
180403A00024	4/3/2018	2.96	4/3/2023	4/3/2018	110.1735	108.5319508	106.9237563	105.3479845	103.8037348	102.2901394	100.8063621	99.35159631	97.9250641
180404A00018	4/4/2018	2.89	4/4/2022	4/4/2018	103.45335	102.9152587	102.3827625	101.8557703	101.3341972	100.8179598	100.3069765	99.80116737	99.30045412
180515A00022	5/15/2018	3.19	5/15/2023	5/15/2018	111.31979	109.541932	107.8019123	106.098591	104.4308757	102.7977173	101.198108	99.63107909	98.09569895
180518A00042	5/25/2018	3.42	5/19/2025	5/25/2018	125.15871	120.8517435	116.718579	112.7511817	108.9419371	105.2836283	101.7694125	98.39279914	95.14762928
180104A00016	1/4/2018	2.56	1/4/2023	1/4/2018	108.18314	106.7783772	105.408461	104.0720953	102.7680515	101.4951609	100.2523104	99.0384398	97.85253847
180123A00067	1/23/2018	2.67	1/23/2023	1/23/2018	108.53961	107.1128262	105.7147184	104.3444455	103.0011974	101.684196	100.392693	99.125969	97.88333156
180131A00022	1/31/2018	2.96	1/30/2025	1/31/2018	121.58141	117.7053262	113.9744385	110.3825372	106.9237147	103.5923461	100.3830744	97.29079605	94.31064758
180201A00022	2/1/2018	2.99	2/3/2025	2/1/2018	121.75693	117.8639122	114.1171484	110.5103707	107.0376162	103.6932079	100.4717393	97.36806009	94.3772626
180312A00014	3/12/2018	3	3/13/2023	3/12/2018	109.87561	108.2993394	106.754004	105.2387675	103.7528233	102.2953933	100.8657262	99.46309676	98.08680433
180316A00031	3/16/2018	2.96	12/16/2022	3/16/2018	108.36793	107.0144667	105.6947684	104.4075813	103.1517144	101.9260342	100.7294614	99.56096755	98.41957229
171110A00019	5/4/2018	2.46	5/4/2023	5/4/2018	109.90121	108.1683573	106.471943	104.8108899	103.1841631	101.5907679	100.0297478	98.50018257	97.00118691
171219A00031	12/19/2017	2.42	12/20/2021	12/19/2017	101.38499	101.1562769	100.928603	100.701965	100.4763557	100.2517681	100.0281952	99.80563018	99.5840661
171219A00032	12/19/2017	2.42	12/20/2021	12/19/2017	101.38499	101.1562769	100.928603	100.701965	100.4763557	100.2517681	100.0281952	99.80563018	99.5840661
171222A00037	12/22/2017	2.71	12/29/2023	12/22/2017	114.34721	111.8405203	109.4022282	107.029923	104.7213037	102.4741709	100.2864217	98.15604412	96.08111246

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
171228A00023	12/28/2017	2.69	3/29/2024	12/28/2017	115.78775	112.9762719	110.2484476	107.6012806	105.0319062	102.53758	100.1156722	97.76366169	95.47913139
171228A00024	12/28/2017	2.71	6/28/2024	12/28/2017	117.30429	114.1845103	111.1647607	108.2411349	105.409911	102.6675416	100.0106436	97.4359899	94.94049988
170822A00023	8/23/2017	3.95	8/23/2028	8/23/2017	148.73096	139.5952245	131.096482	123.186776	115.8220012	108.9615759	102.5681438	96.60730173	91.04735233
170908A00021	9/8/2017	1.96	9/8/2022	9/8/2017	105.49846	104.4759519	103.4731945	102.4896154	101.5246683	100.5778276	99.64858735	98.73646026	97.84097686
170918A00051	12/18/2017	2.24	12/19/2022	12/18/2017	107.51372	106.1563838	104.8331916	103.542864	102.2841879	101.0560096	99.85723069	98.68680509	97.54373574
171016A00016	10/16/2017	2.23	10/17/2022	10/16/2017	106.41796	105.2683373	104.143475	103.0425782	101.964887	100.9096733	99.87623939	98.86391592	97.8720609
171110A00007	11/10/2017	2.38	11/10/2022	11/10/2017	107.00374	105.7745565	104.5735238	103.3996849	102.2521239	101.1299656	100.0323736	98.95854753	97.90772167
171110A00008	11/10/2017	2.65	11/12/2024	11/10/2017	119.26594	115.6810324	112.2237517	108.8887796	105.6710563	102.5657652	99.56831884	96.67434677	93.87968362
170622A00045	6/22/2017	2.76	6/22/2027	6/22/2017	133.68193	126.5686929	119.8814216	113.5922516	107.675296	102.1064947	96.86347462	91.92542234	87.27296604
170628A00044	10/9/2018	2.12	10/8/2021	10/9/2018	100.12987	100.1075822	100.0853216	100.0630846	100.0408711	100.018681	99.99651434	99.97437104	99.95225105
170703A00022	7/3/2017	2.86	7/3/2026	7/3/2017	129.14133	123.3703034	117.8932117	112.6934119	107.7553066	103.0642679	98.60657075	94.36933169	90.34045208
170703A00024	7/3/2017	2.95	7/6/2027	7/3/2017	135.08932	127.8854856	121.1148822	114.7490708	108.7616316	103.1280136	97.82539171	92.8325356	88.12968969
170726A00025	7/26/2017	2.14	7/26/2022	7/26/2017	104.93405	104.0502166	103.1812268	102.3267082	101.4863018	100.6596602	99.8464473	99.04633789	98.25901722
170814A00034	8/14/2017	2.1	8/15/2022	8/14/2017	105.23369	104.2868615	103.3570206	102.4437154	101.5465078	100.6649746	99.79870771	98.94731298	98.11040972
170405A00031	4/5/2017	2.22	4/4/2022	4/5/2017	103.10327	102.5662506	102.0348129	101.5088714	100.9883411	100.4731388	99.96318305	99.45839395	98.95869327
170412A00019	4/12/2017	2.56	4/12/2024	4/12/2017	115.66418	112.8101653	110.0420842	107.3568216	104.7513948	102.2229487	99.76874922	97.3861777	95.07272483
170518A00008	5/18/2018	3.06	5/18/2028	5/18/2018	140.42603	131.9310542	124.0130205	116.6295791	109.7417143	103.313461	97.31165003	91.70567686	86.46728958
170519A00019	5/19/2017	2	11/19/2021	5/19/2017	100.79394	100.6537647	100.5139919	100.3746198	100.2356465	100.0970703	99.95888945	99.82110231	99.68370715
170609A00052	6/11/2018	2.9	6/9/2027	6/11/2018	134.38204	127.2940432	120.6277031	114.3556068	108.4522779	102.8940258	97.65881048	92.72611849	88.07684833
170614A00019	6/14/2017	2.48	6/13/2025	6/14/2017	121.82886	117.5036308	113.3564772	109.3790059	105.5632732	101.9017595	98.38734293	95.01327587	91.7731626
161221A00053	12/23/2016	3.05	12/23/2021	12/23/2016	101.58437	101.3468051	101.1103582	100.8750227	100.6407908	100.4076548	100.1756069	99.9446395	99.71474507
170327A00077	3/27/2019	2.74	3/27/2024	3/27/2019	115.88773	113.0811958	110.3579807	107.7151078	105.1497297	102.6591184	100.2406597	97.8918472	95.61027751
170327A00078	3/27/2019	3.04	3/27/2026	3/27/2019	128.55628	123.1313732	117.9692443	113.0557512	108.3775877	103.9222309	99.67789067	95.63346303	91.77848623
170327A00079	3/27/2019	3.19	3/29/2027	3/27/2019	135.10932	128.2504404	121.78677	115.6934131	109.9471686	104.526409	99.41096522	94.58202118	90.02201581
170327A00080	3/27/2019	3.43	3/27/2029	3/27/2019	148.20268	138.2824226	129.1093804	120.6231032	112.7683361	105.4945477	98.75550406	92.50888154	86.71591772
170404A00002	4/4/2017	2.42	4/4/2023	4/4/2017	109.34034	107.7026385	106.0982673	104.5262898	102.9858047	101.4759437	99.9958697	98.54477578	97.12188359
161017A00015	10/17/2016	1.68	10/18/2021	10/17/2016	100.27023	100.2200614	100.1699627	100.1199308	100.0699657	100.0200671	99.97023487	99.92046898	99.87076925
161115A00021	11/15/2016	2.02	11/15/2021	11/15/2016	100.7343	100.6054189	100.4768817	100.348687	100.2208334	100.0933196	99.96614403	99.83930546	99.7128025
161118A00026	12/20/2016	3.03	12/21/2026	12/20/2016	132.64886	126.2040315	120.1146925	114.3592372	108.9174944	103.770627	98.9010355	94.29226945	89.92894553
161123A00035	11/23/2016	2.16	11/23/2021	11/23/2016	100.88158	100.7300557	100.578995	100.4283958	100.2782558	100.1285731	99.97934555	99.83057103	99.68224749
161123A00037	11/23/2016	2.16	11/23/2021	11/23/2016	100.88158	100.7300557	100.578995	100.4283958	100.2782558	100.1285731	99.97934555	99.83057103	99.68224749
161125A00002	11/25/2016	2.62	11/27/2023	11/25/2016	113.61672	111.2166381	108.879993	106.6046311	104.3884933	102.2296074	100.1260836	98.07611043	96.0779508
160714A00018	9/6/2016	2.28	9/4/2026	9/6/2016	126.93272	121.0072234	115.3938354	110.07451	105.0323337	100.2514514	95.71699526	91.4150178	87.33243051

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160714A00024	9/20/2016	2.5	9/20/2028	9/20/2016	137.87639	129.0267649	120.8083478	113.1728033	106.0757344	99.47634371	93.33712487	87.62358085	82.30396819
160729A00017	7/31/2017	2.47	7/31/2029	7/31/2017	141.72438	131.6027168	122.2804152	113.6901731	105.7706791	98.46604827	91.72531717	85.5019878	79.75361593
160819A00015	10/12/2016	2.3	10/13/2026	10/12/2016	127.55633	121.4816075	115.7331984	110.2918495	105.1395434	100.2594148	95.63567061	91.2535162	87.09908676
160830A00068	11/30/2016	1.95	11/30/2023	11/30/2016	112.13355	109.7412455	107.4124501	105.1449986	102.9368212	100.7859361	98.69044493	96.648528	94.65844074
161017A00007	10/17/2016	1.99	10/18/2023	10/17/2016	111.59711	109.3427621	107.1458555	105.0045291	102.9170008	100.8815594	98.89656125	96.96042701	95.07163846
160520A00017	9/20/2017	2.34	9/20/2024	9/20/2017	117.45676	114.0692793	110.7979879	107.6382487	104.5856345	101.6359202	98.78507253	96.02923959	93.36474196
160520A00018	9/20/2017	2.34	9/20/2024	9/20/2017	117.45676	114.0692793	110.7979879	107.6382487	104.5856345	101.6359202	98.78507253	96.02923959	93.36474196
160524A00015	11/25/2016	2.71	11/25/2026	11/25/2016	130.44114	124.1443454	118.1914959	112.5619139	107.2362847	102.1965543	97.42584029	92.90834875	88.62929812
160711A00020	8/24/2017	1.59	8/24/2022	8/24/2017	104.91055	103.9375862	102.9825887	102.0450622	101.1245306	100.2205353	99.33263383	98.46039943	97.60342033
160711A00022	1/10/2018	1.91	1/10/2025	1/10/2018	117.56079	113.8171917	110.2128458	106.7417339	103.3981421	100.1766398	97.07206297	94.07949962	91.19427541
160712A00019	7/12/2017	2.32	7/12/2027	7/12/2017	131.13598	124.0302337	117.3547527	111.081201	105.1832563	99.63645866	94.41806905	89.50693864	84.8833893
160222A00018	2/22/2016	2.59	2/23/2026	2/22/2016	125.94991	120.6926429	115.6859369	110.9165463	106.371995	102.0405275	97.91106282	93.97315287	90.21694262
160222A00019	2/22/2016	3.09	2/21/2031	2/22/2016	155.95342	143.0692421	131.3715987	120.7444618	111.083721	102.2959025	94.29703326	87.01163156	80.37180905
160223A00012	2/23/2016	1.89	2/23/2023	2/23/2016	108.1138	106.603531	105.1219932	103.6684352	102.2421304	100.8423772	99.46849742	98.11983559	96.79575787
160225A00024	2/25/2016	2.22	2/26/2024	2/25/2016	114.07138	111.3826665	108.7713469	106.2347517	103.770318	101.3755868	99.04819755	96.78588412	94.58647003
160303A00020	3/3/2016	2.97	3/3/2031	3/3/2016	156.70635	143.6511055	131.8051322	121.0495703	111.2778295	102.3942629	94.31299269	86.95686671	80.25653184
160307A00029	3/7/2016	3.21	3/7/2031	3/7/2016	157.46987	144.4562562	132.6441395	121.915657	112.1650917	103.2975645	95.22787304	87.87945941	81.18349296
160211A00034	2/11/2016	1.82	2/10/2023	2/11/2016	107.60724	106.146507	104.712835	103.3055375	101.9239478	100.5674215	99.23533465	97.92708399	96.64208534
160211A00036	2/11/2016	2.41	2/11/2026	2/11/2016	124.90909	119.7194119	114.775463	110.0643448	105.5739032	101.2926802	97.2098706	93.31528161	89.59929489
160211A00086	2/16/2016	2.8	2/16/2022	2/16/2016	102.53764	102.1397883	101.7450284	101.3533244	100.9646408	100.5789428	100.1961959	99.81636632	99.43942069
160211A00089	2/16/2016	3.91	2/16/2024	2/16/2016	118.17913	115.4713765	112.8403946	110.2835631	107.7983704	105.3824055	103.0333528	100.7489883	98.52717484
160212A00037	2/12/2016	3.03	2/12/2031	2/12/2016	155.02951	142.2339731	130.6144041	120.0560774	110.4560222	101.7217622	93.77019722	86.52661	79.92378175
160222A00005	2/22/2016	2.79	2/22/2028	2/22/2016	137.24051	129.1591434	121.6104388	114.5565028	107.9623214	101.7955305	96.02620245	90.6266507	85.5712516
160209A00049	2/9/2016	1.92	2/9/2023	2/9/2016	107.73351	106.2750747	104.8436123	103.4384324	102.0588719	100.7042897	99.37406529	98.0675984	96.78430786
160210A00021	2/10/2016	1.97	2/10/2023	2/10/2016	107.82042	106.3580814	104.9228312	103.5139834	102.1308708	100.7728479	99.43929021	98.12959368	96.84317348
160210A00036	2/10/2016	1.77	2/10/2023	2/10/2016	107.7321	106.2672694	104.829623	103.4184693	102.0331374	100.6729787	99.33736567	98.02569122	96.7373678
160210A00041	2/10/2016	1.97	2/10/2023	2/10/2016	107.82042	106.3580814	104.9228312	103.5139834	102.1308708	100.7728479	99.43929021	98.12959368	96.84317348
160210A00042	2/10/2016	2.57	2/10/2026	2/10/2016	125.65594	120.4529145	115.4958713	110.7719168	106.2688965	101.9753512	97.88047429	93.97407089	90.24652022
160210A00053	2/10/2016	1.99	2/10/2023	2/10/2016	107.84885	106.3862913	104.9508307	103.5417762	102.1584605	100.800238	99.46648428	98.15659498	96.86998523
151027A00021	10/27/2015	2.02	10/27/2021	10/27/2015	100.43105	100.3557191	100.2805082	100.2054163	100.1304433	100.0555888	99.98085251	99.90623426	99.83173376
151211A00037	12/11/2017	2.69	1/11/2023	12/11/2017	108.43775	107.023918	105.6426798	104.2929028	102.9735108	101.6834769	100.4218205	99.18760487	97.97993442
151211A00040	12/11/2017	2.7	2/13/2023	12/11/2017	108.91233	107.4319334	105.9791192	104.5531789	103.1534287	101.7792075	100.4298761	99.10481578	97.80342812
151211A00041	12/11/2017	2.71	3/13/2023	12/11/2017	109.43712	107.8643455	106.3224383	104.8105684	103.3279311	101.8737499	100.4472751	99.04778306	97.67457464

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
151214A00051	12/14/2015	2.92	12/15/2025	12/14/2015	126.45016	121.4194288	116.6191381	112.0373922	107.6629855	103.485356	99.49454403	95.68115412	92.03631912
160209A00019	2/9/2016	2.52	2/9/2026	2/9/2016	125.40289	120.2092662	115.2610999	110.545525	106.0504188	101.7643519	97.67654533	93.77682986	90.05560871
150731A00016	7/31/2015	3.04	7/31/2025	7/31/2015	124.83385	120.2932912	115.9442626	111.7776914	107.78498	103.9579802	100.2889675	96.77061684	93.39598006
150731A00020	7/31/2015	2.47	7/29/2022	7/31/2015	105.26598	104.3714066	103.4920008	102.6273748	101.7771584	100.9409937	100.1185346	99.30944637	98.51340492
150812A00040	8/12/2015	2.94	8/12/2025	8/12/2015	124.60441	120.0290003	115.648188	111.4526735	107.433655	103.5827947	99.8921921	96.35435866	92.9621941
150909A00003	9/9/2015	3.11	9/9/2025	9/9/2015	125.76786	121.0753505	116.585926	112.2897067	108.1773478	104.2400068	100.4693139	96.85734402	93.39659082
151002A00038	10/2/2015	2.81	10/2/2025	10/2/2015	124.83843	120.0868913	115.5444712	111.200825	107.0461796	103.0712962	99.26743843	95.626342	92.14018654
151008A00025	10/8/2015	2.91	10/8/2025	10/8/2015	125.36411	120.5820988	116.0111069	111.6406667	107.4608872	103.4624206	99.636429	95.97455384	92.46888718
150601A00625	6/1/2015	3.96	12/9/2044	6/1/2015	245.53646	203.5381229	169.7935663	142.5949531	120.5990006	102.7473071	88.20444261	76.3097706	66.53990077
150601A00656	6/1/2015	2.59	12/17/2021	6/1/2015	101.36282	101.1426655	100.9234774	100.7052521	100.4879831	100.271664	100.0562887	99.84185078	99.62834419
150601A00677	6/1/2015	2.39	1/30/2025	6/1/2015	119.96996	116.1081411	112.3915678	108.8140178	105.3695648	102.0525672	98.85765245	95.77970298	92.81384267
150601A00682	6/1/2015	2.3	2/9/2022	6/1/2015	102.21243	101.8356616	101.4616738	101.0904352	100.7219155	100.3560849	99.99291389	99.63237355	99.2744353
150601A00775	6/1/2015	2.28	11/12/2021	6/1/2015	100.71386	100.5934245	100.473295	100.353466	100.2339364	100.114705	99.99577068	99.87713225	99.75878862
150601A00998	6/1/2015	5.37	10/25/2034	6/1/2015	208.86349	187.3273201	168.3617899	151.6399569	136.8783466	123.8309564	112.2841139	102.052064	92.97317992
140923A00070	9/23/2014	2.88	9/23/2022	9/23/2014	106.66586	105.5903475	104.5364917	103.5036433	102.4911786	101.4984984	100.5250267	99.5702098	98.63351499
141117A00011	11/17/2014	3.81	11/17/2034	11/17/2014	186.32146	166.1953098	148.5264123	132.9976348	119.3344764	107.2991302	96.68540144	87.3143534	79.03057251
141215A00062	12/15/2014	2.65	12/16/2024	12/15/2014	120.32842	116.6031382	113.0139814	109.5551123	106.2209855	103.0063314	99.90614018	96.91564659	94.03031647
150211A00005	2/11/2015	2.35	2/15/2022	2/11/2015	102.34523	101.9507428	101.5592997	101.1708663	100.7854077	100.4028898	100.0232791	99.64654237	99.27264699
150601A00356	6/1/2015	3.66	9/22/2023	6/1/2015	114.61148	112.403577	110.2502755	108.1498703	106.1007212	104.101251	102.149942	100.2453338	98.38602047
150601A00406	6/1/2015	3.71	1/17/2024	6/1/2015	116.96277	114.3665791	111.8420427	109.3867121	106.9982359	104.6743607	102.4129256	100.2118579	98.06916881
120614A00005	6/14/2012	2.22	6/15/2022	6/14/2012	104.39033	103.6325696	102.8857912	102.1497586	101.4242408	100.7090136	100.003859	99.30856515	98.62292604
130211A00016	2/11/2013	2.27	2/15/2023	2/11/2013	108.34649	106.8636064	105.4084614	103.9803427	102.5785601	101.2024466	99.85135686	98.524667	97.22177319
130211A00026	2/11/2013	2.27	2/15/2023	2/11/2013	108.34649	106.8636064	105.4084614	103.9803427	102.5785601	101.2024466	99.85135686	98.524667	97.22177319
130211A00035	2/11/2013	2.27	2/15/2023	2/11/2013	108.34649	106.8636064	105.4084614	103.9803427	102.5785601	101.2024466	99.85135686	98.524667	97.22177319
130501A00021	5/1/2013	2.27	5/1/2023	5/1/2013	109.5376	107.816749	106.1319595	104.4821752	102.8663764	101.2835829	99.73285192	98.21327632	96.72398295
140314A00003	3/14/2014	3.32	3/14/2024	3/14/2014	117.18682	114.4041143	111.702756	109.0798875	106.5327678	104.0587694	101.6553723	99.32015914	97.05081024
081028A00036	10/30/2008	4.22	10/30/2023		116.66553	114.3189651	112.0325482	109.8043047	107.6323527	105.5148906	103.4501563	101.4364679	99.47222739
180404A00037	4/6/2018	2.51	4/6/2028	4/6/2022	137.08901	128.8174108	121.1903473	114.4358732	108.885581	104.6993628	101.8629977	100.2080709	99.2895227
180406A00015	4/10/2018	2.61	4/10/2028	4/10/2023	137.87676	129.5628272	121.8891623	115.0690144	109.4247571	105.1058365	101.9854505	99.69614294	97.86984443
180925A00059	9/25/2018	3.01	9/25/2028	9/25/2023	143.35754	134.2430321	125.8510363	118.3698589	112.0952667	107.1540262	103.39745	100.481028	98.07896487
181031A00046	11/2/2018	3.05	10/29/2021		100.54624	100.4652454	100.3843841	100.3036553	100.2230587	100.142594	100.0622609	99.98205896	99.901988
181203A00046	12/4/2018	2.8	12/4/2023	12/3/2021	114.14478	111.716972	109.353755	107.0532156	104.824201	102.7511082	101.0783516	100.1104004	99.73628351
200306A00069	3/6/2020	0.58	3/6/2025	3/7/2022	113.94065	110.0674122	106.392354	103.1849586	100.912349	99.79404412	99.29553938	98.87309351	98.45587556

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200227A00024	2/27/2020	0.85	2/27/2025	11/29/2021	114.87018	111.0014349	107.3089707	103.9821409	101.4350877	100.0667333	99.78621653	99.62930821	99.47289951
200227A00025	2/27/2020	1.09	2/27/2025	2/27/2023	115.75398	111.8688905	108.1503933	104.7348246	101.9506724	99.92737615	98.37733036	96.9903376	95.65674401
200228A00090	2/28/2020	1	2/28/2025	11/29/2021	114.87363	111.0157463	107.3327384	104.0101022	101.4576973	100.0735506	99.78714099	99.63047385	99.47430286
200228A00095	2/28/2020	1.15	2/28/2023	11/29/2021	106.91574	105.4015137	103.9163318	102.4608443	101.0810627	100.0850721	99.81407788	99.65734504	99.50110891
200228A00096	2/28/2020	1.28	2/28/2022	11/29/2021	102.11473	101.6830927	101.2550893	100.8306718	100.4097955	100.0287644	99.83948526	99.68267154	99.52635536
200303A00035	3/3/2020	0.81	3/3/2025	3/3/2023	114.76328	110.8836824	107.1850765	103.8688797	101.2848892	99.42343677	97.93186297	96.55429971	95.21764986
200131A00023	1/31/2020	1.56	1/31/2025	1/31/2023	116.57193	112.7805764	109.1387712	105.7212396	102.7917981	100.5998007	99.00110709	97.64994787	96.37768412
200207A00008	2/7/2020	1.35	2/7/2025	2/7/2023	116.45623	112.6284875	108.9548313	105.5237582	102.6160636	100.4534831	98.85649274	97.4897837	96.19800857
200221A00040	2/21/2020	1.28	2/21/2025	11/22/2021	115.81888	111.9678811	108.2787284	104.8754096	102.1025747	100.3499746	99.85018794	99.70872769	99.571602
200221A00041	2/21/2020	1.53	2/21/2025	2/21/2023	116.73249	112.8650118	109.1540208	105.6845284	102.7315663	100.5184391	98.87460518	97.46770958	96.13988823
200221A00045	2/21/2020	1.03	2/21/2025	11/22/2021	115.4624	111.6036078	107.9114181	104.5326986	101.8397792	100.2277384	99.83564742	99.69665774	99.55931517
200227A00018	2/27/2020	0.99	2/27/2025	2/28/2022	115.38573	111.5074128	107.7992011	104.4182871	101.7480675	100.1524888	99.51288034	99.10019977	98.7005837
191029A00020	10/29/2019	1.51	10/31/2022	11/1/2021	105.99131	104.7979164	103.6312277	102.4903547	101.3774719	100.3748621	99.94522822	99.86505755	99.78501856
191121A00031	11/21/2019	1.54	11/21/2024	11/21/2022	116.18088	112.6051455	109.161368	105.896533	103.0279311	100.8480161	99.32929511	98.13031753	97.03423113
191209A00045	12/9/2019	1.56	12/9/2024	12/9/2022	116.47468	112.8366766	109.3349746	106.0192309	103.1100402	100.8907353	99.32197338	98.07173991	96.92959949
191211A00013	12/11/2019	1.57	12/11/2024	12/12/2022	116.53376	112.8884667	109.3798751	106.0570013	103.1393262	100.9113494	99.33699899	98.08451966	96.94164353
200128A00045	1/28/2020	1.45	1/28/2025	10/28/2021	116.14309	112.3685632	108.744454	105.3590233	102.5078433	100.5691658	99.93059352	99.85331258	99.77615508
200130A00029	1/30/2020	1.3	1/30/2023	11/1/2021	106.91028	105.4852226	104.0864475	102.7134687	101.3818208	100.2686124	99.92834181	99.84818469	99.76815921
190917A00040	9/17/2019	1.63	9/17/2024	12/17/2021	115.15976	111.8180245	108.5929526	105.522514	102.8075721	100.808944	99.89605392	99.62422821	99.41055334
190924A00014	9/24/2019	1.54	9/24/2024	12/24/2021	114.9622	111.6008453	108.358276	105.2811349	102.5922703	100.6654277	99.84495684	99.57537673	99.34316645
191008A00020	10/8/2019	1.58	10/8/2024	10/11/2022	115.26255	111.8523896	108.5639965	105.4435531	102.7102852	100.6649801	99.28649269	98.21748211	97.23755881
191008A00028	10/11/2019	1.08	10/8/2024	10/8/2021	114.1356	110.7316929	107.4540848	104.3927441	101.8576806	100.2665259	99.96587305	99.94382807	99.92180545
191011A00020	10/11/2019	1.53	10/11/2024	10/12/2021	115.13649	111.719131	108.4244762	105.3038038	102.5906234	100.6615178	99.96772875	99.9300449	99.89983058
191017A00012	10/17/2019	1.43	10/17/2022	10/18/2021	105.68775	104.5403204	103.4176666	102.3189937	101.2474116	100.2992449	99.96201199	99.92057232	99.87918394
190823A00023	8/23/2019	1.37	8/23/2024	11/23/2021	114.03719	110.7928129	107.6606257	104.6963848	102.1483643	100.4138367	99.85730579	99.70266281	99.55459736
190828A00011	8/28/2019	1.1	8/28/2024	11/29/2021	113.727	110.4608342	107.3099394	104.3472145	101.8581011	100.2654087	99.82789935	99.66874407	99.51228956
190828A00021	8/28/2019	1.36	8/28/2024	11/29/2021	114.06445	110.8041225	107.6572288	104.6817232	102.1300654	100.3999222	99.84954759	99.68723265	99.5309895
190830A00028	8/30/2019	1.39	8/30/2024	11/30/2021	114.18123	110.9128969	107.7582274	104.7724927	102.2015798	100.4393173	99.84863046	99.67368309	99.50652221
190909A00021	9/9/2019	1.2	9/9/2024	12/9/2021	114.18163	110.8698254	107.6754611	104.6640246	102.1018185	100.3957744	99.80988213	99.60534761	99.41374815
190911A00012	9/11/2019	1.27	9/11/2024	12/13/2021	114.42687	111.1047299	107.8998935	104.8703772	102.2665268	100.4839999	99.82744306	99.61398838	99.41966383
190812A00026	8/12/2019	1.48	8/12/2024	11/12/2021	114.24565	111.0322664	107.9279333	104.9758128	102.3943401	100.5659592	99.90043083	99.76666879	99.64864392
190812A00027	8/12/2019	1.71	8/12/2024	8/12/2022	114.94987	111.7258228	108.6100464	105.62957	102.9538295	100.8966718	99.55992743	98.60586582	97.75849628
190814A00019	8/14/2019	1.46	8/14/2024	11/15/2021	114.2083	110.9892602	107.8798192	104.9252382	102.3491784	100.5373195	99.89571001	99.76429741	99.646278

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190820A00068	8/20/2019	1.39	8/20/2024	11/22/2021	114.06391	110.8284351	107.7043224	104.7446161	102.1917872	100.4413608	99.86881524	99.72394048	99.58679524
190821A00024	8/21/2019	1.65	8/21/2024	8/22/2022	114.87886	111.6278257	108.4871649	105.4888241	102.8170787	100.7895265	99.47736365	98.52217961	97.66157009
190821A00046	8/21/2019	1.44	8/21/2024	11/22/2021	114.2301	110.9889838	107.8591352	104.8890184	102.3094693	100.508466	99.87939357	99.73086485	99.59371379
190801A00025	8/1/2019	1.68	8/1/2024	11/1/2021	114.71934	111.533045	108.4527568	105.5057803	102.8637001	100.8727089	99.97338753	99.83205495	99.74414142
190805A00014	8/5/2019	1.49	8/5/2024	8/5/2022	114.65511	111.4466299	108.345849	105.3850596	102.7495765	100.7574793	99.48159155	98.56196081	97.73489627
190807A00035	8/7/2019	1.45	8/7/2024	11/8/2021	114.09426	110.8987001	107.8112358	104.8766457	102.3184606	100.5245625	99.90538867	99.7940017	99.69514504
190807A00056	8/7/2019	1.49	8/7/2024	11/8/2021	114.21613	111.018725	107.9292373	104.9890463	102.4124953	100.5807558	99.91380917	99.7979889	99.69912841
190809A00026	8/9/2019	1.52	8/9/2024	11/9/2021	114.33176	111.1263993	108.0292575	105.0796632	102.4858617	100.6238178	99.91481152	99.78408739	99.67426775
190812A00020	8/12/2019	1.47	8/12/2024	11/12/2021	114.21503	111.0021121	107.8982906	104.9475849	102.3707154	100.5517872	99.89811807	99.76547866	99.64745509
190703A00023	7/3/2019	1.9	6/30/2022	12/30/2021	104.32168	103.51985	102.7302905	101.9527248	101.1869665	100.447334	99.92472211	99.65051549	99.40191229
190712A00044	7/12/2019	1.73	7/12/2022	10/12/2021	104.46238	103.6221715	102.7954378	101.9818547	101.1813437	100.4162911	99.98544148	99.94382715	99.91072219
190712A00047	7/12/2019	1.54	7/12/2024	10/12/2021	114.50488	111.3724691	108.3430491	105.4417489	102.8331712	100.8622776	99.99727149	99.93751057	99.90441085
190725A00018	7/25/2019	1.78	7/25/2024	10/25/2021	114.93213	111.7640693	108.7005473	105.7624352	103.0986199	101.0365326	100.011169	99.88926212	99.82035873
190725A00022	7/25/2019	1.7	7/25/2022	10/25/2021	104.64402	103.7632273	102.8972069	102.0455867	101.2083085	100.4114376	99.97090346	99.89500439	99.82598252
190731A00008	7/31/2019	1.53	7/31/2024	11/1/2021	114.71388	111.5201629	108.4328794	105.4798875	102.8345155	100.8455732	99.97175872	99.86666454	99.78662425
190607A00016	6/7/2019	1.75	6/7/2024	12/7/2021	114.21805	111.2098366	108.2971853	105.4963788	102.9423408	100.9583376	99.96316959	99.68710403	99.49931577
190607A00022	6/7/2019	1.5	6/7/2024	12/7/2021	113.93761	110.9236615	108.0059668	105.2067783	102.6834945	100.7827911	99.91496486	99.67260417	99.48570949
190607A00025	6/7/2019	1.48	6/7/2024	12/7/2021	113.88028	110.8671427	107.9502952	105.1530215	102.6366214	100.7516877	99.9062187	99.6687758	99.48195374
190610A00069	6/10/2019	2.04	6/10/2022	12/10/2021	104.10093	103.3604856	102.6305462	101.9108923	101.2013254	100.5081007	99.9824377	99.74203887	99.54678437
190613A00024	6/13/2019	2.18	6/13/2024	6/13/2023	115.53562	112.4894856	109.5399313	106.6867217	103.9887047	101.6290738	99.66207015	97.92713058	96.29841104
190702A00051	7/2/2019	1.46	7/2/2024	10/4/2021	114.14358	111.047049	108.0519113	105.1864046	102.6257474	100.7276074	99.99725542	99.98272647	99.98008671
190530A00108	5/30/2019	1.88	5/30/2024	11/30/2021	114.48109	111.4945112	108.6019025	105.8141718	103.2413999	101.1765603	100.0396066	99.7576398	99.58909687
190603A00067	6/3/2019	1.72	6/3/2024	12/3/2021	114.07957	111.0860497	108.1873217	105.4004471	102.864152	100.906861	99.95166433	99.69569666	99.51922325
190605A00032	6/5/2019	1.92	6/3/2022	12/3/2021	103.90285	103.1843222	102.4756978	101.7767733	101.0873819	100.4175322	99.94563653	99.73965672	99.56410226
190606A00030	6/6/2019	1.48	6/6/2024	12/6/2021	113.86736	110.857599	107.9439304	105.1495272	102.6353393	100.7520806	99.90819166	99.67311123	99.48899861
190606A00032	6/6/2019	1.75	6/6/2024	12/6/2021	114.20479	111.1999528	108.2904758	105.4925345	102.9406855	100.9582209	99.96450291	99.69071814	99.50561641
190606A00054	6/6/2019	1.8	6/6/2024	12/6/2021	114.34769	111.3408186	108.4292884	105.6273643	103.06128	101.0446216	99.99385541	99.70104028	99.51486669
190522A00029	5/22/2019	2.41	5/22/2024	5/22/2023	115.86501	112.883571	109.9948503	107.196687	104.5237168	102.1378712	100.1477528	98.42445845	96.82943631
190523A00048	5/23/2019	2.32	5/23/2024	5/23/2023	115.62656	112.6453772	109.7570054	106.9596653	104.2942376	101.9327679	99.9695554	98.26220434	96.67400641
190523A00050	5/23/2019	2.3	5/23/2023	5/23/2022	109.93653	108.1472574	106.3964512	104.6829328	103.0060461	101.4062774	100.1681013	99.36765751	98.71471987
190529A00115	5/29/2019	1.92	5/29/2024	11/29/2021	114.58111	111.5961789	108.7050445	105.9173978	103.337317	101.2495874	100.0678235	99.768333	99.60166651
190530A00057	5/30/2019	1.71	5/30/2024	11/30/2021	114.43099	111.4354997	108.534508	105.7400336	103.1677133	101.1185965	100.0184055	99.75081628	99.58271006
190530A00092	5/30/2019	1.69	5/30/2024	11/30/2021	114.37414	111.3794553	108.4792699	105.6862596	103.1191088	101.0829812	100.0064898	99.74771909	99.5793391

Classification | Public

	Parallel-Shift Sensitivity Analysis												
9/30/2021					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190509A00063	5/9/2019	2.11	5/9/2024	11/9/2021	114.83902	111.9118136	109.0749106	106.3328264	103.7608217	101.6035253	100.2459026	99.85829116	99.73952804
190510A00019	5/10/2019	2.39	5/10/2022	11/10/2021	103.8111	103.1648472	102.5266339	101.8963077	101.2737226	100.6597149	100.1164046	99.88810625	99.77231039
190513A00033	5/13/2019	2.35	5/15/2023	5/13/2022	109.89433	108.1290562	106.4013828	104.7102313	103.059479	101.5092057	100.2780981	99.44920918	98.79937367
190513A00065	5/13/2019	2.01	5/13/2022	11/15/2021	103.68888	103.0332367	102.3858729	101.7466334	101.115368	100.4954801	100.0142975	99.85229655	99.73395266
190516A00018	5/16/2019	2.03	5/16/2024	11/16/2021	114.71362	111.7666857	108.9112435	106.153602	103.5798327	101.4508865	100.1646974	99.82566611	99.6918484
190516A00028	5/16/2019	2.03	5/16/2024	11/16/2021	114.71362	111.7666857	108.9112435	106.153602	103.5798327	101.4508865	100.1646974	99.82566611	99.6918484
181210A00035	12/12/2018	2.65	1/16/2024	10/15/2021	114.49304	111.9300801	109.4379853	107.0150669	104.677772	102.5409024	100.883617	100.0436593	99.9186687
190104A00032	1/4/2019	2.33	1/4/2024	12/6/2021	113.5354	111.020275	108.5741738	106.1960306	103.9127894	101.8794458	100.4394687	99.98351848	99.97131946
190426A00017	4/26/2019	2.31	4/26/2022	10/26/2021	103.52114	102.917673	102.3212262	101.7316773	101.1489069	100.5735806	100.0705018	99.92720663	99.8554774
190426A00018	4/26/2019	2.14	4/26/2024	10/26/2021	114.73715	111.8515396	109.0539823	106.3478954	103.8010755	101.6465971	100.2598335	99.9117387	99.84005485
190426A00024	4/26/2019	2.24	4/26/2022	10/26/2021	103.48019	102.8768643	102.280554	101.6911403	101.108504	100.5336524	100.0423644	99.92216483	99.85043978
190509A00033	5/9/2019	2.41	5/9/2022	11/9/2021	103.80615	103.1629137	102.5276361	101.9001727	101.2803796	100.6690073	100.1248204	99.89263418	99.77908135