# Federal Home Loan Bank of Des Moines Monthly Price Report

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

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

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

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

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190701A00004 | 7/1/2019 | 2.24 | 6/25/2020 | 7/1/2019 | 100.14183 | 100.1418294 | 100.1418294 | 100.1418294 | 100.1312574 | 100.0564775 | 99.98181486 | 99.90726933 | 99.83284061 |
| 190715A00021 | 7/15/2019 | 2.25 | 6/15/2020 | 7/15/2019 | 100.09023 | 100.0902283 | 100.0902283 | 100.0902283 | 100.0835703 | 100.0364684 | 99.98942752 | 99.94244743 | 99.89552807 |
| 191112A00020 | 11/12/2019 | 1.85 | 10/13/2020 | 11/12/2019 | 100.60312 | 100.6031163 | 100.6031163 | 100.6031163 | 100.53487 | 100.1560318 | 99.78005267 | 99.40690037 | 99.03654295 |
| 200122A00009 | 1/22/2020 | 1.86 | 12/22/2020 | 1/22/2020 | 100.92205 | 100.92205 | 100.92205 | 100.92205 | 100.8085473 | 100.2369255 | 99.67177287 | 99.11298003 | 98.56044003 |
| 200214A00008 | 2/18/2020 | 1.81 | 1/12/2021 | 2/18/2020 | 100.98391 | 100.98391 | 100.98391 | 100.98391 | 100.8538736 | 100.2246965 | 99.60335557 | 98.98970507 | 98.38360271 |
| 200309A00017 | 3/9/2020 | 0.55 | 3/9/2021 | 3/9/2020 | 100.34044 | 100.3404394 | 100.3404394 | 100.3404394 | 100.1680284 | 99.38778039 | 98.61961907 | 97.8632654 | 97.11844887 |
| 200312A00035 | 3/12/2020 | 0.72 | 12/11/2020 | 3/12/2020 | 100.25307 | 100.2530712 | 100.2530712 | 100.2530712 | 100.1480396 | 99.60859774 | 99.07495127 | 98.54700709 | 98.02467412 |
| 200319A00032 | 3/19/2020 | 0.6 | 12/18/2020 | 3/19/2020 | 100.19439 | 100.1943894 | 100.1943894 | 100.1943894 | 100.0842561 | 99.52592079 | 98.97379476 | 98.42777483 | 97.8877601 |
| 200320A00032 | 3/20/2020 | 0.67 | 2/19/2021 | 3/20/2020 | 100.30615 | 100.3061542 | 100.3061542 | 100.3061542 | 100.1471507 | 99.41724525 | 98.69792523 | 97.9889617 | 97.29013234 |
| 200323A00006 | 3/23/2020 | 0.85 | 3/23/2021 | 3/23/2020 | 100.4826 | 100.4826035 | 100.4826035 | 100.4826035 | 100.3005881 | 99.48338994 | 98.67943217 | 97.88839523 | 97.10996978 |
| 200324A00010 | 3/24/2020 | 0.58 | 9/25/2020 | 3/24/2020 | 100.10454 | 100.1045359 | 100.1045359 | 100.1045359 | 100.0465317 | 99.71821956 | 99.39205814 | 99.06802636 | 98.74610345 |
| 200325A00027 | 3/25/2020 | 0.71 | 3/25/2021 | 3/25/2020 | 100.4926 | 100.4925988 | 100.4925988 | 100.4925988 | 100.3087806 | 99.48445781 | 98.67360049 | 97.87588109 | 97.0909826 |
| 200330A00025 | 3/30/2020 | 0.5 | 2/26/2021 | 3/30/2020 | 100.18533 | 100.1853309 | 100.1853309 | 100.1853309 | 100.0211993 | 99.27283053 | 98.53558808 | 97.80922558 | 97.09350389 |
| 200402A00051 | 4/2/2020 | 0.56 | 12/15/2020 | 4/2/2020 | 100.16936 | 100.1693572 | 100.1693572 | 100.1693572 | 100.061439 | 99.51135856 | 98.96730797 | 98.42918838 | 97.89690315 |
| 200417A00003 | 4/17/2020 | 0.65 | 4/16/2021 | 4/17/2020 | 100.34279 | 100.3427932 | 100.3427932 | 100.3427932 | 100.1448754 | 99.26349969 | 98.39754171 | 97.54659984 | 96.7102863 |
| 200417A00022 | 4/17/2020 | 0.52 | 12/30/2020 | 4/17/2020 | 100.15799 | 100.1579892 | 100.1579892 | 100.1579892 | 100.0390036 | 99.44811041 | 98.86415822 | 98.28702545 | 97.71659335 |
| 200424A00019 | 4/24/2020 | 0.53 | 3/24/2021 | 4/24/2020 | 100.21873 | 100.2187294 | 100.2187294 | 100.2187294 | 100.0362503 | 99.21754281 | 98.41214831 | 97.61974448 | 96.84001929 |
| 190718A00016 | 7/18/2019 | 2.24 | 6/18/2020 | 7/18/2019 | 100.1056 | 100.1055958 | 100.1055958 | 100.1055958 | 100.0977632 | 100.0423542 | 99.98702156 | 99.93176501 | 99.87658445 |
| 191206A00012 | 12/6/2019 | 1.82 | 6/8/2020 | 12/6/2019 | 100.0406 | 100.0405967 | 100.0405967 | 100.0405967 | 100.0366822 | 100.0089859 | 99.98131991 | 99.95368435 | 99.92607911 |
| 200214A00023 | 2/19/2020 | 1.81 | 12/15/2020 | 2/19/2020 | 100.86323 | 100.863233 | 100.863233 | 100.863233 | 100.7549134 | 100.202618 | 99.6563698 | 99.11606981 | 98.58162116 |
| 200318A00033 | 3/18/2020 | 0.58 | 2/18/2021 | 3/18/2020 | 100.23884 | 100.2388372 | 100.2388372 | 100.2388372 | 100.0806339 | 99.35371332 | 98.63729793 | 97.93116128 | 97.23508346 |
| 200318A00045 | 3/18/2020 | 0.62 | 1/15/2021 | 3/18/2020 | 100.234 | 100.2339987 | 100.2339987 | 100.2339987 | 100.10204 | 99.46739048 | 98.84075742 | 98.22198961 | 97.61093961 |
| 200319A00021 | 3/19/2020 | 0.6 | 12/18/2020 | 3/19/2020 | 100.19439 | 100.1943894 | 100.1943894 | 100.1943894 | 100.0842561 | 99.52592079 | 98.97379476 | 98.42777483 | 97.8877601 |
| 200319A00033 | 3/19/2020 | 0.63 | 2/19/2021 | 3/19/2020 | 100.27663 | 100.2766297 | 100.2766297 | 100.2766297 | 100.1176497 | 99.387865 | 98.66866449 | 97.95981926 | 97.26110698 |
| 200320A00022 | 3/20/2020 | 0.57 | 9/21/2020 | 3/20/2020 | 100.09781 | 100.097806 | 100.097806 | 100.097806 | 100.0419723 | 99.72465704 | 99.40935701 | 99.09605304 | 98.78472621 |
| 200320A00030 | 3/20/2020 | 0.64 | 1/20/2021 | 3/20/2020 | 100.2522 | 100.2522037 | 100.2522037 | 100.2522037 | 100.1161943 | 99.46789407 | 98.82795377 | 98.19621249 | 97.57251344 |
| 200325A00057 | 3/25/2020 | 0.71 | 2/25/2021 | 3/25/2020 | 100.34316 | 100.3431624 | 100.3431624 | 100.3431624 | 100.1796486 | 99.4333299 | 98.69806605 | 97.97361304 | 97.25973402 |
| 200403A00004 | 4/3/2020 | 0.47 | 10/5/2020 | 4/3/2020 | 100.07384 | 100.0738385 | 100.0738385 | 100.0738385 | 100.0103024 | 99.65462483 | 99.30147362 | 98.95082192 | 98.60264323 |
| 200406A00047 | 4/6/2020 | 0.63 | 3/5/2021 | 4/6/2020 | 100.29086 | 100.2908613 | 100.2908613 | 100.2908613 | 100.1216373 | 99.353878 | 98.59782367 | 97.85320841 | 97.11977435 |
| 200408A00018 | 4/8/2020 | 0.5 | 10/9/2020 | 4/8/2020 | 100.08713 | 100.0871336 | 100.0871336 | 100.0871336 | 100.0213427 | 99.65467143 | 99.29068844 | 98.92936419 | 98.57066956 |
| 200422A00025 | 4/22/2020 | 0.47 | 4/22/2021 | 4/22/2020 | 100.32009 | 100.3200948 | 100.3200948 | 100.3200948 | 100.1178246 | 99.21850433 | 98.33522698 | 97.46756666 | 96.6151124 |
| 200428A00008 | 4/28/2020 | 0.45 | 4/28/2021 | 4/28/2020 | 100.30744 | 100.3074382 | 100.3074382 | 100.3074382 | 100.1012342 | 99.18575511 | 98.28689023 | 97.40419112 | 96.5372254 |
| 191210A00004 | 12/10/2019 | 1.83 | 8/10/2020 | 12/10/2019 | 100.31325 | 100.313248 | 100.313248 | 100.313248 | 100.2800023 | 100.0779314 | 99.87668624 | 99.67626166 | 99.47665262 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 191220A00012 | 12/20/2019 | 1.85 | 11/20/2020 | 12/20/2019 | 100.77498 | 100.7749773 | 100.7749773 | 100.7749773 | 100.6840354 | 100.2004378 | 99.7214819 | 99.24710095 | 98.77722957 |
| 200117A00005 | 1/17/2020 | 1.84 | 10/19/2020 | 1/17/2020 | 100.62935 | 100.6293458 | 100.6293458 | 100.6293458 | 100.5576984 | 100.1622738 | 99.76996074 | 99.38072243 | 98.99452281 |
| 200309A00025 | 3/9/2020 | 0.57 | 2/9/2021 | 3/9/2020 | 100.22375 | 100.2237517 | 100.2237517 | 100.2237517 | 100.07228 | 99.36981354 | 98.67716088 | 97.99411747 | 97.32048444 |
| 200313A00021 | 3/13/2020 | 0.74 | 3/12/2021 | 3/13/2020 | 100.49538 | 100.4953762 | 100.4953762 | 100.4953762 | 100.3207176 | 99.53165361 | 98.75493817 | 97.99028314 | 97.23740936 |
| 200318A00003 | 3/18/2020 | 0.71 | 2/18/2021 | 3/18/2020 | 100.33443 | 100.3344314 | 100.3344314 | 100.3344314 | 100.1761523 | 99.44884205 | 98.73204094 | 98.02552249 | 97.32906671 |
| 200318A00021 | 3/18/2020 | 0.71 | 2/18/2021 | 3/18/2020 | 100.33443 | 100.3344314 | 100.3344314 | 100.3344314 | 100.1761523 | 99.44884205 | 98.73204094 | 98.02552249 | 97.32906671 |
| 200325A00012 | 3/25/2020 | 0.71 | 2/25/2021 | 3/25/2020 | 100.34316 | 100.3431624 | 100.3431624 | 100.3431624 | 100.1796486 | 99.4333299 | 98.69806605 | 97.97361304 | 97.25973402 |
| 200327A00011 | 3/27/2020 | 0.46 | 12/24/2020 | 3/27/2020 | 100.11884 | 100.1188371 | 100.1188371 | 100.1188371 | 100.004349 | 99.42991834 | 98.86205655 | 98.30065148 | 97.74559358 |
| 200330A00035 | 3/30/2020 | 0.39 | 10/30/2020 | 3/30/2020 | 100.05772 | 100.0577179 | 100.0577179 | 100.0577179 | 99.98006943 | 99.5559078 | 99.13532725 | 98.71828268 | 98.30472973 |
| 200330A00052 | 3/30/2020 | 0.46 | 12/30/2020 | 3/30/2020 | 100.12219 | 100.122187 | 100.122187 | 100.122187 | 100.0032236 | 99.41245158 | 98.82861951 | 98.25160585 | 97.68129187 |
| 200403A00019 | 4/3/2020 | 0.47 | 10/5/2020 | 4/3/2020 | 100.07384 | 100.0738385 | 100.0738385 | 100.0738385 | 100.0103024 | 99.65462483 | 99.30147362 | 98.95082192 | 98.60264323 |
| 200403A00027 | 4/3/2020 | 0.62 | 3/3/2021 | 4/3/2020 | 100.28115 | 100.2811469 | 100.2811469 | 100.2811469 | 100.1133363 | 99.351031 | 98.60026317 | 97.86077263 | 97.13230705 |
| 200406A00003 | 4/6/2020 | 0.47 | 10/7/2020 | 4/6/2020 | 100.07495 | 100.0749477 | 100.0749477 | 100.0749477 | 100.0102864 | 99.64912426 | 99.29056913 | 98.93459277 | 98.58116738 |
| 200413A00025 | 4/13/2020 | 0.63 | 1/13/2021 | 4/13/2020 | 100.23831 | 100.2383115 | 100.2383115 | 100.2383115 | 100.1079652 | 99.47873505 | 98.85738529 | 98.24376856 | 97.63774114 |
| 200422A00029 | 4/22/2020 | 0.47 | 4/22/2021 | 4/22/2020 | 100.32009 | 100.3200948 | 100.3200948 | 100.3200948 | 100.1178246 | 99.21850433 | 98.33522698 | 97.46756666 | 96.6151124 |
| 190621A00038 | 6/21/2019 | 2.24 | 6/15/2020 | 6/21/2019 | 100.08976 | 100.0897562 | 100.0897562 | 100.0897562 | 100.0830983 | 100.0359968 | 99.9889563 | 99.94197662 | 99.89505766 |
| 190709A00002 | 7/9/2019 | 2.31 | 7/3/2020 | 7/9/2019 | 100.19147 | 100.1914656 | 100.1914656 | 100.1914656 | 100.1773698 | 100.0804296 | 99.98368168 | 99.88712542 | 99.79076027 |
| 190815A00016 | 8/15/2019 | 2.06 | 8/14/2020 | 8/15/2019 | 100.38172 | 100.3817219 | 100.3817219 | 100.3817219 | 100.3463148 | 100.1330883 | 99.92078004 | 99.7093841 | 99.49889452 |
| 200129A00006 | 1/29/2020 | 1.84 | 1/25/2021 | 1/29/2020 | 101.06015 | 101.0601482 | 101.0601482 | 101.0601482 | 100.9195282 | 100.2546232 | 99.59845271 | 98.95084564 | 98.31163516 |
| 200220A00022 | 2/20/2020 | 1.75 | 2/16/2021 | 2/20/2020 | 101.09092 | 101.0909233 | 101.0909233 | 101.0909233 | 100.933544 | 100.2085922 | 99.49402602 | 98.78962344 | 98.09516869 |
| 200311A00018 | 3/11/2020 | 0.71 | 12/11/2020 | 3/11/2020 | 100.24763 | 100.2476311 | 100.2476311 | 100.2476311 | 100.1426026 | 99.60317782 | 99.06954829 | 98.54162092 | 98.01930462 |
| 200318A00042 | 3/18/2020 | 0.6 | 12/18/2020 | 3/18/2020 | 100.19439 | 100.1943894 | 100.1943894 | 100.1943894 | 100.0842561 | 99.52592079 | 98.97379476 | 98.42777483 | 97.8877601 |
| 200323A00004 | 3/23/2020 | 0.67 | 12/23/2020 | 3/23/2020 | 100.23951 | 100.2395134 | 100.2395134 | 100.2395134 | 100.1256858 | 99.5535803 | 98.98798628 | 98.42879309 | 97.87589257 |
| 200323A00040 | 3/23/2020 | 0.67 | 12/23/2020 | 3/23/2020 | 100.23951 | 100.2395134 | 100.2395134 | 100.2395134 | 100.1256858 | 99.5535803 | 98.98798628 | 98.42879309 | 97.87589257 |
| 200324A00015 | 3/24/2020 | 0.58 | 9/25/2020 | 3/24/2020 | 100.10454 | 100.1045359 | 100.1045359 | 100.1045359 | 100.0465317 | 99.71821956 | 99.39205814 | 99.06802636 | 98.74610345 |
| 200325A00002 | 3/25/2020 | 0.87 | 3/25/2021 | 3/25/2020 | 100.50241 | 100.5024128 | 100.5024128 | 100.5024128 | 100.318974 | 99.49627637 | 98.68699288 | 97.8907978 | 97.10737589 |
| 200327A00015 | 3/27/2020 | 0.73 | 3/26/2021 | 3/27/2020 | 100.38714 | 100.3871369 | 100.3871369 | 100.3871369 | 100.2031005 | 99.37822332 | 98.56684082 | 97.76862431 | 96.98325569 |
| 200413A00001 | 4/13/2020 | 0.56 | 4/13/2021 | 4/13/2020 | 100.39097 | 100.3909673 | 100.3909673 | 100.3909673 | 100.1945492 | 99.31923124 | 98.4591117 | 97.61379756 | 96.78290928 |
| 190709A00049 | 7/9/2019 | 2.29 | 6/9/2020 | 7/9/2019 | 100.05931 | 100.0593088 | 100.0593088 | 100.0593088 | 100.0550008 | 100.0245202 | 99.99407395 | 99.96366203 | 99.93328435 |
| 191210A00005 | 12/10/2019 | 1.85 | 11/10/2020 | 12/10/2019 | 100.73064 | 100.7306382 | 100.7306382 | 100.7306382 | 100.6458947 | 100.1898342 | 99.73790692 | 99.29005679 | 98.84622868 |
| 191219A00046 | 12/19/2019 | 1.77 | 12/18/2020 | 12/19/2019 | 100.93127 | 100.9312713 | 100.9312713 | 100.9312713 | 100.820511 | 100.2588359 | 99.70341255 | 99.15413691 | 98.61090717 |
| 191219A00050 | 12/19/2019 | 1.84 | 11/19/2020 | 12/19/2019 | 100.76571 | 100.7657135 | 100.7657135 | 100.7657135 | 100.6753938 | 100.194563 | 99.71832225 | 99.24660594 | 98.77934975 |
| 191223A00045 | 12/23/2019 | 1.84 | 9/23/2020 | 12/23/2019 | 100.51204 | 100.5120436 | 100.5120436 | 100.5120436 | 100.4549833 | 100.1313241 | 99.80975163 | 99.49024582 | 99.17278677 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200214A00011 | 2/18/2020 | 1.81 | 1/21/2021 | 2/18/2020 | 101.0228 | 101.0227997 | 101.0227997 | 101.0227997 | 100.8854457 | 100.2315831 | 99.58617548 | 98.94905975 | 98.3200768 |
| 200219A00005 | 2/19/2020 | 1.81 | 1/20/2021 | 2/19/2020 | 101.01848 | 101.0184786 | 101.0184786 | 101.0184786 | 100.8819376 | 100.2308172 | 99.58808245 | 98.95357222 | 98.3271293 |
| 200220A00023 | 2/20/2020 | 1.81 | 11/20/2020 | 2/20/2020 | 100.75555 | 100.755547 | 100.755547 | 100.755547 | 100.6646149 | 100.1810728 | 99.70217183 | 99.2278455 | 98.75802836 |
| 200302A00055 | 3/2/2020 | 1.24 | 2/2/2021 | 3/2/2020 | 100.6807 | 100.680696 | 100.680696 | 100.680696 | 100.5341156 | 99.84887081 | 99.17292734 | 98.50609691 | 97.84819628 |
| 200304A00003 | 3/4/2020 | 0.98 | 12/4/2020 | 3/4/2020 | 100.38054 | 100.3805364 | 100.3805364 | 100.3805364 | 100.2805729 | 99.75983657 | 99.24449009 | 98.73445015 | 98.22963511 |
| 200306A00026 | 3/6/2020 | 0.72 | 2/5/2021 | 3/6/2020 | 100.32521 | 100.3252102 | 100.3252102 | 100.3252102 | 100.1766498 | 99.48463376 | 98.80213205 | 98.12894951 | 97.46489633 |
| 200309A00024 | 3/11/2020 | 0.57 | 1/7/2021 | 3/11/2020 | 100.19488 | 100.1948846 | 100.1948846 | 100.1948846 | 100.0694134 | 99.45664452 | 98.85134967 | 98.25339275 | 97.66264092 |
| 200313A00012 | 3/16/2020 | 0.77 | 1/5/2021 | 3/16/2020 | 100.31579 | 100.3157878 | 100.3157878 | 100.3157878 | 100.1918543 | 99.58410197 | 98.98369347 | 98.39049629 | 97.80438112 |
| 200316A00039 | 3/16/2020 | 0.83 | 2/16/2021 | 3/16/2020 | 100.41951 | 100.4195122 | 100.4195122 | 100.4195122 | 100.2626601 | 99.54042758 | 98.82855311 | 98.12681511 | 97.43499828 |
| 200316A00047 | 3/16/2020 | 1.04 | 3/16/2021 | 3/16/2020 | 100.62493 | 100.6249349 | 100.6249349 | 100.6249349 | 100.447714 | 99.64882528 | 98.86258372 | 98.08869089 | 97.32685768 |
| 200316A00058 | 3/16/2020 | 0.81 | 11/16/2020 | 3/16/2020 | 100.2636 | 100.2635958 | 100.2635958 | 100.2635958 | 100.1753764 | 99.70417355 | 99.23739776 | 98.77498679 | 98.31687955 |
| 200318A00001 | 3/18/2020 | 0.68 | 11/18/2020 | 3/18/2020 | 100.20427 | 100.2042664 | 100.2042664 | 100.2042664 | 100.114844 | 99.63833988 | 99.16636359 | 98.69885074 | 98.23573819 |
| 200320A00017 | 3/20/2020 | 0.62 | 12/18/2020 | 3/20/2020 | 100.20566 | 100.2056578 | 100.2056578 | 100.2056578 | 100.0955179 | 99.53714618 | 98.98498402 | 98.43892825 | 97.89887796 |
| 200320A00040 | 3/20/2020 | 0.57 | 9/25/2020 | 3/20/2020 | 100.10123 | 100.1012321 | 100.1012321 | 100.1012321 | 100.0432291 | 99.71492385 | 99.38876926 | 99.06474429 | 98.74282816 |
| 200324A00014 | 3/24/2020 | 0.69 | 12/24/2020 | 3/24/2020 | 100.25225 | 100.2522515 | 100.2522515 | 100.2522515 | 100.1376828 | 99.56281082 | 98.99451133 | 98.43267213 | 97.8771836 |
| 200324A00048 | 3/24/2020 | 0.64 | 11/2/2020 | 3/24/2020 | 100.16782 | 100.1678238 | 100.1678238 | 100.1678238 | 100.0882778 | 99.65562716 | 99.22670496 | 98.80146318 | 98.37985461 |
| 200326A00044 | 3/26/2020 | 0.38 | 10/9/2020 | 3/26/2020 | 100.04283 | 100.0428271 | 100.0428271 | 100.0428271 | 99.97705341 | 99.61048313 | 99.24660059 | 98.88537624 | 98.52678099 |
| 200330A00051 | 3/30/2020 | 0.37 | 10/1/2020 | 3/30/2020 | 100.03692 | 100.0369178 | 100.0369178 | 100.0369178 | 99.97564495 | 99.631013 | 99.28874762 | 98.94882452 | 98.61121978 |
| 200403A00020 | 4/3/2020 | 0.63 | 3/5/2021 | 4/3/2020 | 100.29086 | 100.2908613 | 100.2908613 | 100.2908613 | 100.1216373 | 99.353878 | 98.59782367 | 97.85320841 | 97.11977435 |
| 190813A00003 | 8/13/2019 | 2.04 | 7/13/2020 | 8/13/2019 | 100.21459 | 100.2145857 | 100.2145857 | 100.2145857 | 100.1956018 | 100.0709906 | 99.94670237 | 99.82273594 | 99.69908998 |
| 190910A00025 | 9/10/2019 | 2.05 | 6/10/2020 | 9/10/2019 | 100.0567 | 100.056703 | 100.056703 | 100.056703 | 100.0520043 | 100.0187605 | 99.98555515 | 99.95238809 | 99.9192593 |
| 191216A00011 | 12/16/2019 | 1.84 | 10/16/2020 | 12/16/2019 | 100.61619 | 100.6161943 | 100.6161943 | 100.6161943 | 100.5462435 | 100.1590901 | 99.77492175 | 99.39370399 | 99.01540281 |
| 200108A00011 | 1/8/2020 | 1.88 | 1/4/2021 | 1/8/2020 | 100.99208 | 100.9920816 | 100.9920816 | 100.9920816 | 100.8685234 | 100.2611519 | 99.66107759 | 99.06816948 | 98.48229974 |
| 200121A00001 | 1/21/2020 | 1.88 | 1/15/2021 | 1/21/2020 | 101.04175 | 101.0417482 | 101.0417482 | 101.0417482 | 100.909242 | 100.2716727 | 99.64214612 | 99.02051063 | 98.40661843 |
| 200203A00020 | 2/3/2020 | 1.83 | 9/3/2020 | 2/3/2020 | 100.41909 | 100.4190911 | 100.4190911 | 100.4190911 | 100.3729288 | 100.1045262 | 99.83756073 | 99.5720209 | 99.30789531 |
| 200218A00016 | 2/18/2020 | 1.83 | 9/18/2020 | 2/18/2020 | 100.48703 | 100.4870285 | 100.4870285 | 100.4870285 | 100.4326917 | 100.1228377 | 99.81490264 | 99.50886862 | 99.20471804 |
| 200218A00022 | 2/18/2020 | 1.82 | 12/18/2020 | 2/18/2020 | 100.88176 | 100.8817634 | 100.8817634 | 100.8817634 | 100.7712265 | 100.2106696 | 99.65633971 | 99.10813343 | 98.5659496 |
| 200309A00053 | 3/9/2020 | 0.68 | 12/9/2020 | 3/9/2020 | 100.22898 | 100.2289817 | 100.2289817 | 100.2289817 | 100.1254314 | 99.59151844 | 99.06328292 | 98.54063456 | 98.02348501 |
| 200319A00010 | 3/19/2020 | 0.65 | 3/19/2021 | 3/19/2020 | 100.43387 | 100.433874 | 100.433874 | 100.433874 | 100.2543363 | 99.44655146 | 98.6517106 | 97.86950466 | 97.09963435 |
| 200319A00017 | 3/19/2020 | 0.6 | 12/15/2020 | 3/19/2020 | 100.19156 | 100.1915612 | 100.1915612 | 100.1915612 | 100.0836301 | 99.53347886 | 98.98935794 | 98.45116859 | 97.91881413 |
| 200323A00012 | 3/23/2020 | 0.69 | 2/23/2021 | 3/23/2020 | 100.32568 | 100.3256838 | 100.3256838 | 100.3256838 | 100.1636776 | 99.4228512 | 98.69292234 | 97.97365212 | 97.26480857 |
| 200323A00019 | 3/23/2020 | 0.69 | 3/23/2021 | 3/23/2020 | 100.4728 | 100.4728018 | 100.4728018 | 100.4728018 | 100.2904109 | 99.47160205 | 98.66608427 | 97.8735362 | 97.09364677 |
| 200325A00022 | 3/25/2020 | 0.62 | 10/26/2020 | 3/25/2020 | 100.15202 | 100.1520249 | 100.1520249 | 100.1520249 | 100.0766382 | 99.66318882 | 99.25314334 | 98.84645994 | 98.44309745 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200325A00056 | 3/25/2020 | 0.63 | 11/25/2020 | 3/25/2020 | 100.1876 | 100.1876022 | 100.1876022 | 100.1876022 | 100.0938762 | 99.59829065 | 99.10759369 | 98.62171335 | 98.14057903 |
| 200327A00052 | 3/27/2020 | 0.73 | 3/26/2021 | 3/27/2020 | 100.38714 | 100.3871369 | 100.3871369 | 100.3871369 | 100.2031005 | 99.37822332 | 98.56684082 | 97.76862431 | 96.98325569 |
| 200330A00063 | 3/30/2020 | 0.64 | 3/30/2021 | 3/30/2020 | 100.31603 | 100.3160261 | 100.3160261 | 100.3160261 | 100.1292919 | 99.29393196 | 98.47241475 | 97.66439882 | 96.86955391 |
| 200406A00023 | 4/6/2020 | 0.53 | 12/4/2020 | 4/6/2020 | 100.14447 | 100.1444703 | 100.1444703 | 100.1444703 | 100.044635 | 99.52461535 | 99.00998019 | 98.50064628 | 97.99653206 |
| 200511A00013 | 5/11/2020 | 0.44 | 2/1/2021 | 5/11/2020 | 100.12741 | 100.1274119 | 100.1274119 | 100.1274119 | 99.98198519 | 99.30158296 | 98.63038652 | 97.9682102 | 97.31487332 |
| 200527A00020 | 5/27/2020 | 0.49 | 5/27/2021 | 5/27/2020 | 100.21523 | 100.2152309 | 100.2152309 | 100.2152309 | 99.99650116 | 99.00542475 | 98.0338322 | 97.0811542 | 96.14684341 |
| 200406A00058 | 4/6/2020 | 0.53 | 12/4/2020 | 4/6/2020 | 100.14447 | 100.1444703 | 100.1444703 | 100.1444703 | 100.044635 | 99.52461535 | 99.00998019 | 98.50064628 | 97.99653206 |
| 200408A00023 | 4/8/2020 | 0.71 | 4/8/2021 | 4/8/2020 | 100.38645 | 100.3864456 | 100.3864456 | 100.3864456 | 100.1937364 | 99.33374378 | 98.48842588 | 97.65740974 | 96.84033496 |
| 200414A00005 | 4/14/2020 | 0.63 | 10/15/2020 | 4/14/2020 | 100.1449 | 100.1448985 | 100.1448985 | 100.1448985 | 100.075702 | 99.69240949 | 99.31205393 | 98.9346016 | 98.5600193 |
| 190910A00026 | 9/10/2019 | 2.06 | 7/10/2020 | 9/10/2019 | 100.20268 | 100.2026763 | 100.2026763 | 100.2026763 | 100.1851585 | 100.0688456 | 99.95281505 | 99.83706569 | 99.72159651 |
| 191216A00010 | 12/16/2019 | 1.84 | 8/17/2020 | 12/16/2019 | 100.34775 | 100.3477516 | 100.3477516 | 100.3477516 | 100.3107469 | 100.0893014 | 99.86884457 | 99.64936961 | 99.43086997 |
| 191223A00049 | 12/23/2019 | 1.85 | 10/23/2020 | 12/23/2019 | 100.65096 | 100.6509621 | 100.6509621 | 100.6509621 | 100.577051 | 100.1705901 | 99.76741145 | 99.36747527 | 98.97074257 |
| 200311A00011 | 3/11/2020 | 0.71 | 12/11/2020 | 3/11/2020 | 100.24763 | 100.2476311 | 100.2476311 | 100.2476311 | 100.1426026 | 99.60317782 | 99.06954829 | 98.54162092 | 98.01930462 |
| 200316A00014 | 3/16/2020 | 1.04 | 3/16/2021 | 3/16/2020 | 100.62493 | 100.6249349 | 100.6249349 | 100.6249349 | 100.447714 | 99.64882528 | 98.86258372 | 98.08869089 | 97.32685768 |
| 200331A00003 | 3/31/2020 | 0.51 | 11/2/2020 | 3/31/2020 | 100.11117 | 100.1111671 | 100.1111671 | 100.1111671 | 100.0316466 | 99.59914313 | 99.17036713 | 98.74527064 | 98.32380645 |
| 200406A00043 | 4/6/2020 | 0.5 | 11/6/2020 | 4/6/2020 | 100.10956 | 100.1095638 | 100.1095638 | 100.1095638 | 100.0275798 | 99.58414213 | 99.14462809 | 98.70898572 | 98.27716398 |
| 200408A00016 | 4/8/2020 | 0.71 | 4/5/2021 | 4/8/2020 | 100.38272 | 100.3827165 | 100.3827165 | 100.3827165 | 100.1919806 | 99.34010648 | 98.50262959 | 97.67918752 | 96.86943 |
| 200413A00020 | 4/13/2020 | 0.65 | 3/12/2021 | 4/13/2020 | 100.31379 | 100.3137903 | 100.3137903 | 100.3137903 | 100.1396285 | 99.35282988 | 98.57832655 | 97.81583217 | 97.06506919 |
| 200414A00018 | 4/16/2020 | 0.61 | 12/21/2020 | 4/16/2020 | 100.20294 | 100.202935 | 100.202935 | 100.202935 | 100.0905963 | 99.52405963 | 98.96391261 | 98.41004763 | 97.86235946 |
| 200520A00003 | 5/20/2020 | 0.33 | 5/20/2021 | 5/20/2020 | 100.20899 | 100.2089866 | 100.2089866 | 100.2089866 | 99.99286433 | 99.01844022 | 98.06285491 | 97.12556679 | 96.20605484 |
| 190607A00010 | 6/7/2019 | 2.27 | 6/1/2020 | 6/7/2019 | 100.01577 | 100.0157665 | 100.0157665 | 100.0157665 | 100.0145918 | 100.0062797 | 99.99797516 | 99.98967809 | 99.9813885 |
| 190620A00013 | 6/20/2019 | 2.2 | 6/15/2020 | 6/20/2019 | 100.08787 | 100.0878678 | 100.0878678 | 100.0878678 | 100.0812102 | 100.0341103 | 99.98707143 | 99.94009336 | 99.89317601 |
| 190821A00034 | 8/21/2019 | 2.03 | 6/22/2020 | 8/21/2019 | 100.11207 | 100.1120744 | 100.1120744 | 100.1120744 | 100.1026785 | 100.036214 | 99.96984821 | 99.90358103 | 99.83741222 |
| 200309A00051 | 3/9/2020 | 0.72 | 9/10/2020 | 3/9/2020 | 100.12888 | 100.1288756 | 100.1288756 | 100.1288756 | 100.0790015 | 99.79187537 | 99.50640404 | 99.2225732 | 98.94036868 |
| 200318A00046 | 3/18/2020 | 0.63 | 2/18/2021 | 3/18/2020 | 100.2756 | 100.2756042 | 100.2756042 | 100.2756042 | 100.1173717 | 99.39030129 | 98.67373755 | 97.96745405 | 97.27123087 |
| 200320A00028 | 3/20/2020 | 0.62 | 12/18/2020 | 3/20/2020 | 100.20566 | 100.2056578 | 100.2056578 | 100.2056578 | 100.0955179 | 99.53714618 | 98.98498402 | 98.43892825 | 97.89887796 |
| 200326A00008 | 3/26/2020 | 0.56 | 11/25/2020 | 3/26/2020 | 100.15263 | 100.1526283 | 100.1526283 | 100.1526283 | 100.0589204 | 99.56343666 | 99.07284082 | 98.58706087 | 98.10602623 |
| 200326A00041 | 3/26/2020 | 0.36 | 10/2/2020 | 3/26/2020 | 100.0337 | 100.0336969 | 100.0336969 | 100.0336969 | 99.9718629 | 99.6244968 | 99.27953684 | 98.93695812 | 98.59673607 |
| 200327A00082 | 3/27/2020 | 0.36 | 10/8/2020 | 3/27/2020 | 100.03519 | 100.0351933 | 100.0351933 | 100.0351933 | 99.96998481 | 99.60617197 | 99.24500612 | 98.8864584 | 98.53050037 |
| 200331A00025 | 3/31/2020 | 0.56 | 12/31/2020 | 3/31/2020 | 100.18271 | 100.1827121 | 100.1827121 | 100.1827121 | 100.0629032 | 99.46920708 | 98.8825186 | 98.30271445 | 97.72967413 |
| 200401A00018 | 4/1/2020 | 0.7 | 3/30/2021 | 4/1/2020 | 100.3668 | 100.3667967 | 100.3667967 | 100.3667967 | 100.1800155 | 99.3444217 | 98.52267329 | 97.71442884 | 96.91935801 |
| 200403A00033 | 4/3/2020 | 0.73 | 3/29/2021 | 4/3/2020 | 100.39088 | 100.3908836 | 100.3908836 | 100.3908836 | 100.2047369 | 99.37173394 | 98.55248635 | 97.74665608 | 96.95391608 |
| 200406A00010 | 4/6/2020 | 0.74 | 4/1/2021 | 4/6/2020 | 100.4033 | 100.403296 | 100.403296 | 100.403296 | 100.2151674 | 99.37400168 | 98.54686641 | 97.73341319 | 96.93330507 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200406A00045 | 4/6/2020 | 0.53 | 12/4/2020 | 4/6/2020 | 100.14447 | 100.1444703 | 100.1444703 | 100.1444703 | 100.044635 | 99.52461535 | 99.00998019 | 98.50064628 | 97.99653206 |
| 200413A00014 | 4/13/2020 | 0.56 | 4/13/2021 | 4/13/2020 | 100.39097 | 100.3909673 | 100.3909673 | 100.3909673 | 100.1945492 | 99.31923124 | 98.4591117 | 97.61379756 | 96.78290928 |
| 150601A00435 | 6/1/2015 | 1.91 | 3/17/2021 | 6/1/2015 | 100.66551 | 100.6655124 | 100.6655124 | 100.6655124 | 100.5840939 | 100.1748841 | 99.77024561 | 99.37009347 | 98.97434475 |
| 160608A00026 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.9961 | 110.9961002 | 110.9961002 | 110.9961002 | 107.4975569 | 102.2617414 | 97.33454641 | 92.69584856 | 88.32694707 |
| 160608A00032 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.9961 | 110.9961002 | 110.9961002 | 110.9961002 | 107.4975569 | 102.2617414 | 97.33454641 | 92.69584856 | 88.32694707 |
| 160620A00018 | 6/20/2016 | 1.25 | 6/21/2021 | 6/20/2016 | 100.54034 | 100.540342 | 100.540342 | 100.540342 | 100.426108 | 99.8768107 | 99.33566436 | 98.80246779 | 98.27702679 |
| 160701A00032 | 7/1/2016 | 1.99 | 7/2/2029 | 7/1/2016 | 108.00423 | 108.0042285 | 108.0042285 | 107.9815766 | 104.6168143 | 100.0554747 | 95.78054244 | 91.77082059 | 88.00686112 |
| 160715A00015 | 7/15/2016 | 2.13 | 7/16/2029 | 7/15/2016 | 108.68829 | 108.688285 | 108.688285 | 108.6651166 | 105.278478 | 100.6876318 | 96.38507758 | 92.34947536 | 88.56124635 |
| 161222A00037 | 12/22/2016 | 3.08 | 12/22/2031 | 12/22/2016 | 116.12056 | 116.1205634 | 116.1205634 | 115.6213194 | 110.78004 | 105.0740387 | 99.79621236 | 94.90869258 | 90.377328 |
| 170317A00022 | 3/17/2017 | 3.11 | 3/18/2030 | 3/17/2017 | 114.57193 | 114.5719287 | 114.5719287 | 114.4728384 | 110.444358 | 105.2969415 | 100.4931138 | 96.00593008 | 91.81079396 |
| 170407A00012 | 4/7/2017 | 2.88 | 4/8/2030 | 4/7/2017 | 113.44486 | 113.4448608 | 113.4448608 | 113.3342638 | 109.2906528 | 104.1572216 | 99.36895895 | 94.89860944 | 90.72130874 |
| 170602A00010 | 6/2/2017 | 2.7 | 6/3/2030 | 6/2/2017 | 112.68494 | 112.6849388 | 112.6849388 | 112.5472714 | 108.4222014 | 103.2499539 | 98.43057186 | 93.93580571 | 89.73991655 |
| 170623A00020 | 6/23/2017 | 2.67 | 6/24/2030 | 6/23/2017 | 112.52124 | 112.5212449 | 112.5212449 | 112.3830065 | 108.2634512 | 103.0983868 | 98.28575192 | 93.79732591 | 89.60739704 |
| 171006A00020 | 10/6/2017 | 2.88 | 10/7/2030 | 10/6/2017 | 114.1465 | 114.1465039 | 114.1465039 | 113.939356 | 109.5430232 | 104.1553905 | 99.14588568 | 94.48341026 | 90.13970128 |
| 171013A00004 | 10/13/2017 | 2.77 | 10/15/2030 | 10/13/2017 | 113.51784 | 113.5178364 | 113.5178364 | 113.3115086 | 108.9393605 | 103.581507 | 98.59971607 | 93.96305632 | 89.64341705 |
| 171103A00011 | 11/3/2017 | 2.83 | 11/4/2030 | 11/3/2017 | 113.97484 | 113.9748367 | 113.9748367 | 113.7489237 | 109.3057609 | 103.8898467 | 98.85669354 | 94.17461332 | 89.81482542 |
| 171222A00017 | 12/22/2017 | 3.04 | 12/23/2030 | 12/22/2017 | 115.31689 | 115.3168862 | 115.3168862 | 115.0671628 | 110.5169973 | 104.9996691 | 99.87500907 | 95.11028918 | 90.67580376 |
| 180112A00013 | 1/12/2018 | 3.05 | 1/14/2031 | 1/12/2018 | 115.50066 | 115.5006626 | 115.5006626 | 115.2295251 | 110.6185051 | 105.0557314 | 99.89155272 | 95.09253236 | 90.62834059 |
| 180316A00003 | 3/16/2018 | 2.43 | 3/16/2021 | 3/16/2018 | 100.98671 | 100.9867059 | 100.9867059 | 100.9867059 | 100.9012017 | 100.4750872 | 100.0538887 | 99.63751213 | 99.22586589 |
| 150601A00342 | 6/1/2015 | 3.97 | 8/26/2033 | 6/1/2015 | 123.91807 | 123.9180698 | 123.9180698 | 122.6754179 | 116.6777964 | 110.0138268 | 103.9055758 | 98.29845914 | 93.14382943 |
| 150601A00434 | 6/1/2015 | 1.91 | 3/17/2021 | 6/1/2015 | 100.66551 | 100.6655128 | 100.6655128 | 100.6655128 | 100.5840942 | 100.1748841 | 99.77024549 | 99.37009315 | 98.97434423 |
| 150601A00559 | 6/1/2015 | 3.06 | 8/31/2029 | 6/1/2015 | 112.62404 | 112.6240445 | 112.6240445 | 112.5962196 | 109.2452154 | 104.6321115 | 100.3054291 | 96.2440492 | 92.42859496 |
| 161222A00036 | 12/22/2016 | 2.69 | 12/22/2026 | 12/22/2016 | 107.92007 | 107.920066 | 107.920066 | 107.920066 | 106.2967097 | 103.0079302 | 99.87244521 | 96.88161774 | 94.02736487 |
| 170616A00012 | 6/16/2017 | 2.69 | 6/17/2030 | 6/16/2017 | 112.63073 | 112.6307329 | 112.6307329 | 112.4926145 | 108.369199 | 103.1991992 | 98.38194637 | 93.88919657 | 89.69521643 |
| 170804A00009 | 8/4/2017 | 2.71 | 8/5/2030 | 8/4/2017 | 112.95741 | 112.9574126 | 112.9574126 | 112.7877709 | 108.5445416 | 103.286313 | 98.39198043 | 93.83201236 | 89.57953644 |
| 170825A00015 | 8/25/2017 | 2.68 | 8/26/2030 | 8/25/2017 | 112.79072 | 112.7907249 | 112.7907249 | 112.6205241 | 108.3831191 | 103.1323571 | 98.24502919 | 93.69163549 | 89.44533275 |
| 170921A00056 | 9/21/2017 | 2.82 | 9/21/2027 | 9/21/2017 | 116.11468 | 116.1146784 | 116.1146784 | 116.1146784 | 110.7564297 | 104.4562091 | 98.59144861 | 93.12910944 | 88.03884262 |
| 170925A00048 | 9/25/2017 | 2.75 | 9/25/2030 | 9/25/2017 | 113.29357 | 113.2935653 | 113.2935653 | 113.1053728 | 108.7951968 | 103.4842791 | 98.54355799 | 93.94278304 | 89.65444551 |
| 171117A00017 | 11/17/2017 | 2.9 | 11/18/2030 | 11/17/2017 | 114.38 | 114.3800039 | 114.3800039 | 114.1526963 | 109.6933063 | 104.257734 | 99.20634664 | 94.5073339 | 90.13180471 |
| 171208A00017 | 12/8/2017 | 2.9 | 12/9/2030 | 12/8/2017 | 114.49765 | 114.497648 | 114.497648 | 114.2502846 | 109.7329726 | 104.2554056 | 99.16764512 | 94.43720546 | 90.03460052 |
| 171215A00022 | 12/15/2017 | 2.91 | 12/16/2030 | 12/15/2017 | 114.55642 | 114.5564167 | 114.5564167 | 114.3086325 | 109.7888255 | 104.3082976 | 99.21780433 | 94.48483886 | 90.07989627 |
| 180119A00025 | 1/19/2018 | 3.08 | 1/21/2031 | 1/19/2018 | 115.67852 | 115.6785152 | 115.6785152 | 115.4066569 | 110.7883493 | 105.2168332 | 100.0445554 | 95.2380233 | 90.76685663 |
| 180209A00010 | 2/9/2018 | 3.25 | 2/10/2031 | 2/9/2018 | 116.822 | 116.8219953 | 116.8219953 | 116.525285 | 111.8071953 | 106.1433584 | 100.8881035 | 96.0069351 | 91.46858295 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150601A00316 | 6/1/2015 | 1.93 | 6/19/2020 | 6/1/2015 | 100.04509 | 100.0450887 | 100.0450887 | 100.0450887 | 100.04101 | 100.0121562 | 99.98334054 | 99.95456287 | 99.92582314 |
| 150601A00320 | 6/1/2015 | 2.63 | 6/28/2023 | 6/1/2015 | 103.59119 | 103.5911865 | 103.5911865 | 103.5911865 | 103.2211258 | 101.6711527 | 100.1608322 | 98.68882456 | 97.2538457 |
| 150601A00443 | 6/1/2015 | 1.91 | 4/9/2021 | 6/1/2015 | 100.71947 | 100.7194664 | 100.7194664 | 100.7194664 | 100.6296274 | 100.1863358 | 99.74838741 | 99.31567482 | 98.88809376 |
| 150601A00506 | 6/1/2015 | 3.14 | 7/6/2029 | 6/1/2015 | 112.78195 | 112.7819535 | 112.7819535 | 112.7640969 | 109.508306 | 104.9565786 | 100.683414 | 96.66854953 | 92.89337283 |
| 150601A00549 | 6/1/2015 | 1.94 | 8/13/2021 | 6/1/2015 | 101.00718 | 101.0071777 | 101.0071777 | 101.0071777 | 100.8810852 | 100.2674577 | 99.66392754 | 99.07021803 | 98.486063 |
| 160628A00006 | 6/28/2016 | 1.44 | 6/28/2023 | 6/28/2016 | 101.80395 | 101.8039549 | 101.8039549 | 101.8039549 | 101.4344237 | 99.89191823 | 98.38908291 | 96.92457365 | 95.49710256 |
| 160707A00017 | 7/7/2016 | 1.22 | 7/7/2021 | 7/7/2016 | 101.19464 | 101.1946421 | 101.1946421 | 101.1946421 | 100.9730551 | 99.89938958 | 98.84892435 | 97.82091043 | 96.8146308 |
| 170331A00016 | 3/31/2017 | 3.02 | 4/1/2030 | 3/31/2017 | 114.08541 | 114.0854061 | 114.0854061 | 113.9863088 | 109.9747366 | 104.849135 | 100.0657062 | 95.59761239 | 91.4203557 |
| 170518A00028 | 5/18/2017 | 2.45 | 5/20/2024 | 5/18/2017 | 108.02056 | 108.0205615 | 108.0205615 | 108.0205615 | 106.5180237 | 102.8369309 | 99.30995182 | 95.92976325 | 92.68943033 |
| 170526A00022 | 5/26/2017 | 2.77 | 5/28/2030 | 5/26/2017 | 112.96059 | 112.9605863 | 112.9605863 | 112.8361792 | 108.7548134 | 103.606207 | 98.80638095 | 94.32759731 | 90.14456804 |
| 170714A00014 | 7/14/2017 | 2.78 | 7/15/2030 | 7/14/2017 | 113.22765 | 113.227654 | 113.227654 | 113.0738374 | 108.8788205 | 103.6480785 | 98.77665734 | 94.23559726 | 89.99852914 |
| 170817A00008 | 8/17/2017 | 2.71 | 8/16/2030 | 8/17/2017 | 112.95807 | 112.958066 | 112.958066 | 112.7879939 | 108.5444708 | 103.2860062 | 98.39148175 | 93.83135921 | 89.57876038 |
| 180302A00014 | 3/2/2018 | 2.69 | 3/2/2023 | 3/2/2018 | 103.38738 | 103.3873773 | 103.3873773 | 103.3873773 | 103.0742785 | 101.6715387 | 100.3020971 | 98.96488562 | 97.65887954 |
| 180612A00012 | 6/12/2018 | 2.94 | 6/12/2023 | 6/12/2018 | 104.19845 | 104.1984504 | 104.1984504 | 104.1984504 | 103.8206483 | 102.2414088 | 100.7027429 | 99.2032776 | 97.74169735 |
| 180712A00048 | 7/12/2018 | 3.05 | 7/12/2023 | 7/12/2018 | 108.35354 | 108.3535378 | 108.3535378 | 108.3535378 | 107.3925152 | 104.3622381 | 101.4360529 | 98.60975991 | 95.87935615 |
| 150601A00433 | 6/1/2015 | 1.91 | 3/17/2021 | 6/1/2015 | 100.66551 | 100.6655132 | 100.6655132 | 100.6655132 | 100.5840946 | 100.1748842 | 99.77024533 | 99.37009275 | 98.97434359 |
| 150601A00440 | 6/1/2015 | 3.27 | 3/16/2029 | 6/1/2015 | 112.92403 | 112.9240278 | 112.9240278 | 112.9195589 | 109.8631268 | 105.442733 | 101.2849184 | 97.37111075 | 93.68421128 |
| 150601A00450 | 6/1/2015 | 3.28 | 4/27/2029 | 6/1/2015 | 113.13212 | 113.1321188 | 113.1321188 | 113.1237326 | 109.989596 | 105.5132285 | 101.3056409 | 97.34762782 | 93.62152188 |
| 160531A00012 | 5/31/2016 | 1.43 | 6/1/2021 | 5/31/2016 | 100.59371 | 100.593707 | 100.593707 | 100.593707 | 100.4879799 | 99.97797526 | 99.4750333 | 98.97899096 | 98.48969046 |
| 160609A00075 | 6/9/2016 | 1.94 | 6/9/2026 | 6/9/2016 | 105.11985 | 105.1198525 | 105.1198525 | 105.1198525 | 103.7316595 | 100.6747294 | 97.75268007 | 94.95831123 | 92.28486158 |
| 161222A00035 | 12/22/2016 | 2.29 | 12/22/2023 | 12/22/2016 | 103.62104 | 103.6210401 | 103.6210401 | 103.6210401 | 103.1410102 | 101.3482141 | 99.60667942 | 97.91451924 | 96.26993045 |
| 170406A00031 | 4/6/2017 | 3.01 | 4/6/2027 | 4/6/2017 | 116.39401 | 116.3940089 | 116.3940089 | 116.3940089 | 111.6379617 | 105.6232927 | 100.0022656 | 94.74654567 | 89.82999104 |
| 170831A00026 | 8/31/2017 | 1.65 | 8/31/2020 | 8/31/2017 | 100.18245 | 100.1824472 | 100.1824472 | 100.1824472 | 100.1609951 | 100.0288375 | 99.89720807 | 99.76610344 | 99.6355201 |
| 170915A00019 | 9/15/2017 | 2.67 | 9/16/2030 | 9/15/2017 | 112.84104 | 112.841037 | 112.841037 | 112.6539468 | 108.3612678 | 103.0718681 | 98.15114446 | 93.5689729 | 89.29795951 |
| 180202A00020 | 2/2/2018 | 3.41 | 2/3/2031 | 2/2/2018 | 117.78355 | 117.7835465 | 117.7835465 | 117.4847162 | 112.7277679 | 107.0171065 | 101.7183799 | 96.79681214 | 92.22087839 |
| 150601A00460 | 6/1/2015 | 3.05 | 5/16/2029 | 6/1/2015 | 112.18031 | 112.180306 | 112.180306 | 112.1699184 | 109.0181364 | 104.5476441 | 100.3471793 | 96.3973468 | 92.68031238 |
| 150601A00589 | 6/1/2015 | 2.52 | 7/14/2025 | 6/1/2015 | 105.64707 | 105.647066 | 105.647066 | 105.647066 | 104.6940937 | 102.1306312 | 99.66435367 | 97.29071765 | 95.00542608 |
| 160608A00031 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.9961 | 110.9961002 | 110.9961002 | 110.9961002 | 107.4975569 | 102.2617414 | 97.33454641 | 92.69584856 | 88.32694707 |
| 160610A00017 | 6/10/2016 | 2.21 | 6/11/2029 | 6/10/2016 | 108.99551 | 108.9955145 | 108.9955145 | 108.9778683 | 105.637376 | 101.0703424 | 96.78782517 | 92.76892198 | 88.99444337 |
| 170324A00011 | 3/24/2017 | 3 | 3/25/2030 | 3/24/2017 | 113.97683 | 113.9768325 | 113.9768325 | 113.8780302 | 109.8704429 | 104.7498651 | 99.97110831 | 95.50736415 | 91.33416113 |
| 170630A00023 | 6/30/2017 | 2.77 | 7/1/2030 | 6/30/2017 | 113.07222 | 113.07222 | 113.07222 | 112.9330872 | 108.7931136 | 103.6024499 | 98.76597383 | 94.25532271 | 90.04465535 |
| 170908A00007 | 9/8/2017 | 2.52 | 9/9/2030 | 9/8/2017 | 111.9962 | 111.9961996 | 111.9961996 | 111.8107874 | 107.5506353 | 102.3013132 | 97.4178606 | 92.87038455 | 88.63170095 |
| 171020A00012 | 10/20/2017 | 2.85 | 10/21/2030 | 10/20/2017 | 113.97551 | 113.9755056 | 113.9755056 | 113.7681075 | 109.3781095 | 103.9983945 | 98.99628967 | 94.34073465 | 90.00350167 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180126A00015 | 1/26/2018 | 3.08 | 1/27/2031 | 1/26/2018 | 115.67893 | 115.6789311 | 115.6789311 | 115.4068166 | 110.7883842 | 105.2167721 | 100.0444214 | 95.23783546 | 90.76663102 |
| 180302A00012 | 3/2/2018 | 3.3 | 3/4/2031 | 3/2/2018 | 117.12341 | 117.1234058 | 117.1234058 | 116.8251385 | 112.0944182 | 106.4155759 | 101.1464453 | 96.25242981 | 91.70216827 |
| 180607A00028 | 6/7/2018 | 2.76 | 6/7/2021 | 6/7/2018 | 101.27396 | 101.2739561 | 101.2739561 | 101.2739561 | 101.1680222 | 100.656705 | 100.152452 | 99.65510032 | 99.16449235 |
| 150601A00439 | 6/1/2015 | 2.57 | 3/18/2024 | 6/1/2015 | 104.31098 | 104.310978 | 104.310978 | 104.310978 | 103.7740667 | 101.8655757 | 100.0141282 | 98.2175456 | 96.473749 |
| 170428A00034 | 4/28/2017 | 2.92 | 4/29/2030 | 4/28/2017 | 113.66381 | 113.6638053 | 113.6638053 | 113.5522613 | 109.5003366 | 104.3565633 | 99.55870871 | 95.07945224 | 90.89387061 |
| 170505A00007 | 5/5/2017 | 2.92 | 5/6/2030 | 5/5/2017 | 113.78092 | 113.7809205 | 113.7809205 | 113.656384 | 109.5457026 | 104.3597629 | 99.52506618 | 95.01368563 | 90.80016047 |
| 170512A00030 | 5/12/2017 | 2.94 | 5/12/2027 | 5/12/2017 | 115.27066 | 115.2706556 | 115.2706556 | 115.2706556 | 110.7853261 | 105.047923 | 99.68259186 | 94.66253599 | 89.96304347 |
| 170705A00021 | 7/5/2017 | 2.59 | 7/6/2027 | 7/5/2017 | 113.0405 | 113.0405001 | 113.0405001 | 113.0405001 | 109.1291641 | 103.9228745 | 99.04462969 | 94.47102418 | 90.18047497 |
| 170901A00005 | 9/1/2017 | 2.58 | 9/3/2030 | 9/1/2017 | 112.33315 | 112.3331512 | 112.3331512 | 112.1474208 | 107.8745194 | 102.6093834 | 97.71120196 | 93.14999514 | 88.89849962 |
| 171130A00037 | 11/10/2017 | 2.85 | 11/12/2030 | 11/10/2017 | 114.09073 | 114.0907251 | 114.0907251 | 113.8642429 | 109.416342 | 103.9947317 | 98.9563051 | 94.26933647 | 89.90501151 |
| 180321A00015 | 3/21/2018 | 3.02 | 3/21/2025 | 3/21/2018 | 107.4593 | 107.4593012 | 107.4593012 | 107.4593012 | 106.4157535 | 103.6821687 | 101.0547677 | 98.52851874 | 96.098665 |
| 180508A00038 | 5/8/2018 | 3.57 | 5/9/2033 | 5/8/2018 | 122.89757 | 122.897567 | 122.897567 | 121.5708975 | 115.1692245 | 108.2184838 | 101.8593599 | 96.0333215 | 90.68820696 |
| 160603A00015 | 6/3/2016 | 1.95 | 6/5/2023 | 6/3/2016 | 104.80753 | 104.8075263 | 104.8075263 | 104.8075263 | 103.933734 | 101.0783479 | 98.31885683 | 95.65149004 | 93.07264775 |
| 160708A00021 | 7/8/2016 | 2 | 7/6/2029 | 7/8/2016 | 108.05311 | 108.0531114 | 108.0531114 | 108.0303429 | 104.6639367 | 100.1004255 | 95.8234677 | 91.81185434 | 88.04612671 |
| 170417A00018 | 4/17/2017 | 2.82 | 4/17/2030 | 4/17/2017 | 113.11961 | 113.1196123 | 113.1196123 | 113.0090159 | 108.976858 | 103.8581093 | 99.08356742 | 94.62605011 | 90.46076015 |
| 170417A00059 | 4/17/2017 | 2.14 | 4/18/2022 | 4/17/2017 | 103.34883 | 103.3488305 | 103.3488305 | 103.3488305 | 102.9857016 | 101.1964417 | 99.44817931 | 97.73972607 | 96.06993595 |
| 170519A00021 | 5/19/2017 | 2.79 | 5/20/2030 | 5/19/2017 | 113.0569 | 113.0569007 | 113.0569007 | 112.9329706 | 108.8536279 | 103.7049926 | 98.90496969 | 94.42584415 | 90.24234819 |
| 170609A00011 | 6/9/2017 | 2.74 | 6/10/2030 | 6/9/2017 | 112.90559 | 112.9055924 | 112.9055924 | 112.7673939 | 108.6340024 | 103.4513895 | 98.62236528 | 94.1186203 | 89.91436142 |
| 170720A00017 | 7/20/2017 | 2.74 | 7/19/2030 | 7/20/2017 | 113.01617 | 113.0161698 | 113.0161698 | 112.8621743 | 108.6703287 | 103.4457143 | 98.58013974 | 94.04466049 | 89.81292168 |
| 170811A00006 | 8/11/2017 | 2.67 | 8/12/2030 | 8/11/2017 | 112.73394 | 112.7339363 | 112.7339363 | 112.5643559 | 108.3293902 | 103.0815121 | 98.19683282 | 93.64587551 | 89.40181753 |
| 170830A00040 | 8/30/2017 | 1.84 | 8/30/2022 | 8/30/2017 | 101.76709 | 101.7670935 | 101.7670935 | 101.7670935 | 101.535068 | 100.4083973 | 99.30523277 | 98.2248776 | 97.16666218 |
| 180329A00011 | 3/29/2018 | 2.77 | 3/29/2023 | 3/29/2018 | 103.60802 | 103.6080237 | 103.6080237 | 103.6080237 | 103.2796181 | 101.8324652 | 100.4203646 | 99.04217788 | 97.69681328 |
| 180402A00025 | 4/2/2018 | 3.27 | 4/2/2031 | 4/2/2018 | 117.21509 | 117.2150859 | 117.2150859 | 116.8697818 | 112.0282349 | 106.2715877 | 100.9357977 | 95.98487973 | 91.38625358 |
| 150601A00528 | 6/1/2015 | 3.08 | 7/27/2029 | 6/1/2015 | 112.58403 | 112.5840266 | 112.5840266 | 112.5628815 | 109.2752499 | 104.7057364 | 100.4173778 | 96.38962064 | 92.60359351 |
| 150601A00542 | 6/1/2015 | 1.97 | 8/4/2021 | 6/1/2015 | 101.00395 | 101.0039466 | 101.0039466 | 101.0039466 | 100.8801984 | 100.279473 | 99.6884383 | 99.10683363 | 98.5344083 |
| 150601A00684 | 6/1/2015 | 2.25 | 2/7/2025 | 6/1/2015 | 104.55225 | 104.5522498 | 104.5522498 | 104.5522498 | 103.7527721 | 101.411465 | 99.15290341 | 96.97344976 | 94.86965368 |
| 170630A00051 | 6/30/2017 | 1.75 | 6/30/2021 | 6/30/2017 | 100.81807 | 100.8180658 | 100.8180658 | 100.8180658 | 100.7037904 | 100.1529935 | 99.61040356 | 99.07581665 | 98.54903593 |
| 170929A00028 | 9/29/2017 | 2.8 | 9/30/2030 | 9/29/2017 | 113.57698 | 113.5769847 | 113.5769847 | 113.3881264 | 109.0669989 | 103.7426102 | 98.78936854 | 94.17694468 | 89.87775821 |
| 171127A00023 | 11/27/2017 | 2.85 | 11/27/2030 | 11/27/2017 | 114.09167 | 114.091672 | 114.091672 | 113.8645707 | 109.4163301 | 103.994456 | 98.95582456 | 94.2687006 | 89.90426164 |
| 180322A00030 | 3/22/2018 | 2.79 | 3/24/2025 | 3/22/2018 | 106.70236 | 106.702365 | 106.702365 | 106.702365 | 105.8156035 | 103.3100806 | 100.8960733 | 98.56944994 | 96.32629634 |
| 180323A00008 | 3/23/2018 | 3.35 | 3/24/2031 | 3/23/2018 | 117.56458 | 117.56458 | 117.56458 | 117.2418642 | 112.4391743 | 106.7017748 | 101.3810866 | 96.44169833 | 91.85152996 |
| 150601A00571 | 6/1/2015 | 2.5 | 9/23/2022 | 6/1/2015 | 102.38276 | 102.3827564 | 102.3827564 | 102.3827564 | 102.1522467 | 101.065715 | 100.0020247 | 98.9605021 | 97.94049827 |
| 200311A00032 | 3/11/2020 | 1.11 | 3/11/2025 | 3/11/2020 | 104.7977 | 104.7976986 | 104.7976986 | 104.7976986 | 102.3907649 | 97.74183624 | 93.3283025 | 89.13704088 | 85.1557307 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200312A00019 | 3/17/2020 | 1.06 | 5/16/2022 | 3/17/2020 | 101.51722 | 101.5172234 | 101.5172234 | 101.5172234 | 101.1175131 | 99.18295247 | 97.29492954 | 95.45204062 | 93.65293398 |
| 200316A00071 | 3/16/2020 | 1.18 | 3/16/2023 | 3/16/2020 | 102.49686 | 102.4968575 | 102.4968575 | 102.4968575 | 101.7158432 | 98.97168589 | 96.31489013 | 93.74217396 | 91.25039984 |
| 200317A00027 | 3/17/2020 | 1.29 | 3/17/2025 | 3/17/2020 | 104.80636 | 104.8063561 | 104.8063561 | 104.8063561 | 102.3997738 | 97.76191007 | 93.35888339 | 89.1776223 | 85.20585053 |
| 200319A00039 | 3/19/2020 | 1.12 | 3/18/2022 | 3/19/2020 | 101.50224 | 101.5022386 | 101.5022386 | 101.5022386 | 101.1453316 | 99.36766966 | 97.6295707 | 95.9298804 | 94.26748746 |
| 200320A00026 | 3/20/2020 | 2.11 | 3/20/2029 | 3/20/2020 | 115.9043 | 115.9043028 | 115.9043028 | 115.6777336 | 106.8675985 | 98.57380324 | 90.99283724 | 84.05965511 | 77.71545609 |
| 200325A00044 | 3/25/2020 | 1.7 | 12/23/2024 | 3/25/2020 | 106.41911 | 106.4191072 | 106.4191072 | 106.4191072 | 104.2342535 | 99.77047049 | 95.52277281 | 91.47958109 | 87.62999813 |
| 200325A00048 | 3/25/2020 | 1.34 | 12/27/2022 | 3/25/2020 | 102.72197 | 102.7219653 | 102.7219653 | 102.7219653 | 102.0601071 | 99.52104455 | 97.05773672 | 94.66746813 | 92.34763907 |
| 200327A00019 | 3/30/2020 | 0.85 | 3/15/2022 | 3/30/2020 | 101.00566 | 101.0056575 | 101.0056575 | 101.0056575 | 100.6515277 | 98.88684677 | 97.16130399 | 95.47374699 | 93.82306719 |
| 200327A00031 | 3/27/2020 | 1.18 | 3/27/2025 | 3/27/2020 | 104.29843 | 104.2984283 | 104.2984283 | 104.2984283 | 101.8675768 | 97.21604456 | 92.80147983 | 88.61066251 | 84.6311742 |
| 200327A00042 | 3/27/2020 | 0.83 | 3/27/2024 | 3/27/2020 | 102.75653 | 102.7565341 | 102.7565341 | 102.7565341 | 101.2447997 | 97.51344804 | 93.93795877 | 90.51105292 | 87.22582849 |
| 200327A00054 | 3/27/2020 | 0.9 | 3/27/2023 | 3/27/2020 | 101.72403 | 101.7240269 | 101.7240269 | 101.7240269 | 100.9279233 | 98.16479552 | 95.49057325 | 92.90193531 | 90.39570284 |
| 200330A00007 | 3/30/2020 | 0.93 | 4/1/2024 | 3/30/2020 | 102.45727 | 102.4572739 | 102.4572739 | 102.4572739 | 100.9454392 | 97.2257431 | 93.66154048 | 90.2455721 | 86.97095382 |
| 200330A00008 | 3/30/2020 | 1.09 | 3/28/2025 | 3/30/2020 | 103.86304 | 103.8630419 | 103.8630419 | 103.8630419 | 101.4329894 | 96.7892163 | 92.3822922 | 88.19899692 | 84.22691194 |
| 200330A00046 | 3/30/2020 | 0.86 | 3/30/2023 | 3/30/2020 | 101.61445 | 101.6144549 | 101.6144549 | 101.6144549 | 100.8138548 | 98.0443317 | 95.36416607 | 92.77002019 | 90.2586988 |
| 200331A00018 | 3/31/2020 | 0.82 | 3/31/2023 | 3/31/2020 | 101.50141 | 101.5014143 | 101.5014143 | 101.5014143 | 100.6995193 | 97.92908296 | 95.24812485 | 92.65329951 | 90.14140448 |
| 200402A00026 | 4/2/2020 | 1.28 | 4/2/2026 | 4/2/2020 | 105.7229 | 105.7229013 | 105.7229013 | 105.7229013 | 101.9401073 | 96.37076769 | 91.13709235 | 86.21723972 | 81.59089195 |
| 200402A00035 | 4/2/2020 | 0.62 | 4/3/2023 | 4/2/2020 | 101.44461 | 101.4446094 | 101.4446094 | 101.4446094 | 100.6340212 | 97.8451528 | 95.1468438 | 92.53569082 | 90.0084367 |
| 200402A00036 | 4/2/2020 | 0.71 | 4/2/2024 | 4/2/2020 | 102.30143 | 102.301431 | 102.301431 | 102.301431 | 100.7788751 | 97.04097107 | 93.45991863 | 90.02837078 | 86.73936141 |
| 200402A00041 | 4/2/2020 | 1.03 | 4/2/2025 | 4/2/2020 | 103.58126 | 103.5812645 | 103.5812645 | 103.5812645 | 101.139103 | 96.48994626 | 92.07862976 | 87.89184532 | 83.91709328 |
| 200402A00048 | 4/2/2020 | 0.71 | 4/2/2024 | 4/2/2020 | 102.30143 | 102.301431 | 102.301431 | 102.301431 | 100.7788751 | 97.04097107 | 93.45991863 | 90.02837078 | 86.73936141 |
| 200312A00036 | 3/12/2020 | 1.04 | 3/11/2022 | 3/12/2020 | 101.36019 | 101.3601906 | 101.3601906 | 101.3601906 | 101.0078003 | 99.25066073 | 97.53228295 | 95.85151169 | 94.20723663 |
| 200316A00019 | 3/16/2020 | 1.11 | 3/16/2023 | 3/16/2020 | 102.29918 | 102.299184 | 102.299184 | 102.299184 | 101.5187979 | 98.77743196 | 96.12336064 | 93.55330414 | 91.06412699 |
| 200316A00049 | 3/16/2020 | 1.25 | 3/14/2025 | 3/16/2020 | 104.60528 | 104.6052803 | 104.6052803 | 104.6052803 | 102.2089147 | 97.58350006 | 93.19198331 | 89.02135073 | 85.05938115 |
| 200316A00068 | 3/16/2020 | 1.05 | 3/16/2022 | 3/16/2020 | 101.37057 | 101.3705684 | 101.3705684 | 101.3705684 | 101.015141 | 99.24428248 | 97.51273795 | 95.81935346 | 94.16301859 |
| 200316A00070 | 3/16/2020 | 1.05 | 3/16/2022 | 3/16/2020 | 101.37057 | 101.3705684 | 101.3705684 | 101.3705684 | 101.015141 | 99.24428248 | 97.51273795 | 95.81935346 | 94.16301859 |
| 200318A00044 | 3/18/2020 | 1.17 | 3/18/2024 | 3/18/2020 | 104.04775 | 104.0477493 | 104.0477493 | 104.0477493 | 102.5487484 | 98.81691425 | 95.23975331 | 91.81004979 | 88.52096455 |
| 200325A00009 | 3/27/2020 | 1.67 | 3/27/2025 | 3/27/2020 | 106.68049 | 106.6804858 | 106.6804858 | 106.6804858 | 104.2297131 | 99.52174157 | 95.05279044 | 90.8095473 | 86.77950628 |
| 200325A00013 | 3/25/2020 | 1.03 | 8/16/2021 | 3/25/2020 | 100.92833 | 100.9283266 | 100.9283266 | 100.9283266 | 100.6931815 | 99.47977507 | 98.2953946 | 97.13900916 | 96.00963608 |
| 200325A00042 | 3/25/2020 | 1.58 | 3/25/2024 | 3/25/2020 | 104.95105 | 104.9510529 | 104.9510529 | 104.9510529 | 103.441058 | 99.69191242 | 96.09823021 | 92.65278025 | 89.34870538 |
| 200327A00045 | 3/27/2020 | 2.24 | 3/27/2034 | 3/27/2020 | 129.51248 | 129.5124829 | 129.5124829 | 119.9580413 | 106.1766822 | 93.99537606 | 83.37311432 | 74.10072084 | 65.99808842 |
| 200327A00046 | 3/27/2020 | 1.23 | 3/27/2025 | 3/27/2020 | 104.5415 | 104.5414954 | 104.5414954 | 104.5414954 | 102.1086111 | 97.45131976 | 93.0312054 | 88.83503851 | 84.85039176 |
| 200327A00048 | 3/27/2020 | 1.18 | 3/24/2025 | 3/27/2020 | 104.29129 | 104.2912857 | 104.2912857 | 104.2912857 | 101.8690334 | 97.22535833 | 92.81787426 | 88.63341195 | 84.65960165 |
| 200327A00051 | 3/27/2020 | 0.99 | 3/27/2025 | 3/27/2020 | 104.25531 | 104.2553144 | 104.2553144 | 104.2553144 | 101.8068228 | 97.12922297 | 92.69070073 | 88.4778822 | 84.47820668 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200327A00061 | 3/31/2020 | 1.18 | 3/31/2025 | 3/31/2020 | 104.30806 | 104.3080596 | 104.3080596 | 104.3080596 | 101.865607 | 97.20394775 | 92.78026855 | 88.58127398 | 84.59447524 |
| 200327A00077 | 3/27/2020 | 0.83 | 3/27/2024 | 3/27/2020 | 102.75653 | 102.7565341 | 102.7565341 | 102.7565341 | 101.2447997 | 97.51344804 | 93.93795877 | 90.51105292 | 87.22582849 |
| 200330A00038 | 3/30/2020 | 1.79 | 3/29/2030 | 3/30/2020 | 114.58125 | 114.5812509 | 114.5812509 | 113.2601863 | 103.5474423 | 94.57152419 | 86.44983789 | 79.09663779 | 72.43517892 |
| 200331A00014 | 3/31/2020 | 0.72 | 3/29/2024 | 3/31/2020 | 102.33366 | 102.3336634 | 102.3336634 | 102.3336634 | 100.819862 | 97.09125862 | 93.51870238 | 90.09490319 | 86.81294789 |
| 200331A00024 | 3/31/2020 | 0.64 | 3/31/2023 | 3/31/2020 | 101.49788 | 101.4978817 | 101.4978817 | 101.4978817 | 100.6921368 | 97.91013872 | 95.21823453 | 92.6130474 | 90.09134521 |
| 200401A00023 | 4/1/2020 | 0.82 | 4/1/2025 | 4/1/2020 | 103.43491 | 103.4349093 | 103.4349093 | 103.4349093 | 100.9787614 | 96.30830674 | 91.87747909 | 87.67284001 | 83.68176922 |
| 200402A00001 | 4/2/2020 | 0.72 | 4/2/2021 | 4/2/2020 | 100.38753 | 100.3875323 | 100.3875323 | 100.3875323 | 100.1987618 | 99.35496784 | 98.52529527 | 97.7093922 | 96.90691836 |
| 200402A00010 | 4/2/2020 | 0.89 | 4/2/2024 | 4/2/2020 | 102.30394 | 102.3039449 | 102.3039449 | 102.3039449 | 100.7907317 | 97.07150492 | 93.50788681 | 90.09260724 | 86.81877208 |
| 200316A00015 | 3/16/2020 | 0.99 | 3/14/2022 | 3/16/2020 | 101.25779 | 101.2577875 | 101.2577875 | 101.2577875 | 100.9038031 | 99.13956679 | 97.41439945 | 95.72714741 | 94.07670103 |
| 200316A00037 | 3/16/2020 | 1.06 | 3/14/2025 | 3/16/2020 | 104.56352 | 104.5635195 | 104.5635195 | 104.5635195 | 102.1498754 | 97.4986749 | 93.08344524 | 88.89102197 | 84.90904451 |
| 200318A00026 | 3/20/2020 | 1.08 | 3/16/2022 | 3/20/2020 | 101.42508 | 101.4250814 | 101.4250814 | 101.4250814 | 101.0695521 | 99.29818651 | 97.56614431 | 95.87227132 | 94.21545688 |
| 200319A00025 | 3/19/2020 | 1.39 | 3/21/2024 | 3/19/2020 | 104.20671 | 104.2067144 | 104.2067144 | 104.2067144 | 102.7094392 | 98.98509266 | 95.41493028 | 91.9917778 | 88.70883338 |
| 200324A00013 | 3/25/2020 | 1.78 | 3/25/2025 | 3/25/2020 | 107.20719 | 107.2071864 | 107.2071864 | 107.2071864 | 104.7577538 | 100.0425006 | 95.56620297 | 91.31556224 | 87.27808571 |
| 200324A00051 | 3/24/2020 | 1.73 | 11/1/2024 | 3/24/2020 | 106.39951 | 106.399508 | 106.399508 | 106.399508 | 104.351656 | 100.016506 | 95.88548617 | 91.94795945 | 88.19389683 |
| 200326A00009 | 3/27/2020 | 1.54 | 3/27/2025 | 3/27/2020 | 106.04851 | 106.0485114 | 106.0485114 | 106.0485114 | 103.6030239 | 98.91002604 | 94.45550396 | 90.2261697 | 86.20954063 |
| 200327A00013 | 3/27/2020 | 0.72 | 3/27/2023 | 3/27/2020 | 101.72106 | 101.7210609 | 101.7210609 | 101.7210609 | 100.921148 | 98.14651266 | 95.46139348 | 92.8624382 | 90.34643862 |
| 200327A00025 | 3/30/2020 | 0.86 | 3/30/2022 | 3/30/2020 | 101.04663 | 101.0466306 | 101.0466306 | 101.0466306 | 100.6831056 | 98.87649687 | 97.11073791 | 95.3846727 | 93.69718508 |
| 200327A00039 | 3/27/2020 | 0.84 | 3/28/2022 | 3/27/2020 | 101.00653 | 101.006534 | 101.006534 | 101.006534 | 100.6444037 | 98.84355048 | 97.08331225 | 95.36253794 | 93.68011642 |
| 200327A00040 | 3/27/2020 | 0.72 | 3/27/2023 | 3/27/2020 | 101.72106 | 101.7210609 | 101.7210609 | 101.7210609 | 100.921148 | 98.14651266 | 95.46139348 | 92.8624382 | 90.34643862 |
| 200327A00079 | 3/27/2020 | 0.99 | 3/27/2025 | 3/27/2020 | 104.25531 | 104.2553144 | 104.2553144 | 104.2553144 | 101.8068228 | 97.12922297 | 92.69070073 | 88.4778822 | 84.47820668 |
| 200330A00036 | 3/30/2020 | 0.86 | 3/30/2023 | 3/30/2020 | 101.61445 | 101.6144549 | 101.6144549 | 101.6144549 | 100.8138548 | 98.0443317 | 95.36416607 | 92.77002019 | 90.2586988 |
| 200330A00044 | 3/30/2020 | 1.09 | 3/28/2025 | 3/30/2020 | 103.86304 | 103.8630419 | 103.8630419 | 103.8630419 | 101.4329894 | 96.7892163 | 92.3822922 | 88.19899692 | 84.22691194 |
| 200331A00007 | 3/31/2020 | 0.72 | 3/29/2024 | 3/31/2020 | 102.33366 | 102.3336634 | 102.3336634 | 102.3336634 | 100.819862 | 97.09125862 | 93.51870238 | 90.09490319 | 86.81294789 |
| 200401A00013 | 4/1/2020 | 1.01 | 4/1/2025 | 4/1/2020 | 103.48174 | 103.4817396 | 103.4817396 | 103.4817396 | 101.0433218 | 96.39890667 | 91.99200097 | 87.80932097 | 83.83838955 |
| 200402A00014 | 4/2/2020 | 0.84 | 4/2/2025 | 4/2/2020 | 103.53484 | 103.5348398 | 103.5348398 | 103.5348398 | 101.0749122 | 96.39967582 | 91.96440095 | 87.7556244 | 83.76070305 |
| 200402A00018 | 4/2/2020 | 0.85 | 4/3/2023 | 4/2/2020 | 101.59199 | 101.5919935 | 101.5919935 | 101.5919935 | 100.7848189 | 98.00549492 | 95.31616087 | 92.71344333 | 90.1941135 |
| 200408A00004 | 4/8/2020 | 0.76 | 4/8/2022 | 4/8/2020 | 100.87273 | 100.8727254 | 100.8727254 | 100.8727254 | 100.503208 | 98.67491808 | 96.88846942 | 95.14266328 | 93.4363429 |
| 200408A00011 | 4/8/2020 | 0.82 | 9/26/2022 | 4/8/2020 | 101.23392 | 101.2339234 | 101.2339234 | 101.2339234 | 100.6969611 | 98.4177024 | 96.20079329 | 94.04418604 | 91.94591239 |
| 200413A00012 | 4/13/2020 | 0.64 | 4/13/2023 | 4/13/2020 | 101.51673 | 101.5167253 | 101.5167253 | 101.5167253 | 100.6891785 | 97.87382622 | 95.15068069 | 92.51624614 | 89.96717845 |
| 200312A00037 | 3/12/2020 | 1.3 | 3/12/2025 | 3/12/2020 | 104.84115 | 104.8411493 | 104.8411493 | 104.8411493 | 102.448546 | 97.82272909 | 93.43049921 | 89.25886693 | 85.29563438 |
| 200316A00050 | 3/16/2020 | 1.54 | 3/16/2027 | 3/16/2020 | 108.42029 | 108.4202895 | 108.4202895 | 108.4202895 | 102.9938067 | 96.5559574 | 90.56073899 | 84.97552155 | 79.77023823 |
| 200317A00011 | 3/17/2020 | 1.04 | 3/17/2022 | 3/17/2020 | 101.35441 | 101.3544129 | 101.3544129 | 101.3544129 | 100.9983994 | 99.2249037 | 97.49083218 | 95.7950311 | 94.13638998 |
| 200317A00033 | 3/19/2020 | 1.1 | 2/15/2022 | 3/19/2020 | 101.41499 | 101.4149859 | 101.4149859 | 101.4149859 | 101.076686 | 99.38485334 | 97.72923167 | 96.10872349 | 94.52227603 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200317A00045 | 3/19/2020 | 1.43 | 3/19/2025 | 3/19/2020 | 105.48924 | 105.4892416 | 105.4892416 | 105.4892416 | 103.0712924 | 98.41217374 | 93.98898863 | 89.78860594 | 85.79869262 |
| 200317A00064 | 3/19/2020 | 1.12 | 5/16/2022 | 3/19/2020 | 101.63636 | 101.6363577 | 101.6363577 | 101.6363577 | 101.2364046 | 99.30063925 | 97.41143501 | 95.5673875 | 93.76714434 |
| 200318A00037 | 3/18/2020 | 1.35 | 3/18/2024 | 3/18/2020 | 104.04438 | 104.0443831 | 104.0443831 | 104.0443831 | 102.5545047 | 98.8412221 | 95.28139363 | 91.86787863 | 88.59390818 |
| 200319A00009 | 3/19/2020 | 0.94 | 3/18/2022 | 3/19/2020 | 101.49981 | 101.4998112 | 101.4998112 | 101.4998112 | 101.141725 | 99.35823959 | 97.61454401 | 95.90947472 | 94.24191171 |
| 200319A00038 | 3/19/2020 | 1.18 | 9/17/2021 | 3/19/2020 | 101.18044 | 101.1804412 | 101.1804412 | 101.1804412 | 100.933618 | 99.6413294 | 98.37519828 | 97.13444135 | 95.91830676 |
| 200320A00013 | 3/20/2020 | 1.25 | 3/20/2024 | 3/20/2020 | 104.36192 | 104.3619211 | 104.3619211 | 104.3619211 | 102.8568422 | 99.11366985 | 95.52577998 | 92.08592957 | 88.78725292 |
| 200324A00029 | 3/24/2020 | 1.86 | 3/24/2025 | 3/24/2020 | 107.59141 | 107.5914132 | 107.5914132 | 107.5914132 | 105.1416503 | 100.4199072 | 95.93719077 | 91.68020431 | 87.63645739 |
| 200325A00038 | 3/25/2020 | 1.48 | 9/25/2023 | 3/25/2020 | 103.97357 | 103.9735749 | 103.9735749 | 103.9735749 | 102.8430849 | 99.57848419 | 96.43400979 | 93.40462487 | 90.48553087 |
| 200325A00043 | 3/25/2020 | 1.62 | 6/25/2024 | 3/25/2020 | 105.43999 | 105.4399909 | 105.4399909 | 105.4399909 | 103.7177047 | 99.72678963 | 95.9109128 | 92.26147506 | 88.77034724 |
| 200326A00012 | 3/26/2020 | 0.99 | 3/25/2022 | 3/26/2020 | 101.27844 | 101.2784393 | 101.2784393 | 101.2784393 | 100.9176398 | 99.12256796 | 97.36781599 | 95.65223139 | 93.97470251 |
| 200327A00032 | 3/27/2020 | 0.66 | 3/28/2022 | 3/27/2020 | 101.00346 | 101.0034581 | 101.0034581 | 101.0034581 | 100.6401206 | 98.83332038 | 97.06736936 | 95.34110713 | 93.65341366 |
| 200327A00055 | 3/27/2020 | 1.01 | 3/27/2024 | 3/27/2020 | 102.75746 | 102.7574554 | 102.7574554 | 102.7574554 | 101.2549675 | 97.54222116 | 93.98410472 | 90.57341524 | 87.30332184 |
| 200327A00056 | 3/27/2020 | 1.18 | 3/27/2025 | 3/27/2020 | 104.29843 | 104.2984283 | 104.2984283 | 104.2984283 | 101.8675768 | 97.21604456 | 92.80147983 | 88.61066251 | 84.6311742 |
| 200327A00058 | 3/27/2020 | 0.9 | 3/27/2023 | 3/27/2020 | 101.72403 | 101.7240269 | 101.7240269 | 101.7240269 | 100.9279233 | 98.16479552 | 95.49057325 | 92.90193531 | 90.39570284 |
| 200330A00020 | 3/30/2020 | 0.68 | 3/30/2021 | 3/30/2020 | 100.34987 | 100.3498732 | 100.3498732 | 100.3498732 | 100.1631076 | 99.32759179 | 98.50592044 | 97.69775216 | 96.90275665 |
| 200331A00011 | 3/31/2020 | 1.09 | 3/31/2025 | 3/31/2020 | 103.86955 | 103.8695534 | 103.8695534 | 103.8695534 | 101.4307841 | 96.77953681 | 92.36589016 | 88.17656578 | 84.19909109 |
| 200331A00017 | 3/31/2020 | 0.9 | 3/31/2025 | 3/31/2020 | 103.82447 | 103.8244742 | 103.8244742 | 103.8244742 | 101.367977 | 96.69064265 | 92.25302704 | 88.04169725 | 84.04403758 |
| 200311A00043 | 3/11/2020 | 1.3 | 3/11/2025 | 3/11/2020 | 104.83844 | 104.83844 | 104.83844 | 104.83844 | 102.4487129 | 97.82553407 | 93.43568438 | 89.26619112 | 85.3048724 |
| 200311A00044 | 3/11/2020 | 1.73 | 3/11/2030 | 3/11/2020 | 113.92351 | 113.923505 | 113.923505 | 112.6632615 | 103.0196556 | 94.10901673 | 86.0431431 | 78.73753201 | 72.11653096 |
| 200312A00015 | 3/12/2020 | 1.23 | 3/10/2025 | 3/12/2020 | 104.49869 | 104.4986948 | 104.4986948 | 104.4986948 | 102.114611 | 97.50198386 | 93.1221426 | 88.96214391 | 85.00983395 |
| 200316A00009 | 3/16/2020 | 1.25 | 3/14/2025 | 3/16/2020 | 104.60528 | 104.6052803 | 104.6052803 | 104.6052803 | 102.2089147 | 97.58350006 | 93.19198331 | 89.02135073 | 85.05938115 |
| 200316A00041 | 3/16/2020 | 1.16 | 3/16/2023 | 3/16/2020 | 102.44038 | 102.4403794 | 102.4403794 | 102.4403794 | 101.6595445 | 98.91618476 | 96.26016742 | 93.68821116 | 91.19717903 |
| 200316A00048 | 3/16/2020 | 1.11 | 3/16/2023 | 3/16/2020 | 102.29918 | 102.299184 | 102.299184 | 102.299184 | 101.5187979 | 98.77743196 | 96.12336064 | 93.55330414 | 91.06412699 |
| 200317A00025 | 3/17/2020 | 1.66 | 3/15/2030 | 3/17/2020 | 115.22607 | 115.2260703 | 115.2260703 | 113.9266692 | 104.1010511 | 95.0363569 | 86.83464777 | 79.40930093 | 72.68279253 |
| 200318A00039 | 3/18/2020 | 1.08 | 3/18/2022 | 3/18/2020 | 101.42933 | 101.4293335 | 101.4293335 | 101.4293335 | 101.0725632 | 99.2955814 | 97.55814987 | 95.85911469 | 94.1973649 |
| 200318A00047 | 3/18/2020 | 1.29 | 3/18/2025 | 3/18/2020 | 105.69118 | 105.6911834 | 105.6911834 | 105.6911834 | 103.2566431 | 98.56838583 | 94.11810385 | 89.89252149 | 85.87917225 |
| 200320A00049 | 3/25/2020 | 1.47 | 3/25/2025 | 3/25/2020 | 105.70187 | 105.7018678 | 105.7018678 | 105.7018678 | 103.2649973 | 98.58537281 | 94.14340922 | 89.92586594 | 85.92030545 |
| 200320A00052 | 3/25/2020 | 1.47 | 3/25/2025 | 3/25/2020 | 105.70187 | 105.7018678 | 105.7018678 | 105.7018678 | 103.2649973 | 98.58537281 | 94.14340922 | 89.92586594 | 85.92030545 |
| 200327A00030 | 3/27/2020 | 1.01 | 3/27/2024 | 3/27/2020 | 102.75746 | 102.7574554 | 102.7574554 | 102.7574554 | 101.2549675 | 97.54222116 | 93.98410472 | 90.57341524 | 87.30332184 |
| 200327A00041 | 3/27/2020 | 0.9 | 3/27/2023 | 3/27/2020 | 101.72403 | 101.7240269 | 101.7240269 | 101.7240269 | 100.9279233 | 98.16479552 | 95.49057325 | 92.90193531 | 90.39570284 |
| 200327A00053 | 3/27/2020 | 0.84 | 3/25/2022 | 3/27/2020 | 101.00214 | 101.0021447 | 101.0021447 | 101.0021447 | 100.6418682 | 98.84939892 | 97.0972008 | 95.38412269 | 93.70905427 |
| 200330A00011 | 3/30/2020 | 0.93 | 4/1/2024 | 3/30/2020 | 102.45727 | 102.4572739 | 102.4572739 | 102.4572739 | 100.9454392 | 97.2257431 | 93.66154048 | 90.2455721 | 86.97095382 |
| 200330A00013 | 3/30/2020 | 0.68 | 3/30/2021 | 3/30/2020 | 100.34987 | 100.3498732 | 100.3498732 | 100.3498732 | 100.1631076 | 99.32759179 | 98.50592044 | 97.69775216 | 96.90275665 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200330A00021 | 3/30/2020 | 0.8 | 3/30/2022 | 3/30/2020 | 100.93528 | 100.935284 | 100.935284 | 100.935284 | 100.5719712 | 98.76641857 | 97.00169582 | 95.27664753 | 93.59015809 |
| 200331A00016 | 3/31/2020 | 1.11 | 3/31/2026 | 3/31/2020 | 105.8509 | 105.8509024 | 105.8509024 | 105.8509024 | 102.0403376 | 96.43308235 | 91.16467465 | 86.21302176 | 81.557575 |
| 200331A00022 | 4/1/2020 | 1.07 | 4/1/2025 | 4/1/2020 | 103.77424 | 103.7742414 | 103.7742414 | 103.7742414 | 101.3333638 | 96.68199973 | 92.26839841 | 88.07926471 | 84.10211072 |
| 200401A00001 | 4/1/2020 | 1.01 | 4/1/2025 | 4/1/2020 | 103.48174 | 103.4817396 | 103.4817396 | 103.4817396 | 101.0433218 | 96.39890667 | 91.99200097 | 87.80932097 | 83.83838955 |
| 200402A00003 | 4/2/2020 | 0.8 | 4/3/2023 | 4/2/2020 | 101.44832 | 101.4483195 | 101.4483195 | 101.4483195 | 100.6416137 | 97.86435239 | 95.17703094 | 92.57627757 | 90.05886503 |
| 200312A00006 | 3/12/2020 | 1.23 | 3/12/2025 | 3/12/2020 | 104.50373 | 104.50373 | 104.50373 | 104.50373 | 102.113903 | 97.49601705 | 93.11143169 | 88.94717027 | 84.99104709 |
| 200312A00014 | 3/12/2020 | 1.04 | 3/12/2025 | 3/12/2020 | 104.46152 | 104.4615241 | 104.4615241 | 104.4615241 | 102.0544838 | 97.41088142 | 93.00264556 | 88.81664945 | 84.84056845 |
| 200313A00019 | 3/13/2020 | 1.55 | 3/13/2026 | 3/13/2020 | 107.2415 | 107.2415035 | 107.2415035 | 107.2415035 | 103.5261498 | 97.96216034 | 92.72979701 | 87.80762512 | 83.17570369 |
| 200316A00042 | 3/16/2020 | 1.23 | 3/15/2024 | 3/16/2020 | 103.5765 | 103.5764952 | 103.5764952 | 103.5764952 | 102.0956357 | 98.3991752 | 94.8552675 | 91.45681202 | 88.19707889 |
| 200316A00046 | 3/16/2020 | 1.18 | 3/18/2024 | 3/16/2020 | 103.39227 | 103.3922741 | 103.3922741 | 103.3922741 | 101.9058834 | 98.2049352 | 94.65707034 | 91.25516233 | 87.9924558 |
| 200316A00055 | 3/16/2020 | 1.06 | 3/14/2025 | 3/16/2020 | 104.56352 | 104.5635195 | 104.5635195 | 104.5635195 | 102.1498754 | 97.4986749 | 93.08344524 | 88.89102197 | 84.90904451 |
| 200316A00072 | 3/16/2020 | 1.18 | 3/16/2023 | 3/16/2020 | 102.49686 | 102.4968575 | 102.4968575 | 102.4968575 | 101.7158432 | 98.97168589 | 96.31489013 | 93.74217396 | 91.25039984 |
| 200317A00023 | 3/17/2020 | 1.1 | 3/17/2025 | 3/17/2020 | 104.76548 | 104.7654788 | 104.7654788 | 104.7654788 | 102.3415164 | 97.67775381 | 93.25091209 | 89.04776823 | 85.05590576 |
| 200318A00049 | 3/18/2020 | 0.84 | 3/18/2021 | 3/18/2020 | 100.46657 | 100.4665671 | 100.4665671 | 100.4665671 | 100.2880798 | 99.48448028 | 98.69369088 | 97.91540732 | 97.14933486 |
| 200319A00037 | 3/19/2020 | 0.99 | 6/18/2021 | 3/19/2020 | 100.76239 | 100.7623932 | 100.7623932 | 100.7623932 | 100.5379428 | 99.48451785 | 98.45302263 | 97.4427783 | 96.45313382 |
| 200325A00016 | 3/30/2020 | 1.67 | 3/31/2025 | 3/30/2020 | 106.69548 | 106.6954825 | 106.6954825 | 106.6954825 | 104.2329762 | 99.51462951 | 95.0363287 | 90.78468526 | 86.74712225 |
| 200325A00032 | 3/25/2020 | 1.29 | 9/26/2022 | 3/25/2020 | 102.33965 | 102.339646 | 102.339646 | 102.339646 | 101.7999561 | 99.50757287 | 97.2778189 | 95.10863805 | 92.99805404 |
| 200326A00016 | 3/26/2020 | 1.54 | 3/25/2025 | 3/26/2020 | 106.04178 | 106.0417785 | 106.0417785 | 106.0417785 | 103.6020713 | 98.91440166 | 94.46468523 | 90.23966833 | 86.22690099 |
| 200327A00027 | 3/27/2020 | 0.9 | 3/27/2023 | 3/27/2020 | 101.72403 | 101.7240269 | 101.7240269 | 101.7240269 | 100.9279233 | 98.16479552 | 95.49057325 | 92.90193531 | 90.39570284 |
| 200327A00035 | 3/27/2020 | 0.83 | 3/27/2024 | 3/27/2020 | 102.75653 | 102.7565341 | 102.7565341 | 102.7565341 | 101.2447997 | 97.51344804 | 93.93795877 | 90.51105292 | 87.22582849 |
| 200327A00037 | 3/27/2020 | 1.18 | 3/27/2026 | 3/27/2020 | 106.2523 | 106.2522959 | 106.2522959 | 106.2522959 | 102.4542878 | 96.84515951 | 91.57419475 | 86.61938145 | 81.9602446 |
| 200327A00076 | 3/27/2020 | 1.18 | 3/27/2026 | 3/27/2020 | 106.2523 | 106.2522959 | 106.2522959 | 106.2522959 | 102.4542878 | 96.84515951 | 91.57419475 | 86.61938145 | 81.9602446 |
| 200330A00066 | 3/30/2020 | 1.08 | 3/31/2025 | 3/30/2020 | 103.82083 | 103.8208305 | 103.8208305 | 103.8208305 | 101.3824704 | 96.73238004 | 92.31984812 | 88.13159821 | 84.15515952 |
| 200331A00008 | 3/31/2020 | 0.64 | 3/31/2023 | 3/31/2020 | 101.49788 | 101.4978817 | 101.4978817 | 101.4978817 | 100.6921368 | 97.91013872 | 95.21823453 | 92.6130474 | 90.09134521 |
| 200402A00002 | 4/2/2020 | 0.71 | 4/4/2022 | 4/2/2020 | 100.77406 | 100.7740583 | 100.7740583 | 100.7740583 | 100.4075407 | 98.59056055 | 96.81494818 | 95.07952483 | 93.38315272 |
| 200402A00009 | 4/2/2020 | 1.03 | 4/2/2025 | 4/2/2020 | 103.58126 | 103.5812645 | 103.5812645 | 103.5812645 | 101.139103 | 96.48994626 | 92.07862976 | 87.89184532 | 83.91709328 |
| 200311A00055 | 3/11/2020 | 1.66 | 12/17/2027 | 3/11/2020 | 110.25477 | 110.2547685 | 110.2547685 | 110.2547685 | 103.5214653 | 96.4179049 | 89.85025682 | 83.77538762 | 78.15384166 |
| 200316A00067 | 3/18/2020 | 1.1 | 9/15/2022 | 3/18/2020 | 101.86809 | 101.8680855 | 101.8680855 | 101.8680855 | 101.3424913 | 99.08409193 | 96.88676756 | 94.74848582 | 92.66729653 |
| 200317A00039 | 3/19/2020 | 1.11 | 4/15/2022 | 3/19/2020 | 101.54679 | 101.5467924 | 101.5467924 | 101.5467924 | 101.1710426 | 99.31807814 | 97.50788143 | 95.73921588 | 94.01088857 |
| 200318A00013 | 3/18/2020 | 1.5 | 3/18/2025 | 3/18/2020 | 105.82475 | 105.8247455 | 105.8247455 | 105.8247455 | 103.4068761 | 98.74242611 | 94.31393928 | 90.10828839 | 86.11314426 |
| 200318A00038 | 3/18/2020 | 1.48 | 3/18/2025 | 3/18/2020 | 105.72801 | 105.7280114 | 105.7280114 | 105.7280114 | 103.3109432 | 98.64877431 | 94.22248591 | 90.01895455 | 86.02585453 |
| 200318A00054 | 3/18/2020 | 1.56 | 3/18/2025 | 3/18/2020 | 106.11495 | 106.1149476 | 106.1149476 | 106.1149476 | 103.6946747 | 99.02338152 | 94.58829938 | 90.37628993 | 86.37501347 |
| 200323A00011 | 3/23/2020 | 1.37 | 3/23/2023 | 3/23/2020 | 103.05383 | 103.0538289 | 103.0538289 | 103.0538289 | 102.2598351 | 99.48867124 | 96.80620963 | 94.20913189 | 91.69426322 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200323A00018 | 3/23/2020 | 1.37 | 3/23/2023 | 3/23/2020 | 103.05383 | 103.0538289 | 103.0538289 | 103.0538289 | 102.2598351 | 99.48867124 | 96.80620963 | 94.20913189 | 91.69426322 |
| 200324A00012 | 3/25/2020 | 1.78 | 3/25/2025 | 3/25/2020 | 107.20719 | 107.2071864 | 107.2071864 | 107.2071864 | 104.7577538 | 100.0425006 | 95.56620297 | 91.31556224 | 87.27808571 |
| 200324A00031 | 3/24/2020 | 1.64 | 3/22/2024 | 3/24/2020 | 105.17141 | 105.171409 | 105.171409 | 105.171409 | 103.6667717 | 99.92146497 | 96.33110659 | 92.88849106 | 89.58678644 |
| 200325A00046 | 3/25/2020 | 1.76 | 3/25/2025 | 3/25/2020 | 107.11007 | 107.1100691 | 107.1100691 | 107.1100691 | 104.6614469 | 99.94849231 | 95.47440982 | 91.22590441 | 87.19048699 |
| 200325A00047 | 3/25/2020 | 1.68 | 9/25/2024 | 3/25/2020 | 106.03629 | 106.0362902 | 106.0362902 | 106.0362902 | 104.0856927 | 99.85181314 | 95.81312661 | 91.95966003 | 88.28200026 |
| 200326A00011 | 3/30/2020 | 1.54 | 3/31/2025 | 3/30/2020 | 106.06208 | 106.0620846 | 106.0620846 | 106.0620846 | 103.6048987 | 98.90159149 | 94.43778213 | 90.20010676 | 86.17601182 |
| 200326A00025 | 3/26/2020 | 0.99 | 3/28/2022 | 3/26/2020 | 101.28407 | 101.2840718 | 101.2840718 | 101.2840718 | 100.9214139 | 99.11793582 | 97.35512193 | 95.6318198 | 93.94691699 |
| 200327A00022 | 3/27/2020 | 0.9 | 3/27/2023 | 3/27/2020 | 101.72403 | 101.7240269 | 101.7240269 | 101.7240269 | 100.9279233 | 98.16479552 | 95.49057325 | 92.90193531 | 90.39570284 |
| 200327A00059 | 3/27/2020 | 1.01 | 3/27/2024 | 3/27/2020 | 102.75746 | 102.7574554 | 102.7574554 | 102.7574554 | 101.2549675 | 97.54222116 | 93.98410472 | 90.57341524 | 87.30332184 |
| 200327A00088 | 3/27/2020 | 1.22 | 3/27/2025 | 3/27/2020 | 104.49288 | 104.4928819 | 104.4928819 | 104.4928819 | 102.0604043 | 97.40426472 | 92.98526029 | 88.79016331 | 84.80654824 |
| 200330A00006 | 3/30/2020 | 0.9 | 3/28/2025 | 3/30/2020 | 103.818 | 103.8180042 | 103.8180042 | 103.8180042 | 101.3703118 | 96.70052325 | 92.26969297 | 88.06444704 | 84.07222461 |
| 200330A00043 | 3/30/2020 | 0.86 | 3/30/2023 | 3/30/2020 | 101.61445 | 101.6144549 | 101.6144549 | 101.6144549 | 100.8138548 | 98.0443317 | 95.36416607 | 92.77002019 | 90.2586988 |
| 200330A00064 | 3/30/2020 | 0.83 | 3/30/2023 | 3/30/2020 | 101.52858 | 101.5285809 | 101.5285809 | 101.5285809 | 100.7282593 | 97.95996442 | 95.28099726 | 92.6880211 | 90.17784158 |
| 200401A00012 | 4/2/2020 | 1 | 4/2/2025 | 4/2/2020 | 103.43493 | 103.4349316 | 103.4349316 | 103.4349316 | 100.9940019 | 96.34832351 | 91.94035846 | 87.75680431 | 83.78516682 |
| 200312A00009 | 3/12/2020 | 1.46 | 3/12/2027 | 3/12/2020 | 107.86218 | 107.8621786 | 107.8621786 | 107.8621786 | 102.463968 | 96.05360297 | 90.08366666 | 84.5217104 | 79.33783467 |
| 200316A00040 | 3/16/2020 | 1.04 | 3/16/2022 | 3/16/2020 | 101.3524 | 101.3523974 | 101.3523974 | 101.3523974 | 100.9970039 | 99.22631447 | 97.49493583 | 95.80171417 | 94.14553916 |
| 200316A00043 | 3/16/2020 | 1.3 | 3/14/2025 | 3/16/2020 | 104.84657 | 104.8465679 | 104.8465679 | 104.8465679 | 102.4482126 | 97.81712039 | 93.42013136 | 89.24422257 | 85.27716415 |
| 200319A00005 | 3/19/2020 | 0.81 | 3/19/2021 | 3/19/2020 | 100.44365 | 100.4436501 | 100.4436501 | 100.4436501 | 100.2644804 | 99.4582776 | 98.66496938 | 97.88424845 | 97.1158172 |
| 200320A00025 | 3/20/2020 | 0.78 | 3/19/2021 | 3/20/2020 | 100.41918 | 100.4191793 | 100.4191793 | 100.4191793 | 100.2400315 | 99.43393793 | 98.64073777 | 97.8601237 | 97.09179812 |
| 200324A00066 | 3/26/2020 | 1.81 | 3/26/2025 | 3/26/2020 | 107.35697 | 107.356968 | 107.356968 | 107.356968 | 104.9034116 | 100.1820123 | 95.69995694 | 91.44392386 | 87.40139864 |
| 200327A00043 | 3/27/2020 | 1.48 | 3/27/2028 | 3/27/2020 | 110.7614 | 110.7613982 | 110.7613982 | 110.7613982 | 103.4740789 | 96.07186096 | 89.24839129 | 82.95558417 | 77.14957073 |
| 200327A00047 | 3/27/2020 | 0.99 | 3/27/2025 | 3/27/2020 | 104.25531 | 104.2553144 | 104.2553144 | 104.2553144 | 101.8068228 | 97.12922297 | 92.69070073 | 88.4778822 | 84.47820668 |
| 200327A00060 | 3/27/2020 | 1.18 | 3/27/2025 | 3/27/2020 | 104.29843 | 104.2984283 | 104.2984283 | 104.2984283 | 101.8675768 | 97.21604456 | 92.80147983 | 88.61066251 | 84.6311742 |
| 200327A00073 | 3/27/2020 | 0.99 | 3/27/2025 | 3/27/2020 | 104.25531 | 104.2553144 | 104.2553144 | 104.2553144 | 101.8068228 | 97.12922297 | 92.69070073 | 88.4778822 | 84.47820668 |
| 200330A00017 | 3/30/2020 | 0.86 | 3/30/2023 | 3/30/2020 | 101.61445 | 101.6144549 | 101.6144549 | 101.6144549 | 100.8138548 | 98.0443317 | 95.36416607 | 92.77002019 | 90.2586988 |
| 200330A00028 | 3/30/2020 | 1.09 | 3/28/2025 | 3/30/2020 | 103.86304 | 103.8630419 | 103.8630419 | 103.8630419 | 101.4329894 | 96.7892163 | 92.3822922 | 88.19899692 | 84.22691194 |
| 200330A00037 | 3/30/2020 | 1.09 | 3/28/2025 | 3/30/2020 | 103.86304 | 103.8630419 | 103.8630419 | 103.8630419 | 101.4329894 | 96.7892163 | 92.3822922 | 88.19899692 | 84.22691194 |
| 200331A00015 | 3/31/2020 | 0.64 | 3/31/2023 | 3/31/2020 | 101.49788 | 101.4978817 | 101.4978817 | 101.4978817 | 100.6921368 | 97.91013872 | 95.21823453 | 92.6130474 | 90.09134521 |
| 200402A00038 | 4/2/2020 | 0.84 | 4/2/2025 | 4/2/2020 | 103.53484 | 103.5348398 | 103.5348398 | 103.5348398 | 101.0749122 | 96.39967582 | 91.96440095 | 87.7556244 | 83.76070305 |
| 200403A00017 | 4/3/2020 | 0.81 | 4/3/2023 | 4/3/2020 | 101.47705 | 101.4770543 | 101.4770543 | 101.4770543 | 100.6702547 | 97.8925809 | 95.20485692 | 92.60371072 | 90.08591472 |
| 200403A00025 | 4/3/2020 | 0.91 | 4/3/2024 | 4/3/2020 | 102.38319 | 102.3831883 | 102.3831883 | 102.3831883 | 100.867329 | 97.14412901 | 93.57678759 | 90.1580186 | 86.88091293 |
| 200415A00026 | 4/15/2020 | 0.77 | 4/14/2023 | 4/15/2020 | 101.37664 | 101.3766421 | 101.3766421 | 101.3766421 | 100.5519075 | 97.74789176 | 95.03555992 | 92.41144129 | 89.87221552 |
| 200415A00037 | 4/15/2020 | 0.97 | 4/15/2025 | 4/15/2020 | 103.26361 | 103.2636071 | 103.2636071 | 103.2636071 | 100.7874101 | 96.11650166 | 91.68622178 | 87.48301519 | 83.49415574 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200427A00018 | 4/27/2020 | 1.51 | 4/27/2028 | 4/27/2020 | 109.55023 | 109.5502298 | 109.5502298 | 109.5502298 | 102.2340019 | 94.8739969 | 88.09367977 | 81.8445348 | 76.08233095 |
| 200428A00003 | 4/29/2020 | 1.01 | 4/29/2025 | 4/29/2020 | 103.48729 | 103.4872851 | 103.4872851 | 103.4872851 | 100.9685679 | 96.25915008 | 91.79400732 | 87.55928293 | 83.54197399 |
| 200402A00022 | 4/2/2020 | 0.96 | 4/2/2024 | 4/2/2020 | 102.57534 | 102.5753435 | 102.5753435 | 102.5753435 | 101.0606503 | 97.33623784 | 93.76759123 | 90.34743433 | 87.06886722 |
| 200402A00028 | 4/2/2020 | 0.71 | 4/4/2022 | 4/2/2020 | 100.77406 | 100.7740583 | 100.7740583 | 100.7740583 | 100.4075407 | 98.59056055 | 96.81494818 | 95.07952483 | 93.38315272 |
| 200413A00004 | 4/13/2020 | 0.89 | 4/11/2025 | 4/13/2020 | 103.79904 | 103.7990358 | 103.7990358 | 103.7990358 | 101.310434 | 96.60727844 | 92.14654863 | 87.91458262 | 83.89855455 |
| 200413A00026 | 4/13/2020 | 0.82 | 4/13/2023 | 4/13/2020 | 101.52037 | 101.5203722 | 101.5203722 | 101.5203722 | 100.6968214 | 97.89324771 | 95.18124739 | 92.5573572 | 90.01826381 |
| 200413A00027 | 4/13/2020 | 0.94 | 4/12/2024 | 4/13/2020 | 102.51563 | 102.5156348 | 102.5156348 | 102.5156348 | 100.9791228 | 97.23125492 | 93.64116459 | 90.20143344 | 86.9050293 |
| 200414A00013 | 4/14/2020 | 0.55 | 4/14/2022 | 4/14/2020 | 100.81999 | 100.8199899 | 100.8199899 | 100.8199899 | 100.4450889 | 98.59557408 | 96.78882602 | 95.02360678 | 93.29872224 |
| 200415A00023 | 4/15/2020 | 1.71 | 4/15/2030 | 4/15/2020 | 113.85995 | 113.8599521 | 113.8599521 | 112.4777372 | 102.7502037 | 93.77600315 | 85.66050038 | 78.31708599 | 71.66828359 |
| 200415A00024 | 4/15/2020 | 2.2 | 4/16/2035 | 4/15/2020 | 127.94669 | 127.9466928 | 127.9466928 | 116.5348243 | 102.3084768 | 89.8744062 | 79.13327585 | 69.84367577 | 61.79978878 |
| 200417A00004 | 4/17/2020 | 0.86 | 4/17/2024 | 4/17/2020 | 102.21109 | 102.2110876 | 102.2110876 | 102.2110876 | 100.6652013 | 96.91092375 | 93.31527144 | 89.87076056 | 86.57029828 |
| 200417A00006 | 4/17/2020 | 0.74 | 4/17/2023 | 4/17/2020 | 101.29324 | 101.2932432 | 101.2932432 | 101.2932432 | 100.4638072 | 97.65343183 | 94.93519559 | 92.30560133 | 89.76130379 |
| 200417A00012 | 4/22/2020 | 0.71 | 12/15/2022 | 4/22/2020 | 101.06647 | 101.0664664 | 101.0664664 | 101.0664664 | 100.4259436 | 97.94026554 | 95.52823686 | 93.18724334 | 90.9147807 |
| 200417A00019 | 4/17/2020 | 0.77 | 4/17/2025 | 4/17/2020 | 103.21896 | 103.2189589 | 103.2189589 | 103.2189589 | 100.7177193 | 96.01410643 | 91.55389986 | 87.32333461 | 83.3094909 |
| 200421A00020 | 4/24/2020 | 0.83 | 3/15/2024 | 4/24/2020 | 102.04542 | 102.0454161 | 102.0454161 | 102.0454161 | 100.5727136 | 96.90515382 | 93.38927949 | 90.01802312 | 86.78468651 |
| 200421A00024 | 4/24/2020 | 0.8 | 10/16/2023 | 4/24/2020 | 101.72111 | 101.721112 | 101.721112 | 101.721112 | 100.5595527 | 97.2786733 | 94.12082073 | 91.08076452 | 88.15352383 |
| 200423A00027 | 4/28/2020 | 0.88 | 4/15/2024 | 4/28/2020 | 102.28622 | 102.2862163 | 102.2862163 | 102.2862163 | 100.7443358 | 96.99351656 | 93.40095599 | 89.95919751 | 86.66117358 |
| 200427A00017 | 4/27/2020 | 1.02 | 4/25/2025 | 4/27/2020 | 103.52891 | 103.5289105 | 103.5289105 | 103.5289105 | 101.0214335 | 96.32048121 | 91.86285311 | 87.63477475 | 83.62331862 |
| 200527A00015 | 5/27/2020 | 0.99 | 11/26/2025 | 5/27/2020 | 103.78368 | 103.7836794 | 103.7836794 | 103.7836794 | 100.5455517 | 95.32906756 | 90.41125985 | 85.77356796 | 81.39867563 |
| 200207A00013 | 2/12/2020 | 1.73 | 2/10/2023 | 2/12/2020 | 103.91654 | 103.9165377 | 103.9165377 | 103.9165377 | 103.1844229 | 100.5121252 | 97.92231151 | 95.41190605 | 92.97797093 |
| 200221A00023 | 2/21/2020 | 2.05 | 12/7/2029 | 2/21/2020 | 116.61005 | 116.6100463 | 116.6100463 | 115.6565131 | 106.1550717 | 97.30690182 | 89.27444262 | 81.97808902 | 75.34638349 |
| 200225A00029 | 2/25/2020 | 1.89 | 12/28/2029 | 2/25/2020 | 115.17609 | 115.1760885 | 115.1760885 | 114.1576187 | 104.6512736 | 95.82474427 | 87.81801214 | 80.55057992 | 73.95023604 |
| 200302A00056 | 3/2/2020 | 1.2 | 3/2/2023 | 3/2/2020 | 102.51903 | 102.5190338 | 102.5190338 | 102.5190338 | 101.7603444 | 99.054101 | 96.4329472 | 93.89365902 | 91.43315923 |
| 200402A00013 | 4/2/2020 | 0.89 | 4/2/2024 | 4/2/2020 | 102.30394 | 102.3039449 | 102.3039449 | 102.3039449 | 100.7907317 | 97.07150492 | 93.50788681 | 90.09260724 | 86.81877208 |
| 200406A00060 | 4/6/2020 | 1.03 | 4/5/2024 | 4/6/2020 | 102.85283 | 102.8528334 | 102.8528334 | 102.8528334 | 101.3299752 | 97.59286564 | 94.01229612 | 90.58094136 | 87.29185558 |
| 200413A00003 | 4/13/2020 | 0.64 | 4/13/2023 | 4/13/2020 | 101.51673 | 101.5167253 | 101.5167253 | 101.5167253 | 100.6891785 | 97.87382622 | 95.15068069 | 92.51624614 | 89.96717845 |
| 200415A00031 | 4/15/2020 | 0.97 | 4/15/2025 | 4/15/2020 | 103.26361 | 103.2636071 | 103.2636071 | 103.2636071 | 100.7874101 | 96.11650166 | 91.68622178 | 87.48301519 | 83.49415574 |
| 200415A00038 | 4/15/2020 | 1.37 | 4/15/2027 | 4/15/2020 | 107.34719 | 107.3471887 | 107.3471887 | 107.3471887 | 101.7985034 | 95.3288562 | 89.30977459 | 83.70770194 | 78.49173655 |
| 200421A00021 | 4/21/2020 | 0.56 | 4/21/2023 | 4/21/2020 | 101.29385 | 101.2938521 | 101.2938521 | 101.2938521 | 100.4536802 | 97.6212474 | 94.88224755 | 92.23311332 | 89.67043326 |
| 200423A00006 | 4/23/2020 | 0.82 | 4/23/2025 | 4/23/2020 | 103.47766 | 103.4776572 | 103.4776572 | 103.4776572 | 100.9565971 | 96.23240077 | 91.75333581 | 87.50549982 | 83.47584668 |
| 200423A00022 | 4/28/2020 | 0.76 | 2/15/2023 | 4/28/2020 | 101.27453 | 101.2745312 | 101.2745312 | 101.2745312 | 100.5427599 | 97.89344441 | 95.32651692 | 92.83888627 | 90.4276007 |
| 200508A00017 | 5/12/2020 | 1.18 | 5/8/2024 | 5/12/2020 | 103.51599 | 103.5159882 | 103.5159882 | 103.5159882 | 101.9157606 | 98.08377244 | 94.41563669 | 90.90352123 | 87.54000897 |
| 200515A00021 | 5/15/2020 | 1.12 | 5/17/2027 | 5/15/2020 | 105.69227 | 105.6922658 | 105.6922658 | 105.6922658 | 100.0243329 | 93.53991406 | 87.51367587 | 81.91104148 | 76.70020516 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200527A00016 | 5/27/2020 | 0.92 | 5/27/2025 | 5/27/2020 | 103.08846 | 103.0884565 | 103.0884565 | 103.0884565 | 100.4902604 | 95.72232561 | 91.20559352 | 86.92559121 | 82.86875198 |
| 200302A00006 | 3/2/2020 | 1.2 | 3/2/2023 | 3/2/2020 | 102.51903 | 102.5190338 | 102.5190338 | 102.5190338 | 101.7603444 | 99.054101 | 96.4329472 | 93.89365902 | 91.43315923 |
| 200305A00038 | 3/5/2020 | 1.51 | 3/5/2029 | 3/5/2020 | 110.56763 | 110.5676259 | 110.5676259 | 110.3756249 | 101.760651 | 93.71778712 | 86.36859322 | 79.64973549 | 73.50396389 |
| 200306A00031 | 3/6/2020 | 1.01 | 3/6/2025 | 3/6/2020 | 103.43178 | 103.4317778 | 103.4317778 | 103.4317778 | 101.0678198 | 96.49047377 | 92.1439939 | 88.01554306 | 84.09306864 |
| 200306A00038 | 3/6/2020 | 1.2 | 3/8/2027 | 3/6/2020 | 106.08186 | 106.0818596 | 106.0818596 | 106.0818596 | 100.732459 | 94.38920171 | 88.4822598 | 82.97947637 | 77.85122243 |
| 200309A00045 | 3/9/2020 | 0.97 | 3/7/2025 | 3/9/2020 | 103.24143 | 103.2414296 | 103.2414296 | 103.2414296 | 100.8761871 | 96.30074496 | 91.9562619 | 87.82989161 | 83.90957255 |
| 200310A00024 | 3/10/2020 | 0.91 | 3/10/2025 | 3/10/2020 | 103.82781 | 103.8278055 | 103.8278055 | 103.8278055 | 101.4317478 | 96.80826302 | 92.41908829 | 88.25115462 | 84.29219247 |
| 200310A00054 | 3/10/2020 | 1.1 | 3/10/2025 | 3/10/2020 | 103.87277 | 103.8727709 | 103.8727709 | 103.8727709 | 101.4938257 | 96.89589485 | 92.53021957 | 88.38388024 | 84.44474547 |
| 200310A00062 | 3/10/2020 | 1.05 | 3/8/2024 | 3/10/2020 | 102.87329 | 102.8732932 | 102.8732932 | 102.8732932 | 101.4113552 | 97.74671713 | 94.23275929 | 90.86246521 | 87.62918722 |
| 200414A00015 | 4/14/2020 | 0.64 | 4/14/2023 | 4/14/2020 | 101.51817 | 101.5181748 | 101.5181748 | 101.5181748 | 100.6889513 | 97.87103444 | 95.14548781 | 92.50880632 | 89.95763714 |
| 200415A00020 | 4/15/2020 | 0.86 | 4/15/2024 | 4/15/2020 | 102.20796 | 102.20796 | 102.20796 | 102.20796 | 100.6665136 | 96.91720287 | 93.32610474 | 89.88576442 | 86.58911606 |
| 200302A00017 | 3/2/2020 | 1.3 | 3/4/2024 | 3/2/2020 | 103.81454 | 103.8145426 | 103.8145426 | 103.8145426 | 102.3563367 | 98.68467205 | 95.16337415 | 91.78544543 | 88.54425739 |
| 200302A00025 | 3/2/2020 | 1.02 | 3/2/2022 | 3/2/2020 | 101.60615 | 101.6061498 | 101.6061498 | 101.6061498 | 101.2577876 | 99.51820371 | 97.81662241 | 96.15187644 | 94.52284666 |
| 200303A00009 | 3/3/2020 | 1.3 | 3/3/2025 | 3/3/2020 | 104.81677 | 104.8167661 | 104.8167661 | 104.8167661 | 102.4500534 | 97.84798916 | 93.47719564 | 89.32483298 | 85.37884634 |
| 200304A00013 | 3/4/2020 | 1.01 | 3/4/2022 | 3/4/2020 | 101.29236 | 101.2923564 | 101.2923564 | 101.2923564 | 100.944408 | 99.20742032 | 97.50840134 | 95.8461943 | 94.21968947 |
| 200304A00032 | 3/4/2020 | 1.6 | 12/15/2028 | 3/4/2020 | 111.07752 | 111.0775194 | 111.0775194 | 111.0569933 | 102.6442198 | 94.74411195 | 87.50967318 | 80.8814422 | 74.80554848 |
| 200306A00006 | 3/6/2020 | 0.88 | 3/6/2023 | 3/6/2020 | 101.634 | 101.6339976 | 101.6339976 | 101.6339976 | 100.8716787 | 98.16688823 | 95.54754092 | 93.01040595 | 90.55239818 |
| 200306A00036 | 3/6/2020 | 1.01 | 3/6/2025 | 3/6/2020 | 103.43178 | 103.4317778 | 103.4317778 | 103.4317778 | 101.0678198 | 96.49047377 | 92.1439939 | 88.01554306 | 84.09306864 |
| 200306A00040 | 3/6/2020 | 1.01 | 3/6/2025 | 3/6/2020 | 103.43178 | 103.4317778 | 103.4317778 | 103.4317778 | 101.0678198 | 96.49047377 | 92.1439939 | 88.01554306 | 84.09306864 |
| 200306A00077 | 3/6/2020 | 1.06 | 3/6/2025 | 3/6/2020 | 103.67197 | 103.6719702 | 103.6719702 | 103.6719702 | 101.3060491 | 96.72307576 | 92.37117127 | 88.23748947 | 84.30996914 |
| 200310A00015 | 3/10/2020 | 1.37 | 3/11/2030 | 3/10/2020 | 110.40458 | 110.4045824 | 110.4045824 | 109.147164 | 99.62698762 | 90.87470294 | 82.95666181 | 75.78918301 | 69.29736422 |
| 200310A00034 | 3/10/2020 | 1.41 | 3/11/2030 | 3/10/2020 | 110.79557 | 110.7955738 | 110.7955738 | 109.5378415 | 100.0039507 | 91.23407114 | 83.29960418 | 76.11677734 | 69.61060497 |
| 200310A00040 | 3/10/2020 | 1.36 | 3/10/2028 | 3/10/2020 | 108.22401 | 108.2240121 | 108.2240121 | 108.2240121 | 101.1555332 | 93.94681345 | 87.2982004 | 81.16341051 | 75.50020552 |
| 200311A00012 | 3/11/2020 | 0.87 | 3/11/2022 | 3/11/2020 | 101.0536 | 101.0536031 | 101.0536031 | 101.0536031 | 100.7017819 | 98.94747425 | 97.23187589 | 95.55383299 | 93.91223667 |
| 200415A00021 | 4/15/2020 | 1.37 | 4/15/2027 | 4/15/2020 | 107.34719 | 107.3471887 | 107.3471887 | 107.3471887 | 101.7985034 | 95.3288562 | 89.30977459 | 83.70770194 | 78.49173655 |
| 200417A00013 | 4/17/2020 | 0.74 | 4/17/2023 | 4/17/2020 | 101.29324 | 101.2932432 | 101.2932432 | 101.2932432 | 100.4638072 | 97.65343183 | 94.93519559 | 92.30560133 | 89.76130379 |
| 200421A00022 | 4/21/2020 | 0.74 | 4/21/2023 | 4/21/2020 | 101.2982 | 101.2981955 | 101.2981955 | 101.2981955 | 100.4621065 | 97.64156984 | 94.91382224 | 92.27532967 | 89.72271218 |
| 200504A00006 | 5/4/2020 | 0.94 | 5/5/2025 | 5/4/2020 | 103.15109 | 103.1510916 | 103.1510916 | 103.1510916 | 100.6175007 | 95.90156167 | 91.43115221 | 87.19229508 | 83.17187729 |
| 200515A00020 | 5/15/2020 | 0.82 | 5/15/2025 | 5/15/2020 | 102.56902 | 102.5690173 | 102.5690173 | 102.5690173 | 100.0109285 | 95.28479002 | 90.80625301 | 86.5611391 | 82.53615185 |
| 200518A00019 | 5/19/2020 | 0.9 | 5/19/2025 | 5/19/2020 | 102.97501 | 102.9750073 | 102.9750073 | 102.9750073 | 100.4014976 | 95.65576726 | 91.15904729 | 86.89705178 | 82.85638536 |
| 200402A00017 | 4/2/2020 | 0.76 | 4/1/2022 | 4/2/2020 | 100.86365 | 100.8636467 | 100.8636467 | 100.8636467 | 100.499065 | 98.68900597 | 96.91999039 | 95.19085356 | 93.5004711 |
| 200402A00030 | 4/2/2020 | 0.8 | 4/3/2023 | 4/2/2020 | 101.44832 | 101.4483195 | 101.4483195 | 101.4483195 | 100.6416137 | 97.86435239 | 95.17703094 | 92.57627757 | 90.05886503 |
| 200403A00010 | 4/6/2020 | 0.8 | 4/6/2023 | 4/6/2020 | 101.45253 | 101.4525292 | 101.4525292 | 101.4525292 | 100.6408269 | 97.85592204 | 95.16143961 | 92.55398078 | 90.03029279 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200403A00012 | 4/3/2020 | 0.55 | 4/15/2022 | 4/3/2020 | 100.82119 | 100.8211918 | 100.8211918 | 100.8211918 | 100.4455826 | 98.59345356 | 96.78420731 | 95.0166009 | 93.28943544 |
| 200407A00019 | 4/7/2020 | 1.06 | 4/8/2024 | 4/7/2020 | 102.97573 | 102.9757326 | 102.9757326 | 102.9757326 | 101.4455481 | 97.69868813 | 94.10905438 | 90.6692757 | 87.37236358 |
| 200409A00011 | 4/9/2020 | 0.7 | 4/7/2023 | 4/9/2020 | 101.68156 | 101.681555 | 101.681555 | 101.681555 | 100.8634986 | 98.06102991 | 95.34985139 | 92.72652042 | 90.1877429 |
| 200415A00003 | 4/15/2020 | 0.77 | 4/14/2023 | 4/15/2020 | 101.37664 | 101.3766421 | 101.3766421 | 101.3766421 | 100.5519075 | 97.74789176 | 95.03555992 | 92.41144129 | 89.87221552 |
| 180919A00090 | 3/19/2020 | 3.24 | 3/19/2024 | 3/19/2020 | 111.30235 | 111.3023462 | 111.3023462 | 111.3023462 | 109.7714243 | 105.9181036 | 102.2225819 | 98.67755006 | 95.27607834 |
| 200218A00025 | 2/21/2020 | 1.71 | 2/24/2023 | 2/21/2020 | 103.91631 | 103.916313 | 103.916313 | 103.916313 | 103.1626435 | 100.4530693 | 97.82810907 | 95.28456704 | 92.8193927 |
| 200220A00014 | 2/20/2020 | 2.09 | 12/21/2029 | 2/20/2020 | 117.0581 | 117.0580967 | 117.0580967 | 116.0604728 | 106.5082094 | 97.61240848 | 89.53908572 | 82.20773195 | 75.54610397 |
| 200228A00091 | 2/28/2020 | 1.72 | 12/7/2029 | 2/28/2020 | 113.46798 | 113.4679831 | 113.4679831 | 112.516055 | 103.1200184 | 94.41003064 | 86.50678288 | 79.33135515 | 72.81291686 |
| 200304A00012 | 3/4/2020 | 0.98 | 3/4/2025 | 3/4/2020 | 104.15214 | 104.1521375 | 104.1521375 | 104.1521375 | 101.7706742 | 97.15511014 | 92.77258741 | 88.61012503 | 84.6555376 |
| 200304A00029 | 3/4/2020 | 1.17 | 3/4/2025 | 3/4/2020 | 104.19569 | 104.1956869 | 104.1956869 | 104.1956869 | 101.8311837 | 97.24107751 | 92.88197354 | 88.74103886 | 84.80622502 |
| 200305A00014 | 3/10/2020 | 1 | 2/15/2023 | 3/10/2020 | 101.9331 | 101.933097 | 101.933097 | 101.933097 | 101.1993206 | 98.54095593 | 95.96519202 | 93.46893099 | 91.04921456 |
| 200305A00037 | 3/5/2020 | 1.43 | 3/6/2028 | 3/5/2020 | 108.75791 | 108.7579134 | 108.7579134 | 108.7579134 | 101.6953936 | 94.4759538 | 87.8162419 | 81.67006994 | 75.99528433 |
| 200305A00039 | 3/5/2020 | 1.58 | 3/5/2030 | 3/5/2020 | 112.43693 | 112.43693 | 112.43693 | 111.1979475 | 101.6216646 | 92.789713 | 84.79560467 | 77.55554293 | 70.99450615 |
| 200306A00055 | 3/6/2020 | 0.82 | 3/6/2025 | 3/6/2020 | 103.38489 | 103.3848941 | 103.3848941 | 103.3848941 | 101.0039689 | 96.40124835 | 92.03143249 | 87.88153613 | 83.93936959 |
| 200309A00007 | 3/9/2020 | 1.11 | 3/9/2027 | 3/9/2020 | 105.47203 | 105.4720316 | 105.4720316 | 105.4720316 | 100.1282419 | 93.80247547 | 87.91239478 | 82.42586631 | 77.31328337 |
| 200309A00043 | 3/9/2020 | 0.92 | 6/7/2024 | 3/9/2020 | 102.53352 | 102.5335219 | 102.5335219 | 102.5335219 | 100.8705372 | 96.9825364 | 93.26417163 | 89.70717162 | 86.30371278 |
| 200309A00054 | 3/9/2020 | 0.98 | 3/9/2028 | 3/9/2020 | 106.767 | 106.7670011 | 106.7670011 | 106.7670011 | 99.65391577 | 92.44038884 | 85.7908533 | 79.65851307 | 74.00067607 |
| 200310A00005 | 3/10/2020 | 1.41 | 3/8/2030 | 3/10/2020 | 110.78677 | 110.7867693 | 110.7867693 | 109.5390596 | 100.0129856 | 91.24934139 | 83.31985184 | 76.14092532 | 69.63773437 |
| 200521A00016 | 5/21/2020 | 2.18 | 5/21/2037 | 5/21/2020 | 131.44767 | 131.4476727 | 131.4476727 | 116.5978674 | 100.7529206 | 87.19821054 | 75.70680589 | 65.94983378 | 57.65249795 |
| 200521A00017 | 5/21/2020 | 2.22 | 5/21/2038 | 5/21/2020 | 133.95697 | 133.9569712 | 133.9569712 | 117.5430302 | 100.8890207 | 86.77320835 | 74.90776352 | 64.91669068 | 56.48876906 |
| 200527A00012 | 5/27/2020 | 1.2 | 5/27/2027 | 5/27/2020 | 106.27566 | 106.2756597 | 106.2756597 | 106.2756597 | 100.5510912 | 94.02530553 | 87.9619595 | 82.3260376 | 77.08534078 |
| 200528A00021 | 5/28/2020 | 0.63 | 5/26/2023 | 5/28/2020 | 101.00867 | 101.0086659 | 101.0086659 | 101.0086659 | 100.1137484 | 97.20724704 | 94.39943592 | 91.68643303 | 89.06453155 |
| 200429A00057 | 4/29/2020 | 1.4 | 4/29/2027 | 4/29/2020 | 107.59615 | 107.5961497 | 107.5961497 | 107.5961497 | 101.9777249 | 95.46980436 | 89.41726139 | 83.78601634 | 78.54469933 |
| 200504A00007 | 5/4/2020 | 1.47 | 5/4/2028 | 5/4/2020 | 109.25512 | 109.2551224 | 109.2551224 | 109.2551224 | 101.914004 | 94.5502659 | 87.76809952 | 81.51870897 | 75.75761833 |
| 200521A00015 | 5/21/2020 | 2.14 | 5/21/2036 | 5/21/2020 | 129.00973 | 129.0097291 | 129.0097291 | 115.7359622 | 100.7072119 | 87.72839382 | 76.62931087 | 67.1250648 | 58.97533607 |
| 200211A00014 | 2/11/2020 | 1.75 | 8/11/2023 | 2/11/2020 | 104.69878 | 104.698784 | 104.698784 | 104.698784 | 103.6506499 | 100.4885291 | 97.43901928 | 94.49744021 | 91.65933791 |
| 200214A00018 | 2/18/2020 | 1.77 | 1/12/2022 | 2/18/2020 | 102.43935 | 102.4393467 | 102.4393467 | 102.4393467 | 102.1185389 | 100.5085601 | 98.93169909 | 97.38700028 | 95.8735446 |
| 200220A00013 | 2/20/2020 | 2.09 | 12/14/2029 | 2/20/2020 | 117.0245 | 117.0244994 | 117.0244994 | 116.0488197 | 106.5155718 | 97.63520193 | 89.57446827 | 82.25327281 | 75.59972771 |
| 200221A00011 | 2/21/2020 | 1.69 | 8/21/2024 | 2/21/2020 | 105.94557 | 105.945566 | 105.945566 | 105.945566 | 104.0827567 | 99.9373822 | 95.97946669 | 92.19950419 | 88.58852747 |
| 200221A00024 | 2/21/2020 | 2.05 | 12/28/2029 | 2/21/2020 | 116.70857 | 116.7085733 | 116.7085733 | 115.6892308 | 106.1309504 | 97.23667474 | 89.1666175 | 81.83994203 | 75.18412639 |
| 200224A00006 | 2/24/2020 | 1.58 | 11/15/2024 | 2/24/2020 | 105.77977 | 105.7797733 | 105.7797733 | 105.7797733 | 103.6996776 | 99.34385588 | 95.19498931 | 91.24219949 | 87.47523545 |
| 200225A00008 | 2/25/2020 | 1.52 | 6/3/2024 | 2/25/2020 | 104.955 | 104.9549951 | 104.9549951 | 104.9549951 | 103.2869797 | 99.36061837 | 95.60462343 | 92.01071933 | 88.57107695 |
| 200226A00004 | 2/26/2020 | 1.58 | 2/26/2025 | 2/26/2020 | 106.14211 | 106.1421054 | 106.1421054 | 106.1421054 | 103.7788028 | 99.15853558 | 94.76940142 | 90.59860039 | 86.63411458 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200228A00045 | 2/28/2020 | 1.45 | 2/28/2025 | 2/28/2020 | 105.52675 | 105.5267518 | 105.5267518 | 105.5267518 | 103.162842 | 98.55193159 | 94.17212436 | 90.01060312 | 86.05533494 |
| 200302A00002 | 3/2/2020 | 1.12 | 3/3/2025 | 3/2/2020 | 104.82409 | 104.8240878 | 104.8240878 | 104.8240878 | 102.4400087 | 97.81127332 | 93.41589064 | 89.240871 | 85.27402086 |
| 200302A00013 | 3/2/2020 | 1.25 | 3/4/2024 | 3/2/2020 | 103.62467 | 103.6246681 | 103.6246681 | 103.6246681 | 102.1674591 | 98.4993513 | 94.98150422 | 91.60692424 | 88.36898674 |
| 200304A00019 | 3/4/2020 | 1.04 | 3/6/2023 | 3/4/2020 | 102.08142 | 102.0814159 | 102.0814159 | 102.0814159 | 101.3176963 | 98.60664697 | 95.98118989 | 93.43808943 | 90.97425586 |
| 200304A00030 | 3/4/2020 | 1.6 | 12/22/2028 | 3/4/2020 | 111.10194 | 111.1019434 | 111.1019434 | 111.0724404 | 102.6344982 | 94.71879894 | 87.47136876 | 80.83240373 | 74.74773336 |
| 200304A00033 | 3/4/2020 | 1.17 | 3/4/2025 | 3/4/2020 | 104.19569 | 104.1956869 | 104.1956869 | 104.1956869 | 101.8311837 | 97.24107751 | 92.88197354 | 88.74103886 | 84.80622502 |
| 200305A00001 | 3/5/2020 | 1.14 | 3/5/2025 | 3/5/2020 | 104.05401 | 104.0540069 | 104.0540069 | 104.0540069 | 101.6878111 | 97.0984538 | 92.74023348 | 88.6003061 | 84.66661255 |
| 200305A00006 | 3/5/2020 | 0.99 | 3/6/2023 | 3/5/2020 | 101.9416 | 101.9415977 | 101.9415977 | 101.9415977 | 101.1783158 | 98.46922236 | 95.84567458 | 93.30443835 | 90.84242534 |
| 200305A00030 | 3/5/2020 | 1.58 | 3/5/2030 | 3/5/2020 | 112.43693 | 112.43693 | 112.43693 | 111.1979475 | 101.6216646 | 92.789713 | 84.79560467 | 77.55554293 | 70.99450615 |
| 200306A00028 | 3/6/2020 | 1.01 | 3/6/2025 | 3/6/2020 | 103.43178 | 103.4317778 | 103.4317778 | 103.4317778 | 101.0678198 | 96.49047377 | 92.1439939 | 88.01554306 | 84.09306864 |
| 200402A00023 | 4/2/2020 | 1.11 | 4/2/2025 | 4/2/2020 | 103.97149 | 103.9714858 | 103.9714858 | 103.9714858 | 101.5260391 | 96.86760692 | 92.44735324 | 88.25195469 | 84.26889717 |
| 200402A00044 | 4/2/2020 | 1.65 | 4/2/2030 | 4/2/2020 | 113.22054 | 113.2205354 | 113.2205354 | 111.8861165 | 102.2120416 | 93.29036884 | 85.22038176 | 77.91641412 | 71.30180676 |
| 200403A00018 | 4/3/2020 | 0.91 | 4/3/2024 | 4/3/2020 | 102.38319 | 102.3831883 | 102.3831883 | 102.3831883 | 100.867329 | 97.14412901 | 93.57678759 | 90.1580186 | 86.88091293 |
| 200406A00018 | 4/6/2020 | 0.65 | 4/18/2022 | 4/6/2020 | 101.01596 | 101.01596 | 101.01596 | 101.01596 | 100.637851 | 98.77601382 | 96.95744382 | 95.180882 | 93.44511416 |
| 200407A00016 | 4/7/2020 | 0.8 | 4/7/2022 | 4/7/2020 | 100.94654 | 100.9465433 | 100.9465433 | 100.9465433 | 100.577586 | 98.75117942 | 96.96651331 | 95.22239347 | 93.51766744 |
| 200409A00019 | 4/9/2020 | 0.58 | 4/8/2022 | 4/9/2020 | 100.8693 | 100.8692964 | 100.8692964 | 100.8692964 | 100.4985351 | 98.66416378 | 96.87187626 | 95.12046404 | 93.40876104 |
| 200413A00011 | 4/13/2020 | 0.94 | 4/12/2024 | 4/13/2020 | 102.51563 | 102.5156348 | 102.5156348 | 102.5156348 | 100.9791228 | 97.23125492 | 93.64116459 | 90.20143344 | 86.9050293 |
| 200415A00027 | 4/15/2020 | 0.86 | 4/15/2024 | 4/15/2020 | 102.20796 | 102.20796 | 102.20796 | 102.20796 | 100.6665136 | 96.91720287 | 93.32610474 | 89.88576442 | 86.58911606 |
| 200415A00036 | 4/15/2020 | 0.91 | 10/15/2024 | 4/15/2020 | 102.71264 | 102.7126384 | 102.7126384 | 102.7126384 | 100.7341526 | 96.52163635 | 92.50654722 | 88.6786737 | 85.02838275 |
| 200417A00002 | 4/17/2020 | 0.96 | 4/17/2025 | 4/17/2020 | 103.2181 | 103.2180967 | 103.2180967 | 103.2180967 | 100.7364897 | 96.06193676 | 91.62846363 | 87.42247527 | 83.43120915 |
| 200423A00026 | 4/28/2020 | 0.85 | 12/15/2023 | 4/28/2020 | 101.98327 | 101.9832742 | 101.9832742 | 101.9832742 | 100.7014051 | 97.264372 | 93.96177003 | 90.7876291 | 87.73627809 |
| 200424A00014 | 4/28/2020 | 1.01 | 4/23/2025 | 4/28/2020 | 103.47563 | 103.4756309 | 103.4756309 | 103.4756309 | 100.9744143 | 96.27947893 | 91.82732723 | 87.60422878 | 83.59729649 |
| 200429A00021 | 5/4/2020 | 0.97 | 4/29/2025 | 5/4/2020 | 103.28927 | 103.2892677 | 103.2892677 | 103.2892677 | 100.7722665 | 96.06762214 | 91.60707655 | 87.37678108 | 83.36374042 |
| 200429A00054 | 4/29/2020 | 1.04 | 4/29/2025 | 4/29/2020 | 103.6358 | 103.6357982 | 103.6357982 | 103.6357982 | 101.1157939 | 96.40279604 | 91.9342054 | 87.69615932 | 83.67564917 |
| 200429A00064 | 4/29/2020 | 0.69 | 4/29/2022 | 4/29/2020 | 100.76426 | 100.7642592 | 100.7642592 | 100.7642592 | 100.3802092 | 98.49861199 | 96.66126156 | 94.86685506 | 93.11413657 |
| 200429A00065 | 4/29/2020 | 0.74 | 10/28/2022 | 4/29/2020 | 101.08462 | 101.0846196 | 101.0846196 | 101.0846196 | 100.5083728 | 98.14650491 | 95.85149033 | 93.62107054 | 91.45307681 |
| 200504A00005 | 5/4/2020 | 0.6 | 5/4/2022 | 5/4/2020 | 100.59392 | 100.5939228 | 100.5939228 | 100.5939228 | 100.2060586 | 98.31281234 | 96.46440654 | 94.65951119 | 92.89684459 |
| 200218A00030 | 2/21/2020 | 1.71 | 2/24/2023 | 2/21/2020 | 103.91631 | 103.916313 | 103.916313 | 103.916313 | 103.1626435 | 100.4530693 | 97.82810907 | 95.28456704 | 92.8193927 |
| 200220A00034 | 2/25/2020 | 1.71 | 3/27/2023 | 2/25/2020 | 104.03593 | 104.0359322 | 104.0359322 | 104.0359322 | 103.2323637 | 100.43626 | 97.72985849 | 95.10981204 | 92.57291704 |
| 200302A00005 | 3/2/2020 | 1.31 | 3/3/2025 | 3/2/2020 | 104.86472 | 104.8647225 | 104.8647225 | 104.8647225 | 102.4976191 | 97.89443318 | 93.52255832 | 89.36915286 | 85.42216027 |
| 200302A00018 | 3/2/2020 | 1.25 | 3/2/2023 | 3/2/2020 | 102.6583 | 102.6583012 | 102.6583012 | 102.6583012 | 101.8991784 | 99.19099433 | 96.56794593 | 94.02680778 | 91.56450121 |
| 200304A00011 | 3/4/2020 | 0.83 | 3/4/2022 | 3/4/2020 | 101.2716 | 101.271602 | 101.271602 | 101.271602 | 100.922615 | 99.18048131 | 97.47651708 | 95.80955722 | 94.1784841 |
| 200304A00018 | 3/4/2020 | 0.98 | 3/4/2025 | 3/4/2020 | 104.15214 | 104.1521375 | 104.1521375 | 104.1521375 | 101.7706742 | 97.15511014 | 92.77258741 | 88.61012503 | 84.6555376 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200304A00020 | 3/4/2020 | 0.98 | 3/4/2025 | 3/4/2020 | 104.15214 | 104.1521375 | 104.1521375 | 104.1521375 | 101.7706742 | 97.15511014 | 92.77258741 | 88.61012503 | 84.6555376 |
| 200304A00035 | 3/4/2020 | 1.17 | 3/4/2025 | 3/4/2020 | 104.19569 | 104.1956869 | 104.1956869 | 104.1956869 | 101.8311837 | 97.24107751 | 92.88197354 | 88.74103886 | 84.80622502 |
| 200305A00017 | 3/5/2020 | 1.19 | 3/5/2025 | 3/5/2020 | 104.29406 | 104.2940624 | 104.2940624 | 104.2940624 | 101.9259068 | 97.3309285 | 92.96728953 | 88.82213684 | 84.88340276 |
| 200305A00019 | 3/5/2020 | 0.81 | 3/6/2023 | 3/5/2020 | 101.93875 | 101.9387513 | 101.9387513 | 101.9387513 | 101.1718863 | 98.4516613 | 95.81756345 | 93.26632886 | 90.79484115 |
| 200306A00003 | 3/6/2020 | 0.7 | 3/6/2023 | 3/6/2020 | 101.63036 | 101.6303631 | 101.6303631 | 101.6303631 | 100.8644661 | 98.14856615 | 95.51869006 | 92.97157731 | 90.50411469 |
| 200306A00022 | 3/6/2020 | 1.2 | 3/8/2027 | 3/6/2020 | 106.08186 | 106.0818596 | 106.0818596 | 106.0818596 | 100.732459 | 94.38920171 | 88.4822598 | 82.97947637 | 77.85122243 |
| 200306A00066 | 3/6/2020 | 1.2 | 3/8/2027 | 3/6/2020 | 106.08186 | 106.0818596 | 106.0818596 | 106.0818596 | 100.732459 | 94.38920171 | 88.4822598 | 82.97947637 | 77.85122243 |
| 200309A00009 | 3/9/2020 | 0.92 | 3/9/2027 | 3/9/2020 | 105.48776 | 105.4877576 | 105.4877576 | 105.4877576 | 100.0873138 | 93.71217626 | 87.77787762 | 82.25180484 | 77.1039165 |
| 200309A00029 | 3/9/2020 | 1.02 | 3/7/2025 | 3/9/2020 | 103.48176 | 103.4817589 | 103.4817589 | 103.4817589 | 101.11455 | 96.53347425 | 92.18356061 | 88.05195369 | 84.12658335 |
| 200309A00040 | 3/9/2020 | 0.91 | 3/8/2024 | 3/9/2020 | 102.34011 | 102.3401067 | 102.3401067 | 102.3401067 | 100.8809831 | 97.2263611 | 93.72211989 | 90.3612544 | 87.13712786 |
| 200309A00048 | 3/9/2020 | 1.11 | 3/9/2027 | 3/9/2020 | 105.47203 | 105.4720316 | 105.4720316 | 105.4720316 | 100.1282419 | 93.80247547 | 87.91239478 | 82.42586631 | 77.31328337 |
| 200310A00003 | 3/10/2020 | 1.1 | 3/10/2025 | 3/10/2020 | 103.87277 | 103.8727709 | 103.8727709 | 103.8727709 | 101.4938257 | 96.89589485 | 92.53021957 | 88.38388024 | 84.44474547 |
| 200310A00020 | 3/10/2020 | 1.1 | 3/10/2025 | 3/10/2020 | 103.87277 | 103.8727709 | 103.8727709 | 103.8727709 | 101.4938257 | 96.89589485 | 92.53021957 | 88.38388024 | 84.44474547 |
| 200311A00024 | 3/11/2020 | 1.54 | 3/11/2030 | 3/11/2020 | 114.02524 | 114.0252415 | 114.0252415 | 112.7405029 | 102.967769 | 93.96548583 | 85.82086401 | 78.44781157 | 71.76927971 |
| 200403A00015 | 4/3/2020 | 0.73 | 4/4/2022 | 4/3/2020 | 100.81145 | 100.81145 | 100.81145 | 100.81145 | 100.4448606 | 98.62752324 | 96.85156039 | 95.11579309 | 93.41908341 |
| 200406A00059 | 4/6/2020 | 0.92 | 4/6/2023 | 4/6/2020 | 101.79834 | 101.7983381 | 101.7983381 | 101.7983381 | 100.9855022 | 98.19561886 | 95.49627902 | 92.8840799 | 90.35576496 |
| 200408A00013 | 4/13/2020 | 0.87 | 4/14/2023 | 4/13/2020 | 101.66702 | 101.667019 | 101.667019 | 101.667019 | 100.841321 | 98.03309416 | 95.31665411 | 92.68852686 | 90.14538882 |
| 200414A00014 | 4/14/2020 | 0.76 | 4/12/2024 | 4/14/2020 | 102.51377 | 102.513767 | 102.513767 | 102.513767 | 100.9677158 | 97.20094144 | 93.59320967 | 90.13702332 | 86.8252766 |
| 200417A00008 | 4/17/2020 | 0.96 | 4/17/2025 | 4/17/2020 | 103.2181 | 103.2180967 | 103.2180967 | 103.2180967 | 100.7364897 | 96.06193676 | 91.62846363 | 87.42247527 | 83.43120915 |
| 200421A00032 | 4/21/2020 | 1.31 | 4/21/2027 | 4/21/2020 | 106.94948 | 106.9494816 | 106.9494816 | 106.9494816 | 101.3797438 | 94.91033095 | 88.89272658 | 83.29319858 | 78.08068991 |
| 200423A00017 | 4/23/2020 | 1.82 | 4/23/2035 | 4/23/2020 | 125.49078 | 125.4907752 | 125.4907752 | 113.8194397 | 99.5148259 | 87.07815889 | 76.35551885 | 67.10058747 | 59.1035782 |
| 200423A00020 | 4/28/2020 | 0.68 | 4/15/2022 | 4/28/2020 | 100.72981 | 100.7298072 | 100.7298072 | 100.7298072 | 100.3556513 | 98.51061247 | 96.70819093 | 94.94715434 | 93.22631386 |
| 200429A00062 | 4/29/2020 | 0.65 | 10/29/2021 | 4/29/2020 | 100.53736 | 100.5373616 | 100.5373616 | 100.5373616 | 100.2662587 | 98.87059899 | 97.50097456 | 96.15672149 | 94.83719785 |
| 200508A00016 | 5/12/2020 | 1.2 | 5/8/2024 | 5/12/2020 | 103.59551 | 103.5955071 | 103.5955071 | 103.5955071 | 101.9948253 | 98.16128079 | 94.49163681 | 90.97805934 | 87.61312953 |
| 200515A00019 | 5/15/2020 | 0.59 | 5/15/2023 | 5/15/2020 | 100.87911 | 100.8791095 | 100.8791095 | 100.8791095 | 100.0035967 | 97.12754602 | 94.3482097 | 91.66182159 | 89.06478364 |
| 200521A00013 | 5/21/2020 | 2.09 | 5/21/2035 | 5/21/2020 | 126.48947 | 126.4894736 | 126.4894736 | 114.9366171 | 100.7347938 | 88.35035056 | 77.66574143 | 68.43687046 | 60.45586657 |
| 200527A00014 | 5/27/2020 | 1.06 | 5/27/2026 | 5/27/2020 | 104.54391 | 104.5439073 | 104.5439073 | 104.5439073 | 100.5349672 | 94.87408802 | 89.56330994 | 84.57927786 | 79.90030739 |
| 200207A00007 | 2/7/2020 | 1.74 | 2/7/2023 | 2/7/2020 | 103.93194 | 103.9319396 | 103.9319396 | 103.9319396 | 103.2043995 | 100.5398883 | 97.95741277 | 95.45392266 | 93.02650371 |
| 200211A00017 | 2/11/2020 | 1.77 | 8/12/2024 | 2/11/2020 | 106.25017 | 106.2501661 | 106.2501661 | 106.2501661 | 104.407419 | 100.2780151 | 96.33434976 | 92.56705409 | 88.9672869 |
| 200228A00071 | 2/28/2020 | 1.74 | 12/14/2029 | 2/28/2020 | 113.6854 | 113.6854017 | 113.6854017 | 112.7114934 | 103.2906438 | 94.55737724 | 86.63418036 | 79.44168698 | 72.90867883 |
| 200302A00014 | 3/2/2020 | 1.2 | 3/2/2022 | 3/2/2020 | 101.62637 | 101.6263654 | 101.6263654 | 101.6263654 | 101.2790385 | 99.54458708 | 97.84793859 | 96.18793409 | 94.56346229 |
| 200302A00016 | 3/2/2020 | 1.36 | 3/3/2025 | 3/2/2020 | 105.1045 | 105.1045042 | 105.1045042 | 105.1045042 | 102.7354477 | 98.12665331 | 93.74937172 | 89.59075226 | 85.6387299 |
| 200304A00005 | 3/4/2020 | 0.98 | 3/4/2025 | 3/4/2020 | 104.15214 | 104.1521375 | 104.1521375 | 104.1521375 | 101.7706742 | 97.15511014 | 92.77258741 | 88.61012503 | 84.6555376 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200304A00025 | 3/4/2020 | 1.04 | 3/6/2023 | 3/4/2020 | 102.08142 | 102.0814159 | 102.0814159 | 102.0814159 | 101.3176963 | 98.60664697 | 95.98118989 | 93.43808943 | 90.97425586 |
| 200305A00016 | 3/5/2020 | 0.99 | 3/6/2023 | 3/5/2020 | 101.9416 | 101.9415977 | 101.9415977 | 101.9415977 | 101.1783158 | 98.46922236 | 95.84567458 | 93.30443835 | 90.84242534 |
| 200306A00064 | 3/6/2020 | 1.2 | 3/8/2027 | 3/6/2020 | 106.08186 | 106.0818596 | 106.0818596 | 106.0818596 | 100.732459 | 94.38920171 | 88.4822598 | 82.97947637 | 77.85122243 |
| 200309A00044 | 3/9/2020 | 0.94 | 9/9/2024 | 3/9/2020 | 102.78139 | 102.7813922 | 102.7813922 | 102.7813922 | 100.8925327 | 96.76709084 | 92.83103136 | 89.07467491 | 85.48889091 |
| 200310A00014 | 3/10/2020 | 0.91 | 3/10/2025 | 3/10/2020 | 103.82781 | 103.8278055 | 103.8278055 | 103.8278055 | 101.4317478 | 96.80826302 | 92.41908829 | 88.25115462 | 84.29219247 |
| 200310A00021 | 3/10/2020 | 1.1 | 3/10/2025 | 3/10/2020 | 103.87277 | 103.8727709 | 103.8727709 | 103.8727709 | 101.4938257 | 96.89589485 | 92.53021957 | 88.38388024 | 84.44474547 |
| 200310A00028 | 3/10/2020 | 1.1 | 3/10/2025 | 3/10/2020 | 103.87277 | 103.8727709 | 103.8727709 | 103.8727709 | 101.4938257 | 96.89589485 | 92.53021957 | 88.38388024 | 84.44474547 |
| 200310A00033 | 3/10/2020 | 0.91 | 3/10/2025 | 3/10/2020 | 103.82781 | 103.8278055 | 103.8278055 | 103.8278055 | 101.4317478 | 96.80826302 | 92.41908829 | 88.25115462 | 84.29219247 |
| 200310A00051 | 3/10/2020 | 1.41 | 3/8/2030 | 3/10/2020 | 110.78677 | 110.7867693 | 110.7867693 | 109.5390596 | 100.0129856 | 91.24934139 | 83.31985184 | 76.14092532 | 69.63773437 |
| 200311A00031 | 3/11/2020 | 1.41 | 12/24/2027 | 3/11/2020 | 108.38286 | 108.3828649 | 108.3828649 | 108.3828649 | 101.6578205 | 94.6060494 | 88.08896258 | 82.06337337 | 76.48978846 |
| 200306A00010 | 3/6/2020 | 0.88 | 3/6/2023 | 3/6/2020 | 101.634 | 101.6339976 | 101.6339976 | 101.6339976 | 100.8716787 | 98.16688823 | 95.54754092 | 93.01040595 | 90.55239818 |
| 200310A00041 | 3/10/2020 | 1.39 | 3/12/2029 | 3/10/2020 | 109.53503 | 109.5350275 | 109.5350275 | 109.3270513 | 100.7235199 | 92.70816024 | 85.38664507 | 78.69547003 | 72.57723928 |
| 200311A00023 | 3/11/2020 | 1.41 | 3/10/2028 | 3/11/2020 | 110.14797 | 110.1479742 | 110.1479742 | 110.1479742 | 102.9532134 | 95.61252346 | 88.84301626 | 82.59741045 | 76.83256522 |
| 200406A00049 | 4/6/2020 | 0.92 | 4/6/2023 | 4/6/2020 | 101.79834 | 101.7983381 | 101.7983381 | 101.7983381 | 100.9855022 | 98.19561886 | 95.49627902 | 92.8840799 | 90.35576496 |
| 200406A00053 | 4/6/2020 | 1.13 | 4/7/2025 | 4/6/2020 | 104.08053 | 104.0805314 | 104.0805314 | 104.0805314 | 101.6196119 | 96.94667455 | 92.51323691 | 88.30586816 | 84.3119555 |
| 200407A00004 | 4/7/2020 | 0.99 | 4/7/2025 | 4/7/2020 | 104.28181 | 104.2818083 | 104.2818083 | 104.2818083 | 101.8008543 | 97.09576215 | 92.63252486 | 88.3975453 | 84.37805645 |
| 200414A00019 | 4/16/2020 | 0.69 | 4/20/2021 | 4/16/2020 | 100.38328 | 100.3832752 | 100.3832752 | 100.3832752 | 100.1826923 | 99.29032755 | 98.41375901 | 97.55257042 | 96.70636001 |
| 200415A00033 | 4/15/2020 | 0.82 | 10/13/2023 | 4/15/2020 | 101.78508 | 101.7850792 | 101.7850792 | 101.7850792 | 100.6290601 | 97.35481919 | 94.20306537 | 91.16860325 | 88.24648484 |
| 200421A00028 | 4/21/2020 | 0.56 | 4/21/2023 | 4/21/2020 | 101.29385 | 101.2938521 | 101.2938521 | 101.2938521 | 100.4536802 | 97.6212474 | 94.88224755 | 92.23311332 | 89.67043326 |
| 200422A00015 | 4/27/2020 | 0.73 | 12/22/2022 | 4/27/2020 | 101.12623 | 101.1262255 | 101.1262255 | 101.1262255 | 100.4758167 | 97.97084839 | 95.54048558 | 93.1820636 | 90.89303069 |
| 200429A00004 | 5/1/2020 | 0.74 | 5/1/2023 | 5/1/2020 | 101.31052 | 101.3105226 | 101.3105226 | 101.3105226 | 100.4576694 | 97.6115809 | 94.85993361 | 92.19909895 | 89.62560801 |
| 200218A00026 | 2/21/2020 | 1.73 | 3/25/2024 | 2/21/2020 | 105.52933 | 105.5293266 | 105.5293266 | 105.5293266 | 104.0162109 | 100.2560758 | 96.65173576 | 93.19594691 | 89.88183995 |
| 200225A00023 | 2/25/2020 | 1.62 | 2/25/2025 | 2/25/2020 | 106.32977 | 106.3297685 | 106.3297685 | 106.3297685 | 103.9677506 | 99.34561618 | 94.9545287 | 90.78170131 | 86.81512787 |
| 200225A00028 | 2/25/2020 | 1.89 | 12/21/2029 | 2/25/2020 | 115.14627 | 115.1462658 | 115.1462658 | 114.1496934 | 104.6620034 | 95.85057366 | 87.85612548 | 80.59857097 | 74.00605221 |
| 200227A00055 | 2/27/2020 | 1.41 | 2/27/2023 | 2/27/2020 | 103.09484 | 103.0948411 | 103.0948411 | 103.0948411 | 102.3390996 | 99.63295988 | 97.01162337 | 94.47187684 | 92.01065373 |
| 200228A00047 | 5/18/2020 | 1.35 | 5/18/2023 | 5/18/2020 | 103.15951 | 103.1595115 | 103.1595115 | 103.1595115 | 102.2708751 | 99.35296137 | 96.53313832 | 93.80758055 | 91.17263383 |
| 200228A00070 | 5/18/2020 | 1.35 | 5/18/2023 | 5/18/2020 | 103.15951 | 103.1595115 | 103.1595115 | 103.1595115 | 102.2708751 | 99.35296137 | 96.53313832 | 93.80758055 | 91.17263383 |
| 200302A00003 | 3/2/2020 | 1.2 | 3/2/2023 | 3/2/2020 | 102.51903 | 102.5190338 | 102.5190338 | 102.5190338 | 101.7603444 | 99.054101 | 96.4329472 | 93.89365902 | 91.43315923 |
| 200305A00032 | 3/5/2020 | 1.58 | 3/5/2030 | 3/5/2020 | 112.43693 | 112.43693 | 112.43693 | 111.1979475 | 101.6216646 | 92.789713 | 84.79560467 | 77.55554293 | 70.99450615 |
| 200305A00045 | 3/5/2020 | 0.99 | 3/6/2023 | 3/5/2020 | 101.9416 | 101.9415977 | 101.9415977 | 101.9415977 | 101.1783158 | 98.46922236 | 95.84567458 | 93.30443835 | 90.84242534 |
| 200306A00007 | 3/6/2020 | 1.01 | 3/6/2025 | 3/6/2020 | 103.43178 | 103.4317778 | 103.4317778 | 103.4317778 | 101.0678198 | 96.49047377 | 92.1439939 | 88.01554306 | 84.09306864 |
| 200306A00049 | 3/6/2020 | 1.01 | 3/6/2025 | 3/6/2020 | 103.43178 | 103.4317778 | 103.4317778 | 103.4317778 | 101.0678198 | 96.49047377 | 92.1439939 | 88.01554306 | 84.09306864 |
| 200309A00030 | 3/9/2020 | 1.11 | 3/9/2027 | 3/9/2020 | 105.47203 | 105.4720316 | 105.4720316 | 105.4720316 | 100.1282419 | 93.80247547 | 87.91239478 | 82.42586631 | 77.31328337 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200304A00002 | 3/4/2020 | 0.98 | 3/4/2025 | 3/4/2020 | 104.15214 | 104.1521375 | 104.1521375 | 104.1521375 | 101.7706742 | 97.15511014 | 92.77258741 | 88.61012503 | 84.6555376 |
| 200304A00015 | 3/4/2020 | 0.83 | 3/4/2022 | 3/4/2020 | 101.2716 | 101.271602 | 101.271602 | 101.271602 | 100.922615 | 99.18048131 | 97.47651708 | 95.80955722 | 94.1784841 |
| 200304A00022 | 3/4/2020 | 0.86 | 3/6/2023 | 3/4/2020 | 102.07893 | 102.0789278 | 102.0789278 | 102.0789278 | 101.3116227 | 98.58943182 | 95.95341499 | 93.40030685 | 90.92698955 |
| 200305A00015 | 3/5/2020 | 0.99 | 3/6/2023 | 3/5/2020 | 101.9416 | 101.9415977 | 101.9415977 | 101.9415977 | 101.1783158 | 98.46922236 | 95.84567458 | 93.30443835 | 90.84242534 |
| 200306A00013 | 3/6/2020 | 1.01 | 3/6/2025 | 3/6/2020 | 103.43178 | 103.4317778 | 103.4317778 | 103.4317778 | 101.0678198 | 96.49047377 | 92.1439939 | 88.01554306 | 84.09306864 |
| 200306A00054 | 3/6/2020 | 1.01 | 3/6/2025 | 3/6/2020 | 103.43178 | 103.4317778 | 103.4317778 | 103.4317778 | 101.0678198 | 96.49047377 | 92.1439939 | 88.01554306 | 84.09306864 |
| 200309A00038 | 3/9/2020 | 1.26 | 3/11/2030 | 3/9/2020 | 109.32936 | 109.329356 | 109.329356 | 108.0728009 | 98.59033907 | 89.88644039 | 82.0135703 | 74.88829859 | 68.43595217 |
| 200310A00023 | 3/10/2020 | 1.02 | 3/10/2026 | 3/10/2020 | 105.26787 | 105.2678699 | 105.2678699 | 105.2678699 | 101.5553001 | 96.01591027 | 90.80841807 | 85.91129247 | 81.30450866 |
| 200310A00038 | 3/10/2020 | 1.41 | 3/11/2030 | 3/10/2020 | 110.79557 | 110.7955738 | 110.7955738 | 109.5378415 | 100.0039507 | 91.23407114 | 83.29960418 | 76.11677734 | 69.61060497 |
| 200310A00016 | 3/10/2020 | 1.02 | 3/10/2026 | 3/10/2020 | 105.26787 | 105.2678699 | 105.2678699 | 105.2678699 | 101.5553001 | 96.01591027 | 90.80841807 | 85.91129247 | 81.30450866 |
| 200417A00011 | 4/22/2020 | 0.68 | 7/15/2022 | 4/22/2020 | 100.82646 | 100.8264622 | 100.8264622 | 100.8264622 | 100.3716569 | 98.28633937 | 96.25421948 | 94.27357373 | 92.34274826 |
| 200417A00014 | 4/17/2020 | 0.96 | 4/17/2025 | 4/17/2020 | 103.2181 | 103.2180967 | 103.2180967 | 103.2180967 | 100.7364897 | 96.06193676 | 91.62846363 | 87.42247527 | 83.43120915 |
| 200417A00018 | 4/21/2020 | 0.67 | 7/25/2022 | 4/21/2020 | 100.81516 | 100.8151601 | 100.8151601 | 100.8151601 | 100.3501591 | 98.23828124 | 96.18078025 | 94.17587462 | 92.22185591 |
| 200421A00029 | 4/24/2020 | 0.72 | 12/15/2022 | 4/24/2020 | 101.0922 | 101.0921981 | 101.0921981 | 101.0921981 | 100.4516039 | 97.96559326 | 95.55323948 | 93.21192812 | 90.93915469 |
| 200421A00031 | 4/21/2020 | 0.84 | 4/19/2024 | 4/21/2020 | 102.13574 | 102.1357394 | 102.1357394 | 102.1357394 | 100.5858511 | 96.8281243 | 93.22938949 | 89.78213553 | 86.47924422 |
| 200428A00002 | 4/28/2020 | 1.47 | 4/26/2030 | 4/28/2020 | 113.50512 | 113.5051224 | 113.5051224 | 112.0555769 | 102.1871512 | 93.12061073 | 84.92895949 | 77.523371 | 70.82444089 |
| 200429A00049 | 4/29/2020 | 1.25 | 4/29/2026 | 4/29/2020 | 105.61664 | 105.6166431 | 105.6166431 | 105.6166431 | 101.717703 | 96.09054413 | 90.80652717 | 85.84306584 | 81.17916799 |
| 200429A00061 | 4/29/2020 | 1.66 | 10/29/2029 | 4/29/2020 | 112.75387 | 112.7538709 | 112.7538709 | 111.9236421 | 102.6463812 | 94.04150905 | 86.22629229 | 79.12422607 | 72.66656971 |
| 200429A00066 | 4/29/2020 | 0.8 | 4/28/2023 | 4/29/2020 | 101.4834 | 101.4834017 | 101.4834017 | 101.4834017 | 100.6350741 | 97.7941706 | 95.04726214 | 92.39074759 | 89.82118378 |
| 200430A00030 | 4/30/2020 | 0.96 | 4/30/2025 | 4/30/2020 | 103.24154 | 103.2415407 | 103.2415407 | 103.2415407 | 100.721987 | 96.01605309 | 91.55443422 | 87.32326136 | 83.30952059 |
| 200511A00006 | 5/11/2020 | 1.65 | 5/13/2030 | 5/11/2020 | 113.36923 | 113.3692348 | 113.3692348 | 111.885314 | 102.1083237 | 93.10516302 | 84.97036779 | 77.61569023 | 70.96225746 |
| 200527A00013 | 5/27/2020 | 1.13 | 11/25/2026 | 5/27/2020 | 105.37537 | 105.3753664 | 105.3753664 | 105.3753664 | 100.5200561 | 94.42842865 | 88.74083396 | 83.42851551 | 78.46490035 |
| 010824A00019 | 8/24/2001 | 6.24 | 8/24/2021 | 8/24/2001 | 107.47451 | 107.4745143 | 107.4745143 | 107.4745143 | 107.2288409 | 105.9507043 | 104.7033484 | 103.4856673 | 102.2966077 |
| 011029A00020 | 10/29/2001 | 5.73 | 10/29/2021 | 10/29/2001 | 108.06725 | 108.0672543 | 108.0672543 | 108.0672543 | 107.7840666 | 106.3283669 | 104.8998011 | 103.4976739 | 102.1213133 |
| 050308A00058 | 3/8/2005 | 5.32 | 3/11/2025 | 3/8/2005 | 124.20494 | 124.2049399 | 124.2049399 | 124.2049399 | 121.6560437 | 116.5779054 | 111.7495209 | 107.1571837 | 102.7880162 |
| 050523A00034 | 5/23/2005 | 4.81 | 6/5/2020 | 5/23/2005 | 100.09126 | 100.0912564 | 100.0912564 | 100.0912564 | 100.0885021 | 100.069014 | 100.0495462 | 100.0300986 | 100.0106713 |
| 050525A00028 | 5/25/2005 | 4.82 | 6/5/2020 | 5/25/2005 | 100.08673 | 100.086733 | 100.086733 | 100.086733 | 100.0839856 | 100.0645466 | 100.0451272 | 100.0257276 | 100.0063477 |
| 050912A00098 | 9/12/2005 | 4.74 | 9/21/2020 | 9/12/2005 | 101.47632 | 101.4763237 | 101.4763237 | 101.4763237 | 101.4199273 | 101.0992788 | 100.7806689 | 100.4640779 | 100.1494867 |
| 100713A00024 | 7/13/2010 | 3.95 | 7/15/2020 | 7/13/2010 | 100.47463 | 100.4746305 | 100.4746305 | 100.4746305 | 100.4546241 | 100.3241811 | 100.19409 | 100.0643492 | 99.93495739 |
| 110201A00004 | 2/1/2011 | 4.25 | 2/16/2021 | 2/1/2011 | 102.91541 | 102.9154101 | 102.9154101 | 102.9154101 | 102.756598 | 102.0242569 | 101.3023763 | 100.590733 | 99.88911003 |
| 110505A00022 | 5/5/2011 | 4.59 | 5/15/2026 | 5/5/2011 | 125.66739 | 125.6673909 | 125.6673909 | 125.6673909 | 121.44128 | 115.1984644 | 109.3286179 | 103.8073579 | 98.61202128 |
| 110601A00013 | 6/1/2011 | 3.49 | 6/15/2021 | 6/1/2011 | 103.57514 | 103.5751409 | 103.5751409 | 103.5751409 | 103.347481 | 102.283758 | 101.2419512 | 100.2213876 | 99.22142163 |
| 110919A00026 | 9/19/2011 | 2.66 | 9/30/2021 | 9/19/2011 | 103.4496 | 103.4495962 | 103.4495962 | 103.4495962 | 103.1927225 | 101.8512372 | 100.533537 | 99.23904351 | 97.96719672 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 111006A00021 | 10/6/2011 | 2.93 | 10/15/2020 | 10/6/2011 | 101.03242 | 101.032417 | 101.032417 | 101.032417 | 100.9628617 | 100.5774716 | 100.1950304 | 99.81550419 | 99.43885965 |
| 111024A00022 | 10/24/2011 | 3.11 | 10/30/2023 | 10/24/2011 | 110.35709 | 110.3570878 | 110.3570878 | 110.3570878 | 109.1233308 | 105.6429404 | 102.2933088 | 99.06883252 | 95.96417844 |
| 120127A00018 | 1/27/2012 | 3.64 | 2/1/2027 | 1/27/2012 | 122.35638 | 122.3563759 | 122.3563759 | 122.3563759 | 116.9051053 | 110.1192919 | 103.7836787 | 97.86586074 | 92.33593545 |
| 120330A00009 | 3/30/2012 | 2.98 | 3/30/2022 | 3/30/2012 | 104.98088 | 104.9808762 | 104.9808762 | 104.9808762 | 104.6098521 | 102.76593 | 100.9635585 | 99.20156195 | 97.47880521 |
| 120411A00012 | 4/11/2012 | 2.87 | 4/15/2022 | 4/11/2012 | 104.89073 | 104.8907322 | 104.8907322 | 104.8907322 | 104.5084582 | 102.6230539 | 100.7810332 | 98.98114219 | 97.22217113 |
| 120601A00012 | 6/1/2012 | 1.93 | 6/15/2021 | 6/1/2012 | 101.92093 | 101.9209289 | 101.9209289 | 101.9209289 | 101.6952141 | 100.6408706 | 99.60830812 | 98.59685692 | 97.60587455 |
| 120718A00011 | 7/18/2012 | 2.29 | 7/30/2021 | 7/18/2012 | 102.3845 | 102.3845016 | 102.3845016 | 102.3845016 | 102.1510586 | 100.9742806 | 99.8245227 | 98.70086258 | 97.60241956 |
| 120928A00018 | 9/28/2012 | 1.87 | 9/30/2020 | 9/28/2012 | 100.55301 | 100.5530139 | 100.5530139 | 100.5530139 | 100.4921177 | 100.149123 | 99.80846109 | 99.47010818 | 99.13404094 |
| 131113A00036 | 11/13/2013 | 3.14 | 11/15/2021 | 11/13/2013 | 104.2327 | 104.232696 | 104.232696 | 104.232696 | 103.9444225 | 102.4762384 | 101.0362392 | 99.62368353 | 98.23785553 |
| 131113A00040 | 11/13/2013 | 2.8 | 11/16/2020 | 11/13/2013 | 101.20817 | 101.208168 | 101.208168 | 101.208168 | 101.119483 | 100.6456365 | 100.176235 | 99.71121624 | 99.25051882 |
| 140113A00011 | 1/13/2014 | 2.88 | 1/15/2021 | 1/13/2014 | 101.68282 | 101.6828192 | 101.6828192 | 101.6828192 | 101.5498785 | 100.9099919 | 100.2781689 | 99.65425747 | 99.03810955 |
| 140204A00007 | 2/4/2014 | 2.68 | 2/16/2021 | 2/4/2014 | 101.76963 | 101.7696324 | 101.7696324 | 101.7696324 | 101.6117201 | 100.8840195 | 100.1667323 | 99.45963621 | 98.76251487 |
| 140626A00036 | 6/26/2014 | 3.55 | 6/26/2029 | 6/26/2014 | 131.42527 | 131.4252691 | 131.4252691 | 130.9375076 | 121.2788124 | 112.0496496 | 103.6223658 | 95.92241591 | 88.88256697 |
| 011107A00031 | 11/7/2001 | 5.56 | 11/5/2021 | 11/7/2001 | 107.68991 | 107.6899118 | 107.6899118 | 107.6899118 | 107.4031582 | 105.935107 | 104.4947093 | 103.0812491 | 101.6940347 |
| 051003A00008 | 10/3/2005 | 5.08 | 10/15/2020 | 10/3/2005 | 101.86205 | 101.8620539 | 101.8620539 | 101.8620539 | 101.7921631 | 101.4048123 | 101.0204215 | 100.6389566 | 100.2603843 |
| 051107A00075 | 11/7/2005 | 5.29 | 11/17/2025 | 11/7/2005 | 128.6066 | 128.606605 | 128.606605 | 128.606605 | 125.1081979 | 119.213871 | 113.6456882 | 108.3837499 | 103.4094754 |
| 060308A00014 | 3/8/2006 | 5.44 | 3/16/2026 | 3/8/2006 | 129.91978 | 129.9197829 | 129.9197829 | 129.9197829 | 125.9182033 | 119.7092198 | 113.8597499 | 108.3468969 | 103.1493444 |
| 060613A00029 | 6/13/2006 | 5.47 | 6/15/2021 | 6/13/2006 | 105.67472 | 105.6747178 | 105.6747178 | 105.6747178 | 105.4445891 | 104.3689613 | 103.3154213 | 102.2832919 | 101.2719237 |
| 060808A00022 | 8/8/2006 | 5.57 | 6/15/2026 | 8/8/2006 | 131.98351 | 131.9835068 | 131.9835068 | 131.9835068 | 127.5280962 | 121.0223814 | 114.9071683 | 109.1567181 | 103.7471258 |
| 061220A00034 | 12/20/2006 | 5.07 | 12/30/2021 | 12/20/2006 | 107.96967 | 107.9696689 | 107.9696689 | 107.9696689 | 107.6460374 | 106.0197976 | 104.4265066 | 102.8652307 | 101.3350709 |
| 081211A00029 | 12/11/2008 | 4.57 | 12/15/2023 | 12/11/2008 | 115.29238 | 115.2923838 | 115.2923838 | 115.2923838 | 113.947747 | 110.275154 | 106.7437049 | 103.3471835 | 100.0796835 |
| 100930A00008 | 9/30/2010 | 3.82 | 9/30/2025 | 9/30/2010 | 118.87816 | 118.8781589 | 118.8781589 | 118.8781589 | 115.7007747 | 110.2243917 | 105.0467859 | 100.1500771 | 95.51754399 |
| 110113A00008 | 1/13/2011 | 4.15 | 1/15/2021 | 1/13/2011 | 102.49698 | 102.4969794 | 102.4969794 | 102.4969794 | 102.3634869 | 101.7206574 | 101.0859178 | 100.459116 | 99.84010328 |
| 110527A00007 | 5/27/2011 | 3.98 | 6/1/2021 | 5/27/2011 | 103.78034 | 103.780339 | 103.780339 | 103.780339 | 103.5560561 | 102.5320364 | 101.528304 | 100.5442599 | 99.57932816 |
| 110818A00012 | 8/18/2011 | 2.86 | 8/31/2022 | 8/18/2011 | 106.26628 | 106.2662753 | 106.2662753 | 106.2662753 | 105.7458582 | 103.4672241 | 101.249168 | 99.08963401 | 96.98665401 |
| 120112A00014 | 1/12/2012 | 3.43 | 1/15/2032 | 1/12/2012 | 138.80216 | 138.8021614 | 138.8021614 | 134.15281 | 121.6919172 | 110.233116 | 100.010153 | 90.88143662 | 82.72234045 |
| 120306A00004 | 3/6/2012 | 2.95 | 3/15/2023 | 3/6/2012 | 107.4879 | 107.487903 | 107.487903 | 107.487903 | 106.6926496 | 103.8808071 | 101.1578496 | 98.52044493 | 95.96540779 |
| 120907A00023 | 9/7/2012 | 2.05 | 9/15/2022 | 9/7/2012 | 104.49522 | 104.4952205 | 104.4952205 | 104.4952205 | 103.9611316 | 101.6634566 | 99.42789508 | 97.25237741 | 95.13491801 |
| 121116A00006 | 11/16/2012 | 2.64 | 11/13/2025 | 11/16/2012 | 112.82031 | 112.8203065 | 112.8203065 | 112.8203065 | 109.5356339 | 104.108574 | 98.98635645 | 94.15027562 | 89.58286742 |
| 130107A00002 | 1/7/2013 | 3.22 | 1/18/2028 | 1/7/2013 | 122.31896 | 122.318964 | 122.318964 | 122.318964 | 115.1771112 | 107.5680768 | 100.5289677 | 94.01388026 | 87.98084166 |
| 130213A00039 | 2/13/2013 | 1.92 | 2/16/2021 | 2/13/2013 | 101.21499 | 101.2149884 | 101.2149884 | 101.2149884 | 101.0575117 | 100.3320574 | 99.61699384 | 98.91209889 | 98.2171567 |
| 130405A00006 | 4/5/2013 | 2.41 | 4/7/2025 | 4/5/2013 | 111.25852 | 111.2585236 | 111.2585236 | 111.2585236 | 108.7182838 | 103.8463874 | 99.22245982 | 94.83262699 | 90.6638597 |
| 130424A00004 | 4/24/2013 | 2.46 | 4/24/2025 | 4/24/2013 | 111.6142 | 111.6142033 | 111.6142033 | 111.6142033 | 109.0197843 | 104.0969079 | 99.42666376 | 94.99479781 | 90.78793142 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 130529A00006 | 5/29/2013 | 2.05 | 6/1/2020 | 5/29/2013 | 100.01393 | 100.0139337 | 100.0139337 | 100.0139337 | 100.0127593 | 100.0044488 | 99.99614578 | 99.98785028 | 99.97956227 |
| 130712A00005 | 7/12/2013 | 3.25 | 7/17/2023 | 7/12/2013 | 109.93189 | 109.9318911 | 109.9318911 | 109.9318911 | 108.9048849 | 105.7114276 | 102.6292958 | 99.65395212 | 96.78107325 |
| 130904A00035 | 9/4/2013 | 2.85 | 9/15/2020 | 9/4/2013 | 100.82718 | 100.8271761 | 100.8271761 | 100.8271761 | 100.7742699 | 100.471509 | 100.1705801 | 99.87146674 | 99.57415227 |
| 131011A00005 | 10/11/2013 | 2.97 | 10/15/2020 | 10/11/2013 | 101.04785 | 101.0478521 | 101.0478521 | 101.0478521 | 100.9782906 | 100.592864 | 100.2103865 | 99.83082423 | 99.45414383 |
| 010824A00028 | 8/24/2001 | 6.24 | 8/24/2021 | 8/24/2001 | 107.47451 | 107.4745143 | 107.4745143 | 107.4745143 | 107.2288409 | 105.9507043 | 104.7033484 | 103.4856673 | 102.2966077 |
| 020627A00001 | 6/27/2002 | 6.07 | 6/27/2022 | 6/27/2002 | 112.13473 | 112.1347283 | 112.1347283 | 112.1347283 | 111.6737234 | 109.5157134 | 107.4112361 | 105.3585996 | 103.3561785 |
| 050902A00032 | 9/2/2005 | 4.69 | 8/22/2025 | 9/2/2005 | 124.18985 | 124.1898536 | 124.1898536 | 124.1898536 | 121.0795057 | 115.5313463 | 110.2795769 | 105.3066525 | 100.5961669 |
| 061221A00005 | 12/21/2006 | 5.28 | 12/30/2021 | 12/21/2006 | 108.02717 | 108.0271688 | 108.0271688 | 108.0271688 | 107.7043794 | 106.0823603 | 104.4931296 | 102.9357598 | 101.4093581 |
| 071231A00068 | 12/31/2007 | 4.93 | 12/30/2022 | 12/31/2007 | 112.61013 | 112.6101255 | 112.6101255 | 112.6101255 | 111.9129314 | 109.2258172 | 106.6183388 | 104.0876418 | 101.6309934 |
| 100824A00009 | 8/24/2010 | 3.91 | 9/2/2025 | 8/24/2010 | 119.08545 | 119.0854457 | 119.0854457 | 119.0854457 | 116.010239 | 110.5989855 | 105.4791194 | 100.6333144 | 96.04537137 |
| 101006A00011 | 10/6/2010 | 2.9 | 10/15/2020 | 10/6/2010 | 101.07401 | 101.0740054 | 101.0740054 | 101.0740054 | 101.0043208 | 100.6182203 | 100.2350815 | 99.8548703 | 99.47755315 |
| 101130A00010 | 11/30/2010 | 3.25 | 11/30/2020 | 11/30/2010 | 101.60913 | 101.6091277 | 101.6091277 | 101.6091277 | 101.5112841 | 100.9969552 | 100.4878326 | 99.98383744 | 99.48489264 |
| 110805A00013 | 8/5/2011 | 3.43 | 8/16/2021 | 8/5/2011 | 103.88296 | 103.8829558 | 103.8829558 | 103.8829558 | 103.6438732 | 102.4112689 | 101.208009 | 100.0330536 | 98.88541173 |
| 110805A00014 | 8/5/2011 | 4.06 | 8/17/2026 | 8/5/2011 | 123.45427 | 123.4542736 | 123.4542736 | 123.4542736 | 118.8102252 | 112.3973017 | 106.3829759 | 100.7401975 | 95.4438981 |
| 120312A00009 | 3/12/2012 | 2.72 | 3/15/2024 | 3/12/2012 | 109.99269 | 109.9926929 | 109.9926929 | 109.9926929 | 108.4684992 | 104.6321864 | 100.95329 | 97.42449468 | 94.03886724 |
| 120503A00014 | 5/3/2012 | 2.4 | 5/16/2022 | 5/3/2012 | 104.53832 | 104.5383236 | 104.5383236 | 104.5383236 | 104.1310388 | 102.1592203 | 100.2348104 | 98.35637671 | 96.5225403 |
| 120824A00023 | 8/24/2012 | 2.4 | 8/30/2022 | 8/24/2012 | 104.79392 | 104.7939164 | 104.7939164 | 104.7939164 | 104.2802064 | 102.0294648 | 99.83844286 | 97.70511393 | 95.62753826 |
| 120907A00022 | 9/7/2012 | 1.88 | 9/15/2021 | 9/7/2012 | 102.31764 | 102.3176425 | 102.3176425 | 102.3176425 | 102.069482 | 100.7703403 | 99.49809377 | 98.25191388 | 97.03100641 |
| 130117A00011 | 1/17/2013 | 2.18 | 1/30/2023 | 1/17/2013 | 105.58006 | 105.5800638 | 105.5800638 | 105.5800638 | 104.8566908 | 102.1805349 | 99.58627386 | 97.07088102 | 94.63146386 |
| 130211A00015 | 2/11/2013 | 1.88 | 2/16/2021 | 2/11/2013 | 101.1858 | 101.1857966 | 101.1857966 | 101.1857966 | 101.0283428 | 100.3030068 | 99.58806023 | 98.88328114 | 98.18845364 |
| 130531A00019 | 5/31/2013 | 2.09 | 6/1/2021 | 5/31/2013 | 102.01394 | 102.0139382 | 102.0139382 | 102.0139382 | 101.7911275 | 100.7744197 | 99.77794875 | 98.80111506 | 97.84334268 |
| 130606A00013 | 6/6/2013 | 2.94 | 6/15/2023 | 6/6/2013 | 108.12925 | 108.1292537 | 108.1292537 | 108.1292537 | 107.1731036 | 104.1068926 | 101.1452463 | 98.284007 | 95.51920753 |
| 130614A00008 | 6/14/2013 | 2.39 | 6/15/2020 | 6/14/2013 | 100.09684 | 100.0968375 | 100.0968375 | 100.0968375 | 100.0901787 | 100.0430712 | 99.99602457 | 99.94903884 | 99.90211383 |
| 130821A00019 | 8/21/2013 | 3.81 | 8/29/2025 | 8/21/2013 | 119.60478 | 119.6047772 | 119.6047772 | 119.6047772 | 116.5142363 | 111.0657491 | 105.9109551 | 101.0323614 | 96.41361653 |
| 130904A00039 | 9/4/2013 | 4.19 | 9/15/2028 | 9/4/2013 | 134.10807 | 134.1080733 | 134.1080733 | 134.1080733 | 125.4077803 | 116.7258355 | 108.7368725 | 101.3813554 | 94.60517237 |
| 131024A00018 | 10/24/2013 | 2.8 | 11/1/2021 | 10/24/2013 | 103.87743 | 103.8774281 | 103.8774281 | 103.8774281 | 103.598512 | 102.1661931 | 100.7607602 | 99.38152172 | 98.02780924 |
| 131107A00010 | 11/7/2013 | 2.84 | 11/8/2021 | 11/7/2013 | 103.98813 | 103.9881291 | 103.9881291 | 103.9881291 | 103.7042362 | 102.2524419 | 100.8282416 | 99.43091642 | 98.05977232 |
| 140908A00059 | 9/8/2014 | 2.28 | 8/31/2020 | 9/8/2014 | 100.52356 | 100.5235562 | 100.5235562 | 100.5235562 | 100.4789947 | 100.2186751 | 99.95970122 | 99.7020628 | 99.44574951 |
| 020920A00012 | 9/20/2002 | 5.4 | 9/20/2022 | 9/20/2002 | 111.92427 | 111.924271 | 111.924271 | 111.924271 | 111.3681991 | 108.9783078 | 106.6526577 | 104.3891324 | 102.1856992 |
| 060908A00017 | 9/8/2006 | 5.27 | 9/15/2021 | 9/8/2006 | 106.77744 | 106.7774437 | 106.7774437 | 106.7774437 | 106.5230131 | 105.19305 | 103.8905087 | 102.6145459 | 101.3643531 |
| 081205A00033 | 12/5/2008 | 4.77 | 12/7/2023 | 12/5/2008 | 115.90966 | 115.9096577 | 115.9096577 | 115.9096577 | 114.5790565 | 110.9176169 | 107.3961176 | 104.0084283 | 100.7487225 |
| 091112A00011 | 11/12/2009 | 4.77 | 11/15/2024 | 11/12/2009 | 121.01679 | 121.0167915 | 121.0167915 | 121.0167915 | 118.8120525 | 114.0957322 | 109.5996748 | 105.3123876 | 101.2230382 |
| 100809A00029 | 8/9/2010 | 4.23 | 8/15/2025 | 8/9/2010 | 120.5865 | 120.5865024 | 120.5865024 | 120.5865024 | 117.5614972 | 112.1574698 | 107.0415215 | 102.1966618 | 97.60699774 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 100817A00002 | 8/17/2010 | 3.03 | 8/31/2020 | 8/17/2010 | 100.76031 | 100.7603098 | 100.7603098 | 100.7603098 | 100.7156038 | 100.4544255 | 100.1946023 | 99.93612373 | 99.67897923 |
| 110103A00009 | 1/3/2011 | 3.99 | 1/3/2022 | 1/3/2011 | 106.27437 | 106.2743667 | 106.2743667 | 106.2743667 | 105.9512585 | 104.3282915 | 102.738382 | 101.1805872 | 99.65400014 |
| 110302A00006 | 3/2/2011 | 4.26 | 3/15/2021 | 3/2/2011 | 103.21365 | 103.2136542 | 103.2136542 | 103.2136542 | 103.0348681 | 102.2272637 | 101.432348 | 100.6498232 | 99.87940076 |
| 110302A00007 | 3/2/2011 | 4.86 | 3/16/2026 | 3/2/2011 | 126.53995 | 126.5399456 | 126.5399456 | 126.5399456 | 122.5791068 | 116.4651514 | 110.7066857 | 105.28102 | 100.1670327 |
| 110524A00009 | 5/24/2011 | 3.64 | 6/1/2021 | 5/24/2011 | 103.59735 | 103.5973471 | 103.5973471 | 103.5973471 | 103.37274 | 102.3473643 | 101.3423459 | 100.3570826 | 99.3909956 |
| 110818A00006 | 8/18/2011 | 3.09 | 8/30/2021 | 8/18/2011 | 103.57362 | 103.573625 | 103.573625 | 103.573625 | 103.3316793 | 102.0634234 | 100.8259245 | 99.61807162 | 98.43880672 |
| 111024A00027 | 10/24/2011 | 3.11 | 10/30/2023 | 10/24/2011 | 110.35709 | 110.3570878 | 110.3570878 | 110.3570878 | 109.1233308 | 105.6429404 | 102.2933088 | 99.06883252 | 95.96417844 |
| 111031A00013 | 10/31/2011 | 2.82 | 11/1/2021 | 10/31/2011 | 103.90635 | 103.9063463 | 103.9063463 | 103.9063463 | 103.6273863 | 102.1948497 | 100.7892028 | 99.40975402 | 98.05583481 |
| 111223A00006 | 12/23/2011 | 2.98 | 12/30/2021 | 12/23/2011 | 104.33056 | 104.3305631 | 104.3305631 | 104.3305631 | 104.0139408 | 102.422578 | 100.8634576 | 99.33566715 | 97.83832842 |
| 120113A00012 | 1/13/2012 | 3.62 | 1/15/2027 | 1/13/2012 | 122.06881 | 122.0688055 | 122.0688055 | 122.0688055 | 116.7059548 | 109.9697299 | 103.6778987 | 97.79865463 | 92.30263253 |
| 120126A00006 | 1/26/2012 | 2.93 | 1/31/2022 | 1/26/2012 | 104.4845 | 104.4845027 | 104.4845027 | 104.4845027 | 104.1493744 | 102.4713385 | 100.8284877 | 99.21977985 | 97.64421384 |
| 120209A00012 | 2/9/2012 | 2.27 | 2/16/2021 | 2/9/2012 | 101.57145 | 101.5714465 | 101.5714465 | 101.5714465 | 101.4133909 | 100.6851702 | 99.96739281 | 99.25983496 | 98.5622794 |
| 120228A00010 | 2/28/2012 | 2.34 | 3/2/2022 | 2/28/2012 | 103.95755 | 103.9575514 | 103.9575514 | 103.9575514 | 103.6048731 | 101.8438112 | 100.1211491 | 98.43570818 | 96.78635861 |
| 120517A00006 | 5/17/2012 | 1.88 | 6/1/2020 | 5/17/2012 | 100.0147 | 100.0146956 | 100.0146956 | 100.0146956 | 100.0135182 | 100.0051864 | 99.99686241 | 99.98854615 | 99.98023762 |
| 120517A00007 | 5/17/2012 | 2.42 | 5/31/2023 | 5/17/2012 | 106.99999 | 106.9999863 | 106.9999863 | 106.9999863 | 106.0704142 | 103.0476225 | 100.1273504 | 97.30555236 | 94.57836639 |
| 120801A00015 | 8/1/2012 | 2.08 | 8/17/2020 | 8/1/2012 | 100.40106 | 100.4010619 | 100.4010619 | 100.4010619 | 100.3640439 | 100.1425148 | 99.92197466 | 99.70241671 | 99.48383436 |
| 121101A00011 | 11/1/2012 | 2.03 | 11/1/2022 | 11/1/2012 | 104.69747 | 104.6974736 | 104.6974736 | 104.6974736 | 104.1041666 | 101.6781963 | 99.32107134 | 97.03045362 | 94.80409856 |
| 130117A00010 | 1/17/2013 | 1.98 | 1/31/2022 | 1/17/2013 | 103.16163 | 103.1616281 | 103.1616281 | 103.1616281 | 102.8278182 | 101.1563354 | 99.52001317 | 97.91780755 | 96.34871609 |
| 130508A00013 | 5/8/2013 | 2.23 | 5/15/2023 | 5/8/2013 | 106.32864 | 106.3286354 | 106.3286354 | 106.3286354 | 105.4297629 | 102.459886 | 99.58944119 | 96.81455877 | 94.13154199 |
| 001003A00016 | 10/3/2000 | 7.13 | 10/5/2020 | 10/3/2000 | 102.45893 | 102.4589317 | 102.4589317 | 102.4589317 | 102.394499 | 102.0335274 | 101.6751102 | 101.3192202 | 100.9658308 |
| 011107A00022 | 11/7/2001 | 5.56 | 11/5/2021 | 11/7/2001 | 107.68991 | 107.6899118 | 107.6899118 | 107.6899118 | 107.4031582 | 105.935107 | 104.4947093 | 103.0812491 | 101.6940347 |
| 050927A00012 | 9/27/2005 | 5.06 | 9/21/2020 | 9/27/2005 | 101.53134 | 101.531337 | 101.531337 | 101.531337 | 101.4750165 | 101.1547853 | 100.8365833 | 100.5203912 | 100.20619 |
| 080909A00042 | 9/9/2008 | 4.74 | 9/11/2023 | 9/9/2008 | 115.37395 | 115.373946 | 115.373946 | 115.373946 | 114.2169831 | 110.7849454 | 107.4764996 | 104.2864736 | 101.2099443 |
| 081215A00091 | 12/15/2008 | 4.19 | 12/15/2023 | 12/15/2008 | 114.61436 | 114.6143611 | 114.6143611 | 114.6143611 | 113.2653034 | 109.5876472 | 106.0518567 | 102.6516655 | 99.38112055 |
| 100629A00001 | 6/29/2010 | 3.85 | 6/30/2020 | 6/29/2010 | 100.31113 | 100.3111276 | 100.3111276 | 100.3111276 | 100.298483 | 100.2097389 | 100.1211509 | 100.0327186 | 99.94444175 |
| 100809A00028 | 8/9/2010 | 3.61 | 8/17/2020 | 8/9/2010 | 100.74092 | 100.7409152 | 100.7409152 | 100.7409152 | 100.703812 | 100.4817502 | 100.260679 | 100.0405919 | 99.82148235 |
| 100826A00013 | 8/26/2010 | 3.32 | 8/31/2020 | 8/26/2010 | 100.79498 | 100.7949823 | 100.7949823 | 100.7949823 | 100.7503445 | 100.4895552 | 100.2301135 | 99.97200908 | 99.71523167 |
| 101208A00006 | 12/8/2010 | 4.12 | 12/15/2020 | 12/8/2010 | 102.14552 | 102.1455155 | 102.1455155 | 102.1455155 | 102.0364542 | 101.4800654 | 100.9297561 | 100.3854267 | 99.84698004 |
| 110222A00011 | 2/22/2011 | 4.35 | 3/2/2021 | 2/22/2011 | 103.14708 | 103.1470782 | 103.1470782 | 103.1470782 | 102.9775906 | 102.2058685 | 101.4457293 | 100.6969135 | 99.95916907 |
| 111024A00009 | 10/24/2011 | 2.65 | 10/30/2020 | 10/24/2011 | 101.08287 | 101.0828695 | 101.0828695 | 101.0828695 | 101.0046399 | 100.5771743 | 100.1533206 | 99.73303302 | 99.31626684 |
| 111024A00026 | 10/24/2011 | 2.65 | 10/30/2020 | 10/24/2011 | 101.08287 | 101.0828695 | 101.0828695 | 101.0828695 | 101.0046399 | 100.5771743 | 100.1533206 | 99.73303302 | 99.31626684 |
| 120112A00013 | 1/12/2012 | 2.76 | 1/16/2024 | 1/12/2012 | 109.71535 | 109.7153514 | 109.7153514 | 109.7153514 | 108.3216844 | 104.6463069 | 101.1163438 | 97.72522318 | 94.46671023 |
| 120320A00005 | 3/20/2012 | 3.18 | 3/30/2022 | 3/20/2012 | 105.35203 | 105.3520315 | 105.3520315 | 105.3520315 | 104.9802999 | 103.1328576 | 101.3270321 | 99.56164584 | 97.83556183 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 120801A00007 | 8/1/2012 | 2.08 | 8/17/2020 | 8/1/2012 | 100.40106 | 100.4010619 | 100.4010619 | 100.4010619 | 100.3640439 | 100.1425148 | 99.92197466 | 99.70241671 | 99.48383436 |
| 121116A00007 | 11/16/2012 | 1.99 | 11/16/2021 | 11/16/2012 | 102.53222 | 102.5322221 | 102.5322221 | 102.5322221 | 102.2459094 | 100.7881945 | 99.35853607 | 97.9561952 | 96.58045828 |
| 121116A00021 | 11/16/2012 | 2.35 | 11/17/2025 | 11/16/2012 | 112.34393 | 112.3439327 | 112.3439327 | 112.3439327 | 109.0202945 | 103.5607421 | 98.40974568 | 93.54827452 | 88.95856688 |
| 121116A00022 | 11/16/2012 | 2.78 | 11/16/2029 | 11/16/2012 | 125.41938 | 125.4193816 | 125.4193816 | 124.5104796 | 114.6465488 | 105.3685255 | 96.9347876 | 89.26362774 | 82.28164792 |
| 130211A00025 | 2/11/2013 | 1.88 | 2/16/2021 | 2/11/2013 | 101.1858 | 101.1857966 | 101.1857966 | 101.1857966 | 101.0283428 | 100.3030068 | 99.58806023 | 98.88328114 | 98.18845364 |
| 130212A00016 | 2/12/2013 | 2.13 | 2/15/2022 | 2/12/2013 | 103.20423 | 103.2042339 | 103.2042339 | 103.2042339 | 102.8627262 | 101.1549331 | 99.48364265 | 97.84774934 | 96.24619248 |
| 130405A00007 | 4/5/2013 | 2.91 | 4/17/2028 | 4/5/2013 | 122.22554 | 122.2255416 | 122.2255416 | 122.2255416 | 114.5720424 | 106.6963715 | 99.43057849 | 92.7240879 | 86.53076449 |
| 130424A00005 | 4/24/2013 | 3.07 | 4/24/2030 | 4/24/2013 | 129.47716 | 129.4771592 | 129.4771592 | 128.0194834 | 117.5806241 | 107.7880392 | 98.91871704 | 90.88006723 | 83.58924517 |
| 130509A00004 | 5/9/2013 | 2.4 | 5/15/2023 | 5/9/2013 | 106.28942 | 106.289416 | 106.289416 | 106.289416 | 105.3951117 | 102.4383995 | 99.58041461 | 96.81732413 | 94.14546606 |
| 130513A00007 | 5/13/2013 | 2.54 | 5/15/2023 | 5/13/2013 | 106.70789 | 106.7078928 | 106.7078928 | 106.7078928 | 105.8121349 | 102.8491837 | 99.98511554 | 97.21609228 | 94.53844702 |
| 140827A00038 | 8/27/2014 | 3.07 | 8/30/2024 | 8/27/2014 | 111.89853 | 111.8985312 | 111.8985312 | 111.8985312 | 109.9744878 | 105.6816119 | 101.5822472 | 97.66657571 | 93.92533701 |
| 140908A00061 | 9/8/2014 | 2.39 | 2/26/2021 | 9/8/2014 | 101.61704 | 101.6170403 | 101.6170403 | 101.6170403 | 101.4517383 | 100.697387 | 99.95422485 | 99.22200431 | 98.50048519 |
| 140908A00065 | 9/8/2014 | 2.63 | 2/28/2022 | 9/8/2014 | 104.15687 | 104.1568721 | 104.1568721 | 104.1568721 | 103.8061597 | 102.0543046 | 100.3404547 | 98.66343824 | 97.02213262 |
| 141009A00029 | 10/9/2014 | 3.5 | 10/9/2029 | 10/9/2014 | 129.90759 | 129.9075937 | 129.9075937 | 129.1297982 | 119.3438922 | 110.034836 | 101.5550792 | 93.82571061 | 86.77572339 |
| 141017A00020 | 10/17/2014 | 2.28 | 10/18/2021 | 10/17/2014 | 103.04167 | 103.0416747 | 103.0416747 | 103.0416747 | 102.7734017 | 101.3854505 | 100.0229258 | 98.68518901 | 97.37162282 |
| 150331A00004 | 3/31/2015 | 2.08 | 3/31/2022 | 3/31/2015 | 103.65163 | 103.6516304 | 103.6516304 | 103.6516304 | 103.2811942 | 101.4411736 | 99.64282022 | 97.88495066 | 96.16642251 |
| 150407A00009 | 4/7/2015 | 2.03 | 4/7/2022 | 4/7/2015 | 103.59567 | 103.5956676 | 103.5956676 | 103.5956676 | 103.2203413 | 101.3623572 | 99.54683814 | 97.77256652 | 96.03836749 |
| 150413A00034 | 4/13/2015 | 2.25 | 4/13/2022 | 4/13/2015 | 103.70193 | 103.7019291 | 103.7019291 | 103.7019291 | 103.3233948 | 101.4547788 | 99.62909546 | 97.84510687 | 96.10161884 |
| 150601A00531 | 6/1/2015 | 3.28 | 7/24/2024 | 6/1/2015 | 112.29748 | 112.297475 | 112.297475 | 112.297475 | 110.4629941 | 106.2569175 | 102.2365291 | 98.39260049 | 94.71641528 |
| 150601A00594 | 6/1/2015 | 3.2 | 10/20/2026 | 6/1/2015 | 118.29133 | 118.2913337 | 118.2913337 | 118.2913337 | 113.4121033 | 107.0016815 | 101.0026579 | 95.38643944 | 90.12656095 |
| 150601A00632 | 6/1/2015 | 2.33 | 12/31/2020 | 6/1/2015 | 101.22089 | 101.2208875 | 101.2208875 | 101.2208875 | 101.1004294 | 100.5032046 | 99.91301721 | 99.32974352 | 98.75326261 |
| 150601A00634 | 6/1/2015 | 2.39 | 3/31/2021 | 6/1/2015 | 101.77106 | 101.7710611 | 101.7710611 | 101.7710611 | 101.5823174 | 100.7375263 | 99.90674791 | 99.08963581 | 98.28585496 |
| 150601A00646 | 6/1/2015 | 2.68 | 9/30/2022 | 6/1/2015 | 105.54498 | 105.5449763 | 105.5449763 | 105.5449763 | 104.9925437 | 102.6514917 | 100.3744228 | 98.15924374 | 96.00394165 |
| 150601A00648 | 6/1/2015 | 2.71 | 12/30/2022 | 6/1/2015 | 106.21103 | 106.2110275 | 106.2110275 | 106.2110275 | 105.5350039 | 102.9422184 | 100.4266402 | 97.98549941 | 95.6161446 |
| 150601A00689 | 6/1/2015 | 2.81 | 2/28/2025 | 6/1/2015 | 111.8412 | 111.8411986 | 111.8411986 | 111.8411986 | 109.4260664 | 104.6677386 | 100.1458066 | 95.84721765 | 91.75971582 |
| 150601A00696 | 6/1/2015 | 2.83 | 3/13/2025 | 6/1/2015 | 112.02384 | 112.0238438 | 112.0238438 | 112.0238438 | 109.5692603 | 104.7719811 | 100.2146452 | 95.88397379 | 91.76749459 |
| 150610A00009 | 6/10/2015 | 3.03 | 6/10/2025 | 6/10/2015 | 114.81926 | 114.8192615 | 114.8192615 | 114.8192615 | 112.0499358 | 106.9283326 | 102.0747236 | 97.47365615 | 93.11064946 |
| 150617A00005 | 6/17/2015 | 1.88 | 6/17/2020 | 6/17/2015 | 100.09307 | 100.0930725 | 100.0930725 | 100.0930725 | 100.0856158 | 100.0328658 | 99.98018821 | 99.92758293 | 99.87504982 |
| 150618A00011 | 6/18/2015 | 1.84 | 6/18/2020 | 6/18/2015 | 100.09575 | 100.0957491 | 100.0957491 | 100.0957491 | 100.0879003 | 100.032377 | 99.97693149 | 99.92156365 | 99.86627329 |
| 150720A00011 | 7/20/2015 | 2.69 | 7/20/2023 | 7/20/2015 | 108.1771 | 108.1771024 | 108.1771024 | 108.1771024 | 107.1512052 | 103.9773092 | 100.9145319 | 97.95832939 | 95.10437307 |
| 150730A00055 | 7/30/2015 | 2.1 | 6/30/2020 | 7/30/2015 | 100.15562 | 100.1556202 | 100.1556202 | 100.1556202 | 100.1429951 | 100.0543883 | 99.96593738 | 99.87764198 | 99.78950172 |
| 150803A00049 | 8/3/2015 | 2.01 | 8/3/2020 | 8/3/2015 | 100.31613 | 100.3161324 | 100.3161324 | 100.3161324 | 100.2866343 | 100.1038701 | 99.92177665 | 99.74035027 | 99.55958727 |
| 150817A00005 | 8/17/2015 | 1.83 | 8/17/2020 | 8/17/2015 | 100.38042 | 100.3804192 | 100.3804192 | 100.3804192 | 100.343343 | 100.1214726 | 99.9005969 | 99.68070928 | 99.46180298 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150817A00007 | 8/17/2015 | 1.83 | 8/17/2020 | 8/17/2015 | 100.38042 | 100.3804192 | 100.3804192 | 100.3804192 | 100.343343 | 100.1214726 | 99.9005969 | 99.68070928 | 99.46180298 |
| 000829A00072 | 8/29/2000 | 7.19 | 8/31/2020 | 8/29/2000 | 101.805 | 101.8050007 | 101.8050007 | 101.8050007 | 101.760079 | 101.4975417 | 101.2363591 | 100.9765207 | 100.7180163 |
| 020619A00062 | 6/19/2002 | 5.86 | 6/20/2022 | 6/19/2002 | 111.97793 | 111.9779255 | 111.9779255 | 111.9779255 | 111.5224879 | 109.377905 | 107.2863567 | 105.2461753 | 103.2557584 |
| 020916A00006 | 9/16/2002 | 5.38 | 9/16/2022 | 9/16/2002 | 111.82139 | 111.821393 | 111.821393 | 111.821393 | 111.2704152 | 108.8925814 | 106.5784245 | 104.3258366 | 102.1327947 |
| 050916A00047 | 9/16/2005 | 4.98 | 9/21/2020 | 9/16/2005 | 101.5058 | 101.5057953 | 101.5057953 | 101.5057953 | 101.4494834 | 101.1293042 | 100.8111539 | 100.4950132 | 100.1808633 |
| 051107A00074 | 11/7/2005 | 5.24 | 11/16/2020 | 11/7/2005 | 102.43228 | 102.4322846 | 102.4322846 | 102.4322846 | 102.3428461 | 101.8647875 | 101.3912149 | 100.9220652 | 100.4572764 |
| 051230A00040 | 12/30/2005 | 5.16 | 12/30/2020 | 12/30/2005 | 102.92669 | 102.9266937 | 102.9266937 | 102.9266937 | 102.8059871 | 102.2057266 | 101.6124856 | 101.0261417 | 100.4465748 |
| 081219A00069 | 12/19/2008 | 4.26 | 12/22/2023 | 12/19/2008 | 114.25947 | 114.2594671 | 114.2594671 | 114.2594671 | 112.9049596 | 109.231508 | 105.7000041 | 102.3041653 | 99.03802383 |
| 110104A00019 | 1/4/2011 | 3.78 | 1/15/2021 | 1/4/2011 | 102.34887 | 102.3488692 | 102.3488692 | 102.3488692 | 102.2152341 | 101.5718103 | 100.9365015 | 100.3091545 | 99.68962012 |
| 110505A00021 | 5/5/2011 | 4.08 | 5/17/2021 | 5/5/2011 | 103.72445 | 103.7244506 | 103.7244506 | 103.7244506 | 103.5063509 | 102.5237117 | 101.5597734 | 100.6140051 | 99.68589588 |
| 110824A00004 | 8/24/2011 | 3.11 | 8/30/2023 | 8/24/2011 | 109.85221 | 109.852206 | 109.852206 | 109.852206 | 108.7416487 | 105.432366 | 102.2420468 | 99.16568539 | 96.19852156 |
| 111006A00022 | 10/6/2011 | 3.08 | 10/15/2021 | 10/6/2011 | 103.91808 | 103.9180802 | 103.9180802 | 103.9180802 | 103.6511876 | 102.2686174 | 100.9111819 | 99.57825393 | 98.26922718 |
| 111024A00010 | 10/24/2011 | 3.11 | 10/30/2023 | 10/24/2011 | 110.35709 | 110.3570878 | 110.3570878 | 110.3570878 | 109.1233308 | 105.6429404 | 102.2933088 | 99.06883252 | 95.96417844 |
| 111201A00005 | 12/1/2011 | 3.16 | 12/15/2021 | 12/1/2011 | 104.50081 | 104.5008056 | 104.5008056 | 104.5008056 | 104.1928926 | 102.6413443 | 101.1207712 | 99.63031691 | 98.16915617 |
| 111216A00001 | 12/16/2011 | 3.95 | 12/30/2031 | 12/16/2011 | 142.0766 | 142.0766022 | 142.0766022 | 137.6012627 | 125.1955027 | 113.7106319 | 103.4480741 | 94.26909991 | 86.05147317 |
| 120127A00019 | 1/27/2012 | 3.87 | 1/30/2032 | 1/27/2012 | 141.44945 | 141.4494543 | 141.4494543 | 136.794334 | 124.3410408 | 112.8344048 | 102.5612531 | 93.38066313 | 85.16857316 |
| 120202A00020 | 2/2/2012 | 2.7 | 2/15/2022 | 2/2/2012 | 104.1944 | 104.1944003 | 104.1944003 | 104.1944003 | 103.8511174 | 102.1344918 | 100.4545303 | 98.81012286 | 97.20020449 |
| 120307A00002 | 3/7/2012 | 2.21 | 3/15/2021 | 3/7/2012 | 101.68405 | 101.6840456 | 101.6840456 | 101.6840456 | 101.5062289 | 100.7037684 | 99.91397062 | 99.1365373 | 98.37117967 |
| 120411A00013 | 4/11/2012 | 3.59 | 4/15/2027 | 4/11/2012 | 122.67195 | 122.671952 | 122.671952 | 122.671952 | 116.8562816 | 109.8822597 | 103.3835054 | 97.32501144 | 91.67452228 |
| 120515A00020 | 5/15/2012 | 2.28 | 5/16/2022 | 5/15/2012 | 104.29962 | 104.2996171 | 104.2996171 | 104.2996171 | 103.8928199 | 101.9234208 | 100.0013832 | 98.12527622 | 96.29372203 |
| 121031A00004 | 10/31/2012 | 2.07 | 10/31/2022 | 10/31/2012 | 104.79036 | 104.7903594 | 104.7903594 | 104.7903594 | 104.1981517 | 101.7736499 | 99.41787114 | 97.12848396 | 94.90325027 |
| 121227A00024 | 12/27/2012 | 2.2 | 12/30/2021 | 12/27/2012 | 103.07693 | 103.0769316 | 103.0769316 | 103.0769316 | 102.7624008 | 101.1814345 | 99.63252537 | 98.11476618 | 96.62728356 |
| 130212A00015 | 2/12/2013 | 1.91 | 2/16/2021 | 2/12/2013 | 101.20769 | 101.2076905 | 101.2076905 | 101.2076905 | 101.0502195 | 100.3247947 | 99.60976043 | 98.90489445 | 98.20998094 |
| 130212A00017 | 2/12/2013 | 2.29 | 2/15/2023 | 2/12/2013 | 105.47289 | 105.4728881 | 105.4728881 | 105.4728881 | 104.7283346 | 102.0213303 | 99.39807067 | 96.85542133 | 94.39038906 |
| 130314A00027 | 3/14/2013 | 2.38 | 3/15/2023 | 3/14/2013 | 106.39649 | 106.3964919 | 106.3964919 | 106.3964919 | 105.6009741 | 102.7930323 | 100.074209 | 97.44115328 | 94.89066217 |
| 001003A00018 | 10/3/2000 | 7.13 | 10/5/2020 | 10/3/2000 | 102.45893 | 102.4589317 | 102.4589317 | 102.4589317 | 102.394499 | 102.0335274 | 101.6751102 | 101.3192202 | 100.9658308 |
| 050923A00095 | 9/23/2005 | 4.77 | 9/21/2020 | 9/23/2005 | 101.4859 | 101.4859047 | 101.4859047 | 101.4859047 | 101.429505 | 101.1088371 | 100.7902077 | 100.4735974 | 100.158987 |
| 050923A00096 | 9/23/2005 | 4.86 | 9/22/2025 | 9/23/2005 | 125.49527 | 125.4952746 | 125.4952746 | 125.4952746 | 122.2544882 | 116.5913756 | 111.2346022 | 106.1658976 | 101.3681764 |
| 060613A00028 | 6/13/2006 | 5.47 | 6/15/2021 | 6/13/2006 | 105.67472 | 105.6747178 | 105.6747178 | 105.6747178 | 105.4445891 | 104.3689613 | 103.3154213 | 102.2832919 | 101.2719237 |
| 081217A00076 | 12/17/2008 | 3.86 | 12/22/2023 | 12/17/2008 | 113.50227 | 113.5022678 | 113.5022678 | 113.5022678 | 112.1436453 | 108.4665061 | 104.932003 | 101.533804 | 98.26589544 |
| 091210A00005 | 12/10/2009 | 5.08 | 12/16/2024 | 12/10/2009 | 121.88529 | 121.8852933 | 121.8852933 | 121.8852933 | 119.6036599 | 114.8110415 | 110.2449298 | 105.8933516 | 101.745032 |
| 101101A00006 | 11/1/2010 | 3.34 | 11/16/2020 | 11/1/2010 | 101.46448 | 101.4644841 | 101.4644841 | 101.4644841 | 101.3756728 | 100.9011088 | 100.4309949 | 99.96526845 | 99.50386817 |
| 110802A00008 | 8/2/2011 | 3.34 | 8/16/2021 | 8/2/2011 | 103.97016 | 103.9701633 | 103.9701633 | 103.9701633 | 103.730385 | 102.4941778 | 101.2874482 | 100.1091502 | 98.95828678 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 110822A00010 | 8/22/2011 | 2.8 | 8/30/2021 | 8/22/2011 | 103.40889 | 103.4088896 | 103.4088896 | 103.4088896 | 103.1665793 | 101.8962638 | 100.6568171 | 99.44712243 | 98.26611632 |
| 111006A00023 | 10/6/2011 | 3.81 | 10/15/2026 | 10/6/2011 | 122.4561 | 122.4561019 | 122.4561019 | 122.4561019 | 117.5394616 | 111.0132152 | 104.9026351 | 99.17897188 | 93.8156071 |
| 120113A00013 | 1/13/2012 | 3.87 | 1/15/2032 | 1/13/2012 | 141.30599 | 141.3059902 | 141.3059902 | 136.7400635 | 124.3298919 | 112.8568966 | 102.6101874 | 93.4500668 | 85.25350372 |
| 120119A00010 | 1/18/2012 | 2.43 | 1/31/2022 | 1/18/2012 | 103.92582 | 103.9258213 | 103.9258213 | 103.9258213 | 103.5906693 | 101.9125107 | 100.2696337 | 98.66099132 | 97.08557771 |
| 120709A00015 | 7/9/2012 | 2.5 | 7/15/2022 | 7/9/2012 | 104.74164 | 104.7416416 | 104.7416416 | 104.7416416 | 104.2781448 | 102.1501246 | 100.0761665 | 98.05452178 | 96.08351259 |
| 120709A00016 | 7/9/2012 | 3.2 | 7/15/2027 | 7/9/2012 | 120.69572 | 120.6957211 | 120.6957211 | 120.6957211 | 114.475301 | 107.3534349 | 100.7339834 | 94.57871287 | 88.85249439 |
| 120907A00024 | 9/7/2012 | 2.31 | 9/16/2024 | 9/7/2012 | 109.53868 | 109.5386807 | 109.5386807 | 109.5386807 | 107.5740512 | 103.2651469 | 99.15355646 | 95.22920704 | 91.48259478 |
| 121121A00003 | 11/21/2012 | 2.3 | 11/30/2022 | 11/21/2012 | 105.07513 | 105.0751307 | 105.0751307 | 105.0751307 | 104.4445613 | 101.947578 | 99.52339348 | 97.16946405 | 94.88335087 |
| 130211A00017 | 2/11/2013 | 3.27 | 2/15/2028 | 2/11/2013 | 122.9274 | 122.9273988 | 122.9273988 | 122.9273988 | 115.6393744 | 107.9450793 | 100.8316458 | 94.25191183 | 88.16278799 |
| 130523A00042 | 5/28/2013 | 2.38 | 5/23/2022 | 5/28/2013 | 104.17838 | 104.1783792 | 104.1783792 | 104.1783792 | 103.7673634 | 101.7869244 | 99.85444868 | 97.96847661 | 96.12760317 |
| 130528A00028 | 5/28/2013 | 2.63 | 5/30/2023 | 5/28/2013 | 107.07315 | 107.0731505 | 107.0731505 | 107.0731505 | 106.1497651 | 103.1413755 | 100.2346633 | 97.42562943 | 94.71045527 |
| 130606A00012 | 6/6/2013 | 2.26 | 6/15/2020 | 6/6/2013 | 100.0907 | 100.0907004 | 100.0907004 | 100.0907004 | 100.0840423 | 100.0369401 | 99.98989874 | 99.94291825 | 99.89599848 |
| 130821A00017 | 8/21/2013 | 2.8 | 8/28/2020 | 8/21/2013 | 100.67791 | 100.6779109 | 100.6779109 | 100.6779109 | 100.6348555 | 100.3821128 | 100.130638 | 99.88042166 | 99.63145434 |
| 130821A00018 | 8/21/2013 | 3.37 | 8/30/2022 | 8/21/2013 | 107.42296 | 107.4229579 | 107.4229579 | 107.4229579 | 106.9009913 | 104.6116703 | 102.3830764 | 100.2131469 | 98.09990754 |
| 131106A00002 | 11/6/2013 | 2.76 | 11/16/2020 | 11/6/2013 | 101.18918 | 101.1891816 | 101.1891816 | 101.1891816 | 101.100506 | 100.6267126 | 100.1573639 | 99.69239756 | 99.2317522 |
| 140521A00019 | 5/21/2014 | 3.43 | 5/22/2028 | 5/21/2014 | 126.68453 | 126.6845282 | 126.6845282 | 126.6845282 | 118.7544706 | 110.6302416 | 103.1385519 | 96.22651415 | 89.84592865 |
| 130517A00013 | 5/17/2013 | 2.07 | 5/17/2022 | 5/17/2013 | 103.88728 | 103.8872836 | 103.8872836 | 103.8872836 | 103.4804849 | 101.512544 | 99.59201268 | 97.71745657 | 95.88749453 |
| 130702A00017 | 7/2/2013 | 2.5 | 7/15/2020 | 7/2/2013 | 100.31099 | 100.3109856 | 100.3109856 | 100.3109856 | 100.2909666 | 100.1604475 | 100.0302835 | 99.90047295 | 99.77101451 |
| 130926A00008 | 9/26/2013 | 2.91 | 9/30/2021 | 9/26/2013 | 103.78889 | 103.78889 | 103.78889 | 103.78889 | 103.5315276 | 102.187632 | 100.8675629 | 99.57074064 | 98.29660413 |
| 131003A00005 | 10/3/2013 | 2.65 | 10/15/2020 | 10/3/2013 | 100.9775 | 100.9775046 | 100.9775046 | 100.9775046 | 100.9078591 | 100.5219869 | 100.1390752 | 99.75908989 | 99.38199729 |
| 131107A00012 | 11/7/2013 | 3.14 | 11/7/2022 | 11/7/2013 | 107.47544 | 107.4754378 | 107.4754378 | 107.4754378 | 106.8667758 | 104.3905095 | 101.984738 | 99.64705419 | 97.3751478 |
| 140307A00010 | 3/7/2014 | 2.63 | 3/15/2021 | 3/7/2014 | 102.0222 | 102.0222011 | 102.0222011 | 102.0222011 | 101.8440875 | 101.0401323 | 100.2488564 | 99.46996128 | 98.70315784 |
| 140313A00030 | 3/13/2014 | 3.27 | 3/15/2024 | 3/13/2014 | 112.10527 | 112.1052667 | 112.1052667 | 112.1052667 | 110.5697815 | 106.693478 | 102.975794 | 99.40936833 | 95.98722359 |
| 140423A00035 | 4/23/2014 | 2.71 | 4/23/2021 | 4/23/2014 | 102.23045 | 102.2304498 | 102.2304498 | 102.2304498 | 102.0260357 | 101.1164548 | 100.2230675 | 99.3454442 | 98.48317023 |
| 140710A00026 | 7/10/2014 | 2.36 | 7/15/2021 | 7/10/2014 | 102.56344 | 102.5634437 | 102.5634437 | 102.5634437 | 102.3315288 | 101.1916509 | 100.077098 | 98.98703318 | 97.92065584 |
| 140815A00029 | 8/15/2014 | 2.56 | 10/15/2021 | 8/15/2014 | 103.19157 | 103.1915679 | 103.1915679 | 103.1915679 | 102.925747 | 101.548476 | 100.1962485 | 98.86844017 | 97.56444687 |
| 140815A00030 | 8/15/2014 | 2.96 | 10/16/2023 | 8/15/2014 | 109.09275 | 109.092747 | 109.092747 | 109.092747 | 107.8992 | 104.493592 | 101.2144399 | 98.05639088 | 95.01434719 |
| 140820A00025 | 8/20/2014 | 2.59 | 8/19/2022 | 8/20/2014 | 105.56691 | 105.5669113 | 105.5669113 | 105.5669113 | 105.0617409 | 102.8229768 | 100.643097 | 98.52011797 | 96.45214071 |
| 140905A00017 | 9/5/2014 | 2.19 | 9/8/2020 | 9/5/2014 | 100.58708 | 100.5870841 | 100.5870841 | 100.5870841 | 100.538068 | 100.2550953 | 99.97372623 | 99.6939471 | 99.41574434 |
| 140908A00063 | 9/8/2014 | 2.5 | 8/31/2021 | 9/8/2014 | 102.83058 | 102.8305829 | 102.8305829 | 102.8305829 | 102.5891923 | 101.3236401 | 100.0885197 | 98.88273992 | 97.70526121 |
| 141015A00025 | 10/15/2014 | 2.48 | 10/17/2022 | 10/15/2014 | 105.26557 | 105.2655701 | 105.2655701 | 105.2655701 | 104.6923849 | 102.3087857 | 99.99155128 | 97.73846952 | 95.54741505 |
| 141017A00029 | 10/17/2014 | 2.02 | 10/19/2020 | 10/17/2014 | 100.75542 | 100.7554207 | 100.7554207 | 100.7554207 | 100.6836045 | 100.2872437 | 99.89400908 | 99.50386358 | 99.11677084 |
| 150220A00021 | 2/20/2015 | 2.72 | 2/20/2024 | 2/20/2015 | 109.12045 | 109.1204523 | 109.1204523 | 109.1204523 | 107.6626983 | 103.9256328 | 100.3392792 | 96.89668842 | 93.59127584 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150408A00004 | 4/8/2015 | 2.17 | 4/10/2023 | 4/8/2015 | 105.95002 | 105.9500161 | 105.9500161 | 105.9500161 | 105.1128237 | 102.2408776 | 99.46221993 | 96.77333126 | 94.1708442 |
| 150601A00360 | 6/1/2015 | 2.82 | 10/2/2020 | 6/1/2015 | 100.87803 | 100.8780294 | 100.8780294 | 100.8780294 | 100.8158859 | 100.4666858 | 100.1199013 | 99.7755075 | 99.43347968 |
| 150601A00404 | 6/1/2015 | 4.29 | 1/17/2029 | 6/1/2015 | 133.91408 | 133.9140789 | 133.9140789 | 133.8308968 | 124.6808294 | 115.7913964 | 107.6344415 | 100.1450385 | 93.26435781 |
| 150601A00513 | 6/1/2015 | 2.87 | 7/15/2022 | 6/1/2015 | 105.44835 | 105.448353 | 105.448353 | 105.448353 | 104.98328 | 102.8475169 | 100.7659728 | 98.73689458 | 96.75859981 |
| 150601A00548 | 6/1/2015 | 2.55 | 8/13/2021 | 6/1/2015 | 102.73381 | 102.7338147 | 102.7338147 | 102.7338147 | 102.4969053 | 101.2798968 | 100.0917242 | 98.93137148 | 97.79786976 |
| 150601A00608 | 6/1/2015 | 2.45 | 6/30/2021 | 6/1/2015 | 102.35276 | 102.3527611 | 102.3527611 | 102.3527611 | 102.1239134 | 101.0287993 | 99.95710288 | 98.90807915 | 97.88101455 |
| 150601A00611 | 6/1/2015 | 2.58 | 12/31/2021 | 6/1/2015 | 103.63294 | 103.6329434 | 103.6329434 | 103.6329434 | 103.3169123 | 101.7286574 | 100.1726307 | 98.64791886 | 97.1536426 |
| 141015A00020 | 10/15/2014 | 2.13 | 10/15/2021 | 10/15/2014 | 102.81389 | 102.8138915 | 102.8138915 | 102.8138915 | 102.5479521 | 101.1698862 | 99.81693297 | 98.48846531 | 97.18387648 |
| 141024A00010 | 10/24/2014 | 2.81 | 10/24/2024 | 10/24/2014 | 111.99745 | 111.9974538 | 111.9974538 | 111.9974538 | 109.9169354 | 105.456273 | 101.2037151 | 97.14848009 | 93.28039998 |
| 150115A00002 | 1/15/2015 | 1.72 | 1/15/2021 | 1/15/2015 | 101.0276 | 101.0276032 | 101.0276032 | 101.0276032 | 100.8948649 | 100.2562243 | 99.62565562 | 99.00300631 | 98.38812776 |
| 150202A00018 | 2/2/2015 | 1.89 | 2/2/2021 | 2/2/2015 | 101.12983 | 101.1298343 | 101.1298343 | 101.1298343 | 100.9829233 | 100.2959481 | 99.61829097 | 98.94976325 | 98.29018146 |
| 150213A00025 | 2/13/2015 | 2.37 | 2/14/2022 | 2/13/2015 | 103.6154 | 103.6153978 | 103.6153978 | 103.6153978 | 103.2737286 | 101.5649991 | 99.8927368 | 98.25583902 | 96.65324768 |
| 150220A00020 | 2/20/2015 | 2.42 | 2/18/2022 | 2/20/2015 | 103.72566 | 103.7256623 | 103.7256623 | 103.7256623 | 103.3814921 | 101.6608514 | 99.97710682 | 98.32913628 | 96.71586359 |
| 150319A00012 | 3/19/2015 | 3.13 | 3/19/2029 | 3/19/2015 | 124.8871 | 124.8870972 | 124.8870972 | 124.6624036 | 115.5933729 | 106.9328778 | 99.00717619 | 91.74967295 | 85.10013984 |
| 150407A00010 | 4/7/2015 | 2.21 | 4/10/2023 | 4/7/2015 | 106.06603 | 106.0660328 | 106.0660328 | 106.0660328 | 105.2284567 | 102.3548298 | 99.57453254 | 96.88404394 | 94.2799954 |
| 150515A00003 | 5/15/2015 | 2.17 | 5/17/2021 | 5/15/2015 | 101.85433 | 101.8543346 | 101.8543346 | 101.8543346 | 101.6382669 | 100.6654763 | 99.71125508 | 98.77507539 | 97.85642905 |
| 150518A00014 | 5/18/2016 | 2.38 | 5/18/2021 | 5/18/2016 | 102.06577 | 102.0657662 | 102.0657662 | 102.0657662 | 101.8490187 | 100.8723976 | 99.9144638 | 98.97468472 | 98.05254772 |
| 150518A00026 | 5/18/2015 | 2.08 | 11/18/2021 | 5/18/2015 | 102.92893 | 102.9289326 | 102.9289326 | 102.9289326 | 102.6398307 | 101.1696509 | 99.72792342 | 98.31389461 | 96.92683709 |
| 150519A00013 | 5/19/2015 | 2.98 | 5/19/2025 | 5/19/2015 | 113.38569 | 113.3856909 | 113.3856909 | 113.3856909 | 110.7199847 | 105.7206482 | 100.979773 | 96.48263911 | 92.21544028 |
| 150601A00470 | 6/1/2015 | 2.98 | 5/31/2024 | 6/1/2015 | 111.42666 | 111.4266633 | 111.4266633 | 111.4266633 | 109.7169068 | 105.6489163 | 101.7561332 | 98.03007486 | 94.46271539 |
| 150601A00512 | 6/1/2015 | 3.79 | 7/16/2029 | 6/1/2015 | 131.32196 | 131.3219566 | 131.3219566 | 130.7891219 | 121.1937764 | 112.00599 | 103.616986 | 95.95238046 | 88.94510192 |
| 150601A00514 | 6/1/2015 | 3.07 | 11/15/2024 | 6/1/2015 | 113.13357 | 113.1335674 | 113.1335674 | 113.1335674 | 110.9858988 | 106.4437208 | 102.1158422 | 97.99102472 | 94.05867806 |
| 150601A00522 | 6/1/2015 | 4.52 | 7/25/2030 | 6/1/2015 | 142.07859 | 142.0785936 | 142.0785936 | 140.2752121 | 129.2554871 | 118.7854359 | 109.3040103 | 100.7110924 | 92.91724539 |
| 150601A00615 | 6/1/2015 | 2.67 | 6/30/2022 | 6/1/2015 | 104.92774 | 104.9277389 | 104.9277389 | 104.9277389 | 104.4793592 | 102.3901722 | 100.3533167 | 98.36712907 | 96.43001133 |
| 150601A00638 | 6/1/2015 | 2.51 | 9/30/2021 | 6/1/2015 | 102.96495 | 102.9649525 | 102.9649525 | 102.9649525 | 102.7094531 | 101.3750109 | 100.0641791 | 98.77638512 | 97.51107415 |
| 150601A00667 | 6/1/2015 | 3.88 | 1/16/2036 | 6/1/2015 | 154.47499 | 154.4749919 | 154.4749919 | 141.0882994 | 124.6507126 | 110.1626823 | 97.66258294 | 86.86029681 | 77.50975472 |
| 150601A00670 | 6/1/2015 | 2.23 | 6/5/2020 | 6/1/2015 | 100.03568 | 100.0356768 | 100.0356768 | 100.0356768 | 100.0329356 | 100.0135403 | 99.99416473 | 99.97480881 | 99.95547253 |
| 150601A00768 | 6/1/2015 | 2.34 | 5/13/2022 | 6/1/2015 | 103.97468 | 103.9746782 | 103.9746782 | 103.9746782 | 103.5724735 | 101.6211643 | 99.71649066 | 97.85705263 | 96.04150182 |
| 150601A01412 | 6/1/2015 | 1.88 | 6/1/2020 | 6/1/2015 | 100.01252 | 100.0125175 | 100.0125175 | 100.0125175 | 100.0113432 | 100.003034 | 99.99473217 | 99.98643789 | 99.97815108 |
| 150601A01457 | 6/1/2015 | 1.88 | 6/1/2020 | 6/1/2015 | 100.01252 | 100.0125175 | 100.0125175 | 100.0125175 | 100.0113432 | 100.003034 | 99.99473217 | 99.98643789 | 99.97815108 |
| 150618A00041 | 6/18/2015 | 2.02 | 6/18/2020 | 6/18/2015 | 100.09338 | 100.0933771 | 100.0933771 | 100.0933771 | 100.085546 | 100.0301475 | 99.97482532 | 99.91957922 | 99.8644091 |
| 131217A00023 | 12/17/2013 | 3.74 | 1/2/2024 | 12/17/2013 | 112.49313 | 112.4931332 | 112.4931332 | 112.4931332 | 111.123818 | 107.4523223 | 103.9239491 | 100.5323135 | 97.27135357 |
| 140402A00010 | 4/2/2014 | 2.62 | 4/2/2021 | 4/2/2014 | 102.13889 | 102.1388929 | 102.1388929 | 102.1388929 | 101.9480768 | 101.0943956 | 100.2549863 | 99.42949324 | 98.61757232 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 140701A00001 | 7/1/2014 | 3.22 | 7/1/2024 | 7/1/2014 | 112.06044 | 112.060443 | 112.060443 | 112.060443 | 110.2835626 | 106.143372 | 102.1837135 | 98.39572838 | 94.7710427 |
| 140815A00032 | 8/15/2014 | 3.59 | 10/15/2029 | 8/15/2014 | 130.80329 | 130.8032904 | 130.8032904 | 130.0073173 | 120.175389 | 110.8145762 | 102.2880643 | 94.51638714 | 87.42804816 |
| 140827A00037 | 8/27/2014 | 2.55 | 8/30/2021 | 8/27/2014 | 102.88791 | 102.8879071 | 102.8879071 | 102.8879071 | 102.6468971 | 101.3832219 | 100.1502257 | 98.94679962 | 97.77188786 |
| 140911A00027 | 9/11/2014 | 3.18 | 9/16/2024 | 9/11/2014 | 112.50498 | 112.5049796 | 112.5049796 | 112.5049796 | 110.5334658 | 106.1843372 | 102.0329639 | 98.06929666 | 94.28385154 |
| 140922A00026 | 9/22/2014 | 3.02 | 9/30/2024 | 9/22/2014 | 112.74122 | 112.7412155 | 112.7412155 | 112.7412155 | 110.7188207 | 106.3054843 | 102.094953 | 98.07687152 | 94.24146533 |
| 141009A00026 | 10/9/2014 | 2.23 | 10/9/2020 | 10/9/2014 | 100.72589 | 100.7258855 | 100.7258855 | 100.7258855 | 100.6598469 | 100.2917195 | 99.92628827 | 99.56352367 | 99.20339648 |
| 141024A00008 | 10/24/2014 | 2.52 | 10/24/2022 | 10/24/2014 | 105.8484 | 105.8483988 | 105.8483988 | 105.8483988 | 105.2624802 | 102.8437574 | 100.4930069 | 98.20794101 | 95.98636282 |
| 150105A00026 | 1/5/2015 | 2.54 | 1/5/2024 | 1/5/2015 | 108.83248 | 108.8324846 | 108.8324846 | 108.8324846 | 107.4666263 | 103.8358249 | 100.3478997 | 96.99643393 | 93.77533742 |
| 150112A00014 | 1/12/2015 | 1.86 | 1/15/2021 | 1/12/2015 | 101.1174 | 101.117398 | 101.117398 | 101.117398 | 100.9845988 | 100.3456331 | 99.71474223 | 99.09177366 | 98.47657869 |
| 150116A00040 | 1/16/2015 | 2.07 | 1/18/2022 | 1/16/2015 | 102.96197 | 102.9619714 | 102.9619714 | 102.9619714 | 102.6368793 | 101.0066163 | 99.41009227 | 97.84632522 | 96.31437134 |
| 150319A00013 | 3/19/2015 | 3.25 | 3/19/2030 | 3/19/2015 | 128.84432 | 128.844319 | 128.844319 | 127.5448935 | 117.3555933 | 107.7563937 | 99.05006955 | 91.14813267 | 83.97131037 |
| 150422A00019 | 4/22/2015 | 2.62 | 4/22/2025 | 4/22/2015 | 111.41306 | 111.4130574 | 111.4130574 | 111.4130574 | 108.8464617 | 103.9632448 | 99.32958241 | 94.93144634 | 90.75566666 |
| 150424A00035 | 4/24/2015 | 1.8 | 4/23/2021 | 4/24/2015 | 101.53583 | 101.5358317 | 101.5358317 | 101.5358317 | 101.3316758 | 100.4236365 | 99.53181056 | 98.65576659 | 97.79508859 |
| 150506A00014 | 5/6/2015 | 2.21 | 5/6/2022 | 5/6/2015 | 104.10246 | 104.1024615 | 104.1024615 | 104.1024615 | 103.7045155 | 101.7643697 | 99.87025902 | 98.02081175 | 96.21470647 |
| 150601A00515 | 6/1/2015 | 2.95 | 1/16/2024 | 6/1/2015 | 110.2604 | 110.260404 | 110.260404 | 110.260404 | 108.8640258 | 105.1786828 | 101.6390442 | 98.23852765 | 94.97088778 |
| 150601A00606 | 6/1/2015 | 2.39 | 3/31/2021 | 6/1/2015 | 101.77106 | 101.7710611 | 101.7710611 | 101.7710611 | 101.5823174 | 100.7375263 | 99.90674791 | 99.08963581 | 98.28585496 |
| 150601A00629 | 6/1/2015 | 2.22 | 6/30/2020 | 6/1/2015 | 100.16305 | 100.1630496 | 100.1630496 | 100.1630496 | 100.1504236 | 100.0618102 | 99.97335273 | 99.88505079 | 99.796904 |
| 150601A00630 | 6/1/2015 | 2.27 | 9/30/2020 | 6/1/2015 | 100.6779 | 100.6779029 | 100.6779029 | 100.6779029 | 100.6169617 | 100.2736999 | 99.93277214 | 99.59415478 | 99.25782443 |
| 150601A00704 | 6/1/2015 | 2.3 | 3/25/2022 | 6/1/2015 | 103.62965 | 103.6296456 | 103.6296456 | 103.6296456 | 103.2643906 | 101.4471491 | 99.67064267 | 97.93370707 | 96.23521942 |
| 150601A01022 | 6/1/2015 | 5.28 | 2/22/2021 | 6/1/2015 | 103.68804 | 103.6880427 | 103.6880427 | 103.6880427 | 103.5240755 | 102.7720722 | 102.0310322 | 101.3007167 | 100.5808937 |
| 150601A01053 | 6/1/2015 | 5.28 | 2/26/2027 | 6/1/2015 | 134.66728 | 134.6672805 | 134.6672805 | 134.6672805 | 128.8289184 | 121.5319668 | 114.7180074 | 108.3521365 | 102.4021649 |
| 150603A00017 | 6/3/2015 | 2.84 | 6/3/2025 | 6/3/2015 | 113.79954 | 113.7995441 | 113.7995441 | 113.7995441 | 111.0620573 | 105.9833459 | 101.16994 | 96.60657687 | 92.27895128 |
| 130530A00008 | 5/30/2013 | 2.29 | 6/1/2021 | 5/30/2013 | 102.05541 | 102.0554126 | 102.0554126 | 102.0554126 | 101.8330828 | 100.8184886 | 99.82405081 | 98.84917349 | 97.8932838 |
| 130531A00020 | 5/31/2013 | 2.5 | 5/30/2023 | 5/31/2013 | 107.23672 | 107.236716 | 107.236716 | 107.236716 | 106.3081228 | 103.2843699 | 100.3630721 | 97.54018962 | 94.81186624 |
| 130612A00037 | 6/12/2013 | 2.16 | 6/15/2020 | 6/12/2013 | 100.0965 | 100.0964963 | 100.0964963 | 100.0964963 | 100.0898228 | 100.0426121 | 99.99546358 | 99.94837717 | 99.90135276 |
| 130712A00004 | 7/12/2013 | 2.82 | 7/15/2021 | 7/12/2013 | 103.08951 | 103.0895056 | 103.0895056 | 103.0895056 | 102.8569295 | 101.7138551 | 100.5961554 | 99.50299176 | 98.43356264 |
| 130904A00036 | 9/4/2013 | 3.57 | 9/15/2023 | 9/4/2013 | 111.52005 | 111.5200498 | 111.5200498 | 111.5200498 | 110.3711697 | 106.9921515 | 103.7357397 | 100.5967955 | 97.57042648 |
| 131011A00006 | 10/11/2013 | 3.28 | 10/15/2021 | 10/11/2013 | 104.19751 | 104.1975081 | 104.1975081 | 104.1975081 | 103.9302031 | 102.5455949 | 101.1861562 | 99.85125923 | 98.54029653 |
| 131210A00003 | 12/10/2013 | 2.67 | 12/15/2020 | 12/10/2013 | 101.41734 | 101.4173435 | 101.4173435 | 101.4173435 | 101.3085134 | 100.7535058 | 100.2045823 | 99.66164311 | 99.12459045 |
| 131217A00024 | 12/17/2013 | 4.34 | 1/2/2029 | 12/17/2013 | 134.72069 | 134.7206907 | 134.7206907 | 134.6727269 | 125.5435382 | 116.6555363 | 108.4961628 | 101.0011226 | 94.1121315 |
| 140131A00024 | 1/31/2014 | 2.71 | 2/1/2021 | 1/31/2014 | 101.68965 | 101.6896476 | 101.6896476 | 101.6896476 | 101.543077 | 100.8566794 | 100.1795452 | 99.51148768 | 98.8523253 |
| 140307A00011 | 3/7/2014 | 3.19 | 3/15/2023 | 3/7/2014 | 108.68753 | 108.687532 | 108.687532 | 108.687532 | 107.8847242 | 105.0443776 | 102.2939277 | 99.62999849 | 97.04936288 |
| 140411A00009 | 4/11/2014 | 3.1 | 4/11/2024 | 4/11/2014 | 111.67471 | 111.6747135 | 111.6747135 | 111.6747135 | 110.0801766 | 106.1392595 | 102.3625722 | 98.742423 | 95.27152004 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 140416A00014 | 4/16/2014 | 2.66 | 4/30/2021 | 4/16/2014 | 102.23131 | 102.2313149 | 102.2313149 | 102.2313149 | 102.0224767 | 101.0938461 | 100.1820842 | 99.28673476 | 98.40735753 |
| 140929A00098 | 9/29/2014 | 2.62 | 9/29/2021 | 9/29/2014 | 103.1583 | 103.1582984 | 103.1582984 | 103.1582984 | 102.9031885 | 101.5701276 | 100.2606081 | 98.97406006 | 97.70993126 |
| 141009A00027 | 10/9/2014 | 2.69 | 10/11/2022 | 10/9/2014 | 105.73223 | 105.7322338 | 105.7322338 | 105.7322338 | 105.1654405 | 102.7924025 | 100.4849801 | 98.24100059 | 96.05837594 |
| 141016A00022 | 10/16/2014 | 2.13 | 10/18/2021 | 10/16/2014 | 102.83061 | 102.8306112 | 102.8306112 | 102.8306112 | 102.5626517 | 101.1762513 | 99.8152505 | 98.47901179 | 97.16691837 |
| 141016A00024 | 10/16/2014 | 1.85 | 10/16/2020 | 10/16/2014 | 100.6735 | 100.6735046 | 100.6735046 | 100.6735046 | 100.6034172 | 100.2155117 | 99.83060445 | 99.44866073 | 99.06964628 |
| 141028A00012 | 10/28/2014 | 2.73 | 10/28/2022 | 10/28/2014 | 105.94191 | 105.9419114 | 105.9419114 | 105.9419114 | 105.3531085 | 102.9315409 | 100.5781276 | 98.29057095 | 96.06666423 |
| 150105A00027 | 1/5/2015 | 2.23 | 1/5/2022 | 1/5/2015 | 103.43385 | 103.433855 | 103.433855 | 103.433855 | 103.1143873 | 101.509857 | 99.93813817 | 98.39829205 | 96.88941536 |
| 150206A00017 | 2/6/2015 | 2.05 | 2/7/2022 | 2/6/2015 | 103.31795 | 103.317947 | 103.317947 | 103.317947 | 102.9798174 | 101.2877711 | 99.63162024 | 98.01028795 | 96.42274078 |
| 150310A00019 | 3/10/2015 | 2.24 | 3/10/2021 | 3/10/2015 | 101.56902 | 101.5690206 | 101.5690206 | 101.5690206 | 101.3951854 | 100.6083438 | 99.83368786 | 99.07093619 | 98.31981581 |
| 150316A00043 | 3/16/2015 | 2.37 | 3/16/2023 | 3/16/2015 | 106.37442 | 106.3744241 | 106.3744241 | 106.3744241 | 105.5773484 | 102.7669209 | 100.0457717 | 97.41054565 | 94.85803547 |
| 150317A00012 | 3/17/2015 | 2.46 | 3/18/2024 | 3/17/2015 | 109.0134 | 109.0133957 | 109.0133957 | 109.0133957 | 107.4877499 | 103.6617243 | 99.99321074 | 96.47488437 | 93.0998021 |
| 150406A00003 | 4/6/2015 | 1.9 | 4/6/2021 | 4/6/2015 | 101.41399 | 101.413992 | 101.413992 | 101.413992 | 101.2216189 | 100.3621874 | 99.51730314 | 98.68659908 | 97.86972044 |
| 150428A00012 | 4/28/2015 | 1.76 | 6/15/2020 | 4/28/2015 | 100.0671 | 100.0670961 | 100.0670961 | 100.0670961 | 100.060441 | 100.0133589 | 99.96633783 | 99.91937753 | 99.87247792 |
| 150817A00073 | 8/17/2015 | 2.06 | 8/17/2021 | 8/17/2015 | 102.39812 | 102.398118 | 102.398118 | 102.398118 | 102.1602239 | 100.9315322 | 99.73227706 | 98.56141037 | 97.4179333 |
| 150821A00016 | 8/21/2015 | 1.74 | 8/21/2020 | 8/21/2015 | 100.37846 | 100.3784581 | 100.3784581 | 100.3784581 | 100.3392374 | 100.1063233 | 99.87450056 | 99.64376138 | 99.41409814 |
| 150824A00040 | 8/24/2015 | 2.36 | 8/24/2022 | 8/24/2015 | 104.66853 | 104.6685307 | 104.6685307 | 104.6685307 | 104.1618513 | 101.9282846 | 99.75365182 | 97.63596064 | 95.57330398 |
| 150824A00049 | 8/24/2015 | 1.99 | 5/24/2021 | 8/24/2015 | 101.71125 | 101.7112489 | 101.7112489 | 101.7112489 | 101.4921942 | 100.5011766 | 99.52944147 | 98.57643037 | 97.64160616 |
| 150827A00004 | 8/27/2015 | 1.82 | 8/27/2020 | 8/27/2015 | 100.42551 | 100.4255071 | 100.4255071 | 100.4255071 | 100.3830567 | 100.1335003 | 99.88518474 | 99.63810085 | 99.39223946 |
| 150915A00048 | 9/15/2015 | 1.79 | 9/15/2020 | 9/15/2015 | 100.50631 | 100.506306 | 100.506306 | 100.506306 | 100.4535043 | 100.1513731 | 99.85107101 | 99.55258153 | 99.25588811 |
| 150930A00011 | 9/30/2015 | 2.06 | 9/30/2021 | 9/30/2015 | 102.40564 | 102.4056405 | 102.4056405 | 102.4056405 | 102.1509482 | 100.8204862 | 99.51356635 | 98.22961797 | 96.96808813 |
| 151005A00012 | 10/5/2015 | 1.53 | 10/5/2020 | 10/5/2015 | 100.50604 | 100.5060402 | 100.5060402 | 100.5060402 | 100.4422325 | 100.0849955 | 99.73030166 | 99.37812375 | 99.02843504 |
| 151013A00099 | 10/15/2015 | 2.44 | 10/15/2020 | 10/15/2015 | 100.89644 | 100.896444 | 100.896444 | 100.896444 | 100.8268312 | 100.441151 | 100.05843 | 99.67863435 | 99.30173036 |
| 151211A00055 | 12/11/2015 | 2.62 | 12/11/2024 | 12/11/2015 | 111.48238 | 111.4823784 | 111.4823784 | 111.4823784 | 109.2759776 | 104.7031595 | 100.3495966 | 96.20361595 | 92.25422813 |
| 151223A00070 | 12/23/2015 | 2.57 | 12/26/2023 | 12/23/2015 | 108.87408 | 108.8740816 | 108.8740816 | 108.8740816 | 107.5292132 | 103.9238993 | 100.4596064 | 97.13004046 | 93.92922568 |
| 160111A00037 | 1/11/2016 | 1.99 | 1/11/2021 | 1/11/2016 | 101.09299 | 101.0929852 | 101.0929852 | 101.0929852 | 100.9636866 | 100.3368494 | 99.71778397 | 99.10634631 | 98.50239593 |
| 160119A00029 | 1/19/2016 | 3.39 | 1/20/2032 | 1/19/2016 | 135.78498 | 135.7849774 | 135.7849774 | 131.2180816 | 119.0466495 | 107.8523741 | 97.86435441 | 88.94450954 | 80.97128761 |
| 160122A00022 | 1/22/2016 | 1.9 | 1/22/2021 | 1/22/2016 | 101.08656 | 101.0865642 | 101.0865642 | 101.0865642 | 100.9483556 | 100.2915306 | 99.64323219 | 99.00329514 | 98.37155843 |
| 160201A00011 | 2/1/2016 | 1.65 | 6/22/2020 | 2/1/2016 | 100.08675 | 100.0867487 | 100.0867487 | 100.0867487 | 100.0773558 | 100.010913 | 99.94456893 | 99.8783234 | 99.81217621 |
| 160203A00014 | 2/3/2016 | 1.88 | 2/3/2022 | 2/3/2016 | 102.71722 | 102.717222 | 102.717222 | 102.717222 | 102.3834694 | 100.712671 | 99.07707939 | 97.47564644 | 95.90736582 |
| 160211A00035 | 2/11/2016 | 2.25 | 2/11/2025 | 2/11/2016 | 109.21708 | 109.2170797 | 109.2170797 | 109.2170797 | 106.872277 | 102.2199759 | 97.79759643 | 93.59253358 | 89.59294475 |
| 160212A00043 | 2/12/2016 | 1.8 | 2/14/2022 | 2/12/2016 | 102.62681 | 102.6268067 | 102.6268067 | 102.6268067 | 102.2869073 | 100.5869831 | 98.92336542 | 97.29495581 | 95.70070059 |
| 160216A00002 | 2/16/2016 | 1.88 | 2/16/2022 | 2/16/2016 | 102.77434 | 102.7743445 | 102.7743445 | 102.7743445 | 102.4330341 | 100.7263558 | 99.05621241 | 97.42149566 | 95.82114237 |
| 160328A00013 | 3/28/2016 | 2.17 | 3/28/2024 | 3/28/2016 | 107.95365 | 107.9536497 | 107.9536497 | 107.9536497 | 106.4114851 | 102.5782202 | 98.90404066 | 95.38154112 | 92.0036989 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160330A00042 | 3/30/2016 | 1.53 | 3/30/2021 | 3/30/2016 | 101.19509 | 101.1950872 | 101.1950872 | 101.1950872 | 101.0071408 | 100.1660191 | 99.33884081 | 98.52526175 | 97.72494889 |
| 160401A00055 | 4/1/2016 | 1.66 | 4/1/2021 | 4/1/2016 | 101.18688 | 101.1868774 | 101.1868774 | 101.1868774 | 100.998018 | 100.1532186 | 99.32249225 | 98.50548962 | 97.70187297 |
| 160407A00007 | 4/7/2016 | 1.6 | 3/25/2021 | 4/7/2016 | 101.11001 | 101.1100065 | 101.1100065 | 101.1100065 | 100.9260153 | 100.1005574 | 99.28854516 | 98.48965238 | 97.70356316 |
| 160420A00005 | 4/20/2016 | 1.48 | 4/20/2021 | 4/20/2016 | 101.23221 | 101.2322084 | 101.2322084 | 101.2322084 | 101.0303415 | 100.1319526 | 99.24947258 | 98.38248188 | 97.53057545 |
| 130501A00013 | 5/1/2013 | 1.82 | 5/3/2021 | 5/1/2013 | 101.46125 | 101.461253 | 101.461253 | 101.461253 | 101.2518615 | 100.3189629 | 99.40318563 | 98.5040619 | 97.62114072 |
| 130523A00038 | 5/28/2013 | 2.58 | 5/23/2023 | 5/28/2013 | 106.87767 | 106.8776692 | 106.8776692 | 106.8776692 | 105.9672978 | 102.9804621 | 100.094 | 97.30398723 | 94.60667592 |
| 130529A00014 | 5/29/2013 | 2.05 | 6/1/2020 | 5/29/2013 | 100.01393 | 100.0139337 | 100.0139337 | 100.0139337 | 100.0127593 | 100.0044488 | 99.99614578 | 99.98785028 | 99.97956227 |
| 130530A00007 | 5/30/2013 | 2.04 | 6/1/2020 | 5/30/2013 | 100.01385 | 100.0138504 | 100.0138504 | 100.0138504 | 100.012676 | 100.0043656 | 99.99606263 | 99.9877672 | 99.97947926 |
| 130531A00010 | 5/31/2013 | 2.04 | 6/1/2020 | 5/31/2013 | 100.01385 | 100.0138504 | 100.0138504 | 100.0138504 | 100.012676 | 100.0043656 | 99.99606263 | 99.9877672 | 99.97947926 |
| 130531A00021 | 5/31/2013 | 3.22 | 5/30/2028 | 5/31/2013 | 125.06056 | 125.0605602 | 125.0605602 | 125.0605602 | 117.1304313 | 109.0489662 | 101.5996963 | 94.72956743 | 88.39024309 |
| 130702A00018 | 7/2/2013 | 3.17 | 7/17/2023 | 7/2/2013 | 109.67816 | 109.6781594 | 109.6781594 | 109.6781594 | 108.6521225 | 105.4626679 | 102.3844346 | 99.41288855 | 96.5437101 |
| 131029A00011 | 10/29/2013 | 2.47 | 10/30/2020 | 10/29/2013 | 101.00589 | 101.0058928 | 101.0058928 | 101.0058928 | 100.9276972 | 100.5004281 | 100.0767696 | 99.65667607 | 99.24010276 |
| 131106A00003 | 11/6/2013 | 3.57 | 11/15/2023 | 11/6/2013 | 111.44468 | 111.4446813 | 111.4446813 | 111.4446813 | 110.1802168 | 106.6554141 | 103.2640636 | 100.0003942 | 96.85891595 |
| 131107A00008 | 11/7/2013 | 2.52 | 11/9/2020 | 11/7/2013 | 101.094 | 101.0940033 | 101.0940033 | 101.0940033 | 101.009565 | 100.5545222 | 100.1035853 | 99.65669889 | 99.2138083 |
| 140131A00025 | 1/31/2014 | 3.28 | 1/30/2023 | 1/31/2014 | 108.05812 | 108.0581208 | 108.0581208 | 108.0581208 | 107.3306482 | 104.6316597 | 102.0148033 | 99.47705486 | 97.01552394 |
| 140701A00002 | 7/1/2014 | 2.84 | 7/1/2022 | 7/1/2014 | 105.37491 | 105.3749139 | 105.3749139 | 105.3749139 | 104.9245322 | 102.8278549 | 100.7837216 | 98.79046022 | 96.8464648 |
| 140701A00004 | 7/1/2014 | 2.3 | 7/1/2020 | 7/1/2014 | 100.17878 | 100.178778 | 100.178778 | 100.178778 | 100.1656618 | 100.0742704 | 99.98304678 | 99.8919906 | 99.80110138 |
| 140908A00064 | 9/8/2014 | 2.57 | 11/30/2021 | 9/8/2014 | 103.48246 | 103.4824552 | 103.4824552 | 103.4824552 | 103.1851983 | 101.6830834 | 100.2105442 | 98.76678363 | 97.35103231 |
| 141009A00028 | 10/9/2014 | 3.02 | 10/9/2024 | 10/9/2014 | 111.98318 | 111.9831838 | 111.9831838 | 111.9831838 | 109.9559112 | 105.5586101 | 101.3640334 | 97.36179702 | 93.54210106 |
| 141128A00003 | 11/28/2014 | 2.62 | 11/30/2023 | 11/28/2014 | 108.87531 | 108.8753086 | 108.8753086 | 108.8753086 | 107.5847498 | 104.0493075 | 100.6500304 | 97.38093933 | 94.23635139 |
| 141202A00012 | 12/2/2014 | 2.32 | 12/2/2021 | 12/2/2014 | 103.37277 | 103.3727738 | 103.3727738 | 103.3727738 | 103.0736414 | 101.5626053 | 100.0814459 | 98.62935357 | 97.20554704 |
| 141208A00008 | 12/8/2014 | 3.02 | 12/16/2024 | 12/8/2014 | 112.44292 | 112.4429165 | 112.4429165 | 112.4429165 | 110.2318097 | 105.6507958 | 101.2889534 | 97.13462567 | 93.17683818 |
| 150123A00010 | 1/23/2015 | 2.02 | 1/31/2022 | 1/23/2015 | 103.22956 | 103.2295564 | 103.2295564 | 103.2295564 | 102.8956272 | 101.223551 | 99.58664611 | 97.98386833 | 96.4142149 |
| 150317A00013 | 3/17/2015 | 2.58 | 3/17/2025 | 3/17/2015 | 111.95116 | 111.9511554 | 111.9511554 | 111.9511554 | 109.467519 | 104.6338745 | 100.0433167 | 95.68234594 | 91.53828335 |
| 150401A00008 | 4/1/2015 | 2.62 | 4/1/2025 | 4/1/2015 | 111.33054 | 111.3305359 | 111.3305359 | 111.3305359 | 108.8261165 | 103.9952371 | 99.40866546 | 95.0528114 | 90.9149076 |
| 150407A00008 | 4/7/2015 | 1.78 | 4/7/2021 | 4/7/2015 | 101.44371 | 101.4437058 | 101.4437058 | 101.4437058 | 101.2502309 | 100.3861736 | 99.5368146 | 98.70178113 | 97.88071303 |
| 150601A00147 | 6/1/2015 | 3.45 | 7/30/2021 | 6/1/2015 | 103.88692 | 103.8869224 | 103.8869224 | 103.8869224 | 103.6509685 | 102.4618879 | 101.300092 | 100.1646492 | 99.05467015 |
| 150601A00149 | 6/1/2015 | 3.45 | 7/30/2021 | 6/1/2015 | 103.88692 | 103.8869224 | 103.8869224 | 103.8869224 | 103.6509685 | 102.4618879 | 101.300092 | 100.1646492 | 99.05467015 |
| 150601A00665 | 6/1/2015 | 3.82 | 1/14/2033 | 6/1/2015 | 143.46415 | 143.4641523 | 143.4641523 | 136.6463122 | 123.2577637 | 111.052577 | 100.2494131 | 90.6769615 | 82.18577566 |
| 150601A00731 | 6/1/2015 | 2.4 | 4/29/2022 | 6/1/2015 | 104.01169 | 104.0116891 | 104.0116891 | 104.0116891 | 103.621176 | 101.7074623 | 99.83861123 | 98.01330265 | 96.23026385 |
| 150601A01470 | 6/1/2015 | 1.88 | 6/1/2020 | 6/1/2015 | 100.01252 | 100.0125175 | 100.0125175 | 100.0125175 | 100.0113432 | 100.003034 | 99.99473217 | 99.98643789 | 99.97815108 |
| 150603A00015 | 6/3/2015 | 2.02 | 6/3/2020 | 6/3/2015 | 100.02294 | 100.0229408 | 100.0229408 | 100.0229408 | 100.0209833 | 100.0071322 | 99.99329438 | 99.97946985 | 99.96565857 |
| 150603A00039 | 6/9/2015 | 2.02 | 6/15/2020 | 6/9/2015 | 100.07937 | 100.0793703 | 100.0793703 | 100.0793703 | 100.0727137 | 100.0256211 | 99.9785895 | 99.9316187 | 99.88470861 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150630A00008 | 6/30/2015 | 2.41 | 6/30/2022 | 6/30/2015 | 104.84406 | 104.8440633 | 104.8440633 | 104.8440633 | 104.3942312 | 102.2986256 | 100.2556486 | 98.2636231 | 96.32093854 |
| 150710A00039 | 7/10/2015 | 2.07 | 7/10/2020 | 7/10/2015 | 100.20384 | 100.2038425 | 100.2038425 | 100.2038425 | 100.1863245 | 100.0700104 | 99.95397862 | 99.83822801 | 99.72275759 |
| 150710A00040 | 7/10/2015 | 2.63 | 7/11/2022 | 7/10/2015 | 104.99558 | 104.9955768 | 104.9955768 | 104.9955768 | 104.5356588 | 102.41577 | 100.3495235 | 98.33519222 | 96.3711185 |
| 150717A00009 | 7/17/2015 | 2.18 | 7/19/2021 | 7/17/2015 | 102.38045 | 102.3804478 | 102.3804478 | 102.3804478 | 102.148162 | 100.9984975 | 99.87462351 | 98.77567957 | 97.70084316 |
| 150807A00003 | 8/7/2015 | 1.9 | 8/7/2020 | 8/7/2015 | 100.34644 | 100.3464407 | 100.3464407 | 100.3464407 | 100.314737 | 100.1205496 | 99.92712615 | 99.73446193 | 99.54255245 |
| 150819A00013 | 8/19/2015 | 3.51 | 8/19/2030 | 8/19/2015 | 132.71155 | 132.7115506 | 132.7115506 | 130.8159689 | 120.0796267 | 109.9956316 | 100.8808466 | 92.63591963 | 85.1722024 |
| 150825A00016 | 8/25/2015 | 1.9 | 8/25/2020 | 8/25/2015 | 100.39725 | 100.397253 | 100.397253 | 100.397253 | 100.3559541 | 100.1123818 | 99.86999287 | 99.62877875 | 99.38873094 |
| 150828A00010 | 8/28/2015 | 1.96 | 8/28/2020 | 8/28/2015 | 100.42598 | 100.425978 | 100.425978 | 100.425978 | 100.383066 | 100.1311808 | 99.88055466 | 99.63117814 | 99.38304198 |
| 150901A00002 | 9/1/2015 | 1.98 | 9/1/2020 | 9/1/2015 | 100.45 | 100.4500027 | 100.4500027 | 100.4500027 | 100.4049184 | 100.1419706 | 99.88039871 | 99.62019185 | 99.36133943 |
| 150914A00052 | 9/14/2015 | 1.77 | 9/14/2020 | 9/14/2015 | 100.49566 | 100.4956602 | 100.4956602 | 100.4956602 | 100.4434062 | 100.1440534 | 99.84649688 | 99.55072054 | 99.25670828 |
| 150921A00051 | 9/21/2015 | 1.92 | 9/21/2020 | 9/21/2015 | 100.52882 | 100.5288231 | 100.5288231 | 100.5288231 | 100.4728431 | 100.1546511 | 99.83847849 | 99.52430616 | 99.2121151 |
| 150930A00052 | 9/30/2015 | 1.79 | 9/30/2020 | 9/30/2015 | 100.52547 | 100.525474 | 100.525474 | 100.525474 | 100.4645877 | 100.121652 | 99.78104862 | 99.44275402 | 99.1067448 |
| 151005A00053 | 10/5/2015 | 1.99 | 10/5/2021 | 10/5/2015 | 102.33427 | 102.3342655 | 102.3342655 | 102.3342655 | 102.0763667 | 100.7327899 | 99.41320824 | 98.11703451 | 96.84370015 |
| 151007A00013 | 10/7/2015 | 1.74 | 10/7/2020 | 10/7/2015 | 100.53681 | 100.5368104 | 100.5368104 | 100.5368104 | 100.4719727 | 100.1097713 | 99.75018253 | 99.39317803 | 99.03873 |
| 151109A00020 | 11/9/2015 | 2.79 | 11/9/2023 | 11/9/2015 | 108.67715 | 108.6771489 | 108.6771489 | 108.6771489 | 107.4373645 | 103.975893 | 100.6453604 | 97.44012071 | 94.35480206 |
| 151123A00014 | 11/23/2015 | 2.13 | 11/23/2020 | 11/23/2015 | 100.92662 | 100.9266211 | 100.9266211 | 100.9266211 | 100.8337492 | 100.3414939 | 99.85403848 | 99.37131289 | 98.89324851 |
| 151208A00019 | 12/8/2015 | 2.1 | 12/8/2020 | 12/8/2015 | 100.98849 | 100.9884908 | 100.9884908 | 100.9884908 | 100.8852516 | 100.3517151 | 99.82381537 | 99.30146344 | 98.78457206 |
| 151217A00014 | 12/17/2015 | 3 | 12/17/2025 | 12/17/2015 | 115.04744 | 115.0474372 | 115.0474372 | 115.0474372 | 111.6025161 | 106.0321205 | 100.7783616 | 95.82155143 | 91.14332742 |
| 151229A00080 | 12/29/2015 | 3.49 | 12/30/2030 | 12/29/2015 | 133.64674 | 133.6467387 | 133.6467387 | 131.1523281 | 120.033188 | 109.6464713 | 100.289127 | 91.85248265 | 84.23990166 |
| 051003A00009 | 10/3/2005 | 5.15 | 10/15/2025 | 10/3/2005 | 126.22044 | 126.2204432 | 126.2204432 | 126.2204432 | 122.9091681 | 117.2015745 | 111.8047041 | 106.6999177 | 101.8697892 |
| 080910A00065 | 9/10/2008 | 5.03 | 9/15/2023 | 9/10/2008 | 115.75367 | 115.7536661 | 115.7536661 | 115.7536661 | 114.5933499 | 111.1594978 | 107.8492487 | 104.6574474 | 101.5791848 |
| 081209A00008 | 12/9/2008 | 4.87 | 12/15/2023 | 12/9/2008 | 116.3657 | 116.3656991 | 116.3656991 | 116.3656991 | 115.0160004 | 111.3244106 | 107.7745061 | 104.3600508 | 101.0751194 |
| 090226A00006 | 2/26/2009 | 4.55 | 3/1/2024 | 2/26/2009 | 116.85049 | 116.8504855 | 116.8504855 | 116.8504855 | 115.3216346 | 111.3954917 | 107.6275607 | 104.0105226 | 100.5374442 |
| 100712A00003 | 7/12/2010 | 3.91 | 7/15/2020 | 7/12/2010 | 100.46941 | 100.4694101 | 100.4694101 | 100.4694101 | 100.4494046 | 100.3189676 | 100.1888824 | 100.0591476 | 99.92976163 |
| 100923A00051 | 9/23/2010 | 3.4 | 9/30/2021 | 9/23/2010 | 104.22207 | 104.2220659 | 104.2220659 | 104.2220659 | 103.9647629 | 102.6214234 | 101.3018466 | 100.0054553 | 98.73169097 |
| 100930A00007 | 9/30/2010 | 3.27 | 9/30/2020 | 9/30/2010 | 101.03496 | 101.0349623 | 101.0349623 | 101.0349623 | 100.9738925 | 100.6298669 | 100.2881793 | 99.94880587 | 99.61172328 |
| 110810A00020 | 8/10/2011 | 2.86 | 8/16/2021 | 8/10/2011 | 103.37862 | 103.3786247 | 103.3786247 | 103.3786247 | 103.1396362 | 101.9072798 | 100.704337 | 99.52976352 | 98.3825642 |
| 110825A00016 | 8/25/2011 | 3.06 | 8/31/2022 | 8/25/2011 | 106.72341 | 106.7234106 | 106.7234106 | 106.7234106 | 106.2019053 | 103.9179895 | 101.6947625 | 99.53016515 | 97.42222606 |
| 111024A00021 | 10/24/2011 | 2.65 | 10/30/2020 | 10/24/2011 | 101.08287 | 101.0828695 | 101.0828695 | 101.0828695 | 101.0046399 | 100.5771743 | 100.1533206 | 99.73303302 | 99.31626684 |
| 120130A00009 | 1/30/2012 | 2.79 | 1/31/2022 | 1/30/2012 | 104.24711 | 104.2471077 | 104.2471077 | 104.2471077 | 103.9123954 | 102.236429 | 100.5956102 | 98.9888978 | 97.41529182 |
| 120315A00021 | 3/15/2012 | 3.12 | 3/15/2022 | 3/15/2012 | 105.12421 | 105.1242064 | 105.1242064 | 105.1242064 | 104.7623883 | 102.9594495 | 101.1963603 | 99.47194823 | 97.78508558 |
| 120726A00001 | 7/26/2012 | 2.36 | 8/1/2022 | 7/26/2012 | 104.53719 | 104.5371949 | 104.5371949 | 104.5371949 | 104.0563495 | 101.8846464 | 99.76900607 | 97.70758053 | 95.69859834 |
| 130107A00001 | 1/7/2013 | 2.53 | 1/17/2023 | 1/7/2013 | 105.95296 | 105.9529585 | 105.9529585 | 105.9529585 | 105.2510349 | 102.6145639 | 100.0577219 | 97.57760644 | 95.17144125 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 130516A00014 | 5/16/2013 | 1.64 | 6/1/2020 | 5/16/2013 | 100.0127 | 100.0126958 | 100.0126958 | 100.0126958 | 100.0115186 | 100.0031886 | 99.99486629 | 99.98655175 | 99.97824493 |
| 130911A00009 | 9/11/2013 | 2.87 | 9/15/2020 | 9/11/2013 | 100.83323 | 100.8332302 | 100.8332302 | 100.8332302 | 100.7803221 | 100.4775493 | 100.1766086 | 99.87748345 | 99.58015725 |
| 130920A00020 | 9/20/2013 | 2.71 | 9/30/2020 | 9/20/2013 | 100.89281 | 100.8928114 | 100.8928114 | 100.8928114 | 100.831689 | 100.4873921 | 100.1454426 | 99.80581653 | 99.46849033 |
| 130926A00009 | 9/26/2013 | 4 | 10/2/2028 | 9/26/2013 | 132.69794 | 132.6979413 | 132.6979413 | 132.6979413 | 123.9470842 | 115.2806401 | 107.3106799 | 99.97706512 | 93.22515314 |
| 131024A00019 | 10/24/2013 | 3.23 | 10/30/2023 | 10/24/2013 | 110.77255 | 110.7725462 | 110.7725462 | 110.7725462 | 109.5369457 | 106.0494315 | 102.6928742 | 99.46166303 | 96.35045814 |
| 140113A00012 | 1/13/2014 | 3.48 | 1/17/2023 | 1/13/2014 | 108.48388 | 108.483875 | 108.483875 | 108.483875 | 107.7745712 | 105.1042882 | 102.514414 | 100.0020215 | 97.56431111 |
| 140423A00036 | 4/23/2014 | 4.03 | 4/23/2029 | 4/23/2014 | 133.16957 | 133.1695738 | 133.1695738 | 132.8576897 | 123.4459392 | 114.3666419 | 106.0569894 | 98.44698244 | 91.47334606 |
| 140820A00026 | 8/20/2014 | 2.94 | 8/19/2024 | 8/20/2014 | 112.06222 | 112.062216 | 112.062216 | 112.062216 | 110.1521345 | 105.8615552 | 101.7637696 | 97.84902755 | 94.1081307 |
| 140908A00060 | 9/8/2014 | 2.34 | 11/30/2020 | 9/8/2014 | 101.07091 | 101.0709061 | 101.0709061 | 101.0709061 | 100.973515 | 100.4616474 | 99.95495428 | 99.45335768 | 98.95678102 |
| 140908A00062 | 9/8/2014 | 2.45 | 5/28/2021 | 9/8/2014 | 102.19461 | 102.1946058 | 102.1946058 | 102.1946058 | 101.9732147 | 100.968743 | 99.98400584 | 99.01842609 | 98.07144894 |
| 140702A00034 | 7/2/2014 | 2.7 | 7/1/2022 | 7/2/2014 | 105.46425 | 105.4642452 | 105.4642452 | 105.4642452 | 105.0120195 | 102.9070086 | 100.8548782 | 98.85394164 | 96.90257922 |
| 140710A00027 | 7/10/2014 | 2.8 | 7/17/2023 | 7/10/2014 | 108.50465 | 108.50465 | 108.50465 | 108.50465 | 107.4830964 | 104.3121542 | 101.2519512 | 98.29796955 | 95.44590553 |
| 140930A00030 | 9/30/2014 | 2.36 | 9/30/2020 | 9/30/2014 | 100.7217 | 100.7216958 | 100.7216958 | 100.7216958 | 100.6607389 | 100.3173834 | 99.97636246 | 99.63765237 | 99.30122976 |
| 141201A00024 | 12/1/2014 | 2.19 | 12/1/2020 | 12/1/2014 | 100.99923 | 100.9992341 | 100.9992341 | 100.9992341 | 100.9011443 | 100.3867493 | 99.87758483 | 99.37357145 | 98.87463133 |
| 150116A00039 | 1/16/2015 | 1.85 | 1/19/2021 | 1/16/2015 | 101.04024 | 101.0402441 | 101.0402441 | 101.0402441 | 100.9044981 | 100.2560243 | 99.61586792 | 98.98386969 | 98.35987427 |
| 150203A00005 | 2/3/2015 | 2.11 | 2/3/2022 | 2/3/2015 | 103.10914 | 103.1091351 | 103.1091351 | 103.1091351 | 102.7746924 | 101.1004613 | 99.46149932 | 97.85675659 | 96.2852251 |
| 150206A00015 | 2/6/2015 | 1.87 | 2/8/2021 | 2/6/2015 | 101.24052 | 101.2405162 | 101.2405162 | 101.2405162 | 101.0887361 | 100.3837044 | 99.68848561 | 99.0028757 | 98.32667639 |
| 150303A00011 | 3/3/2015 | 2.06 | 3/3/2021 | 3/3/2015 | 101.49882 | 101.4988193 | 101.4988193 | 101.4988193 | 101.3296676 | 100.560774 | 99.80351491 | 99.05762782 | 98.32285802 |
| 150601A00006 | 6/1/2015 | 4.71 | 6/27/2025 | 6/1/2015 | 123.23397 | 123.2339677 | 123.2339677 | 123.2339677 | 120.3318108 | 114.9573436 | 109.8631043 | 105.0329082 | 100.4515934 |
| 150601A00039 | 6/1/2015 | 5.76 | 6/12/2026 | 6/1/2015 | 133.92082 | 133.9208236 | 133.9208236 | 133.9208236 | 129.4135741 | 122.8150456 | 116.6127308 | 110.7804959 | 105.2940704 |
| 150601A00484 | 6/1/2015 | 2.45 | 6/23/2021 | 6/1/2015 | 102.48381 | 102.4838131 | 102.4838131 | 102.4838131 | 102.2557046 | 101.1763252 | 100.1196732 | 99.08503642 | 98.07173222 |
| 150601A00495 | 6/1/2015 | 2.99 | 6/27/2024 | 6/1/2015 | 111.67743 | 111.6774306 | 111.6774306 | 111.6774306 | 109.901278 | 105.758163 | 101.7959553 | 98.00577224 | 94.37921693 |
| 150601A00523 | 6/1/2015 | 4.55 | 7/25/2031 | 6/1/2015 | 146.48012 | 146.4801193 | 146.4801193 | 142.8869974 | 130.6929197 | 119.274919 | 109.0246097 | 99.8141278 | 91.53031647 |
| 150601A00609 | 6/1/2015 | 2.52 | 9/30/2021 | 6/1/2015 | 102.97831 | 102.978306 | 102.978306 | 102.978306 | 102.7227874 | 101.3882504 | 100.0773256 | 98.78944004 | 97.52403907 |
| 150601A00613 | 6/1/2015 | 2.63 | 3/31/2022 | 6/1/2015 | 104.26659 | 104.2665898 | 104.2665898 | 104.2665898 | 103.896209 | 102.0563945 | 100.2581184 | 98.50020376 | 96.78151429 |
| 150601A00616 | 6/1/2015 | 2.72 | 9/30/2022 | 6/1/2015 | 105.63816 | 105.6381616 | 105.6381616 | 105.6381616 | 105.0854977 | 102.7433342 | 100.4651776 | 98.24893389 | 96.09258949 |
| 150601A00668 | 6/1/2015 | 3.89 | 1/16/2037 | 6/1/2015 | 158.03287 | 158.0328741 | 158.0328741 | 142.8332945 | 125.3903023 | 110.1703372 | 97.14580255 | 85.97958877 | 76.38840445 |
| 150601A00681 | 6/1/2015 | 2.7 | 2/7/2025 | 6/1/2015 | 111.13721 | 111.1372101 | 111.1372101 | 111.1372101 | 108.7885481 | 104.1021666 | 99.64630481 | 95.40836805 | 91.37652108 |
| 150601A00733 | 6/1/2015 | 2.72 | 5/1/2025 | 6/1/2015 | 112.75677 | 112.7567735 | 112.7567735 | 112.7567735 | 110.1312291 | 105.1630924 | 100.4504355 | 95.97880259 | 91.73462874 |
| 150601A00734 | 6/1/2015 | 2.92 | 5/1/2025 | 6/1/2015 | 112.74602 | 112.7460202 | 112.7460202 | 112.7460202 | 110.1409838 | 105.2032727 | 100.5186101 | 96.07271833 | 91.85219711 |
| 150601A00916 | 6/1/2015 | 7.27 | 4/5/2030 | 6/1/2015 | 167.51322 | 167.5132175 | 167.5132175 | 166.1194457 | 154.5120821 | 143.1270178 | 132.7591199 | 123.3096374 | 114.689978 |
| 150601A00940 | 6/1/2015 | 6.58 | 2/16/2021 | 6/1/2015 | 104.53937 | 104.5393714 | 104.5393714 | 104.5393714 | 104.3792824 | 103.6403575 | 102.9119601 | 102.1938656 | 101.4858561 |
| 150601A01024 | 6/1/2015 | 5.33 | 2/27/2026 | 6/1/2015 | 128.60128 | 128.6012825 | 128.6012825 | 128.6012825 | 124.6927177 | 118.5669804 | 112.7938256 | 107.3508768 | 102.2173041 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150603A00018 | 6/3/2015 | 2.84 | 6/3/2025 | 6/3/2015 | 113.79954 | 113.7995441 | 113.7995441 | 113.7995441 | 111.0620573 | 105.9833459 | 101.16994 | 96.60657687 | 92.27895128 |
| 150626A00039 | 6/26/2015 | 3.23 | 6/26/2025 | 6/26/2015 | 114.94116 | 114.9411599 | 114.9411599 | 114.9411599 | 112.1414696 | 107.0081393 | 102.1443069 | 97.53437327 | 93.16372478 |
| 150813A00008 | 8/13/2015 | 3.03 | 8/13/2025 | 8/13/2015 | 114.27672 | 114.276716 | 114.276716 | 114.276716 | 111.3200521 | 106.0816567 | 101.124593 | 96.43221274 | 91.98894459 |
| 150819A00011 | 8/19/2015 | 2.53 | 8/19/2022 | 8/19/2015 | 105.0221 | 105.022101 | 105.022101 | 105.022101 | 104.520144 | 102.2956735 | 100.1295966 | 98.01995052 | 95.9648554 |
| 150824A00048 | 8/24/2015 | 1.93 | 2/24/2021 | 8/24/2015 | 101.25932 | 101.2593228 | 101.2593228 | 101.2593228 | 101.0958125 | 100.3483983 | 99.61200018 | 98.88637613 | 98.17129103 |
| 150921A00037 | 9/21/2015 | 1.92 | 9/21/2020 | 9/21/2015 | 100.52882 | 100.5288231 | 100.5288231 | 100.5288231 | 100.4728431 | 100.1546511 | 99.83847849 | 99.52430616 | 99.2121151 |
| 151001A00028 | 10/1/2015 | 1.74 | 10/1/2020 | 10/1/2015 | 100.51234 | 100.51234 | 100.51234 | 100.51234 | 100.4508944 | 100.1052376 | 99.76195254 | 99.42101502 | 99.08240103 |
| 151001A00038 | 10/1/2015 | 1.75 | 10/1/2020 | 10/1/2015 | 100.51581 | 100.5158102 | 100.5158102 | 100.5158102 | 100.4543634 | 100.1086991 | 99.7654066 | 99.42446167 | 99.08584031 |
| 151102A00009 | 11/2/2015 | 1.89 | 11/2/2020 | 11/2/2015 | 100.7126 | 100.7126001 | 100.7126001 | 100.7126001 | 100.6328084 | 100.1987429 | 99.76841484 | 99.34177601 | 98.91877914 |
| 151116A00025 | 11/16/2015 | 3.04 | 11/14/2025 | 11/16/2015 | 115.02442 | 115.0244243 | 115.0244243 | 115.0244243 | 111.7123125 | 106.2242128 | 101.043596 | 96.15161443 | 91.53067079 |
| 151119A00030 | 11/19/2015 | 2.1 | 11/19/2020 | 11/19/2015 | 100.89129 | 100.8912888 | 100.8912888 | 100.8912888 | 100.8009062 | 100.319719 | 99.84312438 | 99.37105662 | 98.9034514 |
| 151211A00004 | 12/11/2015 | 2.48 | 12/15/2023 | 12/11/2015 | 108.4765 | 108.4765037 | 108.4765037 | 108.4765037 | 107.1564837 | 103.5877642 | 100.1577984 | 96.8604345 | 93.68982849 |
| 151211A00007 | 12/11/2015 | 2.73 | 12/15/2025 | 12/11/2015 | 114.64767 | 114.6476729 | 114.6476729 | 114.6476729 | 111.1854787 | 105.5943082 | 100.3220201 | 95.3487391 | 90.65593098 |
| 160119A00027 | 1/19/2016 | 3.25 | 1/18/2030 | 1/19/2016 | 128.36918 | 128.3691833 | 128.3691833 | 127.2730033 | 117.2637795 | 107.8111984 | 99.22487825 | 91.42016101 | 84.32109383 |
| 160129A00066 | 1/29/2016 | 3.04 | 1/29/2031 | 1/29/2016 | 131.42217 | 131.4221702 | 131.4221702 | 128.7345669 | 117.4836081 | 107.0461314 | 97.65883411 | 89.20952658 | 81.59857618 |
| 160129A00067 | 1/29/2016 | 2.53 | 1/29/2026 | 1/29/2016 | 113.82544 | 113.8254353 | 113.8254353 | 113.8254353 | 110.1839407 | 104.5043006 | 99.15500768 | 94.11508597 | 89.36500264 |
| 160204A00024 | 2/4/2016 | 1.68 | 2/4/2021 | 2/4/2016 | 100.9926 | 100.9926008 | 100.9926008 | 100.9926008 | 100.8442915 | 100.1523979 | 99.46996825 | 98.79680936 | 98.13273328 |
| 160307A00026 | 3/7/2016 | 2.2 | 3/7/2023 | 3/7/2016 | 105.3304 | 105.3304031 | 105.3304031 | 105.3304031 | 104.5548985 | 101.7956311 | 99.12320232 | 96.53433772 | 94.02590978 |
| 160330A00034 | 3/30/2016 | 1.95 | 3/30/2022 | 3/30/2016 | 103.06943 | 103.0694267 | 103.0694267 | 103.0694267 | 102.702046 | 100.8762526 | 99.09166925 | 97.34712991 | 95.64150864 |
| 160427A00019 | 4/27/2016 | 1.78 | 4/27/2021 | 4/27/2016 | 101.39849 | 101.3984904 | 101.3984904 | 101.3984904 | 101.1922777 | 100.2759668 | 99.37617963 | 98.49247245 | 97.62441744 |
| 160505A00007 | 5/5/2016 | 1.45 | 5/5/2021 | 5/5/2016 | 101.2605 | 101.2604987 | 101.2604987 | 101.2604987 | 101.0499595 | 100.1106819 | 99.18878147 | 98.28377946 | 97.39521474 |
| 160523A00013 | 5/23/2016 | 2.11 | 5/23/2023 | 5/23/2016 | 105.46243 | 105.4624321 | 105.4624321 | 105.4624321 | 104.5570336 | 101.5914444 | 98.72569572 | 95.95588109 | 93.27826959 |
| 160606A00005 | 6/6/2016 | 2.92 | 6/6/2031 | 6/6/2016 | 128.73276 | 128.7327563 | 128.7327563 | 125.4635537 | 114.1477832 | 103.7085821 | 94.34984749 | 85.9530255 | 78.41316606 |
| 160610A00009 | 6/10/2016 | 1.89 | 6/12/2023 | 6/10/2016 | 104.88788 | 104.8878764 | 104.8878764 | 104.8878764 | 103.9488963 | 100.9400426 | 98.03402679 | 95.22676068 | 92.51434334 |
| 160610A00035 | 6/10/2016 | 1.26 | 6/10/2020 | 6/10/2016 | 100.03812 | 100.038118 | 100.038118 | 100.038118 | 100.0334109 | 100.0001079 | 99.96684424 | 99.93361979 | 99.90043449 |
| 160422A00021 | 4/22/2016 | 2.17 | 4/21/2023 | 4/22/2016 | 105.47815 | 105.4781497 | 105.4781497 | 105.4781497 | 104.6280496 | 101.7465127 | 98.95926299 | 96.26271747 | 93.65344905 |
| 160502A00002 | 5/2/2016 | 1.68 | 5/3/2021 | 5/2/2016 | 101.3296 | 101.329599 | 101.329599 | 101.329599 | 101.1203446 | 100.1881138 | 99.27299587 | 98.37452304 | 97.49224454 |
| 160509A00020 | 5/9/2016 | 2.01 | 5/9/2023 | 5/9/2016 | 105.09542 | 105.0954158 | 105.0954158 | 105.0954158 | 104.2157268 | 101.2927063 | 98.46690974 | 95.73458122 | 93.0921312 |
| 160526A00010 | 5/26/2016 | 1.58 | 5/26/2021 | 5/26/2016 | 101.46861 | 101.4686142 | 101.4686142 | 101.4686142 | 101.2484117 | 100.2509951 | 99.27313156 | 98.31425073 | 97.37380434 |
| 160606A00040 | 6/8/2016 | 1.98 | 12/15/2020 | 6/8/2016 | 100.9576 | 100.9576001 | 100.9576001 | 100.9576001 | 100.8492259 | 100.2966293 | 99.75008221 | 99.20948569 | 98.67474281 |
| 160609A00010 | 6/9/2016 | 1.58 | 6/9/2022 | 6/9/2016 | 103.00436 | 103.0043607 | 103.0043607 | 103.0043607 | 102.5787289 | 100.5582466 | 98.58772272 | 96.66560086 | 94.79038453 |
| 160614A00064 | 6/14/2016 | 1.21 | 6/15/2020 | 6/14/2016 | 100.05164 | 100.0516397 | 100.0516397 | 100.0516397 | 100.0449717 | 99.99779947 | 99.95068946 | 99.9036415 | 99.85665548 |
| 160615A00043 | 6/15/2016 | 1.59 | 6/15/2021 | 6/15/2016 | 101.39208 | 101.3920826 | 101.3920826 | 101.3920826 | 101.1675255 | 100.1186321 | 99.09138672 | 98.08512441 | 97.09920742 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160615A00045 | 6/15/2016 | 1.59 | 6/15/2021 | 6/15/2016 | 101.39208 | 101.3920826 | 101.3920826 | 101.3920826 | 101.1675255 | 100.1186321 | 99.09138672 | 98.08512441 | 97.09920742 |
| 160616A00044 | 6/20/2016 | 2.31 | 6/18/2021 | 6/20/2016 | 102.17182 | 102.1718175 | 102.1718175 | 102.1718175 | 101.945701 | 100.8842428 | 99.84483066 | 98.82678302 | 97.82944609 |
| 160624A00005 | 6/24/2016 | 1.52 | 6/24/2021 | 6/24/2016 | 101.34905 | 101.3490514 | 101.3490514 | 101.3490514 | 101.1226337 | 100.049633 | 98.99928172 | 97.97086888 | 96.96371306 |
| 160624A00011 | 6/24/2016 | 1.83 | 6/26/2023 | 6/24/2016 | 104.76323 | 104.7632282 | 104.7632282 | 104.7632282 | 103.7995825 | 100.7566756 | 97.81872605 | 94.98151973 | 92.24103777 |
| 160627A00023 | 6/27/2016 | 1.49 | 6/28/2021 | 6/27/2016 | 101.33002 | 101.3300237 | 101.3300237 | 101.3300237 | 101.1027802 | 100.0190735 | 98.95846465 | 97.92022198 | 96.90364435 |
| 160627A00025 | 6/27/2016 | 1.65 | 6/27/2022 | 6/27/2016 | 102.84601 | 102.8460095 | 102.8460095 | 102.8460095 | 102.4050905 | 100.3461501 | 98.33876153 | 96.38128993 | 94.47216493 |
| 160627A00040 | 6/27/2016 | 1.28 | 6/28/2021 | 6/27/2016 | 101.27364 | 101.2736403 | 101.2736403 | 101.2736403 | 101.0459206 | 99.95997898 | 98.89722657 | 97.85692752 | 96.83837681 |
| 160628A00049 | 6/28/2016 | 1.88 | 6/27/2025 | 6/28/2016 | 109.04866 | 109.0486589 | 109.0486589 | 109.0486589 | 106.277921 | 101.2571321 | 96.50312286 | 92.00033732 | 87.73420811 |
| 160629A00004 | 6/29/2016 | 1.36 | 6/29/2020 | 6/29/2016 | 100.08709 | 100.0870867 | 100.0870867 | 100.0870867 | 100.0749582 | 99.98917412 | 99.90353408 | 99.81803778 | 99.73268489 |
| 160630A00012 | 6/30/2016 | 2.11 | 6/30/2025 | 6/30/2016 | 109.23879 | 109.238793 | 109.238793 | 109.238793 | 106.4789509 | 101.4774465 | 96.74105497 | 92.25434379 | 88.0028595 |
| 160701A00020 | 7/1/2016 | 2.13 | 7/1/2026 | 7/1/2016 | 111.1637 | 111.1637027 | 111.1637027 | 111.1637027 | 106.9095742 | 100.9754199 | 95.40954989 | 90.18720204 | 85.28540387 |
| 160701A00039 | 7/1/2016 | 1.92 | 7/1/2026 | 7/1/2016 | 111.08816 | 111.0881558 | 111.0881558 | 111.0881558 | 106.7944951 | 100.8205714 | 95.21884994 | 89.96422879 | 85.03342556 |
| 160706A00010 | 7/6/2016 | 1.99 | 7/7/2025 | 7/6/2016 | 108.65654 | 108.6565409 | 108.6565409 | 108.6565409 | 105.8789528 | 100.8744425 | 96.13627814 | 91.6488995 | 87.39773718 |
| 160706A00028 | 7/6/2016 | 2.39 | 7/6/2029 | 7/6/2016 | 118.98049 | 118.9804891 | 118.9804891 | 118.4768432 | 109.2923822 | 100.6486038 | 92.76698495 | 85.57610664 | 79.01159101 |
| 160714A00023 | 8/10/2016 | 2.49 | 8/10/2028 | 8/10/2016 | 117.94204 | 117.9420392 | 117.9420392 | 117.9420392 | 109.9331624 | 102.0293943 | 94.76050061 | 88.07201025 | 81.91439783 |
| 160727A00002 | 7/27/2016 | 1.87 | 7/27/2023 | 7/27/2016 | 105.02141 | 105.0214111 | 105.0214111 | 105.0214111 | 104.0000558 | 100.8712877 | 97.85273145 | 94.9398592 | 92.12835894 |
| 150610A00037 | 6/10/2015 | 2.48 | 6/10/2022 | 6/10/2015 | 104.86106 | 104.8610625 | 104.8610625 | 104.8610625 | 104.4305421 | 102.3879883 | 100.3958843 | 98.45265753 | 96.55679604 |
| 150702A00009 | 7/2/2015 | 1.89 | 7/2/2020 | 7/2/2015 | 100.16746 | 100.1674616 | 100.1674616 | 100.1674616 | 100.153826 | 100.0594568 | 99.96527044 | 99.87126637 | 99.77744401 |
| 150710A00029 | 7/10/2015 | 2.07 | 7/10/2020 | 7/10/2015 | 100.20384 | 100.2038425 | 100.2038425 | 100.2038425 | 100.1863245 | 100.0700104 | 99.95397862 | 99.83822801 | 99.72275759 |
| 150721A00027 | 7/21/2015 | 3.74 | 7/22/2030 | 7/21/2015 | 134.80045 | 134.8004468 | 134.8004468 | 133.018977 | 122.2785619 | 112.1529266 | 102.9914065 | 94.69595372 | 87.17900564 |
| 150722A00031 | 7/22/2015 | 2.09 | 7/22/2020 | 7/22/2015 | 100.26923 | 100.2692277 | 100.2692277 | 100.2692277 | 100.2458356 | 100.09627 | 99.94715864 | 99.79849934 | 99.6502901 |
| 150814A00004 | 8/14/2015 | 2.32 | 8/15/2022 | 8/14/2015 | 104.93434 | 104.9343352 | 104.9343352 | 104.9343352 | 104.4351138 | 102.2141304 | 100.0513807 | 97.94491106 | 95.89285051 |
| 150817A00003 | 8/17/2015 | 1.83 | 8/17/2020 | 8/17/2015 | 100.38042 | 100.3804192 | 100.3804192 | 100.3804192 | 100.343343 | 100.1214726 | 99.9005969 | 99.68070928 | 99.46180298 |
| 150817A00015 | 8/17/2015 | 2.01 | 8/17/2020 | 8/17/2015 | 100.38551 | 100.3855131 | 100.3855131 | 100.3855131 | 100.3484989 | 100.1269943 | 99.90647839 | 99.68694464 | 99.46838641 |
| 150817A00077 | 8/17/2015 | 2.49 | 8/17/2023 | 8/17/2015 | 107.72492 | 107.72492 | 107.72492 | 107.72492 | 106.6478063 | 103.4071697 | 100.2822923 | 97.2683388 | 94.36070903 |
| 150821A00017 | 8/21/2015 | 2.22 | 8/23/2022 | 8/21/2015 | 104.75682 | 104.7568217 | 104.7568217 | 104.7568217 | 104.2490821 | 102.0089938 | 99.82810016 | 97.70439801 | 95.63596971 |
| 150826A00038 | 8/26/2015 | 2.94 | 8/26/2026 | 8/26/2015 | 117.80185 | 117.8018473 | 117.8018473 | 117.8018473 | 113.1497152 | 106.8407554 | 100.929777 | 95.38949116 | 90.19462648 |
| 150831A00002 | 8/31/2015 | 1.97 | 8/31/2020 | 8/31/2015 | 100.44265 | 100.4426503 | 100.4426503 | 100.4426503 | 100.3981116 | 100.137932 | 99.87909757 | 99.62159805 | 99.3654231 |
| 150909A00018 | 9/9/2015 | 2.28 | 9/9/2021 | 9/9/2015 | 102.60064 | 102.6006436 | 102.6006436 | 102.6006436 | 102.3554448 | 101.0711391 | 99.81507785 | 98.58632915 | 97.38400216 |
| 150923A00012 | 9/23/2015 | 1.86 | 9/23/2020 | 9/23/2015 | 100.51854 | 100.5185401 | 100.5185401 | 100.5185401 | 100.4614775 | 100.1378049 | 99.81621918 | 99.49670014 | 99.17922792 |
| 150925A00023 | 9/25/2015 | 3.03 | 9/25/2025 | 9/25/2015 | 114.59748 | 114.5974781 | 114.5974781 | 114.5974781 | 111.4821951 | 106.1296328 | 101.070088 | 96.28599871 | 91.76094293 |
| 151001A00048 | 10/1/2015 | 1.74 | 10/1/2020 | 10/1/2015 | 100.51234 | 100.51234 | 100.51234 | 100.51234 | 100.4508944 | 100.1052376 | 99.76195254 | 99.42101502 | 99.08240103 |
| 151001A00051 | 10/1/2015 | 1.75 | 10/1/2020 | 10/1/2015 | 100.51581 | 100.5158102 | 100.5158102 | 100.5158102 | 100.4543634 | 100.1086991 | 99.76540659 | 99.42446167 | 99.08584031 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 151002A00048 | 10/2/2015 | 1.68 | 11/2/2020 | 10/2/2015 | 100.62108 | 100.6210777 | 100.6210777 | 100.6210777 | 100.5413272 | 100.1074995 | 99.67740758 | 99.25100346 | 98.82823982 |
| 151008A00049 | 10/8/2015 | 1.75 | 10/8/2020 | 10/8/2015 | 100.54455 | 100.5445533 | 100.5445533 | 100.5445533 | 100.4791488 | 100.1141823 | 99.75186897 | 99.39217997 | 99.03508678 |
| 151014A00024 | 10/14/2015 | 1.51 | 10/14/2020 | 10/14/2015 | 100.5336 | 100.5336024 | 100.5336024 | 100.5336024 | 100.4647013 | 100.082631 | 99.70347349 | 99.32719532 | 98.95376369 |
| 151116A00015 | 11/16/2015 | 2.02 | 11/16/2020 | 11/16/2015 | 100.83793 | 100.8379337 | 100.8379337 | 100.8379337 | 100.7494312 | 100.2766209 | 99.80824856 | 99.34425194 | 98.88456976 |
| 151223A00065 | 12/23/2015 | 2.15 | 12/23/2021 | 12/23/2015 | 103.23054 | 103.230535 | 103.230535 | 103.230535 | 102.9190013 | 101.3512984 | 99.81523233 | 98.30991559 | 96.83449342 |
| 151223A00074 | 12/23/2015 | 3.01 | 12/23/2027 | 12/23/2015 | 122.09869 | 122.0986919 | 122.0986919 | 122.0986919 | 115.0063418 | 107.4041406 | 100.3693868 | 93.85657586 | 87.82408034 |
| 151229A00079 | 12/29/2015 | 3 | 12/30/2025 | 12/29/2015 | 115.14293 | 115.1429342 | 115.1429342 | 115.1429342 | 111.6439294 | 106.0383998 | 100.7531787 | 95.76824718 | 91.06494194 |
| 160113A00005 | 1/13/2016 | 1.95 | 1/13/2021 | 1/13/2016 | 101.0772 | 101.0772046 | 101.0772046 | 101.0772046 | 100.9462953 | 100.3140555 | 99.68972298 | 99.07314993 | 98.46419224 |
| 160113A00006 | 1/13/2016 | 1.95 | 1/11/2021 | 1/13/2016 | 101.06779 | 101.0677861 | 101.0677861 | 101.0677861 | 100.9385042 | 100.3117567 | 99.69278017 | 99.08143064 | 98.47756763 |
| 160129A00005 | 1/29/2016 | 1.96 | 1/28/2022 | 1/29/2016 | 102.82582 | 102.825822 | 102.825822 | 102.825822 | 102.4953135 | 100.8398248 | 99.21896708 | 97.63171845 | 96.07709737 |
| 160129A00068 | 1/29/2016 | 1.97 | 1/30/2023 | 1/29/2016 | 105.01167 | 105.0116715 | 105.0116715 | 105.0116715 | 104.2899919 | 101.6215444 | 99.03481194 | 96.52677363 | 94.09454235 |
| 160211A00033 | 2/11/2016 | 1.67 | 2/11/2022 | 2/11/2016 | 102.3899 | 102.3898976 | 102.3898976 | 102.3898976 | 102.0521397 | 100.3624725 | 98.7087678 | 97.08994238 | 95.50495664 |
| 160307A00027 | 3/7/2016 | 2.71 | 3/6/2026 | 3/7/2016 | 113.94606 | 113.9460597 | 113.9460597 | 113.9460597 | 110.1807078 | 104.4462489 | 99.04926454 | 93.96808367 | 89.18254182 |
| 160330A00035 | 3/30/2016 | 2.32 | 4/1/2024 | 3/30/2016 | 107.84266 | 107.842659 | 107.842659 | 107.842659 | 106.3014963 | 102.4789703 | 98.81505365 | 95.30236717 | 91.93391211 |
| 160330A00056 | 3/30/2016 | 2.26 | 3/31/2025 | 3/30/2016 | 110.48011 | 110.4801101 | 110.4801101 | 110.4801101 | 107.9674942 | 103.1316315 | 98.54127952 | 94.18274373 | 90.04316074 |
| 160331A00024 | 3/31/2016 | 1.91 | 3/31/2022 | 3/31/2016 | 102.99967 | 102.9996685 | 102.9996685 | 102.9996685 | 102.6317118 | 100.8039568 | 99.01751346 | 97.27121113 | 95.56391964 |
| 160429A00007 | 4/29/2016 | 1.52 | 4/29/2021 | 4/29/2016 | 101.30346 | 101.3034623 | 101.3034623 | 101.3034623 | 101.0955758 | 100.172391 | 99.26597976 | 98.37588869 | 97.50168041 |
| 160510A00011 | 5/10/2016 | 1.59 | 4/5/2021 | 5/10/2016 | 101.14198 | 101.1419828 | 101.1419828 | 101.1419828 | 100.9505276 | 100.0950885 | 99.25408887 | 98.42716545 | 97.61396716 |
| 160523A00018 | 5/23/2016 | 1.77 | 5/24/2021 | 5/23/2016 | 101.49158 | 101.4915771 | 101.4915771 | 101.4915771 | 101.2727657 | 100.282925 | 99.31235083 | 98.36048498 | 97.42679074 |
| 160524A00011 | 5/24/2016 | 1.78 | 5/19/2021 | 5/24/2016 | 101.48079 | 101.480788 | 101.480788 | 101.480788 | 101.2642296 | 100.2879879 | 99.33049522 | 98.39121533 | 97.46963244 |
| 160524A00035 | 5/24/2016 | 1.79 | 5/24/2021 | 5/24/2016 | 101.51155 | 101.5115472 | 101.5115472 | 101.5115472 | 101.2927138 | 100.3027661 | 99.33208634 | 98.38011638 | 97.44631941 |
| 160527A00026 | 5/27/2016 | 1.72 | 4/29/2021 | 5/27/2016 | 101.35115 | 101.3511482 | 101.3511482 | 101.3511482 | 101.1436658 | 100.2221746 | 99.31739549 | 98.42887739 | 97.55618528 |
| 160603A00004 | 6/3/2016 | 1.65 | 6/3/2021 | 6/3/2016 | 101.40982 | 101.4098235 | 101.4098235 | 101.4098235 | 101.1877987 | 100.1713112 | 99.17514985 | 98.19870985 | 97.24141026 |
| 160620A00003 | 6/20/2016 | 1.59 | 6/21/2021 | 6/20/2016 | 101.414 | 101.4139987 | 101.4139987 | 101.4139987 | 101.1881404 | 100.122882 | 99.0799422 | 98.05862545 | 97.05826489 |
| 160628A00031 | 6/28/2016 | 1.77 | 6/28/2023 | 6/28/2016 | 104.58509 | 104.5850895 | 104.5850895 | 104.5850895 | 103.6185172 | 100.5732367 | 97.63315438 | 94.79404016 | 92.05186018 |
| 160628A00038 | 6/28/2016 | 1.88 | 6/27/2025 | 6/28/2016 | 109.04866 | 109.0486589 | 109.0486589 | 109.0486589 | 106.277921 | 101.2571321 | 96.50312286 | 92.00033732 | 87.73420811 |
| 160701A00018 | 7/1/2016 | 1.42 | 7/1/2021 | 7/1/2016 | 101.26284 | 101.2628369 | 101.2628369 | 101.2628369 | 101.0351684 | 99.94374199 | 98.87575528 | 97.83046004 | 96.8071396 |
| 160705A00005 | 7/5/2016 | 1.49 | 7/5/2023 | 7/5/2016 | 104.30431 | 104.3043068 | 104.3043068 | 104.3043068 | 103.3209319 | 100.2481577 | 97.28237882 | 94.4192585 | 91.65466336 |
| 160706A00006 | 7/6/2016 | 1.47 | 7/6/2023 | 7/6/2016 | 104.24527 | 104.2452732 | 104.2452732 | 104.2452732 | 103.2602753 | 100.1857634 | 97.21839027 | 94.35380998 | 91.58788047 |
| 160706A00014 | 7/6/2016 | 1.41 | 7/6/2021 | 7/6/2016 | 101.26744 | 101.2674412 | 101.2674412 | 101.2674412 | 101.0390312 | 99.93405978 | 98.8531176 | 97.79542785 | 96.76024687 |
| 160707A00032 | 7/7/2016 | 1.52 | 7/7/2023 | 7/7/2016 | 104.40621 | 104.406207 | 104.406207 | 104.406207 | 103.4187589 | 100.33907 | 97.36675258 | 94.49744833 | 91.72700367 |
| 150512A00029 | 5/12/2015 | 3.03 | 5/12/2025 | 5/12/2015 | 113.58387 | 113.5838731 | 113.5838731 | 113.5838731 | 110.9378344 | 105.9516224 | 101.2221641 | 96.73489401 | 92.47614707 |
| 150515A00057 | 5/15/2015 | 1.77 | 8/14/2020 | 5/15/2015 | 100.35331 | 100.353312 | 100.353312 | 100.353312 | 100.3178515 | 100.1043102 | 99.89169272 | 99.679993 | 99.46920503 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150519A00012 | 5/19/2015 | 2.44 | 5/19/2022 | 5/19/2015 | 104.27504 | 104.2750381 | 104.2750381 | 104.2750381 | 103.867185 | 101.8966023 | 99.97348476 | 98.09639594 | 96.26395261 |
| 150601A00148 | 6/1/2015 | 3.45 | 7/30/2021 | 6/1/2015 | 103.88692 | 103.8869224 | 103.8869224 | 103.8869224 | 103.6509685 | 102.4618879 | 101.300092 | 100.1646492 | 99.05467015 |
| 150601A00603 | 6/1/2015 | 2.26 | 9/30/2020 | 6/1/2015 | 100.67452 | 100.6745168 | 100.6745168 | 100.6745168 | 100.6135768 | 100.2703223 | 99.92940176 | 99.59079157 | 99.25446835 |
| 150601A00666 | 6/1/2015 | 3.88 | 1/16/2035 | 6/1/2015 | 151.06951 | 151.069513 | 151.069513 | 139.6569259 | 124.2150173 | 110.4583962 | 98.48943582 | 88.0611453 | 78.9620716 |
| 150601A00694 | 6/1/2015 | 3.56 | 3/6/2030 | 6/1/2015 | 131.26678 | 131.2667755 | 131.2667755 | 130.0096401 | 119.7718988 | 110.0916173 | 101.3057575 | 93.32608278 | 86.07351892 |
| 150601A00930 | 6/1/2015 | 7.1 | 8/30/2030 | 6/1/2015 | 168.51517 | 168.5151737 | 168.5151737 | 166.518532 | 154.399712 | 142.6169319 | 131.9240842 | 122.211668 | 113.3818394 |
| 150623A00025 | 6/23/2015 | 2.65 | 6/30/2022 | 6/23/2015 | 104.96704 | 104.9670422 | 104.9670422 | 104.9670422 | 104.5185839 | 102.4290078 | 100.3917708 | 98.405209 | 96.46772435 |
| 150708A00003 | 7/8/2015 | 1.95 | 7/8/2020 | 7/8/2015 | 100.18085 | 100.1808526 | 100.1808526 | 100.1808526 | 100.1643144 | 100.0535491 | 99.94303974 | 99.83278526 | 99.72278481 |
| 150722A00014 | 7/22/2015 | 2.32 | 7/22/2021 | 7/22/2015 | 102.37481 | 102.374815 | 102.374815 | 102.374815 | 102.142645 | 100.9876328 | 99.85866491 | 98.75486783 | 97.6754068 |
| 150812A00039 | 8/12/2015 | 1.95 | 8/12/2020 | 8/12/2015 | 100.34684 | 100.3468381 | 100.3468381 | 100.3468381 | 100.3125139 | 100.1048778 | 99.8981131 | 99.69221442 | 99.48717622 |
| 150817A00097 | 8/17/2015 | 3.1 | 8/17/2026 | 8/17/2015 | 117.45702 | 117.457023 | 117.457023 | 117.457023 | 112.8969038 | 106.6639327 | 100.8214725 | 95.34291171 | 90.20359391 |
| 150817A00099 | 8/17/2015 | 3.19 | 8/17/2027 | 8/17/2015 | 120.88289 | 120.8828901 | 120.8828901 | 120.8828901 | 114.501336 | 107.29649 | 100.6054386 | 94.38866239 | 88.60988718 |
| 150821A00018 | 8/21/2015 | 2.6 | 8/21/2024 | 8/21/2015 | 110.62243 | 110.6224315 | 110.6224315 | 110.6224315 | 108.7167205 | 104.4511967 | 100.3779196 | 96.48714626 | 92.76968631 |
| 150824A00039 | 8/24/2015 | 1.93 | 1/25/2021 | 8/24/2015 | 101.12034 | 101.1203403 | 101.1203403 | 101.1203403 | 100.9796776 | 100.3145472 | 99.65815354 | 99.01032531 | 98.37089573 |
| 150824A00093 | 8/24/2015 | 1.87 | 8/24/2021 | 8/24/2015 | 102.19749 | 102.197488 | 102.197488 | 102.197488 | 101.958363 | 100.7119785 | 99.49591489 | 98.30907667 | 97.15042041 |
| 150824A00095 | 8/24/2015 | 2.34 | 8/24/2023 | 8/24/2015 | 107.27938 | 107.2793754 | 107.2793754 | 107.2793754 | 106.1907359 | 102.9391084 | 99.80426625 | 96.78130434 | 93.86555781 |
| 150825A00007 | 8/25/2015 | 2.46 | 8/25/2022 | 8/25/2015 | 104.90067 | 104.9006741 | 104.9006741 | 104.9006741 | 104.3923386 | 102.1534923 | 99.97376019 | 97.85114221 | 95.78372365 |
| 150826A00039 | 8/26/2015 | 3.22 | 8/27/2029 | 8/26/2015 | 128.9315 | 128.9315031 | 128.9315031 | 128.2688127 | 118.5126125 | 109.2534254 | 100.8147449 | 93.11893636 | 86.09611153 |
| 150904A00021 | 9/4/2015 | 2.52 | 9/5/2023 | 9/4/2015 | 107.949 | 107.9490032 | 107.9490032 | 107.9490032 | 106.83449 | 103.5406709 | 100.3660572 | 97.30563314 | 94.35462687 |
| 150914A00018 | 9/14/2015 | 3.05 | 9/15/2025 | 9/14/2015 | 114.6295 | 114.6294976 | 114.6294976 | 114.6294976 | 111.5506081 | 106.2218001 | 101.1833686 | 96.41794751 | 91.90930013 |
| 151002A00075 | 10/2/2015 | 2.04 | 10/3/2022 | 10/2/2015 | 104.56782 | 104.5678167 | 104.5678167 | 104.5678167 | 104.0117948 | 101.665605 | 99.38398338 | 97.16480456 | 95.00602544 |
| 151008A00024 | 10/8/2015 | 1.58 | 10/8/2020 | 10/8/2015 | 100.53611 | 100.5361109 | 100.5361109 | 100.5361109 | 100.4705972 | 100.1050338 | 99.74213552 | 99.38187335 | 99.02421851 |
| 160727A00017 | 7/27/2016 | 2.03 | 7/29/2024 | 7/27/2016 | 107.2856 | 107.2856017 | 107.2856017 | 107.2856017 | 105.4706216 | 101.3546747 | 97.42217421 | 93.66394697 | 90.07133162 |
| 160802A00003 | 8/2/2016 | 2.53 | 8/1/2031 | 8/2/2016 | 127.15284 | 127.1528407 | 127.1528407 | 123.518113 | 111.9826329 | 101.4167092 | 91.96659981 | 83.50780225 | 75.93032283 |
| 160816A00003 | 8/16/2016 | 1.63 | 8/16/2023 | 8/16/2016 | 104.91935 | 104.9193458 | 104.9193458 | 104.9193458 | 103.8553308 | 100.6626645 | 97.58437941 | 94.61569295 | 91.75205512 |
| 160921A00020 | 9/21/2016 | 1.97 | 9/21/2023 | 9/21/2016 | 105.59907 | 105.5990738 | 105.5990738 | 105.5990738 | 104.469414 | 101.1879628 | 98.02665798 | 94.9804635 | 92.04458285 |
| 160923A00002 | 9/23/2016 | 1.5 | 9/23/2020 | 9/23/2016 | 100.4016 | 100.401604 | 100.401604 | 100.401604 | 100.3445817 | 100.0211496 | 99.69980328 | 99.38052248 | 99.06328735 |
| 160926A00016 | 9/26/2016 | 1.47 | 9/28/2020 | 9/26/2016 | 100.40863 | 100.4086308 | 100.4086308 | 100.4086308 | 100.3488928 | 100.0117028 | 99.67676986 | 99.34407142 | 99.01358525 |
| 160930A00005 | 9/30/2016 | 2.03 | 9/30/2024 | 9/30/2016 | 107.58611 | 107.5861112 | 107.5861112 | 107.5861112 | 105.6123608 | 101.3328504 | 97.25076401 | 93.35601384 | 89.63907724 |
| 161003A00004 | 10/3/2016 | 1.91 | 10/3/2023 | 10/3/2016 | 105.45177 | 105.45177 | 105.45177 | 105.45177 | 104.2995304 | 100.9896264 | 97.80199455 | 94.73149954 | 91.77324844 |
| 161208A00017 | 12/8/2016 | 2.6 | 12/8/2023 | 12/8/2016 | 108.20004 | 108.2000374 | 108.2000374 | 108.2000374 | 106.9033275 | 103.3748771 | 99.98270329 | 96.72080438 | 93.58347707 |
| 161215A00001 | 12/15/2016 | 2.5 | 12/15/2021 | 12/15/2016 | 103.46741 | 103.4674141 | 103.4674141 | 103.4674141 | 103.1611858 | 101.6180074 | 100.1056563 | 98.62328029 | 97.17005796 |
| 161215A00014 | 12/15/2016 | 2.66 | 12/15/2022 | 12/15/2016 | 106.08416 | 106.0841611 | 106.0841611 | 106.0841611 | 105.4297061 | 102.879171 | 100.4037475 | 98.00077596 | 95.66770888 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 161223A00028 | 12/23/2016 | 2.23 | 12/23/2021 | 12/23/2016 | 103.35774 | 103.3577422 | 103.3577422 | 103.3577422 | 103.045998 | 101.4772494 | 99.94015627 | 98.43383049 | 96.95741686 |
| 170110A00021 | 1/10/2017 | 1.89 | 1/11/2021 | 1/10/2017 | 101.11695 | 101.1169482 | 101.1169482 | 101.1169482 | 100.987399 | 100.3593774 | 99.73915701 | 99.12659301 | 98.5215441 |
| 170111A00009 | 1/11/2017 | 3.16 | 1/11/2028 | 1/11/2017 | 121.80518 | 121.8051804 | 121.8051804 | 121.8051804 | 114.7076184 | 107.132955 | 100.1248141 | 93.6376445 | 87.62978817 |
| 170111A00011 | 1/11/2017 | 3.24 | 1/11/2029 | 1/11/2017 | 125.32571 | 125.325712 | 125.325712 | 125.2566876 | 116.3639473 | 107.8341823 | 100.0139847 | 92.84018499 | 86.25555749 |
| 170111A00013 | 1/11/2017 | 3.4 | 1/10/2031 | 1/11/2017 | 132.78744 | 132.787439 | 132.787439 | 130.2416588 | 119.1288309 | 108.7628368 | 99.42787977 | 91.01478553 | 83.4265045 |
| 170120A00008 | 1/20/2017 | 3.63 | 1/20/2034 | 1/20/2017 | 145.0599 | 145.0599044 | 145.0599044 | 135.8893524 | 121.5794663 | 108.7108042 | 97.42446891 | 87.51387531 | 78.80054573 |
| 170120A00011 | 1/20/2017 | 3.75 | 1/20/2037 | 1/20/2017 | 156.69067 | 156.69067 | 156.69067 | 141.5156301 | 124.1562486 | 109.0221369 | 96.07586519 | 84.98099689 | 75.45486662 |
| 170130A00011 | 1/30/2017 | 2.15 | 2/1/2021 | 1/30/2017 | 101.30425 | 101.3042502 | 101.3042502 | 101.3042502 | 101.1579618 | 100.4730433 | 99.79737389 | 99.13076724 | 98.473042 |
| 170206A00012 | 2/6/2017 | 2.04 | 2/5/2021 | 2/6/2017 | 101.24828 | 101.2482848 | 101.2482848 | 101.2482848 | 101.0990348 | 100.4034218 | 99.71735806 | 99.040648 | 98.37310123 |
| 170217A00035 | 2/17/2017 | 1.9 | 2/17/2021 | 2/17/2017 | 101.30621 | 101.3062105 | 101.3062105 | 101.3062105 | 101.1476115 | 100.4177363 | 99.69837099 | 98.98928982 | 98.29027326 |
| 170307A00033 | 3/7/2017 | 2.2 | 3/7/2022 | 3/7/2017 | 103.73693 | 103.7369251 | 103.7369251 | 103.7369251 | 103.3815205 | 101.6082921 | 99.87399012 | 98.1774383 | 96.51750755 |
| 170316A00018 | 3/16/2017 | 2.8 | 3/18/2024 | 3/16/2017 | 109.60649 | 109.6064898 | 109.6064898 | 109.6064898 | 108.0868633 | 104.2683751 | 100.606504 | 97.09398821 | 93.72394321 |
| 170321A00013 | 3/21/2017 | 2.18 | 3/21/2022 | 3/21/2017 | 103.78079 | 103.780786 | 103.780786 | 103.780786 | 103.4165364 | 101.6032264 | 99.83044961 | 98.09703165 | 96.401841 |
| 141024A00009 | 10/24/2014 | 2.05 | 10/26/2020 | 10/24/2014 | 100.80484 | 100.8048388 | 100.8048388 | 100.8048388 | 100.7290465 | 100.3132969 | 99.90097501 | 99.49203862 | 99.08644613 |
| 150121A00004 | 1/21/2015 | 1.97 | 1/24/2022 | 1/21/2015 | 103.1087 | 103.1086973 | 103.1086973 | 103.1086973 | 102.778976 | 101.1267039 | 99.50892019 | 97.92461086 | 96.37280175 |
| 150123A00012 | 1/23/2015 | 2 | 1/29/2021 | 1/23/2015 | 101.18655 | 101.1865483 | 101.1865483 | 101.1865483 | 101.0425979 | 100.3663134 | 99.69904852 | 99.04062387 | 98.39086483 |
| 150130A00050 | 1/30/2015 | 1.87 | 1/31/2022 | 1/30/2015 | 102.97483 | 102.9748253 | 102.9748253 | 102.9748253 | 102.6413434 | 100.9714926 | 99.33677259 | 97.7361404 | 96.16859436 |
| 150220A00022 | 2/20/2015 | 2.8 | 2/20/2025 | 2/20/2015 | 111.935 | 111.9350011 | 111.9350011 | 111.9350011 | 109.5418993 | 104.8019922 | 100.2965811 | 96.01277253 | 91.93845593 |
| 150422A00017 | 4/22/2015 | 2.16 | 4/22/2022 | 4/22/2015 | 103.5779 | 103.577902 | 103.577902 | 103.577902 | 103.1932219 | 101.3021795 | 99.4550948 | 97.6506855 | 95.88771507 |
| 150518A00016 | 5/18/2015 | 1.84 | 11/18/2020 | 5/18/2015 | 100.82739 | 100.8273902 | 100.8273902 | 100.8273902 | 100.7375058 | 100.2584511 | 99.78395415 | 99.31394995 | 98.8483748 |
| 150518A00020 | 5/18/2015 | 1.99 | 5/18/2021 | 5/18/2015 | 101.83913 | 101.8391257 | 101.8391257 | 101.8391257 | 101.6221151 | 100.64447 | 99.68557333 | 98.74488968 | 97.82190383 |
| 150601A00182 | 6/1/2015 | 3.85 | 7/18/2022 | 6/1/2015 | 107.55501 | 107.5550117 | 107.5550117 | 107.5550117 | 107.082129 | 104.9151035 | 102.8031241 | 100.7444064 | 98.73723842 |
| 150601A00222 | 6/1/2015 | 2.2 | 9/27/2022 | 6/1/2015 | 104.41123 | 104.4112274 | 104.4112274 | 104.4112274 | 103.8652365 | 101.5456225 | 99.28929479 | 97.09417965 | 94.95828353 |
| 150601A00405 | 6/1/2015 | 4.63 | 1/17/2034 | 6/1/2015 | 157.67554 | 157.6755421 | 157.6755421 | 148.3455846 | 133.3434733 | 119.7359443 | 107.7753224 | 97.24851438 | 87.97125009 |
| 150601A00494 | 6/1/2015 | 2.37 | 6/25/2021 | 6/1/2015 | 102.41085 | 102.4108464 | 102.4108464 | 102.4108464 | 102.1823938 | 101.0979818 | 100.0365175 | 98.99727817 | 97.97957153 |
| 150601A00530 | 6/1/2015 | 3.08 | 7/24/2024 | 6/1/2015 | 112.26077 | 112.2607744 | 112.2607744 | 112.2607744 | 110.4146554 | 106.1875582 | 102.1476539 | 98.28561491 | 94.59263256 |
| 150601A00636 | 6/1/2015 | 2.45 | 6/30/2021 | 6/1/2015 | 102.35276 | 102.3527611 | 102.3527611 | 102.3527611 | 102.1239134 | 101.0287993 | 99.95710288 | 98.90807915 | 97.88101455 |
| 150601A00640 | 6/1/2015 | 2.57 | 12/31/2021 | 6/1/2015 | 103.61708 | 103.6170804 | 103.6170804 | 103.6170804 | 103.3010758 | 101.7129527 | 100.1570555 | 98.6324709 | 97.13831963 |
| 150601A00644 | 6/1/2015 | 2.64 | 6/30/2022 | 6/1/2015 | 104.86536 | 104.8653606 | 104.8653606 | 104.8653606 | 104.4171164 | 102.3285975 | 100.2923968 | 98.30685084 | 96.37036218 |
| 150601A00717 | 6/1/2015 | 2.13 | 4/1/2022 | 6/1/2015 | 103.35586 | 103.3558619 | 103.3558619 | 103.3558619 | 102.986511 | 101.1527246 | 99.36042809 | 97.60844421 | 95.89563645 |
| 150601A00737 | 6/1/2015 | 2.68 | 12/31/2024 | 6/1/2015 | 111.71705 | 111.7170521 | 111.7170521 | 111.7170521 | 109.4537957 | 104.8233183 | 100.4169667 | 96.22269432 | 92.22916788 |
| 150601A00830 | 6/1/2015 | 6.743 | 7/31/2025 | 6/1/2015 | 134.13823 | 134.1382264 | 134.1382264 | 134.1382264 | 131.012894 | 125.2701326 | 119.8275132 | 114.6675542 | 109.7738923 |
| 150601A00839 | 6/1/2015 | 6.93 | 10/30/2020 | 6/1/2015 | 102.80499 | 102.8049918 | 102.8049918 | 102.8049918 | 102.7261314 | 102.2949676 | 101.8674281 | 101.4434675 | 101.023041 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150609A00006 | 6/9/2015 | 1.95 | 6/15/2020 | 6/9/2015 | 100.08658 | 100.0865806 | 100.0865806 | 100.0865806 | 100.0799084 | 100.0327061 | 99.98556614 | 99.93848824 | 99.8914723 |
| 150707A00053 | 7/7/2015 | 1.92 | 7/7/2020 | 7/7/2015 | 100.17205 | 100.1720507 | 100.1720507 | 100.1720507 | 100.1560036 | 100.0480207 | 99.9402805 | 99.83278215 | 99.72552484 |
| 150803A00053 | 8/3/2015 | 2.49 | 8/3/2022 | 8/3/2015 | 104.83509 | 104.8350871 | 104.8350871 | 104.8350871 | 104.3513413 | 102.171059 | 100.0471518 | 97.97775758 | 95.96109145 |
| 150817A00016 | 8/17/2015 | 2.24 | 8/17/2021 | 8/17/2015 | 102.4234 | 102.4234024 | 102.4234024 | 102.4234024 | 102.1860508 | 100.9602208 | 99.76370638 | 98.59546528 | 97.4545042 |
| 160620A00026 | 6/20/2016 | 1.39 | 6/21/2021 | 6/20/2016 | 101.36952 | 101.369517 | 101.369517 | 101.369517 | 101.143172 | 100.0756658 | 99.03056718 | 98.00717675 | 97.00482388 |
| 160624A00010 | 6/24/2016 | 1.66 | 6/24/2022 | 6/24/2016 | 102.85568 | 102.8556821 | 102.8556821 | 102.8556821 | 102.4175985 | 100.366402 | 98.3664359 | 96.41608086 | 94.5137811 |
| 160628A00068 | 6/28/2016 | 1.28 | 6/28/2021 | 6/28/2016 | 101.27364 | 101.2736403 | 101.2736403 | 101.2736403 | 101.0459206 | 99.95997898 | 98.89722657 | 97.85692752 | 96.83837681 |
| 160701A00026 | 7/1/2016 | 1.43 | 7/1/2021 | 7/1/2016 | 101.27387 | 101.2738744 | 101.2738744 | 101.2738744 | 101.0461924 | 99.95470122 | 98.88665069 | 97.84129257 | 96.81791017 |
| 160706A00018 | 7/6/2016 | 1.29 | 7/6/2020 | 7/6/2016 | 100.10119 | 100.1011867 | 100.1011867 | 100.1011867 | 100.0856382 | 99.98048924 | 99.87557006 | 99.77087984 | 99.66641783 |
| 160706A00019 | 7/6/2016 | 1.41 | 7/6/2021 | 7/6/2016 | 101.26744 | 101.2674412 | 101.2674412 | 101.2674412 | 101.0390312 | 99.93405978 | 98.8531176 | 97.79542785 | 96.76024687 |
| 160707A00034 | 7/7/2016 | 1.25 | 7/7/2021 | 7/7/2016 | 101.26896 | 101.2689625 | 101.2689625 | 101.2689625 | 101.0398546 | 99.92952939 | 98.84345254 | 97.78083699 | 96.74092939 |
| 160714A00029 | 8/10/2016 | 2.27 | 8/10/2026 | 8/10/2016 | 112.23433 | 112.2343304 | 112.2343304 | 112.2343304 | 107.7800544 | 101.7198758 | 96.04112258 | 90.71777505 | 85.72572375 |
| 160714A00054 | 7/14/2016 | 2.03 | 7/15/2024 | 7/14/2016 | 107.21916 | 107.219161 | 107.219161 | 107.219161 | 105.4382219 | 101.3598572 | 97.46188574 | 93.73535675 | 90.17181458 |
| 160726A00005 | 7/26/2016 | 2.28 | 7/27/2026 | 7/26/2016 | 112.22114 | 112.221143 | 112.221143 | 112.221143 | 107.8324957 | 101.8050979 | 96.15502353 | 90.85666978 | 85.88630292 |
| 160804A00014 | 8/4/2016 | 1.99 | 8/5/2024 | 8/4/2016 | 107.15019 | 107.1501923 | 107.1501923 | 107.1501923 | 105.3188553 | 101.1882039 | 97.242402 | 93.47216812 | 89.86874128 |
| 160815A00074 | 8/15/2016 | 1.57 | 8/13/2021 | 8/15/2016 | 101.58233 | 101.5823314 | 101.5823314 | 101.5823314 | 101.3469513 | 100.1373906 | 98.95654302 | 97.80339582 | 96.67698342 |
| 160830A00035 | 8/30/2016 | 2.06 | 8/30/2024 | 8/30/2016 | 107.56694 | 107.5669351 | 107.5669351 | 107.5669351 | 105.6713881 | 101.4696259 | 97.45838202 | 93.62796181 | 89.96922224 |
| 160922A00049 | 9/22/2016 | 1.79 | 9/22/2022 | 9/22/2016 | 103.4994 | 103.4994003 | 103.4994003 | 103.4994003 | 102.9615739 | 100.6658279 | 98.43247786 | 96.25946654 | 94.14481773 |
| 160923A00033 | 9/23/2016 | 2.04 | 9/23/2026 | 9/23/2016 | 112.27194 | 112.2719425 | 112.2719425 | 112.2719425 | 107.5644181 | 101.3576831 | 95.54982698 | 90.1131985 | 85.02219738 |
| 160926A00046 | 9/26/2016 | 1.66 | 9/26/2023 | 9/26/2016 | 105.19209 | 105.1920937 | 105.1920937 | 105.1920937 | 104.0483264 | 100.7458797 | 97.56518241 | 94.50112123 | 91.54882496 |
| 161004A00040 | 10/4/2016 | 1.45 | 10/4/2021 | 10/4/2016 | 101.82216 | 101.8221643 | 101.8221643 | 101.8221643 | 101.5649822 | 100.2241477 | 98.90727053 | 97.61376453 | 96.34306217 |
| 161027A00013 | 10/28/2016 | 1.66 | 3/15/2021 | 10/28/2016 | 101.12168 | 101.1216819 | 101.1216819 | 101.1216819 | 100.944729 | 100.1463565 | 99.36057021 | 98.5870743 | 97.82558207 |
| 161031A00007 | 10/31/2016 | 1.91 | 10/31/2022 | 10/31/2016 | 103.95378 | 103.9537845 | 103.9537845 | 103.9537845 | 103.3662047 | 100.9612114 | 98.62427818 | 96.35310109 | 94.14546789 |
| 161123A00008 | 11/23/2016 | 2.2 | 11/23/2021 | 11/23/2016 | 102.88135 | 102.8813451 | 102.8813451 | 102.8813451 | 102.5897249 | 101.1108841 | 99.66084767 | 98.23884809 | 96.8441444 |
| 161214A00023 | 12/14/2016 | 3.3 | 12/15/2031 | 12/14/2016 | 137.00872 | 137.0087162 | 137.0087162 | 132.5527346 | 120.250406 | 108.9404453 | 98.84513583 | 89.82600353 | 81.76107798 |
| 170111A00016 | 1/11/2017 | 3.51 | 1/11/2033 | 1/11/2017 | 140.23769 | 140.2376884 | 140.2376884 | 133.4679384 | 120.2488579 | 108.2274579 | 97.59189527 | 88.17254884 | 79.82146483 |
| 170119A00006 | 1/19/2017 | 2.85 | 1/21/2025 | 1/19/2017 | 111.91469 | 111.9146916 | 111.9146916 | 111.9146916 | 109.6078697 | 104.9469009 | 100.5130264 | 96.29395092 | 92.27811342 |
| 170203A00013 | 2/3/2017 | 3.67 | 2/1/2036 | 2/3/2017 | 152.22729 | 152.2272942 | 152.2272942 | 138.8214791 | 122.4956942 | 108.1325959 | 95.7505038 | 85.05918517 | 75.8126183 |
| 150610A00017 | 6/10/2015 | 2.9 | 6/15/2023 | 6/10/2015 | 108.00628 | 108.0062758 | 108.0062758 | 108.0062758 | 107.0505728 | 103.9862452 | 101.0264344 | 98.16698417 | 95.403929 |
| 150701A00053 | 7/1/2015 | 1.92 | 7/1/2020 | 7/1/2015 | 100.1653 | 100.1652962 | 100.1652962 | 100.1652962 | 100.1521503 | 100.0605532 | 99.96912685 | 99.87787064 | 99.78678411 |
| 150715A00009 | 7/15/2015 | 2.67 | 7/15/2022 | 7/15/2015 | 105.10735 | 105.1073452 | 105.1073452 | 105.1073452 | 104.6430365 | 102.5110276 | 100.4331615 | 98.40768726 | 96.43292464 |
| 150722A00013 | 7/22/2015 | 2.09 | 7/22/2020 | 7/22/2015 | 100.26923 | 100.2692277 | 100.2692277 | 100.2692277 | 100.2458356 | 100.09627 | 99.94715864 | 99.79849934 | 99.6502901 |
| 150729A00012 | 7/29/2015 | 2.06 | 7/29/2020 | 7/29/2015 | 100.3006 | 100.3006015 | 100.3006015 | 100.3006015 | 100.273785 | 100.1048435 | 99.93646653 | 99.76865123 | 99.60139488 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150819A00012 | 8/19/2015 | 3.04 | 8/19/2025 | 8/19/2015 | 114.37405 | 114.3740474 | 114.3740474 | 114.3740474 | 111.3953315 | 106.139642 | 101.1669413 | 96.46043831 | 92.00443173 |
| 150824A00047 | 8/24/2015 | 1.88 | 11/24/2020 | 8/24/2015 | 100.80762 | 100.8076186 | 100.8076186 | 100.8076186 | 100.71419 | 100.2195386 | 99.72973658 | 99.24471286 | 98.76439781 |
| 150824A00072 | 8/24/2015 | 2.14 | 8/24/2022 | 8/24/2015 | 104.58135 | 104.5813466 | 104.5813466 | 104.5813466 | 104.0729045 | 101.832189 | 99.65075215 | 97.52658561 | 95.4577669 |
| 150824A00097 | 8/24/2015 | 2.67 | 8/25/2025 | 8/24/2015 | 113.52234 | 113.5223403 | 113.5223403 | 113.5223403 | 110.5061861 | 105.2241162 | 100.2285647 | 95.50242598 | 91.0297112 |
| 150904A00015 | 9/4/2015 | 1.79 | 10/15/2020 | 9/4/2015 | 100.64554 | 100.6455419 | 100.6455419 | 100.6455419 | 100.5760308 | 100.1909443 | 99.80881385 | 99.4296053 | 99.05328512 |
| 150914A00053 | 9/14/2015 | 1.77 | 9/14/2020 | 9/14/2015 | 100.49566 | 100.4956602 | 100.4956602 | 100.4956602 | 100.4434062 | 100.1440534 | 99.84649688 | 99.55072054 | 99.25670828 |
| 150923A00049 | 9/23/2015 | 1.97 | 9/23/2021 | 9/23/2015 | 102.47717 | 102.4771708 | 102.4771708 | 102.4771708 | 102.2251147 | 100.9068105 | 99.6135087 | 98.34452637 | 97.09920555 |
| 150924A00030 | 9/24/2015 | 1.67 | 9/24/2020 | 9/24/2015 | 100.50881 | 100.508807 | 100.508807 | 100.508807 | 100.4511076 | 100.1241628 | 99.79934878 | 99.47664485 | 99.15603042 |
| 151008A00019 | 10/8/2015 | 1.58 | 10/15/2020 | 10/8/2015 | 100.56448 | 100.5644812 | 100.5644812 | 100.5644812 | 100.4950029 | 100.1101083 | 99.72816862 | 99.34914976 | 98.97301819 |
| 151013A00030 | 10/13/2015 | 1.89 | 4/14/2021 | 10/13/2015 | 101.44144 | 101.4414381 | 101.4414381 | 101.4414381 | 101.2437576 | 100.362482 | 99.49650144 | 98.64542019 | 97.80885614 |
| 151106A00011 | 11/6/2015 | 3.1 | 1/15/2026 | 11/6/2015 | 115.8272 | 115.8271996 | 115.8271996 | 115.8271996 | 112.2533844 | 106.5903349 | 101.252704 | 96.22003227 | 91.47325448 |
| 151120A00016 | 11/20/2015 | 2.11 | 11/20/2020 | 11/20/2015 | 100.90127 | 100.9012739 | 100.9012739 | 100.9012739 | 100.8102683 | 100.3263108 | 99.84699736 | 99.37226139 | 98.90203744 |
| 151221A00010 | 12/21/2015 | 2.1 | 12/21/2020 | 12/21/2015 | 101.05483 | 101.0548307 | 101.0548307 | 101.0548307 | 100.9419843 | 100.3726615 | 99.8097509 | 99.25314456 | 98.70273694 |
| 151223A00072 | 12/23/2015 | 2.81 | 12/23/2025 | 12/23/2015 | 115.15575 | 115.1557486 | 115.1557486 | 115.1557486 | 111.6549683 | 106.0296997 | 100.7261013 | 95.72406653 | 91.00485027 |
| 151223A00077 | 12/23/2015 | 3.57 | 12/24/2035 | 12/23/2015 | 154.01458 | 154.0145766 | 154.0145766 | 140.4333121 | 123.8325694 | 109.2397412 | 96.65845978 | 85.79462735 | 76.39882764 |
| 160104A00014 | 1/4/2016 | 2.49 | 1/4/2023 | 1/4/2016 | 105.7676 | 105.7675962 | 105.7675962 | 105.7675962 | 105.0854407 | 102.4854286 | 99.96317991 | 97.51589188 | 95.14088202 |
| 160119A00005 | 1/19/2016 | 1.89 | 1/19/2021 | 1/19/2016 | 101.06633 | 101.0663306 | 101.0663306 | 101.0663306 | 100.9305666 | 100.2819971 | 99.64174595 | 99.00965378 | 98.38556527 |
| 160119A00025 | 1/19/2016 | 3.05 | 1/19/2028 | 1/19/2016 | 121.02457 | 121.0245651 | 121.0245651 | 121.0245651 | 113.9062461 | 106.3418161 | 99.3451432 | 92.87044278 | 86.8758543 |
| 160119A00026 | 1/19/2016 | 3.14 | 1/19/2029 | 1/19/2016 | 124.52412 | 124.524122 | 124.524122 | 124.4363499 | 115.5441404 | 107.0294478 | 99.22539164 | 92.06853736 | 85.50143409 |
| 160808A00011 | 8/8/2016 | 1.6 | 8/9/2021 | 8/8/2016 | 101.6043 | 101.6043007 | 101.6043007 | 101.6043007 | 101.3697407 | 100.1708361 | 99.00013761 | 97.85665919 | 96.73946028 |
| 160830A00037 | 8/30/2016 | 2.16 | 8/29/2025 | 8/30/2016 | 109.79903 | 109.7990256 | 109.7990256 | 109.7990256 | 106.8302468 | 101.6672097 | 96.78519729 | 92.1674058 | 87.79812953 |
| 160830A00038 | 8/30/2016 | 2.24 | 8/28/2026 | 8/30/2016 | 112.14263 | 112.1426257 | 112.1426257 | 112.1426257 | 107.605467 | 101.5067481 | 95.79459198 | 90.44244572 | 85.42572004 |
| 160909A00024 | 9/9/2016 | 1.7 | 9/9/2021 | 9/9/2016 | 101.84808 | 101.8480808 | 101.8480808 | 101.8480808 | 101.6039274 | 100.3247527 | 99.07373497 | 97.84994486 | 96.65249385 |
| 161004A00034 | 10/4/2016 | 1.67 | 10/4/2021 | 10/4/2016 | 101.89225 | 101.8922487 | 101.8922487 | 101.8922487 | 101.6356515 | 100.2979565 | 98.9841099 | 97.69352943 | 96.42565114 |
| 161006A00010 | 10/6/2016 | 1.35 | 10/6/2020 | 10/6/2016 | 100.44497 | 100.4449714 | 100.4449714 | 100.4449714 | 100.3806222 | 100.0207689 | 99.66349838 | 99.30878292 | 98.95659506 |
| 161213A00014 | 12/13/2016 | 2.07 | 12/13/2021 | 12/13/2016 | 103.04927 | 103.0492702 | 103.0492702 | 103.0492702 | 102.7440433 | 101.2053133 | 99.69733853 | 98.21926992 | 96.77028902 |
| 170111A00020 | 1/11/2017 | 2.27 | 1/11/2022 | 1/11/2017 | 103.25543 | 103.2554259 | 103.2554259 | 103.2554259 | 102.9337947 | 101.3195514 | 99.7384599 | 98.1895652 | 96.67194863 |
| 170117A00045 | 1/17/2017 | 2.21 | 1/18/2022 | 1/17/2017 | 103.19434 | 103.1943354 | 103.1943354 | 103.1943354 | 102.8688438 | 101.2365944 | 99.6381196 | 98.07243654 | 96.53860043 |
| 170130A00054 | 3/30/2017 | 2.33 | 4/29/2022 | 3/30/2017 | 103.94362 | 103.9436153 | 103.9436153 | 103.9436153 | 103.5532429 | 101.640227 | 99.77206035 | 97.94742302 | 96.16504269 |
| 170215A00038 | 2/15/2017 | 2.71 | 8/22/2022 | 2/15/2017 | 105.44673 | 105.4467285 | 105.4467285 | 105.4467285 | 104.9404434 | 102.7032439 | 100.5249131 | 98.40346588 | 96.33700192 |
| 170215A00039 | 2/15/2017 | 2.72 | 11/7/2022 | 2/15/2017 | 105.98446 | 105.9844623 | 105.9844623 | 105.9844623 | 105.382243 | 102.9338839 | 100.5551642 | 98.24370995 | 95.99724296 |
| 170215A00041 | 2/15/2017 | 2.6 | 10/16/2023 | 2/15/2017 | 107.86414 | 107.8641412 | 107.8641412 | 107.8641412 | 106.6759254 | 103.2911055 | 100.03217 | 96.89378648 | 93.87087663 |
| 170224A00020 | 2/24/2017 | 3.08 | 2/24/2027 | 2/24/2017 | 118.77515 | 118.775152 | 118.775152 | 118.775152 | 113.2702382 | 106.5442301 | 100.2704157 | 94.41589129 | 88.95032064 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170224A00021 | 2/24/2017 | 3.4 | 2/24/2032 | 2/24/2017 | 136.19162 | 136.1916181 | 136.1916181 | 131.4164412 | 119.1440594 | 107.8697311 | 97.81851008 | 88.84943729 | 80.83854256 |
| 170224A00039 | 5/24/2017 | 3.17 | 5/24/2027 | 5/24/2017 | 120.07626 | 120.0762588 | 120.0762588 | 120.0762588 | 114.1169464 | 107.1371198 | 100.641603 | 94.59413622 | 88.96135543 |
| 170303A00023 | 3/3/2017 | 2 | 3/3/2021 | 3/3/2017 | 101.45251 | 101.4525093 | 101.4525093 | 101.4525093 | 101.2833963 | 100.5146996 | 99.75763533 | 99.01194095 | 98.27736183 |
| 170313A00034 | 3/13/2017 | 3.31 | 3/15/2027 | 3/13/2017 | 120.48617 | 120.4861653 | 120.4861653 | 120.4861653 | 114.8597859 | 108.0316293 | 101.6647985 | 95.72558979 | 90.18293292 |
| 170314A00006 | 3/14/2017 | 2.67 | 3/14/2024 | 3/14/2017 | 109.7936 | 109.793602 | 109.793602 | 109.793602 | 108.2727071 | 104.4429242 | 100.7702262 | 97.24731249 | 93.86726407 |
| 170317A00060 | 3/17/2017 | 2.04 | 3/17/2021 | 3/17/2017 | 101.5578 | 101.5578049 | 101.5578049 | 101.5578049 | 101.3786822 | 100.571324 | 99.77679415 | 98.99478845 | 98.22501243 |
| 170322A00025 | 3/22/2017 | 3.58 | 3/22/2033 | 3/22/2017 | 141.72768 | 141.7276827 | 141.7276827 | 134.5062966 | 121.0493271 | 108.8323419 | 98.040635 | 88.4976471 | 80.04963372 |
| 170417A00043 | 4/17/2017 | 2.14 | 4/18/2022 | 4/17/2017 | 103.51908 | 103.5190823 | 103.5190823 | 103.5190823 | 103.1373558 | 101.257384 | 99.42089205 | 97.62661804 | 95.87334493 |
| 170417A00094 | 4/17/2017 | 1.95 | 4/19/2022 | 4/17/2017 | 103.50616 | 103.5061575 | 103.5061575 | 103.5061575 | 103.1224452 | 101.2336592 | 99.3887212 | 97.58635409 | 95.82532621 |
| 170419A00023 | 4/19/2017 | 2.11 | 4/19/2023 | 4/19/2017 | 105.82566 | 105.8256581 | 105.8256581 | 105.8256581 | 104.9736388 | 102.0800955 | 99.28128541 | 96.57360633 | 93.95361315 |
| 160107A00039 | 1/7/2016 | 2.06 | 2/10/2021 | 1/7/2016 | 101.28722 | 101.2872202 | 101.2872202 | 101.2872202 | 101.1341884 | 100.424791 | 99.72532539 | 99.03558407 | 98.35536514 |
| 160108A00020 | 1/8/2016 | 2.04 | 1/8/2021 | 1/8/2016 | 101.10961 | 101.1096077 | 101.1096077 | 101.1096077 | 100.9827304 | 100.3640258 | 99.75289051 | 99.14918614 | 98.55277765 |
| 160203A00001 | 2/3/2016 | 1.44 | 8/3/2020 | 2/3/2016 | 100.24231 | 100.2423085 | 100.2423085 | 100.2423085 | 100.2127734 | 100.0297875 | 99.847477 | 99.66583802 | 99.48486684 |
| 160216A00028 | 2/16/2016 | 1.69 | 2/16/2022 | 2/16/2016 | 102.73877 | 102.7387691 | 102.7387691 | 102.7387691 | 102.3964831 | 100.6849585 | 99.01015754 | 97.37096398 | 95.76630729 |
| 160328A00014 | 3/28/2016 | 2.49 | 3/27/2026 | 3/28/2016 | 113.96842 | 113.9684218 | 113.9684218 | 113.9684218 | 110.0759721 | 104.2480734 | 98.7676691 | 93.61226399 | 88.76092856 |
| 160330A00054 | 3/30/2016 | 2.9 | 3/31/2031 | 3/30/2016 | 130.38106 | 130.3810577 | 130.3810577 | 127.392513 | 116.0237074 | 105.5184649 | 96.08728224 | 87.61379073 | 79.99480499 |
| 160415A00014 | 4/15/2016 | 2.05 | 4/14/2023 | 4/15/2016 | 105.09347 | 105.0934674 | 105.0934674 | 105.0934674 | 104.256401 | 101.3984825 | 98.63356561 | 95.95813658 | 93.36883378 |
| 160419A00005 | 4/19/2016 | 1.66 | 4/19/2021 | 4/19/2016 | 101.25663 | 101.256635 | 101.256635 | 101.256635 | 101.0558391 | 100.1619038 | 99.28372331 | 98.4208838 | 97.57298598 |
| 160422A00026 | 4/22/2016 | 2.62 | 4/22/2026 | 4/22/2016 | 113.72017 | 113.7201745 | 113.7201745 | 113.7201745 | 109.7503617 | 103.9074108 | 98.41557248 | 93.2519381 | 88.39520551 |
| 160516A00027 | 5/16/2016 | 2.01 | 5/16/2023 | 5/16/2016 | 105.12837 | 105.1283666 | 105.1283666 | 105.1283666 | 104.2363504 | 101.2943006 | 98.45072294 | 95.70178864 | 93.0438396 |
| 160524A00027 | 5/24/2016 | 3.06 | 5/27/2031 | 5/24/2016 | 130.19738 | 130.1973798 | 130.1973798 | 126.9762208 | 115.622979 | 105.128639 | 95.71592351 | 87.26652679 | 79.67568175 |
| 160606A00004 | 6/6/2016 | 2.43 | 6/8/2026 | 6/6/2016 | 112.86594 | 112.8659414 | 112.8659414 | 112.8659414 | 108.6944927 | 102.7640543 | 97.19763308 | 91.97098496 | 87.06160204 |
| 160610A00008 | 6/10/2016 | 1.75 | 6/10/2022 | 6/10/2016 | 102.98766 | 102.987664 | 102.987664 | 102.987664 | 102.5626367 | 100.546713 | 98.58055304 | 96.66260824 | 94.79138961 |
| 160614A00066 | 6/14/2016 | 1.35 | 6/14/2021 | 6/14/2016 | 101.30248 | 101.3024789 | 101.3024789 | 101.3024789 | 101.0777044 | 100.0295822 | 99.0030791 | 97.99753156 | 97.0123032 |
| 160616A00027 | 6/16/2016 | 2.27 | 6/16/2026 | 6/16/2016 | 111.93988 | 111.9398808 | 111.9398808 | 111.9398808 | 107.7439885 | 101.8219416 | 96.2649621 | 91.04865005 | 86.15035861 |
| 160624A00065 | 6/28/2016 | 2.08 | 6/28/2021 | 6/28/2016 | 101.97633 | 101.976333 | 101.976333 | 101.976333 | 101.7483078 | 100.660834 | 99.59651402 | 98.55461472 | 97.53443363 |
| 160630A00021 | 6/30/2016 | 1.59 | 6/30/2023 | 6/30/2016 | 104.59781 | 104.5978149 | 104.5978149 | 104.5978149 | 103.6225719 | 100.5585405 | 97.60078698 | 94.74502094 | 91.98715207 |
| 160630A00100 | 6/30/2016 | 1.18 | 6/30/2020 | 6/30/2016 | 100.09453 | 100.0945269 | 100.0945269 | 100.0945269 | 100.0818793 | 99.99311532 | 99.90450993 | 99.81606266 | 99.72777308 |
| 160706A00029 | 7/6/2016 | 2.49 | 7/8/2030 | 7/6/2016 | 122.05212 | 122.052119 | 122.052119 | 120.343166 | 110.1124304 | 100.6056868 | 92.01670424 | 84.25160062 | 77.22655791 |
| 160706A00067 | 7/6/2016 | 1.29 | 7/6/2020 | 7/6/2016 | 100.10119 | 100.1011867 | 100.1011867 | 100.1011867 | 100.0856382 | 99.98048924 | 99.87557006 | 99.77087984 | 99.66641783 |
| 160707A00001 | 7/7/2016 | 1.34 | 7/7/2020 | 7/7/2016 | 100.10924 | 100.1092388 | 100.1092388 | 100.1092388 | 100.0932012 | 99.98528283 | 99.87760702 | 99.77017294 | 99.66297976 |
| 160714A00020 | 9/6/2016 | 2.28 | 9/4/2026 | 9/6/2016 | 112.43146 | 112.4314612 | 112.4314612 | 112.4314612 | 107.8571794 | 101.7336865 | 95.99922725 | 90.62703712 | 85.59233133 |
| 160718A00010 | 7/18/2016 | 1.65 | 7/18/2023 | 7/18/2016 | 104.86149 | 104.8614894 | 104.8614894 | 104.8614894 | 103.852007 | 100.7358728 | 97.72914966 | 94.82736097 | 92.02624238 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160727A00016 | 7/27/2016 | 1.78 | 7/27/2022 | 7/27/2016 | 103.24179 | 103.2417917 | 103.2417917 | 103.2417917 | 102.7692691 | 100.6252114 | 98.53631676 | 96.50077585 | 94.51685384 |
| 151022A00011 | 10/22/2015 | 1.57 | 10/22/2020 | 10/22/2015 | 100.5888 | 100.5887973 | 100.5887973 | 100.5887973 | 100.5153564 | 100.1111468 | 99.71018892 | 99.31244365 | 98.9178724 |
| 151211A00002 | 12/11/2015 | 2.05 | 12/15/2021 | 12/11/2015 | 103.02872 | 103.0287236 | 103.0287236 | 103.0287236 | 102.7223285 | 101.1782665 | 99.66512672 | 98.18205255 | 96.7282186 |
| 151223A00066 | 12/23/2015 | 2.34 | 12/23/2022 | 12/23/2015 | 105.77923 | 105.7792283 | 105.7792283 | 105.7792283 | 105.1114515 | 102.5331389 | 100.0314401 | 97.60361613 | 95.24704462 |
| 151229A00081 | 12/29/2015 | 3.76 | 12/31/2035 | 12/29/2015 | 153.33143 | 153.3314253 | 153.3314253 | 140.0528178 | 123.7224818 | 109.3308663 | 96.91197114 | 86.17834826 | 76.8861143 |
| 160107A00042 | 1/7/2016 | 2.05 | 1/7/2021 | 1/7/2016 | 101.11084 | 101.1108378 | 101.1108378 | 101.1108378 | 100.9847706 | 100.3687929 | 99.76031709 | 99.15920676 | 98.56532865 |
| 160114A00015 | 1/14/2016 | 1.92 | 1/14/2021 | 1/14/2016 | 101.06276 | 101.0627649 | 101.0627649 | 101.0627649 | 100.9310549 | 100.2961381 | 99.66919638 | 99.05007997 | 98.43864292 |
| 160119A00019 | 1/19/2016 | 2.95 | 1/19/2027 | 1/19/2016 | 117.63661 | 117.6366144 | 117.6366144 | 117.6366144 | 112.3256367 | 105.7212578 | 99.55580614 | 93.79772566 | 88.41789097 |
| 160126A00053 | 1/26/2016 | 1.75 | 7/20/2020 | 1/26/2016 | 100.20878 | 100.2087778 | 100.2087778 | 100.2087778 | 100.186375 | 100.0424178 | 99.89888433 | 99.75577274 | 99.61308114 |
| 160209A00047 | 2/9/2016 | 1.5 | 8/10/2020 | 2/9/2016 | 100.24636 | 100.2463595 | 100.2463595 | 100.2463595 | 100.2131294 | 100.0111571 | 99.81001021 | 99.60968362 | 99.41017225 |
| 160307A00028 | 3/7/2016 | 2.91 | 3/7/2028 | 3/7/2016 | 120.29141 | 120.291412 | 120.291412 | 120.291412 | 112.9633537 | 105.3176935 | 98.2551955 | 91.728137 | 85.69294252 |
| 160331A00023 | 3/31/2016 | 1.68 | 3/31/2021 | 3/31/2016 | 101.19998 | 101.199981 | 101.199981 | 101.199981 | 101.0117691 | 100.1696224 | 99.34145759 | 98.52692877 | 97.72570151 |
| 160510A00012 | 5/10/2016 | 1.49 | 10/12/2021 | 5/10/2016 | 101.90728 | 101.9072827 | 101.9072827 | 101.9072827 | 101.6446722 | 100.2814098 | 98.94286318 | 97.62841873 | 96.33748264 |
| 160601A00016 | 6/1/2016 | 1.74 | 6/1/2021 | 6/1/2016 | 101.49405 | 101.494046 | 101.494046 | 101.494046 | 101.2723518 | 100.260825 | 99.26941219 | 98.29751816 | 97.34457114 |
| 160606A00023 | 6/6/2016 | 1.51 | 6/10/2020 | 6/6/2016 | 100.03871 | 100.0387084 | 100.0387084 | 100.0387084 | 100.0340119 | 100.0007835 | 99.96759357 | 99.93444191 | 99.90132849 |
| 160614A00025 | 6/14/2016 | 1.83 | 6/14/2023 | 6/14/2016 | 104.71238 | 104.7123796 | 104.7123796 | 104.7123796 | 103.7704459 | 100.7591338 | 97.85089955 | 95.04163925 | 92.32743717 |
| 160614A00067 | 6/14/2016 | 1.51 | 2/16/2021 | 6/14/2016 | 100.91577 | 100.9157726 | 100.9157726 | 100.9157726 | 100.7585308 | 100.0342884 | 99.32042439 | 98.61671692 | 97.92295033 |
| 160615A00031 | 6/15/2016 | 2.51 | 6/17/2030 | 6/15/2016 | 124.23878 | 124.2387751 | 124.2387751 | 122.5778878 | 112.1869198 | 102.5267653 | 93.79648103 | 85.90120734 | 78.75622642 |
| 160616A00006 | 6/16/2016 | 1.51 | 6/16/2021 | 6/16/2016 | 101.31076 | 101.3107587 | 101.3107587 | 101.3107587 | 101.0860847 | 100.0349456 | 99.00555892 | 97.99725491 | 97.00939111 |
| 160616A00034 | 6/16/2016 | 1.97 | 6/17/2024 | 6/16/2016 | 106.84081 | 106.8408057 | 106.8408057 | 106.8408057 | 105.1287876 | 101.1296789 | 97.30490241 | 93.64593762 | 90.14472726 |
| 160624A00026 | 6/24/2016 | 1.52 | 6/24/2021 | 6/24/2016 | 101.34905 | 101.3490514 | 101.3490514 | 101.3490514 | 101.1226337 | 100.049633 | 98.99928172 | 97.97086888 | 96.96371306 |
| 160628A00050 | 6/28/2016 | 1.56 | 6/28/2023 | 6/28/2016 | 104.4961 | 104.4960973 | 104.4960973 | 104.4960973 | 103.5248845 | 100.4676801 | 97.51638875 | 94.66674088 | 91.91466552 |
| 160629A00052 | 6/29/2016 | 1.29 | 6/29/2021 | 6/29/2016 | 101.28786 | 101.2878608 | 101.2878608 | 101.2878608 | 101.0599113 | 99.97117505 | 98.90574258 | 97.86287276 | 96.84185554 |
| 160629A00056 | 6/29/2016 | 1.36 | 6/29/2020 | 6/29/2016 | 100.08709 | 100.0870867 | 100.0870867 | 100.0870867 | 100.0749582 | 99.98917412 | 99.90353408 | 99.81803778 | 99.73268489 |
| 160630A00019 | 6/30/2016 | 1.52 | 7/1/2021 | 6/30/2016 | 101.37321 | 101.3732115 | 101.3732115 | 101.3732115 | 101.1454086 | 100.0533343 | 98.98470938 | 97.93878536 | 96.91484535 |
| 170323A00009 | 3/23/2017 | 2.1 | 3/23/2022 | 3/23/2017 | 103.64502 | 103.6450155 | 103.6450155 | 103.6450155 | 103.2797715 | 101.4620761 | 99.68512094 | 97.94773234 | 96.24877895 |
| 170330A00012 | 3/30/2017 | 2.11 | 3/30/2021 | 3/30/2017 | 101.55991 | 101.5599065 | 101.5599065 | 101.5599065 | 101.3720214 | 100.5309306 | 99.7037491 | 98.8901342 | 98.08975439 |
| 170331A00004 | 3/31/2017 | 2.12 | 3/31/2021 | 3/31/2017 | 101.57352 | 101.5735181 | 101.5735181 | 101.5735181 | 101.3849592 | 100.5410859 | 99.71121455 | 98.89499897 | 98.09210432 |
| 170405A00013 | 4/5/2017 | 2.07 | 4/5/2022 | 4/5/2017 | 103.66008 | 103.6600846 | 103.6600846 | 103.6600846 | 103.2860617 | 101.4327432 | 99.62166994 | 97.85163388 | 96.12146928 |
| 170417A00068 | 4/17/2019 | 2.59 | 4/17/2024 | 4/17/2019 | 108.98975 | 108.9897518 | 108.9897518 | 108.9897518 | 107.4061693 | 103.5210497 | 99.79855509 | 96.2310464 | 92.81128275 |
| 170419A00022 | 4/19/2017 | 1.75 | 4/19/2021 | 4/19/2017 | 101.47203 | 101.4720324 | 101.4720324 | 101.4720324 | 101.2705873 | 100.3737408 | 99.49272288 | 98.62711728 | 97.77652225 |
| 170419A00025 | 4/19/2017 | 2.72 | 4/19/2027 | 4/19/2017 | 118.10553 | 118.105534 | 118.105534 | 118.105534 | 112.2897611 | 105.4051673 | 98.99526823 | 93.02482755 | 87.46139543 |
| 170427A00044 | 4/27/2017 | 3.02 | 4/27/2027 | 4/27/2017 | 118.82596 | 118.8259581 | 118.8259581 | 118.8259581 | 113.0192089 | 106.1443822 | 99.74255646 | 93.7786478 | 88.22034615 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170427A00046 | 4/27/2017 | 3.1 | 4/27/2028 | 4/27/2017 | 122.15753 | 122.1575309 | 122.1575309 | 122.1575309 | 114.5452208 | 106.7143135 | 99.48911706 | 92.81940715 | 86.65937002 |
| 170502A00028 | 5/2/2017 | 2.84 | 5/3/2027 | 5/2/2017 | 119.04569 | 119.0456942 | 119.0456942 | 119.0456942 | 113.1447088 | 106.1963086 | 99.72885983 | 93.70650272 | 88.09622673 |
| 170515A00005 | 5/15/2017 | 2.04 | 5/16/2022 | 5/15/2017 | 103.8222 | 103.8222039 | 103.8222039 | 103.8222039 | 103.4163821 | 101.4518218 | 99.53452895 | 97.66307523 | 95.83608549 |
| 170515A00007 | 5/15/2017 | 2.04 | 5/14/2021 | 5/15/2017 | 101.71242 | 101.7124242 | 101.7124242 | 101.7124242 | 101.4978582 | 100.5339534 | 99.58830034 | 98.66038413 | 97.74970921 |
| 170519A00002 | 5/19/2017 | 2.15 | 5/19/2022 | 5/19/2017 | 103.69682 | 103.6968202 | 103.6968202 | 103.6968202 | 103.2901506 | 101.3254375 | 99.40807551 | 97.53663133 | 95.70972487 |
| 170530A00006 | 5/30/2017 | 2.15 | 5/31/2022 | 5/30/2017 | 103.75817 | 103.7581672 | 103.7581672 | 103.7581672 | 103.3410716 | 101.3434352 | 99.39466656 | 97.4932629 | 95.63777826 |
| 170530A00025 | 5/30/2017 | 1.63 | 6/1/2020 | 5/30/2017 | 100.01261 | 100.0126125 | 100.0126125 | 100.0126125 | 100.0114353 | 100.0031053 | 99.99478312 | 99.98646865 | 99.9781619 |
| 170531A00018 | 5/31/2017 | 1.97 | 5/28/2021 | 5/31/2017 | 101.71 | 101.7100034 | 101.7100034 | 101.7100034 | 101.4891551 | 100.4873041 | 99.50515163 | 98.54212144 | 97.5976595 |
| 170606A00017 | 6/6/2017 | 1.9 | 6/6/2022 | 6/6/2017 | 103.64737 | 103.6473661 | 103.6473661 | 103.6473661 | 103.2232565 | 101.2039864 | 99.23448794 | 97.31321632 | 95.43868574 |
| 170608A00003 | 6/8/2017 | 1.97 | 6/8/2021 | 6/8/2017 | 101.76173 | 101.7617339 | 101.7617339 | 101.7617339 | 101.538239 | 100.5062452 | 99.49515418 | 98.50433569 | 97.53318467 |
| 170615A00004 | 6/15/2017 | 2.01 | 6/11/2021 | 6/15/2017 | 101.81778 | 101.8177833 | 101.8177833 | 101.8177833 | 101.5935819 | 100.5531331 | 99.53392297 | 98.53530614 | 97.55666317 |
| 170626A00016 | 6/26/2017 | 1.64 | 6/26/2020 | 6/26/2017 | 100.11849 | 100.1184948 | 100.1184948 | 100.1184948 | 100.1075088 | 100.0298026 | 99.95222257 | 99.8747683 | 99.79743953 |
| 170629A00014 | 6/29/2017 | 1.89 | 8/25/2020 | 6/29/2017 | 100.39481 | 100.3948097 | 100.3948097 | 100.3948097 | 100.3535114 | 100.1099432 | 99.86755827 | 99.62634817 | 99.38630436 |
| 170726A00034 | 7/26/2017 | 2.05 | 7/26/2021 | 7/26/2017 | 102.08071 | 102.0807067 | 102.0807067 | 102.0807067 | 101.8483157 | 100.6842753 | 99.5467345 | 98.43479652 | 97.34760467 |
| 170728A00031 | 7/28/2017 | 2.27 | 1/27/2023 | 7/28/2017 | 105.31484 | 105.3148385 | 105.3148385 | 105.3148385 | 104.6000155 | 101.9460279 | 99.37287632 | 96.87758768 | 94.45732 |
| 170728A00033 | 7/28/2017 | 2.46 | 1/29/2024 | 7/28/2017 | 108.01128 | 108.0112842 | 108.0112842 | 108.0112842 | 106.6067077 | 102.9464115 | 99.43195921 | 96.05671632 | 92.81439102 |
| 170203A00031 | 2/3/2017 | 2.09 | 2/3/2022 | 2/3/2017 | 103.36481 | 103.3648111 | 103.3648111 | 103.3648111 | 103.0289101 | 101.3474211 | 99.70142831 | 98.08987325 | 96.51173962 |
| 170215A00009 | 2/15/2017 | 2.21 | 2/16/2021 | 2/15/2017 | 101.42663 | 101.4266289 | 101.4266289 | 101.4266289 | 101.268986 | 100.5426745 | 99.82676247 | 99.12102761 | 98.4252539 |
| 170215A00036 | 2/15/2017 | 2.61 | 7/30/2021 | 2/15/2017 | 102.76339 | 102.7633938 | 102.7633938 | 102.7633938 | 102.5294616 | 101.3503114 | 100.1982191 | 99.07226153 | 97.97155697 |
| 170215A00037 | 2/15/2017 | 2.71 | 5/23/2022 | 2/15/2017 | 104.84 | 104.839996 | 104.839996 | 104.839996 | 104.4276187 | 102.440429 | 100.5013343 | 98.60887112 | 96.7616309 |
| 170224A00011 | 2/24/2017 | 1.83 | 2/24/2021 | 2/24/2017 | 101.28812 | 101.2881176 | 101.2881176 | 101.2881176 | 101.1242711 | 100.3753649 | 99.63751599 | 98.91048099 | 98.19402348 |
| 170228A00018 | 2/28/2017 | 2.25 | 2/28/2022 | 2/28/2017 | 103.48311 | 103.4831083 | 103.4831083 | 103.4831083 | 103.1336262 | 101.3878936 | 99.68005315 | 98.00893668 | 96.37342439 |
| 170303A00020 | 3/3/2017 | 2 | 3/3/2021 | 3/3/2017 | 101.45251 | 101.4525093 | 101.4525093 | 101.4525093 | 101.2833963 | 100.5146996 | 99.75763533 | 99.01194094 | 98.27736183 |
| 170317A00059 | 3/17/2017 | 2.47 | 3/17/2023 | 3/17/2017 | 106.66404 | 106.6640389 | 106.6640389 | 106.6640389 | 105.8644108 | 103.047082 | 100.3192975 | 97.67769455 | 95.11905836 |
| 170320A00014 | 3/20/2017 | 2.22 | 3/21/2022 | 3/20/2017 | 103.85415 | 103.854147 | 103.854147 | 103.854147 | 103.4897591 | 101.6757602 | 99.90230752 | 98.16822617 | 96.4723843 |
| 170322A00023 | 3/22/2017 | 3.82 | 9/22/2039 | 3/22/2017 | 166.843 | 166.8430036 | 166.8430036 | 146.7206614 | 126.6883364 | 109.6551059 | 95.38864369 | 83.40919989 | 73.32342767 |
| 170327A00072 | 3/29/2017 | 3.09 | 3/29/2027 | 3/29/2017 | 120.50859 | 120.508593 | 120.508593 | 120.508593 | 114.7543743 | 107.8394073 | 101.3960363 | 95.38957719 | 89.78806533 |
| 170327A00075 | 3/27/2019 | 2.47 | 3/28/2022 | 3/27/2019 | 104.02244 | 104.0224445 | 104.0224445 | 104.0224445 | 103.6545817 | 101.8252045 | 100.0369774 | 98.28873415 | 96.57934928 |
| 170501A00007 | 5/1/2017 | 2.04 | 5/3/2021 | 5/1/2017 | 101.66814 | 101.6681378 | 101.6681378 | 101.6681378 | 101.458531 | 100.5245828 | 99.60776955 | 98.70762297 | 97.82369185 |
| 170508A00010 | 5/8/2017 | 2.43 | 5/8/2024 | 5/8/2017 | 109.2238 | 109.223805 | 109.223805 | 109.223805 | 107.5807887 | 103.6172137 | 99.82229027 | 96.18796613 | 92.70661604 |
| 170515A00056 | 5/15/2017 | 3.2 | 5/17/2032 | 5/15/2017 | 137.14504 | 137.1450448 | 137.1450448 | 131.7591684 | 119.0733971 | 107.487528 | 97.18732944 | 88.02159083 | 79.85766467 |
| 170519A00034 | 5/19/2017 | 1.97 | 5/19/2022 | 5/19/2017 | 103.69834 | 103.6983362 | 103.6983362 | 103.6983362 | 103.2902374 | 101.3187777 | 99.39494955 | 97.51730763 | 95.68446068 |
| 170524A00047 | 5/24/2017 | 2.22 | 5/24/2023 | 5/24/2017 | 106.35097 | 106.3509681 | 106.3509681 | 106.3509681 | 105.4361542 | 102.4418181 | 99.54854005 | 96.75235466 | 94.04947514 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170530A00060 | 5/30/2017 | 2.12 | 3/25/2022 | 5/30/2017 | 103.35986 | 103.3598588 | 103.3598588 | 103.3598588 | 102.9951192 | 101.1804414 | 99.40645044 | 97.67198359 | 95.97591922 |
| 170531A00005 | 5/31/2017 | 1.94 | 5/31/2022 | 5/31/2017 | 103.69894 | 103.6989444 | 103.6989444 | 103.6989444 | 103.2804911 | 101.2765645 | 99.32178426 | 97.4146356 | 95.55366106 |
| 170602A00023 | 6/2/2017 | 2.09 | 6/2/2023 | 6/2/2017 | 106.00719 | 106.0071893 | 106.0071893 | 106.0071893 | 105.0775257 | 102.064564 | 99.15405088 | 96.34193542 | 93.62435097 |
| 170612A00012 | 6/12/2017 | 1.67 | 6/12/2020 | 6/12/2017 | 100.06041 | 100.0604139 | 100.0604139 | 100.0604139 | 100.0549203 | 100.0160548 | 99.97723728 | 99.93846769 | 99.89974592 |
| 170615A00033 | 6/15/2017 | 2.01 | 6/15/2021 | 6/15/2017 | 101.83705 | 101.8370464 | 101.8370464 | 101.8370464 | 101.611967 | 100.5605554 | 99.53082778 | 98.52211869 | 97.53378942 |
| 170616A00018 | 6/16/2017 | 2.4 | 6/16/2025 | 6/16/2017 | 111.65046 | 111.6504568 | 111.6504568 | 111.6504568 | 108.8907805 | 103.8325354 | 99.04081009 | 94.50016401 | 90.19613192 |
| 170616A00019 | 6/16/2017 | 2.64 | 6/16/2027 | 6/16/2017 | 117.95161 | 117.951615 | 117.951615 | 117.951615 | 111.8563335 | 104.8411516 | 98.31998222 | 92.25538832 | 86.61295636 |
| 150824A00071 | 8/24/2015 | 2.86 | 8/25/2025 | 8/24/2015 | 113.46983 | 113.4698275 | 113.4698275 | 113.4698275 | 110.4788913 | 105.2315423 | 100.2678461 | 95.57091608 | 91.12496511 |
| 150827A00005 | 8/27/2015 | 2.07 | 8/27/2021 | 8/27/2015 | 102.46466 | 102.4646563 | 102.4646563 | 102.4646563 | 102.2245256 | 100.9682235 | 99.74266285 | 98.54672648 | 97.37935063 |
| 150827A00029 | 8/27/2015 | 2.74 | 8/27/2024 | 8/27/2015 | 111.26522 | 111.2652153 | 111.2652153 | 111.2652153 | 109.3402468 | 105.0458402 | 100.9454505 | 97.02921642 | 93.28783777 |
| 150923A00045 | 9/23/2015 | 1.97 | 9/23/2021 | 9/23/2015 | 102.47717 | 102.4771708 | 102.4771708 | 102.4771708 | 102.2251147 | 100.9068105 | 99.6135087 | 98.34452637 | 97.09920555 |
| 151002A00041 | 10/2/2015 | 1.76 | 10/4/2021 | 10/2/2015 | 102.24633 | 102.2463272 | 102.2463272 | 102.2463272 | 101.9885299 | 100.6446585 | 99.32479669 | 98.02835668 | 96.75476957 |
| 151002A00047 | 10/2/2015 | 1.64 | 9/2/2020 | 10/2/2015 | 100.36412 | 100.3641227 | 100.3641227 | 100.3641227 | 100.3185196 | 100.0529683 | 99.78882296 | 99.52607237 | 99.26470553 |
| 151002A00081 | 10/2/2015 | 2.29 | 10/2/2023 | 10/2/2015 | 107.35004 | 107.3500427 | 107.3500427 | 107.3500427 | 106.1853461 | 102.8310654 | 99.60064154 | 96.48886929 | 93.49078938 |
| 151014A00030 | 10/14/2015 | 1.68 | 10/14/2020 | 10/14/2015 | 100.54613 | 100.5461301 | 100.5461301 | 100.5461301 | 100.4773351 | 100.0958406 | 99.71724682 | 99.34152071 | 98.96862967 |
| 151015A00006 | 10/15/2015 | 1.68 | 10/15/2020 | 10/15/2015 | 100.55007 | 100.55007 | 100.55007 | 100.55007 | 100.4807097 | 100.0964596 | 99.71515188 | 99.33675278 | 98.96122903 |
| 151102A00012 | 11/2/2015 | 2.4 | 11/2/2022 | 11/2/2015 | 105.16549 | 105.1654865 | 105.1654865 | 105.1654865 | 104.5720904 | 102.1469402 | 99.79047005 | 97.50035087 | 95.2743467 |
| 151116A00027 | 11/16/2015 | 2.02 | 11/16/2020 | 11/16/2015 | 100.83793 | 100.8379337 | 100.8379337 | 100.8379337 | 100.7494312 | 100.2766209 | 99.80824856 | 99.34425194 | 98.88456976 |
| 151211A00012 | 12/11/2015 | 1.89 | 12/11/2020 | 12/11/2015 | 100.96452 | 100.9645238 | 100.9645238 | 100.9645238 | 100.858906 | 100.3163136 | 99.77955592 | 99.24853904 | 98.72317106 |
| 151221A00014 | 12/21/2015 | 2.94 | 12/22/2025 | 12/21/2015 | 114.74827 | 114.7482724 | 114.7482724 | 114.7482724 | 111.2863165 | 105.7114649 | 100.4542895 | 95.49499399 | 90.81511785 |
| 160113A00030 | 1/13/2016 | 2.52 | 1/13/2025 | 1/13/2016 | 111.2423 | 111.2422978 | 111.2422978 | 111.2422978 | 108.9459918 | 104.2932725 | 99.86733235 | 95.65590084 | 91.647439 |
| 160119A00028 | 1/19/2016 | 3.34 | 1/21/2031 | 1/19/2016 | 132.24157 | 132.2415736 | 132.2415736 | 129.6438657 | 118.5251717 | 108.1650227 | 98.83863582 | 90.43624491 | 82.86030607 |
| 160128A00058 | 1/28/2016 | 1.83 | 1/28/2021 | 1/28/2016 | 101.06659 | 101.0665899 | 101.0665899 | 101.0665899 | 100.9235358 | 100.2504309 | 99.58627099 | 98.93087876 | 98.28408162 |
| 160129A00016 | 1/29/2016 | 1.76 | 1/29/2021 | 1/29/2016 | 101.02337 | 101.0233741 | 101.0233741 | 101.0233741 | 100.8795413 | 100.2038756 | 99.53722359 | 98.87940606 | 98.23024846 |
| 160212A00029 | 2/12/2016 | 1.8 | 2/11/2022 | 2/12/2016 | 102.61429 | 102.6142879 | 102.6142879 | 102.6142879 | 102.2761301 | 100.5844732 | 98.92881507 | 97.30807151 | 95.72120192 |
| 160212A00044 | 2/12/2016 | 1.93 | 2/13/2023 | 2/12/2016 | 104.47606 | 104.4760587 | 104.4760587 | 104.4760587 | 103.7376249 | 101.0496601 | 98.44481373 | 95.91997878 | 93.47218794 |
| 160223A00014 | 2/23/2016 | 1.75 | 2/23/2021 | 2/23/2016 | 101.11984 | 101.119837 | 101.119837 | 101.119837 | 100.9571891 | 100.2130741 | 99.47989075 | 98.75739965 | 98.04536822 |
| 160329A00044 | 3/29/2016 | 1.79 | 3/29/2022 | 3/29/2016 | 103.10245 | 103.1024484 | 103.1024484 | 103.1024484 | 102.7344886 | 100.9049701 | 99.11679106 | 97.36878056 | 95.65980812 |
| 160401A00016 | 4/1/2016 | 2.42 | 4/1/2025 | 4/1/2016 | 110.35553 | 110.3555302 | 110.3555302 | 110.3555302 | 107.8593097 | 103.0515936 | 98.48734068 | 94.15299892 | 90.03583703 |
| 160407A00004 | 4/7/2016 | 1.41 | 4/7/2021 | 4/7/2016 | 101.12219 | 101.1221926 | 101.1221926 | 101.1221926 | 100.9290251 | 100.0664891 | 99.21863324 | 98.38508509 | 97.56548486 |
| 160429A00041 | 4/29/2016 | 1.71 | 4/29/2021 | 4/29/2016 | 101.34186 | 101.3418552 | 101.3418552 | 101.3418552 | 101.1343823 | 100.2129377 | 99.30820459 | 98.41973192 | 97.54708468 |
| 160630A00042 | 6/30/2016 | 1.52 | 6/30/2021 | 6/30/2016 | 101.36978 | 101.3697786 | 101.3697786 | 101.3697786 | 101.1421274 | 100.052779 | 98.98676217 | 97.94333417 | 96.92178345 |
| 160630A00049 | 6/30/2016 | 1.51 | 6/30/2021 | 6/30/2016 | 101.35877 | 101.3587689 | 101.3587689 | 101.3587689 | 101.131131 | 100.0418471 | 98.97589374 | 97.93252831 | 96.91103926 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160630A00091 | 6/30/2016 | 1.51 | 6/30/2021 | 6/30/2016 | 101.35877 | 101.3587689 | 101.3587689 | 101.3587689 | 101.131131 | 100.0418471 | 98.97589374 | 97.93252831 | 96.91103926 |
| 160701A00034 | 7/1/2016 | 1.43 | 7/21/2021 | 7/1/2016 | 101.33755 | 101.3375497 | 101.3375497 | 101.3375497 | 101.1068461 | 99.96092148 | 98.8408206 | 97.7456786 | 96.67466887 |
| 160705A00006 | 7/5/2016 | 1.38 | 7/5/2022 | 7/5/2016 | 102.68419 | 102.6841851 | 102.6841851 | 102.6841851 | 102.2338826 | 100.1478934 | 98.11465424 | 96.13247309 | 94.19972536 |
| 160727A00015 | 7/27/2016 | 1.48 | 7/27/2020 | 7/27/2016 | 100.19575 | 100.1957515 | 100.1957515 | 100.1957515 | 100.1699309 | 100.0066402 | 99.84388144 | 99.68165205 | 99.51994949 |
| 160810A00032 | 8/10/2016 | 1.32 | 8/10/2021 | 8/10/2016 | 101.46074 | 101.4607408 | 101.4607408 | 101.4607408 | 101.225589 | 100.0219551 | 98.84675877 | 97.69900193 | 96.57773286 |
| 160812A00005 | 8/12/2016 | 1.69 | 8/12/2022 | 8/12/2016 | 103.10694 | 103.1069379 | 103.1069379 | 103.1069379 | 102.6171863 | 100.4327231 | 98.30533935 | 96.23312896 | 94.21426604 |
| 160815A00005 | 8/15/2016 | 2.23 | 8/17/2026 | 8/15/2016 | 112.02201 | 112.0220146 | 112.0220146 | 112.0220146 | 107.5379563 | 101.4680671 | 95.78136 | 90.45162146 | 85.45456825 |
| 160815A00007 | 8/15/2016 | 2.23 | 8/17/2026 | 8/15/2016 | 112.02201 | 112.0220146 | 112.0220146 | 112.0220146 | 107.5379563 | 101.4680671 | 95.78136 | 90.45162146 | 85.45456825 |
| 160825A00055 | 8/29/2016 | 2.32 | 8/30/2021 | 8/29/2016 | 102.59584 | 102.5958421 | 102.5958421 | 102.5958421 | 102.3552307 | 101.0935065 | 99.86242802 | 98.66088747 | 97.48782983 |
| 160830A00010 | 8/30/2016 | 1.65 | 8/30/2021 | 8/30/2016 | 101.74504 | 101.745044 | 101.745044 | 101.745044 | 101.5055935 | 100.2495528 | 99.02406096 | 97.82801296 | 96.66035642 |
| 160830A00030 | 8/30/2016 | 1.52 | 8/28/2020 | 8/30/2016 | 100.31481 | 100.3148074 | 100.3148074 | 100.3148074 | 100.2719257 | 100.0202279 | 99.7697883 | 99.52059767 | 99.27264668 |
| 160830A00032 | 8/30/2016 | 1.82 | 8/30/2022 | 8/30/2016 | 103.4726 | 103.4726041 | 103.4726041 | 103.4726041 | 102.962027 | 100.7264966 | 98.55036775 | 96.43162328 | 94.36833253 |
| 160926A00002 | 9/26/2016 | 1.6 | 9/27/2021 | 9/26/2016 | 101.77117 | 101.7711666 | 101.7711666 | 101.7711666 | 101.5189573 | 100.2001865 | 98.90526356 | 97.63358606 | 96.38457158 |
| 160926A00004 | 9/26/2016 | 1.66 | 9/26/2023 | 9/26/2016 | 105.19209 | 105.1920937 | 105.1920937 | 105.1920937 | 104.0483264 | 100.7458797 | 97.56518241 | 94.50112123 | 91.54882496 |
| 160926A00022 | 9/26/2016 | 1.6 | 9/24/2021 | 9/26/2016 | 101.76021 | 101.7602148 | 101.7602148 | 101.7602148 | 101.5093872 | 100.1974088 | 98.9099894 | 97.64647134 | 96.40622042 |
| 160926A00074 | 9/26/2016 | 1.38 | 9/27/2021 | 9/26/2016 | 101.70191 | 101.7019093 | 101.7019093 | 101.7019093 | 101.4491295 | 100.1272776 | 98.82938166 | 97.55483534 | 96.30305252 |
| 160929A00004 | 9/29/2016 | 1.74 | 9/29/2022 | 9/29/2016 | 103.41031 | 103.4103129 | 103.4103129 | 103.4103129 | 102.86444 | 100.5515529 | 98.30196194 | 96.11359708 | 93.98446777 |
| 161006A00011 | 10/6/2016 | 1.64 | 10/6/2022 | 10/6/2016 | 103.62961 | 103.6296106 | 103.6296106 | 103.6296106 | 103.0721425 | 100.7291157 | 98.45084815 | 96.23520031 | 94.08011588 |
| 161006A00013 | 10/6/2016 | 2.07 | 10/6/2025 | 10/6/2016 | 110.56892 | 110.5689157 | 110.5689157 | 110.5689157 | 107.4271644 | 102.1180801 | 97.10382629 | 92.36655692 | 87.88959261 |
| 161115A00010 | 11/15/2016 | 2.09 | 11/15/2021 | 11/15/2016 | 102.67577 | 102.675773 | 102.675773 | 102.675773 | 102.3899174 | 100.9337264 | 99.50551162 | 98.10453746 | 96.73009351 |
| 161117A00015 | 11/17/2016 | 2.08 | 11/17/2021 | 11/17/2016 | 102.6709 | 102.6708978 | 102.6708978 | 102.6708978 | 102.3836892 | 100.922273 | 99.48903161 | 98.08322167 | 96.70412544 |
| 170213A00011 | 2/13/2017 | 2.13 | 2/16/2021 | 2/13/2017 | 101.36825 | 101.3682453 | 101.3682453 | 101.3682453 | 101.2106482 | 100.4845732 | 99.76889526 | 99.0633921 | 98.36784778 |
| 170505A00003 | 5/5/2017 | 2.09 | 5/5/2021 | 5/5/2017 | 101.71584 | 101.7158436 | 101.7158436 | 101.7158436 | 101.5053184 | 100.5658269 | 99.64367101 | 98.73837438 | 97.84947785 |
| 170515A00054 | 5/15/2017 | 3.2 | 5/17/2032 | 5/15/2017 | 137.14504 | 137.1450448 | 137.1450448 | 131.7591684 | 119.0733971 | 107.487528 | 97.18732944 | 88.02159083 | 79.85766467 |
| 170524A00011 | 5/24/2017 | 2.54 | 5/24/2024 | 5/24/2017 | 109.02164 | 109.0216439 | 109.0216439 | 109.0216439 | 107.3529956 | 103.3714557 | 99.56069353 | 95.91248603 | 92.41904991 |
| 170530A00027 | 5/30/2017 | 1.97 | 5/31/2022 | 5/30/2017 | 103.75987 | 103.759868 | 103.759868 | 103.759868 | 103.3412877 | 101.3367316 | 99.38133428 | 97.47358056 | 95.61201266 |
| 170601A00018 | 6/1/2017 | 1.96 | 6/1/2022 | 6/1/2017 | 103.74467 | 103.7446686 | 103.7446686 | 103.7446686 | 103.3251589 | 101.3181117 | 99.36032593 | 97.45028136 | 95.58651556 |
| 170602A00033 | 6/2/2017 | 2.09 | 6/2/2022 | 6/2/2017 | 103.64648 | 103.6464834 | 103.6464834 | 103.6464834 | 103.2277086 | 101.2259573 | 99.27326091 | 97.36810741 | 95.50904203 |
| 170605A00022 | 6/5/2017 | 1.62 | 6/5/2020 | 6/5/2017 | 100.02923 | 100.0292348 | 100.0292348 | 100.0292348 | 100.026488 | 100.0070532 | 99.9876387 | 99.96824436 | 99.9488702 |
| 170609A00043 | 6/9/2017 | 3.07 | 6/9/2032 | 6/9/2017 | 135.76387 | 135.7638712 | 135.7638712 | 130.2450027 | 117.5701589 | 106.0195713 | 95.75925755 | 86.63660744 | 78.51784341 |
| 170612A00013 | 6/12/2017 | 1.83 | 6/14/2021 | 6/12/2017 | 101.81014 | 101.8101357 | 101.8101357 | 101.8101357 | 101.5847656 | 100.5337719 | 99.50443842 | 98.49610087 | 97.50812183 |
| 170613A00021 | 6/13/2017 | 1.68 | 6/12/2020 | 6/13/2017 | 100.0608 | 100.0608027 | 100.0608027 | 100.0608027 | 100.0553091 | 100.0164433 | 99.97762542 | 99.93885549 | 99.90013339 |
| 170615A00015 | 6/15/2017 | 2.25 | 6/14/2024 | 6/15/2017 | 108.72355 | 108.7235499 | 108.7235499 | 108.7235499 | 106.9963711 | 102.9463957 | 99.0727698 | 95.36687656 | 91.82056751 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170615A00037 | 6/15/2017 | 1.85 | 6/15/2020 | 6/15/2017 | 100.07134 | 100.0713449 | 100.0713449 | 100.0713449 | 100.0646892 | 100.0176035 | 99.97057879 | 99.92361486 | 99.87671162 |
| 170616A00016 | 6/16/2017 | 1.82 | 6/16/2021 | 6/16/2017 | 101.80901 | 101.8090119 | 101.8090119 | 101.8090119 | 101.5832143 | 100.5267842 | 99.4922376 | 98.47890007 | 97.48612448 |
| 170622A00030 | 6/22/2017 | 1.66 | 6/22/2020 | 6/22/2017 | 100.1029 | 100.1029002 | 100.1029002 | 100.1029002 | 100.0934832 | 100.0268712 | 99.96035986 | 99.89394905 | 99.8276385 |
| 170622A00040 | 6/22/2017 | 3.41 | 6/23/2036 | 6/22/2017 | 149.36474 | 149.3647387 | 149.3647387 | 135.3689024 | 118.9342284 | 104.5679166 | 92.23406733 | 81.62786992 | 72.49197513 |
| 170623A00007 | 6/23/2017 | 1.64 | 6/23/2020 | 6/23/2017 | 100.1058 | 100.1057989 | 100.1057989 | 100.1057989 | 100.0959898 | 100.0266049 | 99.95732689 | 99.88815544 | 99.81909033 |
| 170629A00016 | 6/29/2017 | 1.94 | 12/21/2020 | 6/29/2017 | 100.96335 | 100.9633519 | 100.9633519 | 100.9633519 | 100.8505601 | 100.2815365 | 99.71892263 | 99.16261066 | 98.61249506 |
| 170629A00020 | 6/29/2017 | 2.03 | 6/29/2021 | 6/29/2017 | 101.92643 | 101.9264323 | 101.9264323 | 101.9264323 | 101.698254 | 100.6083604 | 99.54172944 | 98.4976228 | 97.47533314 |
| 170629A00073 | 6/29/2017 | 2.2 | 6/29/2023 | 6/29/2017 | 106.49807 | 106.4980682 | 106.4980682 | 106.4980682 | 105.5176045 | 102.426717 | 99.44270119 | 96.5612509 | 93.77826042 |
| 170706A00090 | 7/6/2017 | 2.48 | 7/6/2023 | 7/6/2017 | 106.84136 | 106.8413626 | 106.8413626 | 106.8413626 | 105.8517065 | 102.7501648 | 99.75604459 | 96.86500614 | 94.07291241 |
| 170719A00006 | 7/19/2017 | 1.93 | 1/19/2021 | 7/19/2017 | 101.09242 | 101.0924171 | 101.0924171 | 101.0924171 | 100.9566351 | 100.3079699 | 99.66762398 | 99.03543787 | 98.41125626 |
| 170724A00014 | 7/24/2017 | 2.14 | 7/25/2022 | 7/24/2017 | 104.01799 | 104.0179892 | 104.0179892 | 104.0179892 | 103.5457779 | 101.3985497 | 99.30641908 | 97.26758353 | 95.28031439 |
| 170725A00002 | 7/25/2017 | 2.03 | 7/26/2021 | 7/25/2017 | 102.05725 | 102.0572474 | 102.0572474 | 102.0572474 | 101.8248865 | 100.6609918 | 99.52359429 | 98.4117974 | 97.32474447 |
| 170725A00047 | 7/25/2017 | 2.19 | 7/25/2022 | 7/25/2017 | 104.12693 | 104.126929 | 104.126929 | 104.126929 | 103.6544724 | 101.5060418 | 99.41273333 | 97.37274369 | 95.3843436 |
| 160728A00021 | 7/28/2016 | 1.23 | 7/28/2020 | 7/28/2016 | 100.18527 | 100.1852698 | 100.1852698 | 100.1852698 | 100.1589167 | 99.99258884 | 99.82681314 | 99.66158687 | 99.49690734 |
| 160729A00040 | 7/29/2016 | 1.19 | 7/29/2020 | 7/29/2016 | 100.18158 | 100.1815752 | 100.1815752 | 100.1815752 | 100.154734 | 99.98564649 | 99.81712738 | 99.64917385 | 99.48178307 |
| 160829A00039 | 8/29/2016 | 1.61 | 3/26/2021 | 8/29/2016 | 101.12202 | 101.1220175 | 101.1220175 | 101.1220175 | 100.9373107 | 100.1090858 | 99.29439394 | 98.4929058 | 97.70430253 |
| 160830A00031 | 8/30/2016 | 1.65 | 8/31/2021 | 8/30/2016 | 101.74886 | 101.74886 | 101.74886 | 101.74886 | 101.5089481 | 100.2506374 | 99.02263506 | 97.82385345 | 96.65325642 |
| 160830A00061 | 8/30/2018 | 1.89 | 8/30/2023 | 8/30/2018 | 105.23477 | 105.2347687 | 105.2347687 | 105.2347687 | 104.1488417 | 100.9295658 | 97.82638209 | 94.83440345 | 91.94898234 |
| 160913A00021 | 9/13/2016 | 1.52 | 9/14/2020 | 9/13/2016 | 100.37666 | 100.3766631 | 100.3766631 | 100.3766631 | 100.3245344 | 100.0259028 | 99.72905772 | 99.43398304 | 99.14066288 |
| 160920A00004 | 9/20/2016 | 1.68 | 9/20/2021 | 9/20/2016 | 101.85184 | 101.8518421 | 101.8518421 | 101.8518421 | 101.6027067 | 100.2990468 | 99.02090859 | 97.76756093 | 96.53830081 |
| 160922A00014 | 9/22/2016 | 2.06 | 9/22/2026 | 9/22/2016 | 112.39431 | 112.3943146 | 112.3943146 | 112.3943146 | 107.6897891 | 101.4816278 | 95.67221247 | 90.23391014 | 85.14113726 |
| 160926A00018 | 9/26/2016 | 1.47 | 9/28/2020 | 9/26/2016 | 100.40863 | 100.4086308 | 100.4086308 | 100.4086308 | 100.3488928 | 100.0117028 | 99.67676986 | 99.34407142 | 99.01358525 |
| 160926A00023 | 9/26/2016 | 1.74 | 9/26/2022 | 9/26/2016 | 103.39832 | 103.3983167 | 103.3983167 | 103.3983167 | 102.8560151 | 100.5510659 | 98.30901363 | 96.12779423 | 94.00542371 |
| 161006A00012 | 10/6/2016 | 1.98 | 10/7/2024 | 10/6/2016 | 108.21044 | 108.2104432 | 108.2104432 | 108.2104432 | 106.2008622 | 101.8667689 | 97.73389621 | 93.79189663 | 90.03100643 |
| 161020A00002 | 10/20/2016 | 1.96 | 8/15/2023 | 10/20/2016 | 105.39573 | 105.395725 | 105.395725 | 105.395725 | 104.3373298 | 101.1537777 | 98.08381324 | 95.12270348 | 92.26594501 |
| 161031A00006 | 10/31/2016 | 1.76 | 11/1/2021 | 10/31/2016 | 102.14354 | 102.1435374 | 102.1435374 | 102.1435374 | 101.8679725 | 100.4524215 | 99.06340522 | 97.70024288 | 96.36227639 |
| 161115A00011 | 11/15/2016 | 2.46 | 11/15/2023 | 11/15/2016 | 107.56494 | 107.5649363 | 107.5649363 | 107.5649363 | 106.3180284 | 102.8603842 | 99.53431226 | 96.3341092 | 93.25435024 |
| 161117A00014 | 11/17/2016 | 1.88 | 11/17/2020 | 11/17/2016 | 100.776 | 100.7759985 | 100.7759985 | 100.7759985 | 100.6869089 | 100.2115306 | 99.7406402 | 99.2741742 | 98.81207037 |
| 161213A00016 | 12/13/2016 | 2.06 | 12/14/2020 | 12/13/2016 | 100.99702 | 100.997016 | 100.997016 | 100.997016 | 100.8893551 | 100.3393688 | 99.79537356 | 99.25727181 | 98.72496802 |
| 170110A00023 | 1/10/2017 | 2.08 | 1/10/2022 | 1/10/2017 | 103.21715 | 103.2171539 | 103.2171539 | 103.2171539 | 102.8952066 | 101.2791969 | 99.69641567 | 98.14590518 | 96.62674425 |
| 170117A00037 | 1/17/2017 | 2 | 1/18/2022 | 1/17/2017 | 103.12773 | 103.1277299 | 103.1277299 | 103.1277299 | 102.8013858 | 101.1648788 | 99.56231283 | 97.99269835 | 96.45508413 |
| 170123A00039 | 1/23/2017 | 2.79 | 1/23/2026 | 1/23/2017 | 115.27174 | 115.2717403 | 115.2717403 | 115.2717403 | 111.6389281 | 105.9339704 | 100.559366 | 95.49420962 | 90.71902975 |
| 170130A00031 | 1/30/2017 | 2.96 | 7/30/2025 | 1/30/2017 | 113.80813 | 113.8081269 | 113.8081269 | 113.8081269 | 110.9052267 | 105.7132985 | 100.7986196 | 96.14488234 | 91.73682717 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170215A00032 | 2/15/2017 | 2.33 | 7/30/2020 | 2/15/2017 | 100.35202 | 100.3520233 | 100.3520233 | 100.3520233 | 100.324661 | 100.1528926 | 99.98170977 | 99.81110963 | 99.64108922 |
| 170215A00043 | 2/15/2017 | 2.7 | 8/28/2024 | 2/15/2017 | 110.29849 | 110.2984931 | 110.2984931 | 110.2984931 | 108.3899957 | 104.135838 | 100.0736449 | 96.19367289 | 92.48673201 |
| 170216A00045 | 2/16/2017 | 3.73 | 2/17/2037 | 2/16/2017 | 156.61429 | 156.6142941 | 156.6142941 | 141.3156881 | 123.9036731 | 108.7379239 | 95.77355899 | 84.670705 | 75.14402302 |
| 170224A00044 | 5/24/2017 | 3.29 | 5/24/2029 | 5/24/2017 | 126.82887 | 126.828869 | 126.828869 | 126.4388167 | 117.128965 | 108.2452508 | 100.1276628 | 92.70558845 | 85.91527792 |
| 160120A00010 | 1/20/2016 | 1.99 | 10/20/2021 | 1/20/2016 | 102.41885 | 102.4188536 | 102.4188536 | 102.4188536 | 102.1508645 | 100.7656215 | 99.40579742 | 98.07075348 | 96.75987158 |
| 160218A00029 | 2/18/2016 | 1.81 | 4/15/2021 | 2/18/2016 | 101.37471 | 101.3747099 | 101.3747099 | 101.3747099 | 101.176435 | 100.2927689 | 99.42448772 | 98.57119231 | 97.73249712 |
| 160301A00009 | 3/1/2016 | 2.06 | 3/1/2023 | 3/1/2016 | 104.90961 | 104.9096139 | 104.9096139 | 104.9096139 | 104.1450977 | 101.4083064 | 98.75723283 | 96.18863195 | 93.69940636 |
| 160329A00045 | 3/29/2016 | 2.12 | 3/29/2024 | 3/29/2016 | 107.76532 | 107.7653183 | 107.7653183 | 107.7653183 | 106.2219591 | 102.3895616 | 98.71635899 | 95.19493968 | 91.81827471 |
| 160408A00015 | 4/8/2016 | 2.01 | 4/7/2023 | 4/8/2016 | 104.94417 | 104.944171 | 104.944171 | 104.944171 | 104.1193441 | 101.2815978 | 98.53565876 | 95.87807939 | 93.30556009 |
| 160415A00010 | 4/15/2016 | 1.66 | 4/15/2021 | 4/15/2016 | 101.24113 | 101.2411331 | 101.2411331 | 101.2411331 | 101.0429894 | 100.159969 | 99.29232574 | 98.43966046 | 97.60158784 |
| 160502A00018 | 5/2/2016 | 2.09 | 5/2/2023 | 5/2/2016 | 105.29873 | 105.2987319 | 105.2987319 | 105.2987319 | 104.4305683 | 101.5231059 | 98.71171201 | 95.99269988 | 93.36254521 |
| 160516A00019 | 5/16/2016 | 1.44 | 5/17/2021 | 5/16/2016 | 101.29497 | 101.2949721 | 101.2949721 | 101.2949721 | 101.0790047 | 100.1069527 | 99.15350749 | 98.21813873 | 97.30033622 |
| 160523A00047 | 5/23/2016 | 1.77 | 5/18/2021 | 5/23/2016 | 101.46681 | 101.4668143 | 101.4668143 | 101.4668143 | 101.2507195 | 100.2772606 | 99.32244666 | 98.38574607 | 97.4666471 |
| 160606A00003 | 6/6/2016 | 1.66 | 6/7/2021 | 6/6/2016 | 101.43547 | 101.4354713 | 101.4354713 | 101.4354713 | 101.2125656 | 100.1850966 | 99.17839468 | 98.19183515 | 97.22481826 |
| 160628A00040 | 6/28/2016 | 1.56 | 6/28/2023 | 6/28/2016 | 104.4961 | 104.4960973 | 104.4960973 | 104.4960973 | 103.5248845 | 100.4676801 | 97.51638875 | 94.66674088 | 91.91466552 |
| 160630A00044 | 6/30/2016 | 1.42 | 10/30/2020 | 6/30/2016 | 100.49804 | 100.4980414 | 100.4980414 | 100.4980414 | 100.4201987 | 99.99491477 | 99.57321888 | 99.15506583 | 98.74041121 |
| 160701A00007 | 7/1/2016 | 1.42 | 7/1/2021 | 7/1/2016 | 101.26284 | 101.2628369 | 101.2628369 | 101.2628369 | 101.0351684 | 99.94374199 | 98.87575528 | 97.83046004 | 96.8071396 |
| 160701A00027 | 7/1/2016 | 1.93 | 7/1/2024 | 7/1/2016 | 106.74031 | 106.7403085 | 106.7403085 | 106.7403085 | 104.9959511 | 100.9635763 | 97.10830092 | 93.42140399 | 89.89464283 |
| 160701A00028 | 7/1/2016 | 2.16 | 7/1/2026 | 7/1/2016 | 111.34727 | 111.3472746 | 111.3472746 | 111.3472746 | 107.0906903 | 101.1511333 | 95.58009917 | 90.35281298 | 85.4462903 |
| 160707A00005 | 7/7/2016 | 1.34 | 7/7/2020 | 7/7/2016 | 100.10924 | 100.1092388 | 100.1092388 | 100.1092388 | 100.0932012 | 99.98528283 | 99.87760702 | 99.77017294 | 99.66297976 |
| 160714A00053 | 7/14/2016 | 1.58 | 7/15/2021 | 7/14/2016 | 101.48982 | 101.4898231 | 101.4898231 | 101.4898231 | 101.2598109 | 100.1291716 | 99.02365152 | 97.94242078 | 96.88468592 |
| 160801A00001 | 8/1/2016 | 1.97 | 8/1/2024 | 8/1/2016 | 107.04736 | 107.0473638 | 107.0473638 | 107.0473638 | 105.2265151 | 101.1079843 | 97.17338024 | 93.41348845 | 89.81960955 |
| 160809A00002 | 8/9/2016 | 1.6 | 8/9/2021 | 8/9/2016 | 101.6043 | 101.6043007 | 101.6043007 | 101.6043007 | 101.3697407 | 100.1708361 | 99.00013761 | 97.85665919 | 96.73946028 |
| 160830A00034 | 8/30/2016 | 1.9 | 8/30/2023 | 8/30/2016 | 105.2676 | 105.2676042 | 105.2676042 | 105.2676042 | 104.181544 | 100.9617327 | 97.85802783 | 94.8655419 | 91.97962682 |
| 160907A00009 | 9/7/2016 | 1.36 | 9/8/2021 | 9/7/2016 | 101.6094 | 101.6093997 | 101.6093997 | 101.6093997 | 101.3654344 | 100.0869206 | 98.83689932 | 97.61441859 | 96.41856884 |
| 160922A00051 | 9/22/2016 | 2.5 | 9/22/2028 | 9/22/2016 | 118.28027 | 118.2802749 | 118.2802749 | 118.2802749 | 110.0570847 | 102.0485654 | 94.69123108 | 87.92861561 | 81.70942127 |
| 160923A00030 | 9/23/2016 | 1.41 | 9/23/2021 | 9/23/2016 | 101.72802 | 101.728024 | 101.728024 | 101.728024 | 101.4770349 | 100.1639855 | 98.87584857 | 97.61194371 | 96.37161535 |
| 160923A00032 | 9/23/2016 | 1.67 | 9/25/2023 | 9/23/2016 | 105.22148 | 105.2214762 | 105.2214762 | 105.2214762 | 104.0795158 | 100.7791435 | 97.60035359 | 94.53803913 | 91.58733532 |
| 170215A00031 | 2/15/2017 | 2.13 | 7/24/2020 | 2/15/2017 | 100.28539 | 100.285387 | 100.285387 | 100.285387 | 100.2610158 | 100.1059097 | 99.95128836 | 99.79714968 | 99.64349139 |
| 170215A00033 | 2/15/2017 | 2.24 | 11/9/2020 | 2/15/2017 | 100.90375 | 100.903748 | 100.903748 | 100.903748 | 100.8195404 | 100.3657547 | 99.91605529 | 99.47038714 | 99.02869608 |
| 170215A00040 | 2/15/2017 | 2.59 | 5/15/2023 | 2/15/2017 | 106.85735 | 106.8573488 | 106.8573488 | 106.8573488 | 105.9610718 | 102.9958924 | 100.1296516 | 97.35850948 | 94.67879736 |
| 170216A00010 | 2/16/2017 | 2.37 | 2/16/2022 | 2/16/2017 | 103.62689 | 103.6268944 | 103.6268944 | 103.6268944 | 103.2840533 | 101.5697588 | 99.89213856 | 98.25008037 | 96.64251729 |
| 170216A00044 | 2/16/2017 | 3.52 | 2/17/2032 | 2/16/2017 | 137.53471 | 137.5347056 | 137.5347056 | 132.7935491 | 120.4760064 | 109.1430831 | 99.03568765 | 90.01291469 | 81.95080728 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170228A00015 | 2/28/2017 | 2.87 | 5/28/2025 | 2/28/2017 | 112.89814 | 112.8981411 | 112.8981411 | 112.8981411 | 110.2092875 | 105.1988577 | 100.4488757 | 95.94443169 | 91.67154606 |
| 170322A00026 | 3/22/2017 | 3.22 | 3/22/2028 | 3/22/2017 | 122.82449 | 122.824487 | 122.824487 | 122.824487 | 115.367864 | 107.5932085 | 100.412486 | 93.77700016 | 87.64228833 |
| 170323A00013 | 3/23/2017 | 2.1 | 3/23/2022 | 3/23/2017 | 103.64502 | 103.6450155 | 103.6450155 | 103.6450155 | 103.2797715 | 101.4620761 | 99.68512094 | 97.94773234 | 96.24877895 |
| 170328A00015 | 3/28/2017 | 2.75 | 11/29/2024 | 3/28/2017 | 111.1389 | 111.138899 | 111.138899 | 111.138899 | 108.9829474 | 104.4740358 | 100.1794742 | 96.08794484 | 92.18878684 |
| 170425A00069 | 4/25/2017 | 2.06 | 4/26/2021 | 4/25/2017 | 101.65216 | 101.65216 | 101.65216 | 101.65216 | 101.4463485 | 100.5314844 | 99.63306443 | 98.75064825 | 97.88381129 |
| 170504A00038 | 5/4/2017 | 2.09 | 5/4/2022 | 5/4/2017 | 103.85616 | 103.8561633 | 103.8561633 | 103.8561633 | 103.4604022 | 101.5281676 | 99.64166481 | 97.79953512 | 96.00046924 |
| 170517A00098 | 5/19/2017 | 2.32 | 5/19/2022 | 5/19/2017 | 104.03578 | 104.0357755 | 104.0357755 | 104.0357755 | 103.6284121 | 101.6602582 | 99.73952231 | 97.8647692 | 96.03461699 |
| 170518A00011 | 5/18/2017 | 1.94 | 5/18/2022 | 5/18/2017 | 103.63337 | 103.6333674 | 103.6333674 | 103.6333674 | 103.226245 | 101.2581635 | 99.33757104 | 97.46302861 | 95.63315088 |
| 170530A00002 | 5/30/2017 | 2.15 | 5/31/2022 | 5/30/2017 | 103.75817 | 103.7581672 | 103.7581672 | 103.7581672 | 103.3410716 | 101.3434352 | 99.39466656 | 97.4932629 | 95.63777826 |
| 170602A00026 | 6/2/2017 | 2.25 | 6/3/2024 | 6/2/2017 | 108.65867 | 108.658674 | 108.658674 | 108.658674 | 106.9580931 | 102.9375878 | 99.0911637 | 95.4103638 | 91.88718791 |
| 170608A00021 | 6/8/2017 | 1.8 | 6/8/2021 | 6/8/2017 | 101.75038 | 101.7503827 | 101.7503827 | 101.7503827 | 101.526369 | 100.4920425 | 99.47870448 | 98.48572115 | 97.51248392 |
| 170612A00003 | 6/12/2017 | 1.97 | 6/13/2022 | 6/12/2017 | 103.82664 | 103.8266382 | 103.8266382 | 103.8266382 | 103.395425 | 101.3557611 | 99.36665415 | 97.42652233 | 95.53384512 |
| 170612A00039 | 6/12/2017 | 2.29 | 6/12/2024 | 6/12/2017 | 108.87524 | 108.8752379 | 108.8752379 | 108.8752379 | 107.1519149 | 103.1040128 | 99.23215032 | 95.52773571 | 91.98264364 |
| 170613A00007 | 6/13/2017 | 2.01 | 6/11/2021 | 6/13/2017 | 101.81778 | 101.8177833 | 101.8177833 | 101.8177833 | 101.5935819 | 100.5531331 | 99.53392297 | 98.53530614 | 97.55666317 |
| 170615A00031 | 6/15/2017 | 1.85 | 6/15/2020 | 6/15/2017 | 100.07134 | 100.0713449 | 100.0713449 | 100.0713449 | 100.0646892 | 100.0176035 | 99.97057879 | 99.92361486 | 99.87671162 |
| 170628A00008 | 6/28/2017 | 2.04 | 9/15/2021 | 6/28/2017 | 102.30554 | 102.3055356 | 102.3055356 | 102.3055356 | 102.0580423 | 100.7624594 | 99.49364404 | 98.25077315 | 97.0330575 |
| 170630A00039 | 6/30/2017 | 1.86 | 6/29/2020 | 6/30/2017 | 100.13013 | 100.1301293 | 100.1301293 | 100.1301293 | 100.1179957 | 100.0321747 | 99.94649779 | 99.86096472 | 99.77557512 |
| 170705A00034 | 7/5/2017 | 1.75 | 7/6/2020 | 7/5/2017 | 100.17235 | 100.1723458 | 100.1723458 | 100.1723458 | 100.1567523 | 100.0513008 | 99.94608232 | 99.84109595 | 99.73634095 |
| 170706A00013 | 7/6/2017 | 2.27 | 7/6/2022 | 7/6/2017 | 104.19794 | 104.197937 | 104.197937 | 104.197937 | 103.7449465 | 101.6472958 | 99.60252272 | 97.60893389 | 95.66490358 |
| 160504A00004 | 5/4/2016 | 2.3 | 5/4/2026 | 5/4/2016 | 113.07805 | 113.078053 | 113.078053 | 113.078053 | 109.025359 | 103.1317986 | 97.59589754 | 92.39411844 | 87.50458809 |
| 160510A00010 | 5/10/2016 | 1.6 | 5/3/2021 | 5/10/2016 | 101.25437 | 101.2543681 | 101.2543681 | 101.2543681 | 101.0451921 | 100.1133429 | 99.19860172 | 98.30050084 | 97.41858958 |
| 160526A00011 | 5/26/2016 | 1.58 | 5/26/2021 | 5/26/2016 | 101.46861 | 101.4686142 | 101.4686142 | 101.4686142 | 101.2484117 | 100.2509951 | 99.27313156 | 98.31425073 | 97.37380434 |
| 160603A00021 | 6/3/2016 | 1.66 | 6/3/2021 | 6/3/2016 | 101.42009 | 101.4200855 | 101.4200855 | 101.4200855 | 101.1980491 | 100.1815052 | 99.18528826 | 98.20879345 | 97.25143979 |
| 160613A00047 | 6/15/2016 | 2.18 | 6/16/2025 | 6/15/2016 | 109.52525 | 109.5252538 | 109.5252538 | 109.5252538 | 106.8069154 | 101.8325024 | 97.12005949 | 92.65443062 | 88.42141505 |
| 160615A00023 | 6/15/2016 | 1.38 | 6/15/2021 | 6/15/2016 | 101.33771 | 101.3377131 | 101.3377131 | 101.3377131 | 101.1126841 | 100.0616475 | 99.03234422 | 98.02410571 | 97.03629064 |
| 160616A00028 | 6/16/2016 | 1.81 | 6/16/2023 | 6/16/2016 | 104.65931 | 104.6593103 | 104.6593103 | 104.6593103 | 103.7139814 | 100.6983448 | 97.78607388 | 94.97304744 | 92.25533338 |
| 160617A00002 | 6/17/2016 | 1.2 | 6/17/2020 | 6/17/2016 | 100.05719 | 100.0571872 | 100.0571872 | 100.0571872 | 100.0497349 | 99.99701569 | 99.94436891 | 99.89179439 | 99.83929198 |
| 160624A00006 | 6/24/2016 | 1.52 | 6/24/2021 | 6/24/2016 | 101.34905 | 101.3490514 | 101.3490514 | 101.3490514 | 101.1226337 | 100.049633 | 98.99928172 | 97.97086888 | 96.96371306 |
| 160624A00063 | 6/24/2016 | 1.52 | 6/24/2022 | 6/24/2016 | 102.93936 | 102.9393568 | 102.9393568 | 102.9393568 | 102.4994937 | 100.4401953 | 98.43245398 | 96.47463636 | 94.56517337 |
| 160628A00030 | 6/28/2016 | 1.48 | 6/28/2021 | 6/28/2016 | 101.31907 | 101.3190693 | 101.3190693 | 101.3190693 | 101.0918391 | 100.0081962 | 98.94765025 | 97.90946956 | 96.892953 |
| 160628A00039 | 6/28/2016 | 2.01 | 6/29/2026 | 6/28/2016 | 111.63168 | 111.6316778 | 111.6316778 | 111.6316778 | 107.34009 | 101.3549509 | 95.74213054 | 90.47654835 | 85.53493971 |
| 160701A00019 | 7/1/2016 | 1.73 | 7/3/2023 | 7/1/2016 | 104.48038 | 104.4803802 | 104.4803802 | 104.4803802 | 103.5050718 | 100.4482684 | 97.49743908 | 94.64830606 | 91.89679124 |
| 160712A00023 | 7/12/2016 | 1.79 | 7/12/2023 | 7/12/2016 | 104.70472 | 104.7047151 | 104.7047151 | 104.7047151 | 103.7120674 | 100.6279587 | 97.65141135 | 94.77805441 | 92.00372267 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160725A00010 | 7/25/2016 | 1.61 | 7/26/2021 | 7/25/2016 | 101.5646 | 101.5646025 | 101.5646025 | 101.5646025 | 101.332873 | 100.172037 | 99.03764979 | 97.92881603 | 96.84468032 |
| 160726A00024 | 7/26/2016 | 1.61 | 7/26/2021 | 7/26/2016 | 101.5646 | 101.5646025 | 101.5646025 | 101.5646025 | 101.332873 | 100.172037 | 99.03764979 | 97.92881603 | 96.84468032 |
| 160728A00022 | 7/28/2016 | 1.37 | 7/28/2021 | 7/28/2016 | 101.47633 | 101.4763348 | 101.4763348 | 101.4763348 | 101.2438642 | 100.0753397 | 98.93360958 | 97.81776137 | 96.7269236 |
| 160811A00011 | 8/11/2016 | 2.25 | 8/11/2026 | 8/11/2016 | 112.11508 | 112.1150817 | 112.1150817 | 112.1150817 | 107.6577846 | 101.5988767 | 95.92152566 | 90.59969069 | 85.60924358 |
| 160825A00054 | 8/29/2016 | 2.49 | 8/30/2021 | 8/29/2016 | 102.81172 | 102.8117162 | 102.8117162 | 102.8117162 | 102.5708102 | 101.307644 | 100.075148 | 98.87221384 | 97.69778576 |
| 160829A00037 | 8/31/2016 | 2.35 | 8/31/2021 | 8/31/2016 | 102.63969 | 102.6396906 | 102.6396906 | 102.6396906 | 102.3985609 | 101.1342867 | 99.90042243 | 98.6958776 | 97.5196133 |
| 160906A00017 | 9/6/2016 | 1.65 | 9/7/2021 | 9/6/2016 | 101.77557 | 101.7755725 | 101.7755725 | 101.7755725 | 101.5324317 | 100.2582367 | 99.01266999 | 97.79476688 | 96.60360596 |
| 160928A00014 | 9/28/2016 | 1.37 | 9/28/2021 | 9/28/2016 | 101.6919 | 101.6918976 | 101.6918976 | 101.6918976 | 101.4386751 | 100.1146482 | 98.81433789 | 97.53715661 | 96.28253569 |
| 161013A00038 | 10/13/2016 | 1.52 | 10/13/2021 | 10/13/2016 | 101.95288 | 101.9528779 | 101.9528779 | 101.9528779 | 101.6895373 | 100.3232166 | 98.98171158 | 97.66440498 | 96.37069955 |
| 161014A00006 | 10/14/2016 | 1.74 | 10/14/2021 | 10/14/2016 | 102.04187 | 102.0418747 | 102.0418747 | 102.0418747 | 101.7784106 | 100.4122429 | 99.07088067 | 97.75370696 | 96.4601248 |
| 170619A00067 | 6/19/2017 | 1.84 | 9/20/2021 | 6/19/2017 | 102.28892 | 102.2889209 | 102.2889209 | 102.2889209 | 102.0385082 | 100.728288 | 99.44376368 | 98.18419778 | 96.94888134 |
| 170619A00084 | 6/19/2017 | 1.95 | 6/20/2022 | 6/19/2017 | 103.82087 | 103.8208673 | 103.8208673 | 103.8208673 | 103.3829425 | 101.3248267 | 99.31802137 | 97.36090872 | 95.4519341 |
| 170621A00013 | 6/21/2017 | 1.68 | 6/22/2020 | 6/21/2017 | 100.10423 | 100.1042334 | 100.1042334 | 100.1042334 | 100.0948162 | 100.0282031 | 99.96169061 | 99.89527865 | 99.82896696 |
| 170622A00015 | 6/22/2017 | 1.99 | 6/22/2021 | 6/22/2017 | 101.84918 | 101.8491806 | 101.8491806 | 101.8491806 | 101.6225907 | 100.552123 | 99.50412251 | 98.47788763 | 97.47274571 |
| 170622A00036 | 6/22/2017 | 3.23 | 6/22/2032 | 6/22/2017 | 135.13428 | 135.1342811 | 135.1342811 | 129.6571928 | 117.1530908 | 105.735248 | 95.5895645 | 86.56574808 | 78.53204183 |
| 170629A00067 | 6/29/2017 | 2.19 | 6/29/2022 | 6/29/2017 | 103.99132 | 103.9913184 | 103.9913184 | 103.9913184 | 103.5460123 | 101.4695981 | 99.44519711 | 97.47115717 | 95.54589126 |
| 170630A00010 | 6/30/2017 | 2.63 | 6/30/2026 | 6/30/2017 | 115.45123 | 115.4512307 | 115.4512307 | 115.4512307 | 111.1036623 | 105.003326 | 99.28059708 | 93.91009802 | 88.86828659 |
| 170630A00027 | 6/30/2017 | 2.35 | 6/28/2024 | 6/30/2017 | 109.21925 | 109.2192512 | 109.2192512 | 109.2192512 | 107.4557085 | 103.3598827 | 99.44358296 | 95.69797532 | 92.11471008 |
| 170706A00027 | 7/6/2017 | 1.75 | 7/6/2020 | 7/6/2017 | 100.17235 | 100.1723458 | 100.1723458 | 100.1723458 | 100.1567523 | 100.0513008 | 99.94608232 | 99.84109595 | 99.73634095 |
| 170706A00073 | 7/6/2017 | 1.93 | 7/6/2020 | 7/6/2017 | 100.16872 | 100.1687196 | 100.1687196 | 100.1687196 | 100.1531611 | 100.0479439 | 99.94295668 | 99.83819853 | 99.73366872 |
| 170719A00004 | 7/19/2017 | 1.67 | 7/20/2020 | 7/19/2017 | 100.22416 | 100.2241595 | 100.2241595 | 100.2241595 | 100.2017102 | 100.0574566 | 99.91363079 | 99.77023078 | 99.62725464 |
| 170724A00025 | 7/24/2017 | 1.66 | 7/24/2020 | 7/24/2017 | 100.23982 | 100.2398205 | 100.2398205 | 100.2398205 | 100.2154125 | 100.0600765 | 99.90522942 | 99.75086884 | 99.59699251 |
| 170728A00027 | 7/28/2017 | 1.87 | 7/28/2020 | 7/28/2017 | 100.26403 | 100.264032 | 100.264032 | 100.264032 | 100.2377105 | 100.0715747 | 99.90598714 | 99.74094508 | 99.57644588 |
| 170731A00069 | 7/31/2017 | 1.75 | 1/29/2021 | 7/31/2017 | 101.11033 | 101.1103254 | 101.1103254 | 101.1103254 | 100.9661624 | 100.2889582 | 99.62080391 | 98.96151915 | 98.31092839 |
| 170803A00013 | 8/3/2017 | 2.14 | 8/3/2022 | 8/3/2017 | 104.06382 | 104.0638167 | 104.0638167 | 104.0638167 | 103.58183 | 101.4101526 | 99.29467376 | 97.23353655 | 95.224961 |
| 170803A00032 | 8/3/2017 | 2.12 | 8/3/2023 | 8/3/2017 | 106.44206 | 106.4420564 | 106.4420564 | 106.4420564 | 105.3966313 | 102.2130523 | 99.14227155 | 96.17962297 | 93.32066479 |
| 170808A00014 | 8/8/2017 | 1.67 | 8/10/2020 | 8/8/2017 | 100.31467 | 100.3146693 | 100.3146693 | 100.3146693 | 100.2813635 | 100.0789314 | 99.87733074 | 99.6765562 | 99.47660266 |
| 170815A00006 | 8/15/2017 | 2.5 | 8/15/2024 | 8/15/2017 | 109.36307 | 109.3630666 | 109.3630666 | 109.3630666 | 107.4928541 | 103.2911126 | 99.27786642 | 95.44361169 | 91.7793802 |
| 170822A00011 | 8/22/2017 | 1.83 | 8/24/2020 | 8/22/2017 | 100.37582 | 100.3758223 | 100.3758223 | 100.3758223 | 100.3350642 | 100.0942824 | 99.85465907 | 99.61618582 | 99.3788544 |
| 170828A00031 | 8/28/2017 | 2.07 | 8/1/2022 | 8/28/2017 | 103.89974 | 103.8997425 | 103.8997425 | 103.8997425 | 103.4203467 | 101.2557381 | 99.14704696 | 97.0924295 | 95.09011837 |
| 170829A00017 | 8/29/2017 | 1.76 | 8/31/2020 | 8/29/2017 | 100.38784 | 100.3878431 | 100.3878431 | 100.3878431 | 100.3433198 | 100.083235 | 99.82449509 | 99.56708966 | 99.31100843 |
| 170829A00018 | 8/29/2017 | 1.9 | 8/30/2021 | 8/29/2017 | 102.06251 | 102.062506 | 102.062506 | 102.062506 | 101.8226223 | 100.5644609 | 99.33688449 | 98.13878703 | 96.96911515 |
| 170829A00025 | 8/29/2017 | 1.9 | 8/30/2021 | 8/29/2017 | 102.06251 | 102.062506 | 102.062506 | 102.062506 | 101.8226223 | 100.5644609 | 99.33688449 | 98.13878703 | 96.96911515 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170829A00044 | 8/29/2017 | 2.01 | 8/29/2022 | 8/29/2017 | 103.9007 | 103.9007044 | 103.9007044 | 103.9007044 | 103.3902965 | 101.1524513 | 98.97398199 | 96.85287017 | 94.78718401 |
| 170728A00040 | 7/28/2017 | 2.44 | 1/27/2025 | 7/28/2017 | 110.95766 | 110.9576622 | 110.9576622 | 110.9576622 | 108.6241896 | 103.9425971 | 99.49083201 | 95.25637213 | 91.22744753 |
| 170731A00004 | 7/31/2017 | 2.16 | 7/29/2022 | 7/31/2017 | 104.0821 | 104.0820977 | 104.0820977 | 104.0820977 | 103.6056147 | 101.4468446 | 99.34366851 | 97.29425999 | 95.29686764 |
| 170731A00006 | 7/31/2017 | 2.16 | 8/1/2022 | 7/31/2017 | 104.09757 | 104.0975725 | 104.0975725 | 104.0975725 | 103.6177269 | 101.4509166 | 99.34006875 | 97.28333844 | 95.27895698 |
| 170804A00020 | 8/4/2017 | 2.13 | 8/1/2022 | 8/4/2017 | 104.03163 | 104.0316292 | 104.0316292 | 104.0316292 | 103.5519335 | 101.3858571 | 99.27572815 | 97.21970213 | 95.21601078 |
| 170818A00037 | 8/18/2017 | 2.08 | 8/18/2022 | 8/18/2017 | 104.00566 | 104.0056643 | 104.0056643 | 104.0056643 | 103.5071882 | 101.2968899 | 99.14462154 | 97.04843353 | 95.0064588 |
| 170821A00038 | 8/23/2017 | 2.39 | 8/23/2024 | 8/23/2017 | 109.73608 | 109.7360803 | 109.7360803 | 109.7360803 | 107.8311619 | 103.5791419 | 99.51919892 | 95.64158185 | 91.9370936 |
| 170822A00017 | 8/22/2017 | 2.11 | 8/22/2022 | 8/22/2017 | 104.0931 | 104.093097 | 104.093097 | 104.093097 | 103.5899857 | 101.3682296 | 99.20502095 | 97.09838445 | 95.04642871 |
| 170822A00019 | 8/22/2017 | 2.44 | 8/22/2024 | 8/22/2017 | 109.14948 | 109.1494812 | 109.1494812 | 109.1494812 | 107.2633472 | 103.0484264 | 99.02337317 | 95.17857517 | 91.50496445 |
| 170831A00021 | 8/31/2017 | 1.99 | 2/25/2022 | 8/31/2017 | 103.00802 | 103.0080163 | 103.0080163 | 103.0080163 | 102.6611217 | 100.9278619 | 99.232103 | 97.57269339 | 95.94852888 |
| 170906A00037 | 9/6/2017 | 1.99 | 9/6/2022 | 9/6/2017 | 103.8927 | 103.8927021 | 103.8927021 | 103.8927021 | 103.3728414 | 101.1141881 | 98.91594091 | 96.77606826 | 94.69262333 |
| 170908A00016 | 9/10/2018 | 1.94 | 9/10/2021 | 9/10/2018 | 102.1641 | 102.1641048 | 102.1641048 | 102.1641048 | 101.9190555 | 100.6354786 | 99.37985578 | 98.15127451 | 96.94886193 |
| 170913A00024 | 9/13/2017 | 1.8 | 8/17/2020 | 9/13/2017 | 100.33887 | 100.3388665 | 100.3388665 | 100.3388665 | 100.3018641 | 100.0804326 | 99.85998955 | 99.64052843 | 99.42204257 |
| 170915A00009 | 9/15/2017 | 1.86 | 9/15/2020 | 9/15/2017 | 100.48305 | 100.483047 | 100.483047 | 100.483047 | 100.4303408 | 100.12875 | 99.82897916 | 99.53101191 | 99.23483188 |
| 170926A00036 | 9/26/2017 | 1.7 | 9/25/2020 | 9/26/2017 | 100.52304 | 100.5230352 | 100.5230352 | 100.5230352 | 100.4647869 | 100.1350571 | 99.80749245 | 99.48207183 | 99.15877416 |
| 171010A00037 | 10/10/2017 | 2.09 | 10/12/2021 | 10/10/2017 | 102.50606 | 102.5060576 | 102.5060576 | 102.5060576 | 102.2432755 | 100.8793957 | 99.5401844 | 98.2250303 | 96.93334163 |
| 171016A00045 | 10/16/2017 | 2.2 | 10/17/2022 | 10/16/2017 | 104.59063 | 104.5906258 | 104.5906258 | 104.5906258 | 104.0191583 | 101.6437588 | 99.33454675 | 97.08931543 | 94.90594459 |
| 171018A00001 | 10/18/2017 | 1.96 | 10/18/2021 | 10/18/2017 | 102.59141 | 102.5914059 | 102.5914059 | 102.5914059 | 102.3238017 | 100.9391587 | 99.57988521 | 98.24534428 | 96.93491998 |
| 171018A00011 | 10/18/2017 | 2.68 | 10/18/2027 | 10/18/2017 | 119.11124 | 119.1112357 | 119.1112357 | 119.1112357 | 112.3979889 | 105.0553172 | 98.25098343 | 91.9426502 | 86.09151419 |
| 171026A00009 | 10/26/2017 | 2.75 | 10/27/2025 | 10/26/2017 | 113.3107 | 113.3106969 | 113.3106969 | 113.3106969 | 110.0874145 | 104.6884699 | 99.59015933 | 94.77419048 | 90.22347468 |
| 171030A00022 | 10/30/2017 | 2.28 | 10/31/2022 | 10/30/2017 | 104.85996 | 104.8599596 | 104.8599596 | 104.8599596 | 104.2700267 | 101.8538596 | 99.50599664 | 97.22412645 | 95.00602971 |
| 171121A00013 | 11/21/2017 | 1.98 | 11/23/2020 | 11/21/2017 | 100.92051 | 100.9205141 | 100.9205141 | 100.9205141 | 100.8274874 | 100.3344316 | 99.84619408 | 99.36270448 | 98.88389371 |
| 171129A00020 | 11/29/2017 | 2.89 | 11/30/2026 | 11/29/2017 | 116.88485 | 116.8848454 | 116.8848454 | 116.8848454 | 111.8285549 | 105.3660134 | 99.32582819 | 93.67813443 | 88.39532778 |
| 171205A00014 | 12/5/2017 | 2.49 | 12/5/2022 | 12/5/2017 | 105.58636 | 105.5863593 | 105.5863593 | 105.5863593 | 104.9473614 | 102.4303262 | 99.98690562 | 97.61451625 | 95.31068177 |
| 171206A00038 | 12/6/2017 | 2.69 | 12/6/2027 | 12/6/2017 | 119.53281 | 119.5328147 | 119.5328147 | 119.5328147 | 112.5767915 | 105.1069477 | 98.19363722 | 91.79237652 | 85.86245745 |
| 161013A00037 | 10/13/2016 | 1.52 | 10/13/2021 | 10/13/2016 | 101.95288 | 101.9528779 | 101.9528779 | 101.9528779 | 101.6895373 | 100.3232166 | 98.98171158 | 97.66440498 | 96.37069955 |
| 161031A00005 | 10/31/2016 | 1.56 | 11/2/2020 | 10/31/2016 | 100.56878 | 100.5687792 | 100.5687792 | 100.5687792 | 100.4890523 | 100.0553604 | 99.62540343 | 99.19913342 | 98.77650306 |
| 161206A00008 | 12/6/2016 | 2.6 | 12/6/2023 | 12/6/2016 | 108.1874 | 108.1873967 | 108.1873967 | 108.1873967 | 106.8948837 | 103.3719776 | 99.98497422 | 96.72789595 | 93.59506176 |
| 161213A00013 | 12/13/2016 | 1.85 | 12/14/2020 | 12/13/2016 | 100.95716 | 100.9571588 | 100.9571588 | 100.9571588 | 100.8493327 | 100.2985377 | 99.75375554 | 99.21488789 | 98.68183867 |
| 161222A00030 | 12/22/2016 | 3.09 | 12/22/2026 | 12/22/2016 | 119.71486 | 119.7148556 | 119.7148556 | 119.7148556 | 114.454992 | 107.8022733 | 101.5878291 | 95.78040044 | 90.35111639 |
| 170109A00031 | 1/9/2017 | 2.29 | 1/10/2022 | 1/9/2017 | 103.28268 | 103.2826794 | 103.2826794 | 103.2826794 | 102.9615685 | 101.3497431 | 99.77098397 | 98.22433979 | 96.7088956 |
| 170119A00004 | 1/19/2017 | 2.36 | 1/18/2022 | 1/19/2017 | 103.4433 | 103.4432968 | 103.4432968 | 103.4432968 | 103.1173773 | 101.4829995 | 99.88243461 | 98.31469867 | 96.77884588 |
| 170203A00012 | 2/3/2017 | 3.63 | 2/2/2035 | 2/3/2017 | 148.40005 | 148.4000483 | 148.4000483 | 136.9458064 | 121.628266 | 108.0137387 | 96.1792566 | 85.8777618 | 76.89787981 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170213A00010 | 2/13/2017 | 2 | 8/13/2020 | 2/13/2017 | 100.36202 | 100.3620227 | 100.3620227 | 100.3620227 | 100.3271594 | 100.1167428 | 99.90722082 | 99.69858768 | 99.49083771 |
| 170215A00035 | 2/15/2017 | 2.51 | 5/7/2021 | 2/15/2017 | 102.13494 | 102.1349395 | 102.1349395 | 102.1349395 | 101.9230425 | 100.975837 | 100.0462023 | 99.13365268 | 98.23772027 |
| 170216A00041 | 2/16/2017 | 2.37 | 2/16/2022 | 2/16/2017 | 103.62689 | 103.6268944 | 103.6268944 | 103.6268944 | 103.2840533 | 101.5697588 | 99.89213856 | 98.25008037 | 96.64251729 |
| 170303A00021 | 3/3/2017 | 2.2 | 3/3/2022 | 3/3/2017 | 103.71391 | 103.7139133 | 103.7139133 | 103.7139133 | 103.3610559 | 101.5993828 | 99.8761808 | 98.19027278 | 96.54052992 |
| 170313A00035 | 3/13/2017 | 3.31 | 3/15/2027 | 3/13/2017 | 120.48617 | 120.4861653 | 120.4861653 | 120.4861653 | 114.8597859 | 108.0316293 | 101.6647985 | 95.72558979 | 90.18293292 |
| 170314A00005 | 3/14/2017 | 2.29 | 3/14/2022 | 3/14/2017 | 103.94051 | 103.940512 | 103.940512 | 103.940512 | 103.580345 | 101.7853818 | 100.0301762 | 98.31355206 | 96.63437865 |
| 170322A00010 | 3/22/2017 | 2.11 | 3/22/2022 | 3/22/2017 | 103.65791 | 103.6579076 | 103.6579076 | 103.6579076 | 103.2932646 | 101.4782779 | 99.70391825 | 97.96901182 | 96.27242747 |
| 170322A00011 | 3/22/2017 | 2.48 | 3/22/2024 | 3/22/2017 | 109.11644 | 109.1164359 | 109.1164359 | 109.1164359 | 107.5813211 | 103.7423403 | 100.0618037 | 96.53234291 | 93.14697192 |
| 170322A00024 | 3/22/2017 | 3.72 | 9/22/2036 | 3/22/2017 | 155.11543 | 155.1154323 | 155.1154323 | 140.534404 | 123.5299895 | 108.6605147 | 95.90764426 | 84.9510958 | 75.52095277 |
| 170327A00070 | 3/29/2017 | 3.05 | 3/29/2027 | 3/29/2017 | 120.23252 | 120.2325194 | 120.2325194 | 120.2325194 | 114.4830635 | 107.5771611 | 101.1424121 | 95.14415827 | 89.55045908 |
| 170404A00033 | 4/4/2017 | 2.22 | 4/4/2022 | 4/4/2017 | 103.59713 | 103.5971322 | 103.5971322 | 103.5971322 | 103.2251932 | 101.3812434 | 99.57916962 | 97.8177788 | 96.09591942 |
| 170428A00030 | 4/28/2017 | 2.25 | 4/28/2022 | 4/28/2017 | 103.78311 | 103.7831124 | 103.7831124 | 103.7831124 | 103.3937687 | 101.484963 | 99.6208582 | 97.80014035 | 96.02154282 |
| 170515A00010 | 5/15/2017 | 2.58 | 5/15/2024 | 5/15/2017 | 109.12612 | 109.1261195 | 109.1261195 | 109.1261195 | 107.4776587 | 103.5175605 | 99.72627886 | 96.09573539 | 92.61828086 |
| 170515A00022 | 5/15/2017 | 2.04 | 5/17/2021 | 5/15/2017 | 101.72705 | 101.7270492 | 101.7270492 | 101.7270492 | 101.5111199 | 100.5389995 | 99.5854397 | 98.64991264 | 97.73191036 |
| 170524A00046 | 5/24/2017 | 1.84 | 5/24/2021 | 5/24/2017 | 101.72035 | 101.7203474 | 101.7203474 | 101.7203474 | 101.5007644 | 100.5074282 | 99.5334548 | 98.57828256 | 97.64137121 |
| 170530A00058 | 5/30/2017 | 1.96 | 3/26/2021 | 5/30/2017 | 101.4143 | 101.4142996 | 101.4142996 | 101.4142996 | 101.2293261 | 100.3997697 | 99.58376166 | 98.78097231 | 97.99108253 |
| 170228A00014 | 2/28/2017 | 2.89 | 3/1/2027 | 2/28/2017 | 118.91488 | 118.9148793 | 118.9148793 | 118.9148793 | 113.3263051 | 106.5335189 | 100.200018 | 94.29222581 | 88.77919668 |
| 170309A00024 | 3/9/2017 | 2.27 | 3/9/2021 | 3/9/2017 | 101.5872 | 101.587198 | 101.587198 | 101.587198 | 101.4140543 | 100.6298572 | 99.85776199 | 99.09749009 | 98.34877137 |
| 170310A00032 | 3/10/2017 | 2.27 | 3/10/2022 | 3/10/2017 | 103.88043 | 103.8804316 | 103.8804316 | 103.8804316 | 103.5228822 | 101.7398218 | 99.99605268 | 98.29039844 | 96.62172904 |
| 170313A00027 | 3/13/2017 | 2.27 | 3/14/2022 | 3/13/2017 | 103.90422 | 103.9042195 | 103.9042195 | 103.9042195 | 103.5441203 | 101.7494945 | 99.99462001 | 98.27832093 | 96.59946661 |
| 170313A00032 | 3/13/2017 | 3.69 | 6/14/2032 | 3/13/2017 | 140.58817 | 140.5881713 | 140.5881713 | 135.1234512 | 122.3782807 | 110.6815559 | 100.2767824 | 91.0121434 | 82.75447309 |
| 170322A00015 | 3/22/2017 | 2.31 | 3/22/2022 | 3/22/2017 | 103.69326 | 103.69326 | 103.69326 | 103.69326 | 103.3297559 | 101.5203859 | 99.75141693 | 98.0216845 | 96.3300661 |
| 170412A00045 | 4/12/2017 | 2.01 | 4/12/2022 | 4/12/2017 | 103.58428 | 103.584285 | 103.584285 | 103.584285 | 103.2054127 | 101.3343354 | 99.50630193 | 97.72006996 | 95.97444101 |
| 170424A00009 | 4/24/2017 | 2.04 | 4/25/2022 | 4/24/2017 | 103.71044 | 103.7104406 | 103.7104406 | 103.7104406 | 103.3220458 | 101.4154296 | 99.55340674 | 97.73466835 | 95.95795264 |
| 170427A00047 | 4/27/2017 | 3.18 | 4/27/2029 | 4/27/2017 | 125.63062 | 125.6306176 | 125.6306176 | 125.3091611 | 116.1106677 | 107.3354663 | 99.31234605 | 91.97247101 | 85.25364597 |
| 170515A00043 | 5/15/2017 | 3.1 | 5/15/2028 | 5/15/2017 | 122.29367 | 122.2936685 | 122.2936685 | 122.2936685 | 114.5923201 | 106.7154893 | 99.45140931 | 92.7489761 | 86.5616001 |
| 170517A00027 | 5/17/2017 | 1.99 | 5/17/2022 | 5/17/2017 | 103.72792 | 103.7279242 | 103.7279242 | 103.7279242 | 103.3214515 | 101.3551279 | 99.43618239 | 97.56318152 | 95.734745 |
| 170518A00034 | 5/18/2017 | 2.15 | 5/18/2023 | 5/18/2017 | 106.10571 | 106.1057057 | 106.1057057 | 106.1057057 | 105.2023247 | 102.2277448 | 99.35305134 | 96.5743456 | 93.88790374 |
| 170530A00003 | 5/30/2017 | 1.99 | 5/28/2021 | 5/30/2017 | 101.7302 | 101.7301951 | 101.7301951 | 101.7301951 | 101.5093242 | 100.507364 | 99.52510389 | 98.56196747 | 97.61740073 |
| 170608A00020 | 6/8/2017 | 2.27 | 6/10/2024 | 6/8/2017 | 108.78159 | 108.7815899 | 108.7815899 | 108.7815899 | 107.0635942 | 103.022695 | 99.15737036 | 95.45905969 | 91.91966668 |
| 170613A00032 | 6/13/2017 | 2.45 | 6/13/2025 | 6/13/2017 | 111.88645 | 111.8864511 | 111.8864511 | 111.8864511 | 109.1342174 | 104.0776159 | 99.28701344 | 94.7470219 | 90.44322358 |
| 170614A00012 | 6/14/2017 | 1.9 | 6/14/2022 | 6/14/2017 | 103.6869 | 103.6869038 | 103.6869038 | 103.6869038 | 103.2550274 | 101.2141881 | 99.22398405 | 97.28282905 | 95.38919856 |
| 170621A00014 | 6/21/2017 | 1.82 | 6/21/2021 | 6/21/2017 | 101.83264 | 101.8326431 | 101.8326431 | 101.8326431 | 101.6057457 | 100.5355767 | 99.4878542 | 98.46187791 | 97.45697625 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170622A00014 | 6/22/2017 | 1.84 | 6/22/2020 | 6/22/2017 | 100.09941 | 100.0994116 | 100.0994116 | 100.0994116 | 100.0900172 | 100.0235635 | 99.95720857 | 99.89095222 | 99.82479421 |
| 170622A00039 | 6/22/2017 | 3.36 | 6/22/2035 | 6/22/2017 | 145.60232 | 145.6023165 | 145.6023165 | 133.4670312 | 118.0244512 | 104.3907313 | 92.58797996 | 82.35575278 | 73.47209702 |
| 170626A00017 | 6/26/2017 | 1.8 | 6/28/2021 | 6/26/2017 | 101.8438 | 101.8437976 | 101.8437976 | 101.8437976 | 101.6153871 | 100.5261162 | 99.46008393 | 98.41655333 | 97.39481816 |
| 170628A00056 | 6/28/2017 | 1.97 | 6/28/2022 | 6/28/2017 | 103.90368 | 103.9036809 | 103.9036809 | 103.9036809 | 103.4578945 | 101.3777515 | 99.34980749 | 97.37240218 | 95.44394105 |
| 170629A00017 | 6/29/2017 | 2 | 4/26/2021 | 6/29/2017 | 101.5969 | 101.5969005 | 101.5969005 | 101.5969005 | 101.3911452 | 100.4765562 | 99.57840778 | 98.69625978 | 97.82968769 |
| 170629A00022 | 6/29/2017 | 2.2 | 6/29/2023 | 6/29/2017 | 106.49807 | 106.4980682 | 106.4980682 | 106.4980682 | 105.5176045 | 102.426717 | 99.44270119 | 96.5612509 | 93.77826042 |
| 170630A00008 | 6/30/2017 | 2.35 | 7/1/2024 | 6/30/2017 | 109.23775 | 109.2377511 | 109.2377511 | 109.2377511 | 107.4668264 | 103.3627764 | 99.43890163 | 95.68632173 | 92.09664388 |
| 170714A00018 | 7/14/2017 | 1.67 | 7/14/2020 | 7/14/2017 | 100.19833 | 100.198335 | 100.198335 | 100.198335 | 100.1788243 | 100.0512009 | 99.92391813 | 99.79697455 | 99.67036877 |
| 170721A00017 | 7/21/2017 | 1.8 | 7/21/2021 | 7/21/2017 | 101.95098 | 101.9509777 | 101.9509777 | 101.9509777 | 101.7189378 | 100.5664694 | 99.43999202 | 98.33863448 | 97.26156394 |
| 170724A00015 | 7/24/2017 | 2.32 | 7/24/2023 | 7/24/2017 | 106.44025 | 106.4402465 | 106.4402465 | 106.4402465 | 105.4189323 | 102.2756462 | 99.24265135 | 96.31543057 | 93.48968132 |
| 170803A00020 | 8/3/2017 | 2.84 | 8/3/2027 | 8/3/2017 | 118.25231 | 118.2523088 | 118.2523088 | 118.2523088 | 111.987812 | 104.9049987 | 98.32674481 | 92.21434648 | 86.53226656 |
| 170803A00027 | 8/3/2017 | 1.67 | 8/3/2020 | 8/3/2017 | 100.28447 | 100.2844684 | 100.2844684 | 100.2844684 | 100.2549243 | 100.071881 | 99.88951312 | 99.70781699 | 99.52678883 |
| 170810A00001 | 8/11/2017 | 1.66 | 8/11/2020 | 8/11/2017 | 100.31693 | 100.3169285 | 100.3169285 | 100.3169285 | 100.2830858 | 100.0778875 | 99.87354344 | 99.67004816 | 99.46739629 |
| 170818A00004 | 8/18/2017 | 1.95 | 8/18/2021 | 8/18/2017 | 102.07023 | 102.0702294 | 102.0702294 | 102.0702294 | 101.8331361 | 100.6069013 | 99.41007237 | 98.24160118 | 97.10048914 |
| 170824A00038 | 8/24/2017 | 2.23 | 8/24/2023 | 8/24/2017 | 106.31916 | 106.319163 | 106.319163 | 106.319163 | 105.2401654 | 102.0186106 | 98.91258187 | 95.9172361 | 93.02796675 |
| 170825A00025 | 8/25/2017 | 2.12 | 8/25/2022 | 8/25/2017 | 104.1308 | 104.1308019 | 104.1308019 | 104.1308019 | 103.6242791 | 101.3942459 | 99.22314328 | 97.10897659 | 95.04983636 |
| 170829A00022 | 8/29/2017 | 1.72 | 8/30/2021 | 8/29/2017 | 102.03599 | 102.0359911 | 102.0359911 | 102.0359911 | 101.7955578 | 100.5344307 | 99.30401568 | 98.1032003 | 96.93092537 |
| 170829A00035 | 8/29/2017 | 1.58 | 8/31/2020 | 8/29/2017 | 100.38178 | 100.3817761 | 100.3817761 | 100.3817761 | 100.3371767 | 100.0766546 | 99.81748496 | 99.55965724 | 99.30316103 |
| 170830A00044 | 8/30/2017 | 1.94 | 8/30/2021 | 8/30/2017 | 102.1133 | 102.1132999 | 102.1132999 | 102.1132999 | 101.8733469 | 100.6148462 | 99.38693625 | 98.18851088 | 97.01851655 |
| 170831A00010 | 8/31/2017 | 2.05 | 8/30/2022 | 8/31/2017 | 103.99657 | 103.9965727 | 103.9965727 | 103.9965727 | 103.4847533 | 101.2431909 | 99.06115616 | 96.93662819 | 94.86767273 |
| 170906A00033 | 9/6/2017 | 1.75 | 9/8/2020 | 9/6/2017 | 100.41807 | 100.4180677 | 100.4180677 | 100.4180677 | 100.3691896 | 100.0870216 | 99.80644733 | 99.52745311 | 99.2500256 |
| 170929A00057 | 9/29/2017 | 2.16 | 9/29/2023 | 9/29/2017 | 106.8931 | 106.893104 | 106.893104 | 106.893104 | 105.7363191 | 102.3977025 | 99.18215395 | 96.08451191 | 93.09985832 |
| 171011A00013 | 10/11/2017 | 2.77 | 10/13/2026 | 10/11/2017 | 115.77856 | 115.7785556 | 115.7785556 | 115.7785556 | 110.9702856 | 104.6539617 | 98.74324599 | 93.20997748 | 88.02808667 |
| 171012A00020 | 10/12/2017 | 1.93 | 10/13/2020 | 10/12/2017 | 100.63354 | 100.6335418 | 100.6335418 | 100.6335418 | 100.5652834 | 100.1863741 | 99.81032432 | 99.43710173 | 99.06667442 |
| 171012A00026 | 10/12/2017 | 2.09 | 10/12/2021 | 10/12/2017 | 102.50606 | 102.5060576 | 102.5060576 | 102.5060576 | 102.2432755 | 100.8793957 | 99.5401844 | 98.2250303 | 96.93334163 |
| 171017A00024 | 10/17/2017 | 2.04 | 4/19/2021 | 10/17/2017 | 101.59924 | 101.5992412 | 101.5992412 | 101.5992412 | 101.3981043 | 100.5024946 | 99.62266034 | 98.75818732 | 97.90867585 |
| 171024A00069 | 10/24/2017 | 1.99 | 10/26/2020 | 10/24/2017 | 100.72249 | 100.722493 | 100.722493 | 100.722493 | 100.6468604 | 100.2319854 | 99.82052295 | 99.41243112 | 99.00766866 |
| 171026A00010 | 10/26/2017 | 2.84 | 10/26/2026 | 10/26/2017 | 116.31628 | 116.3162835 | 116.3162835 | 116.3162835 | 111.4376564 | 105.0737842 | 99.12042412 | 93.54893709 | 88.33282179 |
| 171030A00020 | 10/30/2017 | 2.16 | 1/14/2022 | 10/30/2017 | 103.09057 | 103.0905679 | 103.0905679 | 103.0905679 | 102.7675187 | 101.1467336 | 99.55934542 | 98.00438766 | 96.48093113 |
| 171031A00037 | 10/31/2017 | 1.98 | 10/30/2020 | 10/31/2017 | 100.73744 | 100.7374406 | 100.7374406 | 100.7374406 | 100.6594923 | 100.2335982 | 99.81129588 | 99.39254017 | 98.97728658 |
| 171102A00001 | 11/3/2017 | 1.84 | 11/3/2020 | 11/3/2017 | 100.75561 | 100.7556143 | 100.7556143 | 100.7556143 | 100.6750516 | 100.2374192 | 99.80358907 | 99.37351168 | 98.94713843 |
| 170731A00026 | 7/31/2017 | 1.85 | 7/30/2020 | 7/31/2017 | 100.26939 | 100.2693869 | 100.2693869 | 100.2693869 | 100.2420408 | 100.0703786 | 99.89930174 | 99.72880721 | 99.55889209 |
| 170803A00018 | 8/3/2017 | 1.85 | 8/3/2020 | 8/3/2017 | 100.28681 | 100.2868104 | 100.2868104 | 100.2868104 | 100.2573185 | 100.0745943 | 99.89254063 | 99.71115394 | 99.5304305 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170803A00021 | 8/3/2017 | 2.5 | 8/5/2024 | 8/3/2017 | 109.30247 | 109.3024662 | 109.3024662 | 109.3024662 | 107.4573907 | 103.2821534 | 99.29321134 | 95.48122412 | 91.83737467 |
| 170814A00084 | 8/14/2017 | 1.91 | 8/15/2022 | 8/14/2017 | 104.01538 | 104.0153806 | 104.0153806 | 104.0153806 | 103.5182977 | 101.3077394 | 99.1551987 | 97.05872828 | 95.01646328 |
| 170818A00035 | 8/18/2017 | 1.77 | 8/18/2021 | 8/18/2017 | 102.04451 | 102.0445123 | 102.0445123 | 102.0445123 | 101.8068773 | 100.577779 | 99.3782079 | 98.20711004 | 97.06348124 |
| 170829A00023 | 8/29/2017 | 1.83 | 8/29/2022 | 8/29/2017 | 103.90253 | 103.9025348 | 103.9025348 | 103.9025348 | 103.3901268 | 101.1440593 | 98.9577378 | 96.8291267 | 94.75627802 |
| 170830A00009 | 8/30/2017 | 1.94 | 3/2/2023 | 8/30/2017 | 105.08663 | 105.0866347 | 105.0866347 | 105.0866347 | 104.3163802 | 101.5631459 | 98.89643317 | 96.31296097 | 93.8095978 |
| 170831A00048 | 8/31/2017 | 1.64 | 11/16/2020 | 8/31/2017 | 100.72285 | 100.7228515 | 100.7228515 | 100.7228515 | 100.6342568 | 100.1609896 | 99.69217571 | 99.22775224 | 98.76765762 |
| 170905A00071 | 9/5/2017 | 1.78 | 9/8/2020 | 9/5/2017 | 100.42656 | 100.4265633 | 100.4265633 | 100.4265633 | 100.3776826 | 100.0954989 | 99.81490882 | 99.53589893 | 99.25845581 |
| 170906A00039 | 9/6/2017 | 1.99 | 9/6/2022 | 9/6/2017 | 103.8927 | 103.8927021 | 103.8927021 | 103.8927021 | 103.3728414 | 101.1141881 | 98.91594091 | 96.77606826 | 94.69262333 |
| 170907A00050 | 9/7/2017 | 1.69 | 9/7/2021 | 9/7/2017 | 102.03277 | 102.032769 | 102.032769 | 102.032769 | 101.7886737 | 100.5095277 | 99.25916401 | 98.03661156 | 96.84094273 |
| 170911A00032 | 9/11/2017 | 1.85 | 9/12/2022 | 9/11/2017 | 104.01537 | 104.0153685 | 104.0153685 | 104.0153685 | 103.4860193 | 101.2018614 | 98.97930276 | 96.81628296 | 94.71082593 |
| 170922A00006 | 9/22/2017 | 2.09 | 9/22/2021 | 9/22/2017 | 102.40628 | 102.4062823 | 102.4062823 | 102.4062823 | 102.1554487 | 100.8434337 | 99.55653041 | 98.29404236 | 97.05529896 |
| 170926A00031 | 9/26/2017 | 1.94 | 9/28/2020 | 9/26/2017 | 100.56782 | 100.5678193 | 100.5678193 | 100.5678193 | 100.5080248 | 100.1704987 | 99.83523121 | 99.50219995 | 99.17138262 |
| 170928A00044 | 9/28/2017 | 1.9 | 9/28/2021 | 9/28/2017 | 102.40826 | 102.4082609 | 102.4082609 | 102.4082609 | 102.1540101 | 100.8249132 | 99.5196199 | 98.23754005 | 96.97810269 |
| 171003A00008 | 10/3/2017 | 2.88 | 10/4/2027 | 10/3/2017 | 118.97463 | 118.9746279 | 118.9746279 | 118.9746279 | 112.403312 | 105.1555046 | 98.43434896 | 92.19875371 | 86.41103172 |
| 171006A00034 | 10/6/2017 | 2.27 | 10/6/2022 | 10/6/2017 | 104.6996 | 104.6996044 | 104.6996044 | 104.6996044 | 104.1417153 | 101.7946074 | 99.51212629 | 97.29214295 | 95.13261077 |
| 171012A00027 | 10/12/2017 | 2.21 | 10/12/2022 | 10/12/2017 | 104.5884 | 104.5883957 | 104.5883957 | 104.5883957 | 104.0232287 | 101.6613055 | 99.36484511 | 97.13167658 | 94.95971372 |
| 171013A00020 | 10/13/2017 | 1.9 | 10/15/2020 | 10/13/2017 | 100.63496 | 100.6349631 | 100.6349631 | 100.6349631 | 100.5655685 | 100.1811177 | 99.7996105 | 99.42101303 | 99.04529202 |
| 171026A00005 | 10/26/2017 | 2.16 | 10/26/2021 | 10/26/2017 | 102.68993 | 102.6899272 | 102.6899272 | 102.6899272 | 102.4175627 | 101.0139833 | 99.63642931 | 98.2842397 | 96.95677538 |
| 171027A00049 | 10/27/2017 | 2.04 | 10/27/2020 | 10/27/2017 | 100.74825 | 100.7482518 | 100.7482518 | 100.7482518 | 100.6720444 | 100.2543593 | 99.84013056 | 99.42931546 | 99.02187198 |
| 171031A00060 | 10/31/2017 | 1.98 | 10/30/2020 | 10/31/2017 | 100.73744 | 100.7374406 | 100.7374406 | 100.7374406 | 100.6594923 | 100.2335982 | 99.81129588 | 99.39254017 | 98.97728658 |
| 171101A00021 | 11/1/2017 | 2.51 | 11/1/2023 | 11/1/2017 | 107.65428 | 107.6542832 | 107.6542832 | 107.6542832 | 106.4352545 | 103.0118905 | 99.71742284 | 96.54632416 | 93.49333404 |
| 171116A00009 | 11/16/2017 | 2.17 | 10/20/2020 | 11/16/2017 | 100.76565 | 100.7656477 | 100.7656477 | 100.7656477 | 100.6933798 | 100.2948782 | 99.89953234 | 99.50730487 | 99.1181589 |
| 171207A00036 | 12/7/2017 | 2.23 | 12/7/2022 | 12/7/2017 | 105.3996 | 105.3995958 | 105.3995958 | 105.3995958 | 104.7555298 | 102.22568 | 99.770141 | 97.38629365 | 95.07162795 |
| 171208A00006 | 12/8/2017 | 2.67 | 12/8/2026 | 12/8/2017 | 116.82996 | 116.8299598 | 116.8299598 | 116.8299598 | 111.68454 | 105.1571093 | 99.05922852 | 93.36034586 | 88.03223516 |
| 171220A00004 | 12/20/2017 | 2.52 | 12/20/2021 | 12/20/2017 | 103.52956 | 103.5295584 | 103.5295584 | 103.5295584 | 103.2202318 | 101.6628347 | 100.1366989 | 98.64095333 | 97.1747587 |
| 180111A00044 | 1/11/2018 | 2.34 | 1/11/2021 | 1/11/2018 | 101.31348 | 101.3134779 | 101.3134779 | 101.3134779 | 101.1840328 | 100.5564106 | 99.9365672 | 99.32435838 | 98.71964357 |
| 180112A00025 | 1/12/2018 | 2.39 | 1/12/2021 | 1/12/2018 | 101.35091 | 101.3509063 | 101.3509063 | 101.3509063 | 101.2206247 | 100.590136 | 99.96749517 | 99.35255621 | 98.7451767 |
| 180116A00009 | 1/16/2018 | 2.49 | 1/14/2022 | 1/16/2018 | 103.63463 | 103.6346342 | 103.6346342 | 103.6346342 | 103.3106553 | 101.6852476 | 100.0933196 | 98.53390275 | 97.0060656 |
| 180116A00012 | 1/16/2018 | 2.4 | 1/15/2021 | 1/16/2018 | 101.46375 | 101.4637493 | 101.4637493 | 101.4637493 | 101.330715 | 100.6904954 | 100.058362 | 99.43416202 | 98.8177466 |
| 180116A00014 | 1/16/2018 | 3.01 | 1/19/2027 | 1/16/2018 | 118.03676 | 118.0367629 | 118.0367629 | 118.0367629 | 112.7193231 | 106.1021867 | 99.92458407 | 94.15492445 | 88.76405001 |
| 180116A00046 | 1/16/2018 | 2.58 | 1/11/2023 | 1/16/2018 | 106.04831 | 106.0483084 | 106.0483084 | 106.0483084 | 105.3549862 | 102.7329403 | 100.1897145 | 97.72245098 | 95.32841525 |
| 180118A00037 | 1/18/2018 | 2.88 | 1/21/2025 | 1/18/2018 | 112.05516 | 112.0551591 | 112.0551591 | 112.0551591 | 109.7472443 | 105.0830634 | 100.6460901 | 96.42402427 | 92.40529996 |
| 180130A00091 | 1/30/2018 | 2.74 | 1/25/2023 | 1/30/2018 | 106.56643 | 106.5664269 | 106.5664269 | 106.5664269 | 105.8508631 | 103.185231 | 100.6005439 | 98.0938319 | 95.66225554 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180207A00012 | 2/7/2018 | 2.53 | 2/7/2022 | 2/7/2018 | 104.1424 | 104.1424002 | 104.1424002 | 104.1424002 | 103.8028068 | 102.103479 | 100.4401792 | 98.81182715 | 97.21738567 |
| 180212A00042 | 2/12/2018 | 2.57 | 2/11/2022 | 2/12/2018 | 104.23827 | 104.2382671 | 104.2382671 | 104.2382671 | 103.8961829 | 102.1849945 | 100.5102598 | 98.87087926 | 97.26579788 |
| 180215A00043 | 2/15/2018 | 2.63 | 1/7/2021 | 2/15/2018 | 101.46979 | 101.4697924 | 101.4697924 | 101.4697924 | 101.3434917 | 100.7262564 | 100.1165341 | 99.51418793 | 98.91908465 |
| 180226A00015 | 2/26/2018 | 2.85 | 9/28/2022 | 2/26/2018 | 106.02383 | 106.0238253 | 106.0238253 | 106.0238253 | 105.4726678 | 103.1312905 | 100.8537405 | 98.63792994 | 96.48185125 |
| 180308A00015 | 3/8/2018 | 2.82 | 12/15/2021 | 3/8/2018 | 103.96845 | 103.9684524 | 103.9684524 | 103.9684524 | 103.6614073 | 102.1141708 | 100.5978333 | 99.11154047 | 97.65446921 |
| 180314A00005 | 3/14/2018 | 2.74 | 3/15/2021 | 3/14/2018 | 101.99065 | 101.990655 | 101.990655 | 101.990655 | 101.8129406 | 101.0107333 | 100.2211548 | 99.44390845 | 98.67870675 |
| 180315A00017 | 3/15/2018 | 2.72 | 3/15/2021 | 3/15/2018 | 101.97456 | 101.9745629 | 101.9745629 | 101.9745629 | 101.7968626 | 100.9947263 | 100.2052181 | 99.42804115 | 98.66290815 |
| 180326A00012 | 3/26/2018 | 2.74 | 12/28/2020 | 3/26/2018 | 101.46889 | 101.468893 | 101.468893 | 101.468893 | 101.3506419 | 100.7607908 | 100.1777901 | 99.60152103 | 99.03186764 |
| 180328A00014 | 3/28/2018 | 2.55 | 3/29/2021 | 3/28/2018 | 102.05203 | 102.0520265 | 102.0520265 | 102.0520265 | 101.8639505 | 101.0216076 | 100.193162 | 99.378272 | 98.57660702 |
| 180403A00009 | 4/3/2018 | 2.91 | 4/3/2025 | 4/3/2018 | 113.68426 | 113.6842558 | 113.6842558 | 113.6842558 | 111.1355273 | 106.2157529 | 101.5450464 | 97.10952321 | 92.8961418 |
| 180425A00019 | 4/25/2018 | 3.02 | 10/25/2021 | 4/25/2018 | 103.91006 | 103.9100597 | 103.9100597 | 103.9100597 | 103.636528 | 102.2266145 | 100.8427869 | 99.48438343 | 98.15076424 |
| 180426A00018 | 4/26/2018 | 2.94 | 4/26/2023 | 4/26/2018 | 108.30839 | 108.3083947 | 108.3083947 | 108.3083947 | 107.4361236 | 104.4879132 | 101.6365021 | 98.87819227 | 96.20944791 |
| 180427A00010 | 4/27/2018 | 2.95 | 4/27/2023 | 4/27/2018 | 108.34569 | 108.3456855 | 108.3456855 | 108.3456855 | 107.471584 | 104.5201972 | 101.6657916 | 98.90465917 | 96.23325455 |
| 161031A00042 | 10/31/2016 | 1.51 | 7/17/2020 | 10/31/2016 | 100.1628 | 100.1627962 | 100.1627962 | 100.1627962 | 100.1418674 | 100.006259 | 99.87103017 | 99.7361792 | 99.60170452 |
| 161102A00026 | 11/2/2016 | 1.54 | 10/30/2020 | 11/2/2016 | 100.54934 | 100.5493412 | 100.5493412 | 100.5493412 | 100.4714759 | 100.0460612 | 99.62423538 | 99.20595319 | 98.79117022 |
| 161109A00018 | 11/9/2016 | 2.63 | 11/9/2026 | 11/9/2016 | 115.05307 | 115.0530719 | 115.0530719 | 115.0530719 | 110.1260183 | 103.7688154 | 97.82471648 | 92.26471392 | 87.06197899 |
| 161208A00007 | 12/8/2016 | 2.6 | 12/8/2023 | 12/8/2016 | 108.20004 | 108.2000374 | 108.2000374 | 108.2000374 | 106.9033275 | 103.3748771 | 99.98270329 | 96.72080438 | 93.58347707 |
| 161208A00016 | 12/8/2016 | 2.24 | 12/8/2021 | 12/8/2016 | 103.02258 | 103.0225791 | 103.0225791 | 103.0225791 | 102.7212643 | 101.2008566 | 99.7106244 | 98.2497431 | 96.81741753 |
| 161213A00017 | 12/13/2016 | 2.24 | 12/13/2022 | 12/13/2016 | 105.46039 | 105.460387 | 105.460387 | 105.460387 | 104.8076593 | 102.2606996 | 99.7888856 | 97.38955436 | 95.06015475 |
| 170110A00022 | 1/10/2017 | 2.27 | 1/10/2023 | 1/10/2017 | 105.70441 | 105.7044069 | 105.7044069 | 105.7044069 | 105.0104836 | 102.3852536 | 99.83911938 | 97.36920806 | 94.97277127 |
| 170111A00012 | 1/11/2017 | 3.31 | 1/11/2030 | 1/11/2017 | 128.89046 | 128.8904626 | 128.8904626 | 127.8174164 | 117.8089434 | 108.3474619 | 99.75095585 | 91.93506445 | 84.8240852 |
| 170117A00046 | 1/17/2017 | 2.55 | 1/17/2024 | 1/17/2017 | 108.26991 | 108.269909 | 108.269909 | 108.269909 | 106.8893399 | 103.255061 | 99.76451324 | 96.41120727 | 93.18898603 |
| 170215A00017 | 2/15/2017 | 3.26 | 2/16/2027 | 2/15/2017 | 119.92903 | 119.929029 | 119.929029 | 119.929029 | 114.4439847 | 107.699872 | 101.407133 | 95.53304524 | 90.04743038 |
| 170216A00028 | 2/16/2017 | 1.97 | 2/16/2021 | 2/16/2017 | 101.35239 | 101.3523853 | 101.3523853 | 101.3523853 | 101.194502 | 100.46717 | 99.7502721 | 99.04358491 | 98.34689128 |
| 170217A00014 | 2/17/2017 | 2.27 | 2/14/2022 | 2/17/2017 | 103.44196 | 103.4419608 | 103.4419608 | 103.4419608 | 103.1006021 | 101.3934173 | 99.72267165 | 98.08726302 | 96.48613415 |
| 170310A00026 | 3/10/2017 | 2.15 | 9/8/2020 | 3/10/2017 | 100.53134 | 100.5313429 | 100.5313429 | 100.5313429 | 100.4824301 | 100.2000514 | 99.91926721 | 99.64006401 | 99.36242841 |
| 170313A00033 | 3/13/2017 | 3.31 | 3/15/2027 | 3/13/2017 | 120.48617 | 120.4861653 | 120.4861653 | 120.4861653 | 114.8597859 | 108.0316293 | 101.6647985 | 95.72558979 | 90.18293292 |
| 170329A00015 | 3/29/2017 | 2.11 | 3/29/2021 | 3/29/2017 | 101.55478 | 101.5547842 | 101.5547842 | 101.5547842 | 101.3675649 | 100.5292169 | 99.70468615 | 98.89363344 | 98.09573056 |
| 170404A00007 | 4/4/2017 | 2.22 | 4/4/2022 | 4/4/2017 | 103.59713 | 103.5971322 | 103.5971322 | 103.5971322 | 103.2251932 | 101.3812434 | 99.57916962 | 97.8177788 | 96.09591942 |
| 170410A00007 | 4/10/2017 | 2.1 | 4/11/2022 | 4/10/2017 | 103.74934 | 103.7493374 | 103.7493374 | 103.7493374 | 103.3708577 | 101.5008243 | 99.67374864 | 97.88839242 | 96.14356112 |
| 170417A00057 | 4/17/2017 | 2.32 | 4/17/2023 | 4/17/2017 | 105.89425 | 105.8942514 | 105.8942514 | 105.8942514 | 105.0494825 | 102.1722011 | 99.38869776 | 96.69542162 | 94.08897602 |
| 170417A00069 | 4/17/2018 | 2.07 | 4/16/2021 | 4/17/2018 | 101.61125 | 101.6112544 | 101.6112544 | 101.6112544 | 101.4120868 | 100.524562 | 99.6525303 | 98.79558845 | 97.9533472 |
| 170419A00024 | 4/19/2017 | 2.45 | 4/21/2025 | 4/19/2017 | 111.54527 | 111.5452694 | 111.5452694 | 111.5452694 | 108.9604681 | 104.0467392 | 99.38481108 | 94.96049748 | 90.76048202 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170501A00008 | 5/1/2017 | 2.23 | 5/2/2022 | 5/1/2017 | 103.76574 | 103.7657382 | 103.7657382 | 103.7657382 | 103.3731993 | 101.4538094 | 99.57961394 | 97.74927701 | 95.96151112 |
| 170515A00038 | 5/15/2017 | 2.43 | 5/15/2023 | 5/15/2017 | 106.37909 | 106.3790896 | 106.3790896 | 106.3790896 | 105.4844738 | 102.5264247 | 99.66713623 | 96.90277445 | 94.22967627 |
| 170515A00039 | 5/15/2017 | 2.58 | 5/15/2024 | 5/15/2017 | 109.12612 | 109.1261195 | 109.1261195 | 109.1261195 | 107.4776587 | 103.5175605 | 99.72627886 | 96.09573539 | 92.61828086 |
| 170516A00015 | 5/16/2017 | 1.88 | 5/17/2021 | 5/16/2017 | 101.72614 | 101.7261449 | 101.7261449 | 101.7261449 | 101.5097082 | 100.5353814 | 99.5796918 | 98.64210841 | 97.72212038 |
| 170830A00034 | 8/30/2017 | 2.05 | 8/30/2022 | 8/30/2017 | 103.99657 | 103.9965727 | 103.9965727 | 103.9965727 | 103.4847533 | 101.2431909 | 99.06115616 | 96.93662819 | 94.86767273 |
| 170831A00029 | 8/31/2017 | 1.87 | 8/31/2022 | 8/31/2017 | 104.00346 | 104.0034554 | 104.0034554 | 104.0034554 | 103.4884253 | 101.2359353 | 99.04347504 | 96.90900487 | 94.83057237 |
| 170911A00044 | 9/11/2017 | 1.73 | 9/13/2021 | 9/11/2017 | 102.11136 | 102.1113558 | 102.1113558 | 102.1113558 | 101.8644017 | 100.5711932 | 99.3053349 | 98.06596284 | 96.85224963 |
| 170912A00007 | 9/12/2017 | 1.84 | 12/15/2020 | 9/12/2017 | 100.87989 | 100.879886 | 100.879886 | 100.879886 | 100.7715568 | 100.2192082 | 99.67290728 | 99.13255497 | 98.59805439 |
| 170912A00008 | 9/12/2017 | 1.98 | 12/15/2021 | 9/12/2017 | 102.65323 | 102.6532268 | 102.6532268 | 102.6532268 | 102.3483259 | 100.8117419 | 99.30586884 | 97.8298575 | 96.38288968 |
| 170915A00001 | 9/15/2017 | 2.43 | 9/16/2024 | 9/15/2017 | 109.25349 | 109.2534888 | 109.2534888 | 109.2534888 | 107.3038127 | 103.0237911 | 98.93923523 | 95.04019083 | 91.31726442 |
| 170918A00108 | 9/18/2017 | 1.97 | 9/20/2022 | 9/18/2017 | 104.33472 | 104.3347156 | 104.3347156 | 104.3347156 | 103.7950605 | 101.48613 | 99.23993381 | 97.05439434 | 94.9275166 |
| 170921A00063 | 9/21/2017 | 2.23 | 9/21/2022 | 9/21/2017 | 104.52434 | 104.5243398 | 104.5243398 | 104.5243398 | 103.985184 | 101.6799398 | 99.43721714 | 97.25495294 | 95.13116574 |
| 170928A00020 | 9/29/2017 | 2.29 | 9/29/2022 | 9/29/2017 | 104.7088 | 104.708795 | 104.708795 | 104.708795 | 104.1597057 | 101.8313566 | 99.56663376 | 97.36345733 | 95.21982723 |
| 171002A00012 | 10/2/2017 | 2.08 | 10/1/2021 | 10/2/2017 | 102.4377 | 102.4377028 | 102.4377028 | 102.4377028 | 102.1823023 | 100.8488868 | 99.53910946 | 98.25239607 | 96.98819048 |
| 171003A00007 | 10/3/2017 | 2.22 | 10/3/2022 | 10/3/2017 | 104.56471 | 104.5647116 | 104.5647116 | 104.5647116 | 104.0109393 | 101.6735291 | 99.40028044 | 97.18908662 | 95.03792204 |
| 171005A00003 | 10/5/2017 | 2.02 | 10/5/2022 | 10/5/2017 | 104.5308 | 104.5307987 | 104.5307987 | 104.5307987 | 103.9723354 | 101.6211731 | 99.33485857 | 97.11125233 | 94.94829812 |
| 171010A00004 | 10/10/2017 | 1.92 | 10/12/2021 | 10/10/2017 | 102.50518 | 102.505177 | 102.505177 | 102.505177 | 102.2416872 | 100.8740792 | 99.53126177 | 98.21261916 | 96.91755556 |
| 171012A00025 | 10/12/2017 | 1.93 | 10/13/2020 | 10/12/2017 | 100.63354 | 100.6335418 | 100.6335418 | 100.6335418 | 100.5652834 | 100.1863741 | 99.81032432 | 99.43710173 | 99.06667442 |
| 171018A00002 | 10/18/2017 | 1.82 | 10/19/2020 | 10/18/2017 | 100.676 | 100.675999 | 100.675999 | 100.675999 | 100.6042158 | 100.2080471 | 99.81500337 | 99.42504774 | 99.03814377 |
| 171030A00094 | 10/30/2017 | 2.13 | 11/1/2021 | 10/30/2017 | 102.67788 | 102.6778811 | 102.6778811 | 102.6778811 | 102.4015059 | 100.9819393 | 99.58897693 | 98.22193602 | 96.88015668 |
| 171031A00061 | 10/31/2017 | 2.28 | 10/31/2022 | 10/31/2017 | 104.85996 | 104.8599596 | 104.8599596 | 104.8599596 | 104.2700267 | 101.8538596 | 99.50599664 | 97.22412645 | 95.00602971 |
| 171116A00012 | 11/16/2017 | 2.14 | 7/15/2020 | 11/16/2017 | 100.23841 | 100.2384093 | 100.2384093 | 100.2384093 | 100.2184434 | 100.0882696 | 99.95844701 | 99.82897415 | 99.69984959 |
| 171129A00010 | 11/29/2017 | 2.32 | 11/29/2021 | 11/29/2017 | 103.09578 | 103.0957753 | 103.0957753 | 103.0957753 | 102.7997326 | 101.3034142 | 99.83653587 | 98.39830531 | 96.98795816 |
| 171201A00025 | 12/1/2017 | 2.08 | 5/3/2021 | 12/1/2017 | 101.84601 | 101.8460105 | 101.8460105 | 101.8460105 | 101.6357596 | 100.6989419 | 99.779337 | 98.87647386 | 97.98989849 |
| 171205A00005 | 12/6/2017 | 2.27 | 12/6/2022 | 12/6/2017 | 105.49593 | 105.4959269 | 105.4959269 | 105.4959269 | 104.8530121 | 102.3246473 | 99.87048547 | 97.48791363 | 95.17442774 |
| 171206A00040 | 12/6/2017 | 2.23 | 12/6/2022 | 12/6/2017 | 105.39375 | 105.3937535 | 105.3937535 | 105.3937535 | 104.7511193 | 102.2240662 | 99.77118667 | 97.38986856 | 95.0776087 |
| 171207A00017 | 12/7/2017 | 2.23 | 10/16/2020 | 12/7/2017 | 100.76777 | 100.7677687 | 100.7677687 | 100.7677687 | 100.6977562 | 100.3102426 | 99.92571609 | 99.54414219 | 99.16548688 |
| 171213A00034 | 12/13/2017 | 2.05 | 12/15/2020 | 12/13/2017 | 101.07303 | 101.0730295 | 101.0730295 | 101.0730295 | 100.9643988 | 100.410492 | 99.86266062 | 99.32080491 | 98.78482731 |
| 170531A00003 | 5/31/2017 | 1.94 | 5/31/2022 | 5/31/2017 | 103.69894 | 103.6989444 | 103.6989444 | 103.6989444 | 103.2804911 | 101.2765645 | 99.32178426 | 97.4146356 | 95.55366106 |
| 170531A00004 | 5/31/2017 | 1.79 | 6/1/2021 | 5/31/2017 | 101.70747 | 101.707472 | 101.707472 | 101.707472 | 101.4850089 | 100.4699789 | 99.4751622 | 98.49996005 | 97.54379696 |
| 170531A00080 | 5/31/2017 | 2.3 | 5/31/2024 | 5/31/2017 | 108.84368 | 108.8436767 | 108.8436767 | 108.8436767 | 107.1491553 | 103.1326532 | 99.28974307 | 95.61200626 | 92.09147794 |
| 170602A00015 | 6/2/2017 | 1.76 | 6/2/2021 | 6/2/2017 | 101.68139 | 101.6813852 | 101.6813852 | 101.6813852 | 101.4587372 | 100.4411272 | 99.44383834 | 98.46626698 | 97.50783298 |
| 170602A00034 | 6/2/2017 | 1.76 | 6/2/2021 | 6/2/2017 | 101.68139 | 101.6813852 | 101.6813852 | 101.6813852 | 101.4587372 | 100.4411272 | 99.44383834 | 98.46626698 | 97.50783298 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170609A00026 | 6/9/2017 | 2.3 | 6/9/2023 | 6/9/2017 | 106.12842 | 106.1284221 | 106.1284221 | 106.1284221 | 105.1903587 | 102.1703219 | 99.25314079 | 96.43473834 | 93.71122348 |
| 170613A00033 | 6/13/2017 | 2.3 | 6/13/2024 | 6/13/2017 | 108.92214 | 108.9221449 | 108.9221449 | 108.9221449 | 107.1961569 | 103.1447504 | 99.26961639 | 95.56214753 | 92.01420393 |
| 170615A00034 | 6/15/2017 | 2.13 | 6/15/2022 | 6/15/2017 | 103.7938 | 103.7938 | 103.7938 | 103.7938 | 103.3622926 | 101.3247921 | 99.33775403 | 97.39959975 | 95.50881163 |
| 170616A00017 | 6/16/2017 | 2.11 | 6/16/2023 | 6/16/2017 | 106.14538 | 106.1453759 | 106.1453759 | 106.1453759 | 105.1898042 | 102.1382371 | 99.19135297 | 96.34497112 | 93.5951035 |
| 170622A00016 | 6/22/2017 | 2.11 | 6/22/2022 | 6/22/2017 | 103.78759 | 103.7875934 | 103.7875934 | 103.7875934 | 103.3494127 | 101.2935694 | 99.28893832 | 97.33390479 | 95.4269173 |
| 170622A00037 | 6/22/2017 | 3.27 | 6/22/2033 | 6/22/2017 | 138.50503 | 138.5050346 | 138.5050346 | 130.739184 | 117.2456145 | 105.0709651 | 94.34818766 | 84.89387867 | 76.548771 |
| 170622A00038 | 6/22/2017 | 3.32 | 6/22/2034 | 6/22/2017 | 142.08433 | 142.0843348 | 142.0843348 | 132.0360754 | 117.5634254 | 104.6502677 | 93.37548904 | 83.51896411 | 74.89133154 |
| 170626A00042 | 6/26/2017 | 1.92 | 6/27/2022 | 6/26/2017 | 103.79326 | 103.7932647 | 103.7932647 | 103.7932647 | 103.348678 | 101.2723581 | 99.24810423 | 97.27426203 | 95.34924257 |
| 170706A00028 | 7/6/2017 | 2.09 | 7/6/2022 | 7/6/2017 | 104.20036 | 104.2003556 | 104.2003556 | 104.2003556 | 103.7456886 | 101.6405951 | 99.58870007 | 97.58829601 | 95.63774378 |
| 170712A00019 | 7/12/2017 | 2.18 | 7/12/2022 | 7/12/2017 | 104.03769 | 104.0376938 | 104.0376938 | 104.0376938 | 103.5788574 | 101.4666522 | 99.40799789 | 97.40116758 | 95.44450402 |
| 170717A00033 | 7/17/2017 | 2.19 | 7/18/2022 | 7/17/2017 | 104.09042 | 104.0904179 | 104.0904179 | 104.0904179 | 103.6252692 | 101.4962154 | 99.42143717 | 97.39917253 | 95.42773108 |
| 170726A00011 | 7/26/2017 | 2.2 | 7/26/2022 | 7/26/2017 | 104.15396 | 104.1539604 | 104.1539604 | 104.1539604 | 103.6804108 | 101.5289718 | 99.43278125 | 97.39002993 | 95.39898276 |
| 170728A00029 | 7/28/2017 | 2.1 | 1/27/2022 | 7/28/2017 | 103.05703 | 103.0570269 | 103.0570269 | 103.0570269 | 102.7266806 | 101.0718264 | 99.45154746 | 97.86482508 | 96.31068054 |
| 170731A00012 | 7/31/2017 | 1.82 | 8/2/2021 | 7/31/2017 | 102.0308 | 102.0308039 | 102.0308039 | 102.0308039 | 101.7966123 | 100.6110391 | 99.45294408 | 98.32138086 | 97.21544613 |
| 170731A00029 | 7/31/2017 | 2.34 | 7/31/2023 | 7/31/2017 | 106.54322 | 106.5432228 | 106.5432228 | 106.5432228 | 105.5085343 | 102.3451412 | 99.29327034 | 96.34833072 | 93.50595067 |
| 170801A00018 | 8/1/2017 | 1.87 | 8/3/2020 | 8/1/2017 | 100.29048 | 100.2904757 | 100.2904757 | 100.2904757 | 100.260983 | 100.0782537 | 99.89619513 | 99.71480348 | 99.5340751 |
| 170801A00020 | 8/1/2017 | 2.02 | 8/2/2021 | 8/1/2017 | 102.07933 | 102.0793345 | 102.0793345 | 102.0793345 | 101.8456444 | 100.6626504 | 99.50702437 | 98.37782534 | 97.27415493 |
| 170808A00036 | 8/8/2017 | 2.04 | 11/15/2021 | 8/8/2017 | 102.60163 | 102.6016338 | 102.6016338 | 102.6016338 | 102.3158933 | 100.8602734 | 99.43261983 | 98.03219717 | 96.65829532 |
| 170822A00020 | 8/22/2017 | 2.59 | 8/22/2025 | 8/22/2017 | 112.02733 | 112.0273288 | 112.0273288 | 112.0273288 | 109.0610287 | 103.8579063 | 98.9362235 | 94.27923105 | 89.87126958 |
| 171115A00006 | 11/15/2017 | 2.14 | 11/16/2020 | 11/15/2017 | 100.89489 | 100.8948928 | 100.8948928 | 100.8948928 | 100.8063622 | 100.3333925 | 99.86486186 | 99.40070798 | 98.94086961 |
| 171116A00021 | 11/16/2017 | 2.16 | 11/16/2022 | 11/16/2017 | 105.10183 | 105.1018333 | 105.1018333 | 105.1018333 | 104.4873397 | 102.0170688 | 99.61798506 | 97.28763119 | 95.02365024 |
| 171204A00020 | 12/4/2017 | 2.48 | 12/5/2022 | 12/4/2017 | 105.5609 | 105.5609032 | 105.5609032 | 105.5609032 | 104.9219749 | 102.4052653 | 99.96216314 | 97.59008506 | 95.28655504 |
| 171205A00012 | 12/5/2017 | 2.28 | 12/7/2020 | 12/5/2017 | 101.07931 | 101.079312 | 101.079312 | 101.079312 | 100.9767588 | 100.4456807 | 99.920183 | 99.40017807 | 98.88558001 |
| 171219A00051 | 12/19/2017 | 2.34 | 1/21/2021 | 12/19/2017 | 101.37139 | 101.3713854 | 101.3713854 | 101.3713854 | 101.2337885 | 100.5786384 | 99.93195522 | 99.29357558 | 98.6633402 |
| 171221A00003 | 12/21/2017 | 2.35 | 12/21/2020 | 12/21/2017 | 101.19777 | 101.1977662 | 101.1977662 | 101.1977662 | 101.0848346 | 100.5150444 | 99.95167008 | 99.39460378 | 98.84373987 |
| 180103A00018 | 1/3/2018 | 2.29 | 1/4/2021 | 1/3/2018 | 101.24241 | 101.2424146 | 101.2424146 | 101.2424146 | 101.1186963 | 100.5104588 | 99.90952586 | 99.31576651 | 98.72905278 |
| 180110A00005 | 1/10/2018 | 2.22 | 1/11/2021 | 1/10/2018 | 101.32494 | 101.3249436 | 101.3249436 | 101.3249436 | 101.195256 | 100.5664928 | 99.9455374 | 99.33224489 | 98.72647383 |
| 180116A00039 | 1/16/2018 | 2.37 | 1/19/2021 | 1/16/2018 | 101.37937 | 101.3793687 | 101.3793687 | 101.3793687 | 101.2433885 | 100.593671 | 99.95228226 | 99.31906282 | 98.6938572 |
| 180117A00016 | 1/17/2018 | 2.46 | 7/19/2021 | 1/17/2018 | 102.51937 | 102.5193726 | 102.5193726 | 102.5193726 | 102.2874686 | 101.1397156 | 100.0176589 | 98.92044257 | 97.84724838 |
| 180118A00039 | 1/18/2018 | 3.09 | 1/19/2027 | 1/18/2018 | 118.57029 | 118.5702942 | 118.5702942 | 118.5702942 | 113.2442382 | 106.6100919 | 100.416288 | 94.63118949 | 89.22559539 |
| 180123A00025 | 1/23/2018 | 2.44 | 3/1/2021 | 1/23/2018 | 101.67302 | 101.6730217 | 101.6730217 | 101.6730217 | 101.5054659 | 100.7427067 | 99.99138047 | 99.25123172 | 98.52201252 |
| 180129A00006 | 1/29/2018 | 2.49 | 11/30/2020 | 1/29/2018 | 101.14793 | 101.1479307 | 101.1479307 | 101.1479307 | 101.0504988 | 100.5384021 | 100.0314816 | 99.52965918 | 99.03285839 |
| 180202A00012 | 2/2/2018 | 2.57 | 2/2/2022 | 2/2/2018 | 104.17715 | 104.1771515 | 104.1771515 | 104.1771515 | 103.8403975 | 102.1545329 | 100.5041927 | 98.88831933 | 97.30589737 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180222A00023 | 2/22/2018 | 2.84 | 2/22/2022 | 2/22/2018 | 104.48693 | 104.4869298 | 104.4869298 | 104.4869298 | 104.1390781 | 102.4006532 | 100.6996635 | 99.03496449 | 97.40545882 |
| 180222A00025 | 2/22/2018 | 3.48 | 2/22/2033 | 2/22/2018 | 143.10557 | 143.1055747 | 143.1055747 | 135.8882721 | 122.2419985 | 109.8636122 | 98.92767235 | 89.25583286 | 80.69275652 |
| 180222A00027 | 2/22/2018 | 3.24 | 2/22/2028 | 2/22/2018 | 124.38084 | 124.380838 | 124.380838 | 124.380838 | 116.9438777 | 109.117909 | 101.8854577 | 95.1981233 | 89.01170346 |
| 180223A00026 | 2/23/2018 | 2.92 | 12/15/2022 | 2/23/2018 | 106.75319 | 106.7531871 | 106.7531871 | 106.7531871 | 106.0968744 | 103.5376918 | 101.0538155 | 98.64258031 | 96.30143264 |
| 180227A00005 | 2/27/2018 | 2.59 | 9/22/2020 | 2/27/2018 | 100.7492 | 100.7491979 | 100.7491979 | 100.7491979 | 100.6925995 | 100.3712056 | 100.0518671 | 99.73456415 | 99.41927737 |
| 180308A00011 | 3/8/2018 | 2.9 | 9/15/2022 | 3/8/2018 | 106.04815 | 106.0481516 | 106.0481516 | 106.0481516 | 105.5124057 | 103.2049869 | 100.9596794 | 98.77441989 | 96.64722859 |
| 180323A00005 | 3/23/2018 | 2.79 | 3/23/2021 | 3/23/2018 | 102.08655 | 102.0865509 | 102.0865509 | 102.0865509 | 101.9030875 | 101.0786432 | 100.2675217 | 99.46940195 | 98.68397299 |
| 180326A00010 | 3/26/2018 | 2.6 | 3/26/2021 | 3/26/2018 | 102.07362 | 102.0736159 | 102.0736159 | 102.0736159 | 101.8876483 | 101.0533992 | 100.2327855 | 99.42547496 | 98.63114601 |
| 180327A00024 | 3/27/2018 | 2.79 | 5/26/2023 | 3/27/2018 | 108.0884 | 108.0884039 | 108.0884039 | 108.0884039 | 107.1639174 | 104.1380048 | 101.2141719 | 98.38840977 | 95.65689046 |
| 180328A00018 | 3/28/2018 | 2.73 | 3/28/2023 | 3/28/2018 | 107.48022 | 107.48022 | 107.48022 | 107.48022 | 106.6600282 | 103.8002278 | 101.0321074 | 98.35224515 | 95.757366 |
| 170724A00016 | 7/24/2017 | 2.5 | 7/24/2024 | 7/24/2017 | 109.22987 | 109.2298709 | 109.2298709 | 109.2298709 | 107.4146678 | 103.2716721 | 99.31233352 | 95.52750572 | 91.9085508 |
| 170731A00028 | 7/31/2017 | 2.16 | 8/1/2022 | 7/31/2017 | 104.09757 | 104.0975725 | 104.0975725 | 104.0975725 | 103.6177269 | 101.4509166 | 99.34006875 | 97.28333844 | 95.27895698 |
| 170802A00027 | 8/2/2017 | 2.16 | 8/2/2022 | 8/2/2017 | 104.10273 | 104.1027309 | 104.1027309 | 104.1027309 | 103.6217645 | 101.4522746 | 99.33887036 | 97.27970048 | 95.27299054 |
| 170811A00018 | 8/11/2017 | 1.63 | 8/11/2020 | 8/11/2017 | 100.31076 | 100.3107629 | 100.3107629 | 100.3107629 | 100.2769217 | 100.0717326 | 99.86739768 | 99.66391153 | 99.46126877 |
| 170818A00003 | 8/18/2017 | 2.23 | 8/20/2024 | 8/18/2017 | 109.03278 | 109.0327817 | 109.0327817 | 109.0327817 | 107.1399467 | 102.9103174 | 98.87162231 | 95.01417998 | 91.32885818 |
| 170818A00025 | 8/18/2017 | 1.77 | 8/18/2021 | 8/18/2017 | 102.04451 | 102.0445123 | 102.0445123 | 102.0445123 | 101.8068773 | 100.577779 | 99.3782079 | 98.20711004 | 97.06348124 |
| 170822A00012 | 8/22/2017 | 2.11 | 8/22/2022 | 8/22/2017 | 104.0931 | 104.093097 | 104.093097 | 104.093097 | 103.5899857 | 101.3682296 | 99.20502095 | 97.09838445 | 95.04642871 |
| 170828A00030 | 8/28/2017 | 1.96 | 9/1/2021 | 8/28/2017 | 102.14804 | 102.1480447 | 102.1480447 | 102.1480447 | 101.90713 | 100.6438975 | 99.41077818 | 98.20670051 | 97.03064338 |
| 170829A00021 | 8/29/2017 | 1.58 | 8/31/2020 | 8/29/2017 | 100.38178 | 100.3817761 | 100.3817761 | 100.3817761 | 100.3371767 | 100.0766546 | 99.81748496 | 99.55965724 | 99.30316103 |
| 170830A00033 | 8/30/2017 | 1.93 | 8/30/2021 | 8/30/2017 | 102.1006 | 102.1006014 | 102.1006014 | 102.1006014 | 101.8606658 | 100.6022498 | 99.37442331 | 98.17607992 | 97.0061662 |
| 170831A00009 | 8/31/2017 | 1.93 | 8/30/2021 | 8/31/2017 | 102.1006 | 102.1006014 | 102.1006014 | 102.1006014 | 101.8606658 | 100.6022498 | 99.37442331 | 98.17607992 | 97.0061662 |
| 170831A00052 | 8/31/2017 | 1.78 | 11/30/2021 | 8/31/2017 | 102.53636 | 102.5363621 | 102.5363621 | 102.5363621 | 102.2397671 | 100.7408641 | 99.27155534 | 97.83104149 | 96.41855144 |
| 170831A00053 | 8/31/2017 | 1.81 | 3/1/2022 | 8/31/2017 | 103.00876 | 103.008756 | 103.008756 | 103.008756 | 102.6584436 | 100.9088753 | 99.19743441 | 97.52294669 | 95.88428656 |
| 170906A00006 | 9/6/2017 | 1.81 | 9/6/2022 | 9/6/2017 | 103.89446 | 103.8944633 | 103.8944633 | 103.8944633 | 103.3725489 | 101.1055578 | 98.8993507 | 96.75187858 | 94.66117824 |
| 170906A00034 | 9/6/2017 | 1.87 | 9/7/2021 | 9/6/2017 | 102.05981 | 102.0598097 | 102.0598097 | 102.0598097 | 101.8162754 | 100.5401502 | 99.29268611 | 98.07291761 | 96.87992236 |
| 170907A00059 | 9/7/2017 | 1.99 | 9/7/2022 | 9/7/2017 | 103.89739 | 103.8973903 | 103.8973903 | 103.8973903 | 103.3763347 | 101.1150158 | 98.91423383 | 96.77195534 | 94.68623162 |
| 170912A00031 | 9/12/2017 | 1.89 | 9/12/2022 | 9/12/2017 | 104.10813 | 104.1081252 | 104.1081252 | 104.1081252 | 103.5785511 | 101.2933065 | 99.06968415 | 96.90562292 | 94.79914608 |
| 170914A00039 | 9/14/2017 | 2.23 | 9/16/2024 | 9/14/2017 | 109.19049 | 109.1904876 | 109.1904876 | 109.1904876 | 107.228205 | 102.9267233 | 98.82230892 | 94.90489927 | 91.16500027 |
| 170915A00005 | 9/15/2017 | 1.81 | 9/15/2021 | 9/15/2017 | 102.22555 | 102.2255523 | 102.2255523 | 102.2255523 | 101.9775212 | 100.6790159 | 99.40739493 | 98.16183004 | 96.94152728 |
| 170915A00031 | 9/15/2017 | 2.1 | 9/15/2023 | 9/15/2017 | 106.61369 | 106.6136863 | 106.6136863 | 106.6136863 | 105.4852446 | 102.1874832 | 99.01013089 | 95.94812618 | 92.99665072 |
| 170918A00007 | 9/18/2017 | 2.8 | 9/20/2027 | 9/18/2017 | 118.29011 | 118.2901098 | 118.2901098 | 118.2901098 | 111.7983825 | 104.6062028 | 97.93463804 | 91.74320444 | 85.99476503 |
| 170919A00073 | 9/19/2017 | 2.28 | 9/19/2024 | 9/19/2017 | 109.42605 | 109.4260451 | 109.4260451 | 109.4260451 | 107.454512 | 103.1403966 | 99.02419374 | 95.09579561 | 91.3456643 |
| 170921A00062 | 9/21/2017 | 1.95 | 9/21/2020 | 9/21/2017 | 100.5384 | 100.5384013 | 100.5384013 | 100.5384013 | 100.482418 | 100.1642065 | 99.84801453 | 99.5338229 | 99.22161263 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 171005A00006 | 10/5/2017 | 2.32 | 10/7/2024 | 10/5/2017 | 109.70999 | 109.709993 | 109.709993 | 109.709993 | 107.6900497 | 103.3235866 | 99.15943063 | 95.18718882 | 91.39705405 |
| 170522A00044 | 5/22/2017 | 1.99 | 5/24/2021 | 5/22/2017 | 101.71125 | 101.7112489 | 101.7112489 | 101.7112489 | 101.4921942 | 100.5011766 | 99.52944147 | 98.57643037 | 97.64160616 |
| 170525A00028 | 5/25/2017 | 1.97 | 5/25/2022 | 5/25/2017 | 103.72909 | 103.7290919 | 103.7290919 | 103.7290919 | 103.3158703 | 101.3277931 | 99.38813426 | 97.49541271 | 95.64820314 |
| 170530A00005 | 5/30/2017 | 1.99 | 5/28/2021 | 5/30/2017 | 101.7302 | 101.7301951 | 101.7301951 | 101.7301951 | 101.5093242 | 100.507364 | 99.52510389 | 98.56196747 | 97.61740073 |
| 170530A00026 | 5/30/2017 | 1.81 | 6/1/2021 | 5/30/2017 | 101.7279 | 101.7279031 | 101.7279031 | 101.7279031 | 101.5054168 | 100.4902749 | 99.49534797 | 98.52003705 | 97.56376667 |
| 170530A00064 | 5/30/2017 | 2.32 | 3/27/2023 | 5/30/2017 | 105.777 | 105.7769967 | 105.7769967 | 105.7769967 | 104.9678064 | 102.1468691 | 99.4162338 | 96.77253402 | 94.21254749 |
| 170601A00008 | 6/1/2017 | 1.81 | 6/1/2020 | 6/1/2017 | 100.01193 | 100.0119344 | 100.0119344 | 100.0119344 | 100.0107602 | 100.0024514 | 99.9941501 | 99.98585631 | 99.97757001 |
| 170606A00014 | 6/6/2017 | 1.9 | 6/6/2022 | 6/6/2017 | 103.64737 | 103.6473661 | 103.6473661 | 103.6473661 | 103.2232565 | 101.2039864 | 99.23448794 | 97.31321632 | 95.43868574 |
| 170609A00006 | 6/9/2017 | 1.89 | 12/9/2021 | 6/9/2017 | 102.74842 | 102.7484178 | 102.7484178 | 102.7484178 | 102.4460815 | 100.9207698 | 99.42583289 | 97.96043753 | 96.52378054 |
| 170609A00007 | 6/9/2017 | 1.96 | 6/9/2022 | 6/9/2017 | 103.78554 | 103.7855362 | 103.7855362 | 103.7855362 | 103.3582532 | 101.3296041 | 99.35107501 | 97.42110485 | 95.5381927 |
| 170609A00025 | 6/9/2017 | 2.13 | 6/9/2022 | 6/9/2017 | 103.76333 | 103.7633308 | 103.7633308 | 103.7633308 | 103.3376212 | 101.3162289 | 99.34465434 | 97.42134934 | 95.54482529 |
| 170623A00028 | 6/23/2017 | 2.79 | 6/23/2027 | 6/23/2017 | 117.61568 | 117.6156764 | 117.6156764 | 117.6156764 | 111.5576081 | 104.5914306 | 98.11513759 | 92.09163213 | 86.48681177 |
| 170629A00015 | 6/29/2017 | 1.92 | 10/26/2020 | 6/29/2017 | 100.69334 | 100.693345 | 100.693345 | 100.693345 | 100.6177249 | 100.2029228 | 99.79153275 | 99.38351289 | 98.97882195 |
| 170630A00009 | 6/30/2017 | 2.53 | 6/30/2025 | 6/30/2017 | 112.40758 | 112.407578 | 112.407578 | 112.407578 | 109.5959235 | 104.4838059 | 99.6424128 | 95.05597481 | 90.70972454 |
| 170630A00036 | 6/30/2017 | 2.01 | 6/30/2022 | 6/30/2017 | 103.9985 | 103.9984984 | 103.9984984 | 103.9984984 | 103.5505069 | 101.4639744 | 99.42988819 | 97.44657656 | 95.51243402 |
| 170713A00033 | 7/13/2017 | 1.72 | 7/13/2020 | 7/13/2017 | 100.20028 | 100.2002801 | 100.2002801 | 100.2002801 | 100.1812581 | 100.0563999 | 99.93186829 | 99.80766199 | 99.68377966 |
| 170714A00006 | 7/14/2017 | 1.67 | 7/14/2020 | 7/14/2017 | 100.19833 | 100.198335 | 100.198335 | 100.198335 | 100.1788243 | 100.0512009 | 99.92391813 | 99.79697455 | 99.67036877 |
| 170725A00001 | 7/25/2017 | 1.88 | 7/27/2020 | 7/25/2017 | 100.26128 | 100.2612837 | 100.2612837 | 100.2612837 | 100.2354506 | 100.0720779 | 99.90923744 | 99.74692653 | 99.58514268 |
| 170728A00030 | 7/28/2017 | 2.18 | 7/27/2022 | 7/28/2017 | 104.11552 | 104.1155176 | 104.1155176 | 104.1155176 | 103.6410227 | 101.4872991 | 99.3889359 | 97.34411802 | 95.35110511 |
| 170728A00032 | 7/28/2017 | 2.36 | 7/27/2023 | 7/28/2017 | 106.58452 | 106.5845213 | 106.5845213 | 106.5845213 | 105.5571267 | 102.4035641 | 99.36086197 | 96.42447014 | 93.59005528 |
| 170731A00027 | 7/31/2017 | 2 | 7/30/2021 | 7/31/2017 | 102.04113 | 102.0411304 | 102.0411304 | 102.0411304 | 101.8081309 | 100.6335028 | 99.48586033 | 98.36428227 | 97.26788878 |
| 170803A00005 | 8/3/2017 | 1.67 | 8/3/2020 | 8/3/2017 | 100.28447 | 100.2844684 | 100.2844684 | 100.2844684 | 100.2549243 | 100.071881 | 99.88951312 | 99.70781699 | 99.52678883 |
| 170803A00019 | 8/3/2017 | 2.14 | 8/3/2022 | 8/3/2017 | 104.06382 | 104.0638167 | 104.0638167 | 104.0638167 | 103.58183 | 101.4101526 | 99.29467376 | 97.23353655 | 95.224961 |
| 170808A00037 | 8/8/2017 | 2.19 | 12/15/2022 | 8/8/2017 | 104.87477 | 104.874768 | 104.874768 | 104.874768 | 104.223671 | 101.6887682 | 99.22862439 | 96.84059118 | 94.52213132 |
| 170809A00005 | 8/9/2017 | 2.61 | 8/11/2025 | 8/9/2017 | 112.06318 | 112.0631831 | 112.0631831 | 112.0631831 | 109.1349734 | 103.9577802 | 99.05922302 | 94.42280239 | 90.03308659 |
| 170824A00031 | 8/24/2017 | 1.98 | 8/24/2021 | 8/24/2017 | 102.13571 | 102.1357116 | 102.1357116 | 102.1357116 | 101.8972508 | 100.6543638 | 99.44166295 | 98.25805924 | 97.10251529 |
| 170831A00050 | 8/31/2017 | 1.72 | 6/14/2021 | 8/31/2017 | 101.6938 | 101.6937977 | 101.6937977 | 101.6937977 | 101.4685641 | 100.4182284 | 99.38954358 | 98.38184541 | 97.39449673 |
| 170831A00051 | 8/31/2017 | 1.75 | 8/31/2021 | 8/31/2017 | 102.07866 | 102.0786577 | 102.0786577 | 102.0786577 | 101.8377076 | 100.5740381 | 99.34084404 | 98.13703027 | 96.96155378 |
| 170905A00072 | 9/5/2017 | 1.84 | 3/5/2021 | 9/5/2017 | 101.23094 | 101.2309372 | 101.2309372 | 101.2309372 | 101.0609223 | 100.2891451 | 99.52911602 | 98.78056837 | 98.04324351 |
| 170906A00005 | 9/6/2017 | 1.69 | 9/7/2021 | 9/6/2017 | 102.03277 | 102.032769 | 102.032769 | 102.032769 | 101.7886737 | 100.5095277 | 99.25916401 | 98.03661156 | 96.84094273 |
| 170906A00028 | 9/6/2017 | 1.57 | 9/8/2020 | 9/6/2017 | 100.41146 | 100.411456 | 100.411456 | 100.411456 | 100.3624938 | 100.0798485 | 99.79880539 | 99.51935079 | 99.24147117 |
| 170912A00009 | 9/12/2017 | 2.11 | 12/15/2022 | 9/12/2017 | 104.66891 | 104.6689139 | 104.6689139 | 104.6689139 | 104.0183884 | 101.4861464 | 99.02860344 | 96.64311291 | 94.32713939 |
| 170913A00003 | 9/13/2017 | 2.08 | 9/13/2022 | 9/13/2017 | 104.13403 | 104.1340263 | 104.1340263 | 104.1340263 | 103.6052971 | 101.325549 | 99.1071765 | 96.9481339 | 94.84645901 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170914A00052 | 9/14/2017 | 1.85 | 9/14/2020 | 9/14/2017 | 100.47561 | 100.475612 | 100.475612 | 100.475612 | 100.4234513 | 100.1246272 | 99.82759038 | 99.53232487 | 99.23881474 |
| 170926A00002 | 9/26/2017 | 1.73 | 12/3/2020 | 9/26/2017 | 100.8417 | 100.8416973 | 100.8416973 | 100.8416973 | 100.742048 | 100.2217754 | 99.70686577 | 99.19723642 | 98.6928064 |
| 171002A00011 | 10/2/2017 | 1.9 | 8/31/2020 | 10/2/2017 | 100.42438 | 100.4243812 | 100.4243812 | 100.4243812 | 100.3798476 | 100.1196996 | 99.86089674 | 99.60342858 | 99.34728487 |
| 171002A00013 | 10/2/2017 | 2.23 | 11/30/2022 | 10/2/2017 | 104.8979 | 104.8979025 | 104.8979025 | 104.8979025 | 104.2678141 | 101.7730861 | 99.35110657 | 96.99933333 | 94.71532906 |
| 171004A00034 | 10/4/2017 | 1.73 | 10/5/2020 | 10/4/2017 | 100.57769 | 100.577688 | 100.577688 | 100.577688 | 100.5138534 | 100.1564571 | 99.80160483 | 99.44926933 | 99.09942385 |
| 171010A00024 | 10/10/2017 | 2.38 | 10/10/2023 | 10/10/2017 | 107.07901 | 107.0790144 | 107.0790144 | 107.0790144 | 105.9060354 | 102.5503577 | 99.3190409 | 96.20683893 | 93.20875436 |
| 171016A00005 | 10/16/2017 | 2.2 | 10/17/2022 | 10/16/2017 | 104.59063 | 104.5906258 | 104.5906258 | 104.5906258 | 104.0191583 | 101.6437588 | 99.33454675 | 97.08931543 | 94.90594459 |
| 171016A00033 | 10/16/2017 | 2.2 | 10/17/2022 | 10/16/2017 | 104.59063 | 104.5906258 | 104.5906258 | 104.5906258 | 104.0191583 | 101.6437588 | 99.33454675 | 97.08931543 | 94.90594459 |
| 171018A00003 | 10/18/2017 | 2.23 | 10/18/2023 | 10/18/2017 | 107.24034 | 107.2403446 | 107.2403446 | 107.2403446 | 106.044304 | 102.6492059 | 99.38102737 | 96.23436835 | 93.20408735 |
| 171025A00020 | 10/25/2017 | 2.02 | 10/26/2020 | 10/25/2017 | 100.73498 | 100.734985 | 100.734985 | 100.734985 | 100.659347 | 100.2444408 | 99.83294732 | 99.42482465 | 99.02003153 |
| 171027A00005 | 10/27/2017 | 1.88 | 10/27/2020 | 10/27/2017 | 100.73891 | 100.7389122 | 100.7389122 | 100.7389122 | 100.6625836 | 100.244248 | 99.82938269 | 99.41794467 | 99.00989158 |
| 171030A00095 | 10/30/2017 | 2.28 | 10/31/2022 | 10/30/2017 | 104.85996 | 104.8599596 | 104.8599596 | 104.8599596 | 104.2700267 | 101.8538596 | 99.50599664 | 97.22412645 | 95.00602971 |
| 171031A00012 | 10/31/2017 | 2.28 | 10/31/2022 | 10/31/2017 | 104.85996 | 104.8599596 | 104.8599596 | 104.8599596 | 104.2700267 | 101.8538596 | 99.50599664 | 97.22412645 | 95.00602971 |
| 171116A00013 | 11/16/2017 | 2.2 | 1/15/2021 | 11/16/2017 | 101.24689 | 101.2468909 | 101.2468909 | 101.2468909 | 101.1142457 | 100.4759349 | 99.84567341 | 99.22330962 | 98.60869559 |
| 171122A00009 | 11/22/2017 | 2.2 | 11/22/2022 | 11/22/2017 | 105.23641 | 105.2364147 | 105.2364147 | 105.2364147 | 104.6135106 | 102.1258378 | 99.71029063 | 97.3643638 | 95.08565473 |
| 171130A00053 | 11/30/2017 | 2.19 | 8/17/2020 | 11/30/2017 | 100.4255 | 100.4254958 | 100.4254958 | 100.4254958 | 100.3884716 | 100.1669043 | 99.94632596 | 99.72672996 | 99.50810971 |
| 171220A00003 | 12/20/2017 | 2.36 | 12/21/2020 | 12/20/2017 | 101.20348 | 101.2034836 | 101.2034836 | 101.2034836 | 101.0905486 | 100.5207397 | 99.95734685 | 99.40026215 | 98.84937999 |
| 180102A00020 | 1/2/2018 | 2.5 | 1/3/2023 | 1/2/2018 | 105.78779 | 105.7877903 | 105.7877903 | 105.7877903 | 105.1070569 | 102.5093953 | 99.98936498 | 97.54417041 | 95.17113598 |
| 180102A00021 | 1/2/2018 | 2.82 | 1/2/2026 | 1/2/2018 | 114.15198 | 114.1519825 | 114.1519825 | 114.1519825 | 110.6515046 | 105.0656566 | 99.79981952 | 94.83395508 | 90.14938411 |
| 180110A00027 | 1/10/2018 | 2.6 | 1/10/2023 | 1/10/2018 | 106.0949 | 106.0948957 | 106.0948957 | 106.0948957 | 105.4029193 | 102.7828731 | 100.2415219 | 97.77601495 | 95.3836245 |
| 180110A00028 | 1/10/2018 | 2.85 | 1/10/2025 | 1/10/2018 | 111.8379 | 111.8378952 | 111.8378952 | 111.8378952 | 109.5623809 | 104.9308287 | 100.5237624 | 96.32909186 | 92.3354445 |
| 180117A00011 | 1/17/2018 | 2.4 | 1/14/2021 | 1/17/2018 | 101.36915 | 101.369148 | 101.369148 | 101.369148 | 101.2372313 | 100.6012112 | 99.97317597 | 99.35297583 | 98.74046463 |
| 180118A00004 | 1/18/2018 | 2.88 | 1/17/2025 | 1/18/2018 | 112.0269 | 112.0269045 | 112.0269045 | 112.0269045 | 109.7303799 | 105.0769069 | 100.6496904 | 96.43650527 | 92.42585442 |
| 180118A00010 | 1/18/2018 | 2.51 | 8/18/2021 | 1/18/2018 | 102.76274 | 102.7627431 | 102.7627431 | 102.7627431 | 102.5247237 | 101.2939709 | 100.0926991 | 98.91985825 | 97.77444769 |
| 180124A00019 | 1/24/2018 | 2.41 | 1/24/2022 | 1/24/2018 | 103.84737 | 103.8473703 | 103.8473703 | 103.8473703 | 103.5163651 | 101.8577075 | 100.2336537 | 98.64318663 | 97.08532895 |
| 180129A00004 | 1/29/2018 | 2.63 | 1/31/2022 | 1/29/2018 | 103.9758 | 103.9757991 | 103.9757991 | 103.9757991 | 103.6415622 | 101.967961 | 100.3294644 | 98.7250326 | 97.15366665 |
| 180130A00085 | 1/30/2018 | 2.79 | 1/30/2025 | 1/30/2018 | 112.63176 | 112.631756 | 112.631756 | 112.631756 | 110.2765751 | 105.5487359 | 101.052812 | 96.77616301 | 92.70690863 |
| 180201A00003 | 2/1/2018 | 2.54 | 2/1/2021 | 2/1/2018 | 101.57265 | 101.5726519 | 101.5726519 | 101.5726519 | 101.426167 | 100.7402185 | 100.0635289 | 99.39591183 | 98.73718573 |
| 180205A00049 | 2/5/2018 | 2.55 | 2/5/2021 | 2/5/2018 | 101.60493 | 101.6049273 | 101.6049273 | 101.6049273 | 101.4554109 | 100.7584081 | 100.0709681 | 99.39289515 | 98.72399858 |
| 180205A00050 | 2/5/2018 | 2.81 | 2/6/2023 | 2/5/2018 | 106.83755 | 106.8375485 | 106.8375485 | 106.8375485 | 106.1028216 | 103.401397 | 100.7827827 | 98.24390728 | 95.78183642 |
| 180207A00022 | 2/7/2018 | 2.79 | 2/7/2023 | 2/7/2018 | 106.79002 | 106.7900235 | 106.7900235 | 106.7900235 | 106.0538855 | 103.350404 | 100.7298697 | 98.1892035 | 95.72546338 |
| 180215A00029 | 2/15/2018 | 2.65 | 2/16/2021 | 2/15/2018 | 101.74774 | 101.7477386 | 101.7477386 | 101.7477386 | 101.5898435 | 100.8622315 | 100.1450321 | 99.43802289 | 98.74098758 |
| 180216A00004 | 2/16/2018 | 2.75 | 2/16/2023 | 2/16/2018 | 107.24662 | 107.2466165 | 107.2466165 | 107.2466165 | 106.4916594 | 103.7465361 | 101.0864514 | 98.50821513 | 96.00878148 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180223A00022 | 2/23/2018 | 2.93 | 2/23/2023 | 2/23/2018 | 107.28703 | 107.2870263 | 107.2870263 | 107.2870263 | 106.5245131 | 103.7709332 | 101.1029177 | 98.51724416 | 96.01083638 |
| 180226A00040 | 2/26/2018 | 2.79 | 2/28/2022 | 2/26/2018 | 104.44056 | 104.4405621 | 104.4405621 | 104.4405621 | 104.0893317 | 102.3348988 | 100.6185184 | 98.93901785 | 97.29527292 |
| 180227A00004 | 2/27/2018 | 2.67 | 3/26/2021 | 2/27/2018 | 102.00721 | 102.0072146 | 102.0072146 | 102.0072146 | 101.8217003 | 100.9894428 | 100.1707647 | 99.36533578 | 98.57283623 |
| 180302A00020 | 3/2/2018 | 2.79 | 3/17/2022 | 3/2/2018 | 104.53917 | 104.5391746 | 104.5391746 | 104.5391746 | 104.177199 | 102.3740355 | 100.6108485 | 98.88646882 | 97.19977106 |
| 180321A00005 | 3/21/2018 | 2.65 | 3/22/2021 | 3/21/2018 | 102.08736 | 102.0873642 | 102.0873642 | 102.0873642 | 101.904223 | 101.0808408 | 100.270746 | 99.47361869 | 98.68914928 |
| 180327A00013 | 3/27/2018 | 2.77 | 3/26/2021 | 3/27/2018 | 102.09072 | 102.0907238 | 102.0907238 | 102.0907238 | 101.9051333 | 101.0724954 | 100.2534412 | 99.4476405 | 98.65477338 |
| 180327A00027 | 3/27/2018 | 2.88 | 3/28/2022 | 3/27/2018 | 104.78105 | 104.7810477 | 104.7810477 | 104.7810477 | 104.4117431 | 102.5751911 | 100.7799238 | 99.02477123 | 97.30860417 |
| 180406A00005 | 4/6/2018 | 2.76 | 4/6/2021 | 4/6/2018 | 102.15839 | 102.1583852 | 102.1583852 | 102.1583852 | 101.9653043 | 101.102367 | 100.2540186 | 99.41989122 | 98.59962931 |
| 180425A00007 | 4/25/2018 | 2.98 | 4/25/2023 | 4/25/2018 | 108.41826 | 108.4182562 | 108.4182562 | 108.4182562 | 107.5473177 | 104.6001225 | 101.7495982 | 98.99205503 | 96.32396497 |
| 180426A00016 | 4/26/2018 | 2.77 | 4/26/2021 | 4/26/2018 | 102.44387 | 102.4438708 | 102.4438708 | 102.4438708 | 102.236804 | 101.31608 | 100.4119134 | 99.52386055 | 98.65149342 |
| 180430A00010 | 4/30/2018 | 2.88 | 1/15/2021 | 4/30/2018 | 101.68282 | 101.6828192 | 101.6828192 | 101.6828192 | 101.5498785 | 100.9099919 | 100.2781689 | 99.65425747 | 99.03810955 |
| 180507A00005 | 5/7/2018 | 3.06 | 5/5/2023 | 5/7/2018 | 108.18626 | 108.1862572 | 108.1862572 | 108.1862572 | 107.302973 | 104.3448803 | 101.4844405 | 98.71790115 | 96.04167579 |
| 180507A00039 | 5/7/2018 | 2.97 | 11/8/2021 | 5/7/2018 | 103.94325 | 103.9432451 | 103.9432451 | 103.9432451 | 103.660161 | 102.2125164 | 100.79233 | 99.39888835 | 98.03150179 |
| 180522A00017 | 5/22/2018 | 2.98 | 5/24/2021 | 5/22/2018 | 102.69977 | 102.6997723 | 102.6997723 | 102.6997723 | 102.4796221 | 101.4833085 | 100.5063494 | 99.54818465 | 98.60827557 |
| 180529A00014 | 5/29/2018 | 2.83 | 5/30/2023 | 5/29/2018 | 108.23952 | 108.2395239 | 108.2395239 | 108.2395239 | 107.3073614 | 104.2684235 | 101.3323243 | 98.49501136 | 95.75261603 |
| 180530A00028 | 5/30/2018 | 3.67 | 5/31/2033 | 5/30/2018 | 143.5029 | 143.5029036 | 143.5029036 | 135.8211413 | 122.1133436 | 109.6873549 | 98.72770988 | 89.05053472 | 80.49601073 |
| 180530A00044 | 5/30/2018 | 2.87 | 5/31/2022 | 5/30/2018 | 105.2176 | 105.2175981 | 105.2175981 | 105.2175981 | 104.7974656 | 102.7847858 | 100.8212689 | 98.90540365 | 97.03573605 |
| 180530A00067 | 5/30/2018 | 2.76 | 5/28/2021 | 5/30/2018 | 102.50758 | 102.5075782 | 102.5075782 | 102.5075782 | 102.2858366 | 101.2796723 | 100.2932659 | 99.3260395 | 98.37743795 |
| 180530A00069 | 5/30/2018 | 2.87 | 5/31/2022 | 5/30/2018 | 105.2176 | 105.2175981 | 105.2175981 | 105.2175981 | 104.7974656 | 102.7847858 | 100.8212689 | 98.90540365 | 97.03573605 |
| 180530A00074 | 5/30/2018 | 2.87 | 5/31/2022 | 5/30/2018 | 105.2176 | 105.2175981 | 105.2175981 | 105.2175981 | 104.7974656 | 102.7847858 | 100.8212689 | 98.90540365 | 97.03573605 |
| 180601A00007 | 6/1/2018 | 2.74 | 6/1/2020 | 6/1/2018 | 100.01968 | 100.0196819 | 100.0196819 | 100.0196819 | 100.0185067 | 100.0101913 | 100.0018834 | 99.99358294 | 99.98529001 |
| 180607A00026 | 6/7/2018 | 2.92 | 6/7/2021 | 6/7/2018 | 102.74245 | 102.7424476 | 102.7424476 | 102.7424476 | 102.5180383 | 101.4833158 | 100.4694626 | 99.47585161 | 98.50188082 |
| 180612A00005 | 6/12/2018 | 3.09 | 6/12/2023 | 6/12/2018 | 108.56731 | 108.5673055 | 108.5673055 | 108.5673055 | 107.6150076 | 104.5499475 | 101.5891539 | 98.72849074 | 95.96401096 |
| 180614A00008 | 6/14/2018 | 2.94 | 6/14/2021 | 6/14/2018 | 102.81493 | 102.8149321 | 102.8149321 | 102.8149321 | 102.5889217 | 101.534702 | 100.5021344 | 99.49055653 | 98.49933269 |
| 180619A00020 | 6/19/2018 | 3.1 | 6/19/2025 | 6/19/2018 | 115.24969 | 115.2496913 | 115.2496913 | 115.2496913 | 112.4473398 | 107.2922274 | 102.4077643 | 97.7782896 | 93.38913118 |
| 180621A00017 | 6/21/2018 | 3.42 | 6/21/2028 | 6/21/2018 | 125.15897 | 125.1589731 | 125.1589731 | 125.1589731 | 117.2107934 | 109.1423968 | 101.7062761 | 94.84922942 | 88.52280073 |
| 180621A00052 | 6/25/2018 | 3.35 | 6/23/2023 | 6/25/2018 | 109.45714 | 109.457143 | 109.457143 | 109.457143 | 108.481615 | 105.3740337 | 102.3727959 | 99.47365246 | 96.67255033 |
| 180622A00003 | 6/22/2018 | 2.87 | 6/22/2022 | 6/22/2018 | 105.75543 | 105.755435 | 105.755435 | 105.755435 | 105.3114245 | 103.2274646 | 101.1954425 | 99.21371811 | 97.28071565 |
| 180622A00009 | 6/22/2018 | 2.82 | 6/22/2020 | 6/22/2018 | 100.16473 | 100.1647253 | 100.1647253 | 100.1647253 | 100.155323 | 100.0888133 | 100.0224025 | 99.95609032 | 99.88987657 |
| 180625A00039 | 6/25/2018 | 2.93 | 6/25/2021 | 6/25/2018 | 102.88537 | 102.8853654 | 102.8853654 | 102.8853654 | 102.6568898 | 101.5722883 | 100.5105797 | 99.47104453 | 98.45299336 |
| 180625A00040 | 6/25/2018 | 3 | 6/24/2022 | 6/25/2018 | 105.66062 | 105.6606219 | 105.6606219 | 105.6606219 | 105.2164975 | 103.1354926 | 101.1063127 | 99.12732144 | 97.1969466 |
| 180430A00070 | 4/30/2018 | 2.91 | 3/30/2023 | 4/30/2018 | 108.01126 | 108.0112626 | 108.0112626 | 108.0112626 | 107.1860091 | 104.31316 | 101.5325097 | 98.84061672 | 96.23418668 |
| 180503A00040 | 5/3/2018 | 3.3 | 5/5/2025 | 5/3/2018 | 114.87285 | 114.8728472 | 114.8728472 | 114.8728472 | 112.2370007 | 107.237593 | 102.4942112 | 97.99239884 | 93.71858896 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180507A00025 | 5/7/2018 | 2.92 | 5/7/2021 | 5/7/2018 | 102.52504 | 102.5250408 | 102.5250408 | 102.5250408 | 102.3127325 | 101.3635258 | 100.4319159 | 99.51741646 | 98.61955915 |
| 180518A00012 | 5/18/2018 | 3.1 | 5/18/2022 | 5/18/2018 | 105.58325 | 105.5832512 | 105.5832512 | 105.5832512 | 105.1735648 | 103.1924305 | 101.2588902 | 99.37150589 | 97.52889285 |
| 180518A00014 | 5/18/2018 | 3.17 | 5/18/2023 | 5/18/2018 | 108.61474 | 108.6147401 | 108.6147401 | 108.6147401 | 107.7070728 | 104.7076144 | 101.8082857 | 99.00519361 | 96.2946191 |
| 180521A00005 | 5/21/2018 | 3.02 | 5/22/2023 | 5/21/2018 | 108.75268 | 108.7526805 | 108.7526805 | 108.7526805 | 107.8329402 | 104.8078434 | 101.884352 | 99.05849164 | 96.32646663 |
| 180521A00022 | 5/21/2018 | 2.99 | 5/21/2021 | 5/21/2018 | 102.68724 | 102.6872377 | 102.6872377 | 102.6872377 | 102.4684569 | 101.4803811 | 100.5113471 | 99.560808 | 98.62823787 |
| 180523A00014 | 5/23/2018 | 2.79 | 5/24/2021 | 5/23/2018 | 102.66974 | 102.6697389 | 102.6697389 | 102.6697389 | 102.4491018 | 101.4506699 | 100.4716704 | 99.51153982 | 98.56973643 |
| 180530A00005 | 5/30/2018 | 2.78 | 5/30/2023 | 5/30/2018 | 108.08758 | 108.0875833 | 108.0875833 | 108.0875833 | 107.1559616 | 104.1193245 | 101.1854679 | 98.3503414 | 95.61007819 |
| 180530A00014 | 5/30/2018 | 2.93 | 5/30/2023 | 5/30/2018 | 107.98227 | 107.9822742 | 107.9822742 | 107.9822742 | 107.0556621 | 104.0335421 | 101.1134458 | 98.29136214 | 95.56346175 |
| 180530A00016 | 5/30/2018 | 2.76 | 5/28/2021 | 5/30/2018 | 102.50758 | 102.5075782 | 102.5075782 | 102.5075782 | 102.2858366 | 101.2796723 | 100.2932659 | 99.3260395 | 98.37743795 |
| 180530A00030 | 5/30/2018 | 3.68 | 5/30/2034 | 5/30/2018 | 146.90361 | 146.9036084 | 146.9036084 | 136.9147559 | 122.214689 | 109.0440126 | 97.52759887 | 87.444764 | 78.60548927 |
| 180530A00057 | 5/30/2018 | 2.76 | 5/28/2021 | 5/30/2018 | 102.50758 | 102.5075782 | 102.5075782 | 102.5075782 | 102.2858366 | 101.2796723 | 100.2932659 | 99.3260395 | 98.37743795 |
| 180530A00072 | 5/30/2018 | 3.06 | 5/30/2024 | 5/30/2018 | 111.15745 | 111.1574483 | 111.1574483 | 111.1574483 | 109.4623475 | 105.4228179 | 101.5567219 | 97.85568737 | 94.31179166 |
| 180531A00014 | 5/31/2018 | 2.8 | 5/31/2023 | 5/31/2018 | 108.15579 | 108.1557864 | 108.1557864 | 108.1557864 | 107.2220941 | 104.1817849 | 101.2444382 | 98.40599366 | 95.66257508 |
| 180531A00065 | 5/31/2018 | 2.65 | 6/1/2021 | 5/31/2018 | 102.58601 | 102.5860085 | 102.5860085 | 102.5860085 | 102.3625488 | 101.3427094 | 100.3431503 | 99.36327107 | 98.4024947 |
| 180601A00003 | 6/1/2018 | 2.65 | 12/1/2020 | 6/1/2018 | 101.30793 | 101.3079253 | 101.3079253 | 101.3079253 | 101.2095022 | 100.6933197 | 100.1823947 | 99.67664704 | 99.17599844 |
| 180612A00050 | 6/12/2018 | 2.8 | 6/12/2020 | 6/12/2018 | 100.09531 | 100.0953116 | 100.0953116 | 100.0953116 | 100.0898263 | 100.0510191 | 100.0122587 | 99.97354529 | 99.93487865 |
| 180614A00038 | 6/14/2018 | 3.08 | 6/14/2023 | 6/14/2018 | 108.552 | 108.5519987 | 108.5519987 | 108.5519987 | 107.5961265 | 104.5260603 | 101.5605674 | 98.69549339 | 95.92687449 |
| 180627A00016 | 6/27/2018 | 2.8 | 6/26/2020 | 6/27/2018 | 100.19062 | 100.190625 | 100.190625 | 100.190625 | 100.1796563 | 100.1020715 | 100.0246106 | 99.94727332 | 99.87005936 |
| 180627A00027 | 6/27/2018 | 2.87 | 6/27/2023 | 6/27/2018 | 108.57446 | 108.5744573 | 108.5744573 | 108.5744573 | 107.589922 | 104.4720389 | 101.4615393 | 98.55410759 | 95.74562868 |
| 180627A00030 | 6/27/2018 | 3.02 | 6/27/2023 | 6/27/2018 | 108.46536 | 108.4653596 | 108.4653596 | 108.4653596 | 107.4862283 | 104.3834835 | 101.3873219 | 98.4934703 | 95.69785364 |
| 180629A00008 | 6/29/2018 | 3.02 | 6/29/2023 | 6/29/2018 | 108.48038 | 108.480385 | 108.480385 | 108.480385 | 107.4975736 | 104.3893716 | 101.3880751 | 98.48939205 | 95.68922979 |
| 180702A00012 | 7/2/2018 | 3.01 | 7/3/2023 | 7/2/2018 | 108.47908 | 108.4790801 | 108.4790801 | 108.4790801 | 107.4888506 | 104.3698712 | 101.3584676 | 98.45030796 | 95.64126197 |
| 171010A00005 | 10/10/2017 | 2.06 | 10/11/2022 | 10/10/2017 | 104.65834 | 104.6583395 | 104.6583395 | 104.6583395 | 104.0919533 | 101.7230065 | 99.41981072 | 97.18018289 | 95.00202493 |
| 171016A00060 | 10/16/2017 | 1.93 | 10/16/2020 | 10/16/2017 | 100.65117 | 100.651173 | 100.651173 | 100.651173 | 100.5812079 | 100.1939714 | 99.80972044 | 99.42842049 | 99.05003759 |
| 171017A00023 | 10/17/2017 | 1.97 | 10/19/2020 | 10/17/2017 | 100.68095 | 100.6809528 | 100.6809528 | 100.6809528 | 100.609284 | 100.2137348 | 99.82129776 | 99.43193626 | 99.04561416 |
| 171026A00007 | 10/26/2017 | 2.47 | 10/26/2023 | 10/26/2017 | 107.48014 | 107.4801399 | 107.4801399 | 107.4801399 | 106.2738611 | 102.8690877 | 99.59196285 | 96.43703731 | 93.39912352 |
| 171026A00011 | 10/26/2017 | 2.94 | 10/26/2027 | 10/26/2017 | 119.57392 | 119.5739151 | 119.5739151 | 119.5739151 | 112.8868461 | 105.5672019 | 98.78308999 | 92.49242578 | 86.6566369 |
| 171026A00023 | 10/26/2017 | 2 | 10/26/2020 | 10/26/2017 | 100.72666 | 100.726657 | 100.726657 | 100.726657 | 100.6510226 | 100.2361372 | 99.82466441 | 99.4165623 | 99.01178961 |
| 171027A00029 | 10/27/2017 | 2.04 | 10/27/2020 | 10/27/2017 | 100.74825 | 100.7482518 | 100.7482518 | 100.7482518 | 100.6720444 | 100.2543593 | 99.84013056 | 99.42931546 | 99.02187198 |
| 171030A00019 | 10/30/2017 | 2.04 | 3/16/2021 | 10/30/2017 | 101.43231 | 101.4323112 | 101.4323112 | 101.4323112 | 101.25438 | 100.4519175 | 99.66214197 | 98.88475419 | 98.11946435 |
| 171031A00006 | 10/31/2017 | 2.02 | 1/25/2021 | 10/31/2017 | 101.18053 | 101.1805323 | 101.1805323 | 101.1805323 | 101.039827 | 100.3744713 | 99.71785438 | 99.06980499 | 98.4301563 |
| 171101A00023 | 11/1/2017 | 2.78 | 11/3/2025 | 11/1/2017 | 113.52141 | 113.5214063 | 113.5214063 | 113.5214063 | 110.2686262 | 104.8470478 | 99.72827929 | 94.89383727 | 90.32645842 |
| 171130A00005 | 11/30/2017 | 2.45 | 11/30/2022 | 11/30/2017 | 105.45491 | 105.4549055 | 105.4549055 | 105.4549055 | 104.8233053 | 102.3214892 | 99.89257973 | 97.53402987 | 95.24339762 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 171207A00029 | 12/7/2017 | 2.04 | 12/7/2020 | 12/7/2017 | 101.02484 | 101.0248441 | 101.0248441 | 101.0248441 | 100.9221436 | 100.390337 | 99.86413087 | 99.34343695 | 98.82816883 |
| 171208A00008 | 12/8/2017 | 2.25 | 12/8/2022 | 12/8/2017 | 105.45664 | 105.4566356 | 105.4566356 | 105.4566356 | 104.8109968 | 102.2776917 | 99.81884977 | 97.43184416 | 95.11415761 |
| 171212A00027 | 12/12/2017 | 2.21 | 12/13/2021 | 12/12/2017 | 103.268 | 103.2680013 | 103.2680013 | 103.2680013 | 102.9624182 | 101.4219186 | 99.91220569 | 98.4324293 | 96.98177023 |
| 171218A00020 | 12/18/2017 | 2.99 | 12/20/2027 | 12/18/2017 | 120.34625 | 120.3462525 | 120.3462525 | 120.3462525 | 113.3839136 | 105.9119305 | 98.99608642 | 92.59191151 | 86.65871396 |
| 171219A00063 | 12/19/2017 | 2.8 | 12/20/2027 | 12/19/2017 | 120.47162 | 120.4716199 | 120.4716199 | 120.4716199 | 113.4286231 | 105.8921149 | 98.91886592 | 92.46369576 | 86.48527316 |
| 171229A00007 | 12/29/2017 | 2.12 | 12/30/2020 | 12/29/2017 | 101.19518 | 101.1951797 | 101.1951797 | 101.1951797 | 101.0753356 | 100.4799032 | 99.89146727 | 99.30990511 | 98.73509685 |
| 180103A00007 | 1/3/2018 | 2.44 | 1/7/2022 | 1/3/2018 | 103.51042 | 103.5104164 | 103.5104164 | 103.5104164 | 103.1906211 | 101.584829 | 100.011869 | 98.47080051 | 96.96071896 |
| 180104A00013 | 1/4/2018 | 2.39 | 1/4/2023 | 1/4/2018 | 105.98478 | 105.9847842 | 105.9847842 | 105.9847842 | 105.2989877 | 102.6858342 | 100.1510228 | 97.69172327 | 95.30522739 |
| 180111A00007 | 1/11/2018 | 2.66 | 1/14/2025 | 1/11/2018 | 111.90469 | 111.9046897 | 111.9046897 | 111.9046897 | 109.6004341 | 104.9300445 | 100.4872011 | 96.25959163 | 92.23563775 |
| 180111A00016 | 1/11/2018 | 2.57 | 1/11/2023 | 1/11/2018 | 106.02183 | 106.0218325 | 106.0218325 | 106.0218325 | 105.3285868 | 102.7068925 | 100.1640103 | 97.6970825 | 95.30337491 |
| 180116A00010 | 1/16/2018 | 2.58 | 1/17/2023 | 1/16/2018 | 106.08616 | 106.0861647 | 106.0861647 | 106.0861647 | 105.3838526 | 102.745602 | 100.1870215 | 97.70520723 | 95.29738177 |
| 180116A00031 | 1/16/2018 | 2.58 | 1/17/2023 | 1/16/2018 | 106.08616 | 106.0861647 | 106.0861647 | 106.0861647 | 105.3838526 | 102.745602 | 100.1870215 | 97.70520723 | 95.29738177 |
| 180123A00026 | 1/23/2018 | 2.57 | 1/14/2022 | 1/23/2018 | 103.76653 | 103.766529 | 103.766529 | 103.766529 | 103.4423248 | 101.8157964 | 100.2227679 | 98.66227004 | 97.13337092 |
| 171116A00022 | 11/16/2017 | 1.92 | 11/16/2020 | 11/16/2017 | 100.85581 | 100.8558074 | 100.8558074 | 100.8558074 | 100.7671471 | 100.2935073 | 99.8243232 | 99.35953213 | 98.89907241 |
| 171206A00029 | 12/6/2017 | 2.21 | 9/16/2020 | 12/6/2017 | 100.59437 | 100.5943721 | 100.5943721 | 100.5943721 | 100.5410863 | 100.2365238 | 99.93381528 | 99.63294363 | 99.33389211 |
| 171211A00033 | 12/11/2017 | 2.26 | 12/12/2022 | 12/11/2017 | 105.50594 | 105.505936 | 105.505936 | 105.505936 | 104.8544976 | 102.3096701 | 99.83986497 | 97.44242615 | 95.11480887 |
| 171211A00045 | 12/11/2017 | 2.32 | 6/11/2021 | 12/11/2017 | 102.14277 | 102.142775 | 102.142775 | 102.142775 | 101.9181959 | 100.8759254 | 99.85491947 | 98.85453222 | 97.87414355 |
| 171227A00018 | 12/27/2017 | 2.83 | 12/27/2024 | 12/27/2017 | 111.64793 | 111.6479306 | 111.6479306 | 111.6479306 | 109.4128311 | 104.8210034 | 100.4502833 | 96.28884187 | 92.32554725 |
| 180104A00017 | 1/4/2018 | 2.77 | 1/3/2025 | 1/4/2018 | 111.41839 | 111.4183877 | 111.4183877 | 111.4183877 | 109.1656298 | 104.5612047 | 100.1793198 | 96.00802716 | 92.03608552 |
| 180109A00025 | 1/9/2018 | 2.33 | 1/11/2021 | 1/9/2018 | 101.30718 | 101.3071781 | 101.3071781 | 101.3071781 | 101.1777372 | 100.5501375 | 99.93031625 | 99.31812946 | 98.7134365 |
| 180116A00048 | 1/16/2018 | 2.37 | 1/19/2021 | 1/16/2018 | 101.37937 | 101.3793687 | 101.3793687 | 101.3793687 | 101.2433885 | 100.593671 | 99.95228226 | 99.31906282 | 98.6938572 |
| 180117A00017 | 1/17/2018 | 2.45 | 6/17/2021 | 1/17/2018 | 102.31527 | 102.3152676 | 102.3152676 | 102.3152676 | 102.0891966 | 101.0296397 | 99.9920289 | 98.97568753 | 97.97996635 |
| 180123A00024 | 1/23/2018 | 2.44 | 2/16/2021 | 1/23/2018 | 101.59448 | 101.5944817 | 101.5944817 | 101.5944817 | 101.4367069 | 100.7097156 | 99.9931307 | 99.28672969 | 98.5902965 |
| 180124A00020 | 1/24/2018 | 2.53 | 1/24/2023 | 1/24/2018 | 106.4873 | 106.4872967 | 106.4872967 | 106.4872967 | 105.7702345 | 103.0976659 | 100.5064133 | 97.99348855 | 95.55603485 |
| 180124A00038 | 1/24/2018 | 2.51 | 9/1/2021 | 1/24/2018 | 102.84951 | 102.8495051 | 102.8495051 | 102.8495051 | 102.6076298 | 101.3396917 | 100.1019469 | 98.8933216 | 97.71279262 |
| 180125A00023 | 1/25/2018 | 2.57 | 1/25/2022 | 1/25/2018 | 103.83614 | 103.8361424 | 103.8361424 | 103.8361424 | 103.5055739 | 101.849271 | 100.2274815 | 98.63919123 | 97.08342609 |
| 180202A00011 | 2/2/2018 | 2.45 | 2/2/2021 | 2/2/2018 | 101.61236 | 101.6123626 | 101.6123626 | 101.6123626 | 101.4648218 | 100.7747518 | 100.0940518 | 99.42253202 | 98.7600075 |
| 180226A00034 | 2/26/2018 | 2.82 | 6/27/2022 | 2/26/2018 | 105.30479 | 105.304788 | 105.304788 | 105.304788 | 104.8585521 | 102.7733875 | 100.7402989 | 98.75763659 | 96.82381557 |
| 180227A00016 | 2/27/2018 | 2.66 | 2/26/2021 | 2/27/2018 | 101.82157 | 101.8215702 | 101.8215702 | 101.8215702 | 101.6561011 | 100.9008951 | 100.1568873 | 99.42382985 | 98.70148252 |
| 180402A00005 | 4/2/2018 | 2.94 | 4/3/2023 | 4/2/2018 | 107.59757 | 107.5975677 | 107.5975677 | 107.5975677 | 106.7707952 | 103.9052523 | 101.1317919 | 98.44697236 | 95.84749977 |
| 180403A00041 | 4/3/2018 | 2.91 | 4/3/2025 | 4/3/2018 | 113.68426 | 113.6842558 | 113.6842558 | 113.6842558 | 111.1355273 | 106.2157529 | 101.5450464 | 97.10952321 | 92.8961418 |
| 180417A00005 | 4/17/2018 | 2.67 | 4/19/2021 | 4/17/2018 | 102.3021 | 102.3021035 | 102.3021035 | 102.3021035 | 102.0998308 | 101.1989206 | 100.3138893 | 99.44431962 | 98.58980871 |
| 180420A00012 | 4/20/2018 | 2.91 | 4/20/2021 | 4/20/2018 | 102.39097 | 102.3909682 | 102.3909682 | 102.3909682 | 102.1883805 | 101.2861772 | 100.3998919 | 99.52910601 | 98.67341515 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180425A00004 | 4/25/2018 | 2.97 | 4/26/2021 | 4/25/2018 | 102.49026 | 102.4902625 | 102.4902625 | 102.4902625 | 102.2835979 | 101.3645625 | 100.4620236 | 99.57553999 | 98.70468598 |
| 180430A00015 | 4/30/2018 | 3.02 | 4/15/2022 | 4/30/2018 | 105.17573 | 105.175727 | 105.175727 | 105.175727 | 104.792897 | 102.904728 | 101.059995 | 99.25744273 | 97.49585998 |
| 180522A00008 | 5/22/2018 | 2.98 | 5/24/2021 | 5/22/2018 | 102.69977 | 102.6997723 | 102.6997723 | 102.6997723 | 102.4796221 | 101.4833085 | 100.5063494 | 99.54818465 | 98.60827557 |
| 180522A00039 | 5/22/2018 | 3.43 | 5/22/2028 | 5/22/2018 | 126.68453 | 126.6845282 | 126.6845282 | 126.6845282 | 118.7544706 | 110.6302416 | 103.1385519 | 96.22651415 | 89.84592865 |
| 170809A00023 | 8/9/2017 | 2.86 | 8/9/2027 | 8/9/2017 | 118.43807 | 118.4380656 | 118.4380656 | 118.4380656 | 112.1416198 | 105.0388903 | 98.44302162 | 92.3150619 | 86.61925255 |
| 170811A00015 | 8/11/2017 | 1.81 | 8/11/2020 | 8/11/2017 | 100.31344 | 100.3134391 | 100.3134391 | 100.3134391 | 100.279658 | 100.0748293 | 99.87084908 | 99.66771196 | 99.46541269 |
| 170815A00027 | 8/15/2017 | 1.85 | 8/17/2020 | 8/15/2017 | 100.34997 | 100.3499729 | 100.3499729 | 100.3499729 | 100.3129676 | 100.0915187 | 99.87105832 | 99.65157991 | 99.43307682 |
| 170830A00030 | 8/30/2017 | 2 | 3/30/2022 | 8/30/2017 | 103.16222 | 103.1622155 | 103.1622155 | 103.1622155 | 102.794658 | 100.9679845 | 99.18253766 | 97.43715088 | 95.73069779 |
| 170830A00047 | 8/30/2017 | 1.61 | 8/31/2020 | 8/30/2017 | 100.38961 | 100.3896079 | 100.3896079 | 100.3896079 | 100.3450062 | 100.0844706 | 99.82528739 | 99.5674462 | 99.31093658 |
| 170831A00008 | 8/31/2017 | 1.78 | 8/31/2020 | 8/31/2017 | 100.39306 | 100.3930628 | 100.3930628 | 100.3930628 | 100.348538 | 100.0884442 | 99.82969533 | 99.57228094 | 99.31619078 |
| 170831A00022 | 8/31/2017 | 2.27 | 2/29/2024 | 8/31/2017 | 107.47659 | 107.4765854 | 107.4765854 | 107.4765854 | 106.007959 | 102.2785463 | 98.7006966 | 95.26737366 | 91.97191328 |
| 170831A00047 | 8/31/2017 | 1.6 | 8/31/2020 | 8/31/2017 | 100.387 | 100.3869973 | 100.3869973 | 100.3869973 | 100.3423964 | 100.0818652 | 99.82268658 | 99.56484988 | 99.30834473 |
| 170831A00049 | 8/31/2017 | 1.68 | 3/1/2021 | 8/31/2017 | 101.19689 | 101.1968893 | 101.1968893 | 101.1968893 | 101.0294053 | 100.2672484 | 99.51654467 | 98.77703748 | 98.04847796 |
| 170831A00054 | 8/31/2017 | 1.85 | 6/30/2022 | 8/31/2017 | 103.66027 | 103.6602725 | 103.6602725 | 103.6602725 | 103.2130172 | 101.1301139 | 99.09958402 | 97.11975795 | 95.18903221 |
| 170911A00023 | 9/11/2017 | 1.77 | 9/11/2020 | 9/11/2017 | 100.43621 | 100.4362109 | 100.4362109 | 100.4362109 | 100.3856979 | 100.0952384 | 99.80646835 | 99.51937295 | 99.23393758 |
| 170913A00025 | 9/13/2017 | 1.94 | 8/16/2021 | 9/13/2017 | 102.04862 | 102.0486235 | 102.0486235 | 102.0486235 | 101.8119855 | 100.5912998 | 99.39976087 | 98.23633435 | 97.10003435 |
| 170913A00027 | 9/13/2017 | 2.08 | 9/13/2022 | 9/13/2017 | 104.13403 | 104.1340263 | 104.1340263 | 104.1340263 | 103.6052971 | 101.325549 | 99.1071765 | 96.9481339 | 94.84645901 |
| 171003A00005 | 10/3/2017 | 1.92 | 10/5/2020 | 10/3/2017 | 100.59312 | 100.5931156 | 100.5931156 | 100.5931156 | 100.5293843 | 100.1725541 | 99.81825636 | 99.46646419 | 99.11715103 |
| 171004A00017 | 10/4/2017 | 1.89 | 10/5/2020 | 10/4/2017 | 100.58237 | 100.5823719 | 100.5823719 | 100.5823719 | 100.5186446 | 100.1618383 | 99.8075643 | 99.45579573 | 99.10650604 |
| 171013A00021 | 10/13/2017 | 2 | 10/17/2022 | 10/13/2017 | 104.54562 | 104.5456237 | 104.5456237 | 104.5456237 | 103.9719243 | 101.5881093 | 99.27089132 | 97.01804438 | 94.82743021 |
| 171025A00026 | 10/25/2017 | 2.64 | 10/25/2024 | 10/25/2017 | 110.41443 | 110.414429 | 110.414429 | 110.414429 | 108.3564566 | 103.9514905 | 99.7519519 | 95.74720859 | 91.92723267 |
| 171025A00027 | 10/25/2017 | 2.36 | 10/25/2022 | 10/25/2017 | 105.02175 | 105.0217544 | 105.0217544 | 105.0217544 | 104.4391091 | 102.0369253 | 99.70220943 | 97.43269322 | 95.22619807 |
| 171026A00004 | 10/26/2017 | 2 | 10/26/2020 | 10/26/2017 | 100.72666 | 100.726657 | 100.726657 | 100.726657 | 100.6510226 | 100.2361372 | 99.82466441 | 99.4165623 | 99.01178961 |
| 171026A00006 | 10/26/2017 | 2.32 | 10/26/2022 | 10/26/2017 | 104.93002 | 104.9300218 | 104.9300218 | 104.9300218 | 104.3463532 | 101.9426027 | 99.60644224 | 97.3355968 | 95.12788164 |
| 171026A00008 | 10/26/2017 | 2.6 | 10/25/2024 | 10/26/2017 | 110.23674 | 110.2367395 | 110.2367395 | 110.2367395 | 108.1800168 | 103.7789156 | 99.58311121 | 95.5819771 | 91.76549055 |
| 171031A00007 | 10/31/2017 | 2.15 | 12/27/2021 | 10/31/2017 | 102.98112 | 102.9811175 | 102.9811175 | 102.9811175 | 102.6685078 | 101.0964492 | 99.55617285 | 98.04678328 | 96.5674184 |
| 171031A00029 | 10/31/2017 | 2.43 | 10/31/2023 | 10/31/2017 | 107.37186 | 107.3718594 | 107.3718594 | 107.3718594 | 106.1561032 | 102.7401344 | 99.45273435 | 96.28839326 | 93.24186702 |
| 171101A00022 | 11/1/2017 | 2.65 | 11/1/2024 | 11/1/2017 | 110.50402 | 110.5040178 | 110.5040178 | 110.5040178 | 108.427063 | 104.0022711 | 99.784649 | 95.76343108 | 91.92846605 |
| 180402A00028 | 4/2/2018 | 2.58 | 4/1/2021 | 4/2/2018 | 102.09785 | 102.0978537 | 102.0978537 | 102.0978537 | 101.9077409 | 101.0569843 | 100.2204048 | 99.39765013 | 98.58837961 |
| 180410A00016 | 4/10/2018 | 2.89 | 4/11/2022 | 4/10/2018 | 104.90001 | 104.9000125 | 104.9000125 | 104.9000125 | 104.5205745 | 102.6456563 | 100.8136581 | 99.02334565 | 97.27352837 |
| 180412A00036 | 4/12/2018 | 3.54 | 4/15/2038 | 4/12/2018 | 161.39709 | 161.3970877 | 161.3970877 | 143.5972452 | 124.6967611 | 108.4656257 | 94.73847917 | 83.10505538 | 73.22482072 |
| 180416A00015 | 4/16/2018 | 2.79 | 4/14/2022 | 4/16/2018 | 105.0772 | 105.0772037 | 105.0772037 | 105.0772037 | 104.6939891 | 102.8031362 | 100.955836 | 99.15082844 | 97.38689794 |
| 180426A00011 | 4/26/2018 | 2.94 | 4/26/2023 | 4/26/2018 | 108.30839 | 108.3083947 | 108.3083947 | 108.3083947 | 107.4361236 | 104.4879132 | 101.6365021 | 98.87819227 | 96.20944791 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180430A00013 | 4/30/2018 | 3.01 | 2/15/2022 | 4/30/2018 | 104.73291 | 104.7329119 | 104.7329119 | 104.7329119 | 104.3886635 | 102.6672342 | 100.9825569 | 99.33351899 | 97.71905314 |
| 180430A00014 | 4/30/2018 | 3.01 | 3/15/2022 | 4/30/2018 | 104.92463 | 104.9246292 | 104.9246292 | 104.9246292 | 104.5631836 | 102.7620987 | 101.0008289 | 99.27820279 | 97.5930935 |
| 180430A00078 | 10/30/2018 | 3.24 | 10/30/2023 | 10/30/2018 | 110.16152 | 110.16152 | 110.16152 | 110.16152 | 108.9354434 | 105.4743314 | 102.1429178 | 98.9356578 | 95.8472736 |
| 180514A00033 | 5/14/2018 | 3.36 | 5/15/2028 | 5/14/2018 | 126.05807 | 126.0580677 | 126.0580677 | 126.0580677 | 118.1774202 | 110.0933097 | 102.6376889 | 95.75810696 | 89.40675257 |
| 180517A00059 | 5/17/2018 | 3.13 | 5/17/2022 | 5/17/2018 | 105.63517 | 105.6351701 | 105.6351701 | 105.6351701 | 105.226222 | 103.2472909 | 101.3158347 | 99.43042093 | 97.58967014 |
| 180522A00005 | 5/22/2018 | 3.16 | 5/22/2023 | 5/22/2018 | 108.61626 | 108.6162589 | 108.6162589 | 108.6162589 | 107.7015397 | 104.6912933 | 101.7818955 | 98.96941085 | 96.2500805 |
| 180522A00018 | 5/22/2018 | 3.1 | 5/23/2022 | 5/22/2018 | 105.62191 | 105.6219068 | 105.6219068 | 105.6219068 | 105.2079203 | 103.2127526 | 101.2658355 | 99.36570099 | 97.51093639 |
| 180522A00037 | 5/22/2018 | 3.01 | 5/22/2023 | 5/22/2018 | 108.72251 | 108.7225138 | 108.7225138 | 108.7225138 | 107.8028797 | 104.7782365 | 101.8551874 | 99.0297583 | 96.29815389 |
| 180525A00016 | 5/25/2018 | 2.72 | 5/25/2021 | 5/25/2018 | 102.607 | 102.6069967 | 102.6069967 | 102.6069967 | 102.3859763 | 101.3851509 | 100.4038578 | 99.44152924 | 98.49761942 |
| 180530A00026 | 5/30/2018 | 3.55 | 5/30/2031 | 5/30/2018 | 135.59562 | 135.5956178 | 135.5956178 | 132.3416688 | 120.7543649 | 109.9863877 | 100.3210821 | 91.63822107 | 83.83131211 |
| 180530A00039 | 5/30/2018 | 2.93 | 5/30/2023 | 5/30/2018 | 107.98227 | 107.9822742 | 107.9822742 | 107.9822742 | 107.0556621 | 104.0335421 | 101.1134458 | 98.29136214 | 95.56346175 |
| 180530A00077 | 5/30/2018 | 2.93 | 5/30/2023 | 5/30/2018 | 107.98227 | 107.9822742 | 107.9822742 | 107.9822742 | 107.0556621 | 104.0335421 | 101.1134458 | 98.29136214 | 95.56346175 |
| 180614A00033 | 6/15/2018 | 2.82 | 7/10/2020 | 6/15/2018 | 100.29131 | 100.2913122 | 100.2913122 | 100.2913122 | 100.2737802 | 100.1573722 | 100.0412466 | 99.92540238 | 99.80983859 |
| 180615A00063 | 6/15/2018 | 3.2 | 6/15/2026 | 6/15/2018 | 118.83043 | 118.8304268 | 118.8304268 | 118.8304268 | 114.5082511 | 108.3447205 | 102.5588324 | 97.12540242 | 92.02105471 |
| 180618A00025 | 6/18/2018 | 3.01 | 4/13/2022 | 6/18/2018 | 105.14171 | 105.141705 | 105.141705 | 105.141705 | 104.7603696 | 102.8778244 | 101.0384759 | 99.24107881 | 97.48443172 |
| 180619A00021 | 6/19/2018 | 3.24 | 6/19/2028 | 6/19/2018 | 125.39402 | 125.3940206 | 125.3940206 | 125.3940206 | 117.3573933 | 109.2175699 | 101.7179092 | 94.80440554 | 88.42788163 |
| 180619A00023 | 6/19/2018 | 3.04 | 6/19/2023 | 6/19/2018 | 108.46697 | 108.4669686 | 108.4669686 | 108.4669686 | 107.5023353 | 104.4204834 | 101.443955 | 98.56855127 | 95.79026628 |
| 180620A00014 | 6/20/2018 | 3.4 | 6/20/2028 | 6/20/2018 | 124.98901 | 124.9890123 | 124.9890123 | 124.9890123 | 117.0498126 | 108.9901131 | 101.5619699 | 94.71224972 | 88.39255813 |
| 180620A00017 | 6/20/2018 | 3.24 | 6/20/2028 | 6/20/2018 | 125.40261 | 125.4026136 | 125.4026136 | 125.4026136 | 117.3608597 | 109.2184283 | 101.716542 | 94.80114825 | 88.42302866 |
| 171205A00004 | 12/6/2017 | 2.07 | 12/7/2020 | 12/6/2017 | 101.04084 | 101.0408383 | 101.0408383 | 101.0408383 | 100.9381289 | 100.406273 | 99.88001786 | 99.35927534 | 98.84395899 |
| 171206A00008 | 12/6/2017 | 2.36 | 12/6/2021 | 12/6/2017 | 103.1967 | 103.196699 | 103.196699 | 103.196699 | 102.8963016 | 101.3799837 | 99.89369917 | 98.43662984 | 97.00798689 |
| 171206A00041 | 12/6/2017 | 2.44 | 12/6/2024 | 12/6/2017 | 110.62413 | 110.6241318 | 110.6241318 | 110.6241318 | 108.437845 | 103.8973738 | 99.57432813 | 95.45715383 | 91.53497192 |
| 171206A00042 | 12/6/2017 | 2.24 | 12/7/2020 | 12/6/2017 | 101.058 | 101.0579955 | 101.0579955 | 101.0579955 | 100.9554541 | 100.4244416 | 99.89900913 | 99.37906888 | 98.864535 |
| 171207A00019 | 12/7/2017 | 2.41 | 6/16/2022 | 12/7/2017 | 104.3788 | 104.3788016 | 104.3788016 | 104.3788016 | 103.9450928 | 101.8988056 | 99.90320987 | 97.9567183 | 96.05780507 |
| 171211A00024 | 12/11/2017 | 2.26 | 12/11/2020 | 12/11/2017 | 101.09084 | 101.090841 | 101.090841 | 101.090841 | 100.9853352 | 100.4432649 | 99.90701023 | 99.37647795 | 98.85157665 |
| 171212A00023 | 12/12/2017 | 2.3 | 2/12/2021 | 12/12/2017 | 101.46969 | 101.4696893 | 101.4696893 | 101.4696893 | 101.3150159 | 100.5994384 | 99.8939534 | 99.19834841 | 98.51241678 |
| 171212A00024 | 12/12/2017 | 2.29 | 12/12/2022 | 12/12/2017 | 105.58306 | 105.5830645 | 105.5830645 | 105.5830645 | 104.9314123 | 102.3855884 | 99.91480945 | 97.5164185 | 95.1878702 |
| 171213A00019 | 12/13/2017 | 2.17 | 12/13/2021 | 12/13/2017 | 103.20551 | 103.2055067 | 103.2055067 | 103.2055067 | 102.9000254 | 101.3600314 | 99.85081508 | 98.37152662 | 96.92134703 |
| 171213A00032 | 12/13/2017 | 2.17 | 12/13/2021 | 12/13/2017 | 103.20551 | 103.2055067 | 103.2055067 | 103.2055067 | 102.9000254 | 101.3600314 | 99.85081508 | 98.37152662 | 96.92134703 |
| 180103A00011 | 1/3/2018 | 2.35 | 1/3/2023 | 1/3/2018 | 105.87321 | 105.8732139 | 105.8732139 | 105.8732139 | 105.1892268 | 102.5801823 | 100.0493067 | 97.59377838 | 95.21089716 |
| 180109A00028 | 1/9/2018 | 2.6 | 1/9/2025 | 1/9/2018 | 111.58935 | 111.5893507 | 111.5893507 | 111.5893507 | 109.3016364 | 104.6511442 | 100.2267761 | 96.01632347 | 92.00830419 |
| 180110A00029 | 1/10/2018 | 3.13 | 1/10/2028 | 1/10/2018 | 121.56833 | 121.568334 | 121.568334 | 121.568334 | 114.480637 | 106.9167793 | 99.9186436 | 93.44074887 | 87.44150061 |
| 180123A00023 | 1/23/2018 | 2.43 | 1/29/2021 | 1/23/2018 | 101.4789 | 101.4789021 | 101.4789021 | 101.4789021 | 101.334741 | 100.6573479 | 99.98898486 | 99.32947245 | 98.67863584 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180123A00045 | 1/23/2018 | 2.43 | 1/25/2021 | 1/23/2018 | 101.45474 | 101.4547406 | 101.4547406 | 101.4547406 | 101.3138408 | 100.6474586 | 99.98982482 | 99.34076798 | 98.70012111 |
| 180124A00018 | 1/24/2018 | 2.3 | 1/25/2021 | 1/24/2018 | 101.46022 | 101.4602188 | 101.4602188 | 101.4602188 | 101.3190548 | 100.6514662 | 99.99265841 | 99.34245885 | 98.70069962 |
| 180126A00028 | 1/26/2018 | 2.69 | 1/26/2023 | 1/26/2018 | 106.43873 | 106.4387311 | 106.4387311 | 106.4387311 | 105.7220636 | 103.0555333 | 100.4700495 | 97.96263583 | 95.53044684 |
| 180126A00029 | 1/26/2018 | 2.88 | 1/27/2025 | 1/26/2018 | 112.09754 | 112.0975412 | 112.0975412 | 112.0975412 | 109.7725449 | 105.0923103 | 100.6407134 | 96.40534129 | 92.37452434 |
| 180130A00084 | 1/30/2018 | 2.59 | 1/30/2023 | 1/30/2018 | 106.68978 | 106.6897821 | 106.6897821 | 106.6897821 | 105.963103 | 103.2718974 | 100.6629376 | 98.13318594 | 95.67973917 |
| 180207A00003 | 2/7/2018 | 3.28 | 2/7/2028 | 2/7/2018 | 122.94009 | 122.9400891 | 122.9400891 | 122.9400891 | 115.6897704 | 108.0130447 | 100.9144019 | 94.34702075 | 88.26811295 |
| 180306A00005 | 3/6/2018 | 2.65 | 3/4/2022 | 3/6/2018 | 104.52377 | 104.5237749 | 104.5237749 | 104.5237749 | 104.1688002 | 102.3968711 | 100.6636631 | 98.96799533 | 97.30873537 |
| 180316A00010 | 3/16/2018 | 2.58 | 3/16/2021 | 3/16/2018 | 101.98876 | 101.9887589 | 101.9887589 | 101.9887589 | 101.8099648 | 101.0034236 | 100.2096461 | 99.42833063 | 98.65918538 |
| 180406A00014 | 4/6/2018 | 2.95 | 4/6/2023 | 4/6/2018 | 107.64827 | 107.6482727 | 107.6482727 | 107.6482727 | 106.8162591 | 103.9421567 | 101.1606457 | 98.46825671 | 95.86166927 |
| 180412A00034 | 4/12/2018 | 3.23 | 4/15/2030 | 4/12/2018 | 130.99819 | 130.9981868 | 130.9981868 | 129.5729631 | 119.1034969 | 109.2596837 | 100.3399926 | 92.2520525 | 84.91318702 |
| 180202A00004 | 2/2/2018 | 2.57 | 2/2/2022 | 2/2/2018 | 104.17715 | 104.1771515 | 104.1771515 | 104.1771515 | 103.8403975 | 102.1545329 | 100.5041927 | 98.88831933 | 97.30589737 |
| 180205A00018 | 2/5/2018 | 2.66 | 2/3/2023 | 2/5/2018 | 106.90737 | 106.9073726 | 106.9073726 | 106.9073726 | 106.1737854 | 103.468727 | 100.8465947 | 98.30431454 | 95.8389491 |
| 180207A00002 | 2/7/2018 | 3.13 | 2/6/2026 | 2/7/2018 | 116.1668 | 116.1668024 | 116.1668024 | 116.1668024 | 112.4959391 | 106.7695815 | 101.3751518 | 96.29159712 | 91.49931329 |
| 180214A00003 | 2/14/2018 | 2.45 | 2/16/2021 | 2/14/2018 | 101.70288 | 101.7028832 | 101.7028832 | 101.7028832 | 101.5447242 | 100.8159704 | 100.0976652 | 99.38958499 | 98.69151227 |
| 180216A00001 | 2/16/2018 | 2.5 | 2/16/2021 | 2/16/2018 | 101.73939 | 101.7393933 | 101.7393933 | 101.7393933 | 101.5812056 | 100.8523038 | 100.133852 | 99.42562666 | 98.72741029 |
| 180220A00035 | 2/20/2018 | 2.69 | 2/19/2021 | 2/20/2018 | 101.79714 | 101.7971399 | 101.7971399 | 101.7971399 | 101.6369508 | 100.9009477 | 100.1755926 | 99.46065534 | 98.75591266 |
| 180222A00014 | 2/22/2018 | 2.68 | 2/19/2021 | 2/22/2018 | 101.78976 | 101.7897588 | 101.7897588 | 101.7897588 | 101.6295756 | 100.8936027 | 100.1682774 | 99.45336973 | 98.74865632 |
| 180222A00026 | 2/22/2018 | 2.98 | 2/21/2025 | 2/22/2018 | 113.70387 | 113.7038713 | 113.7038713 | 113.7038713 | 111.2763757 | 106.4658464 | 101.8936222 | 97.5465743 | 93.41237316 |
| 180306A00038 | 3/6/2018 | 2.7 | 3/5/2021 | 3/6/2018 | 101.89909 | 101.8990904 | 101.8990904 | 101.8990904 | 101.7285132 | 100.9538804 | 100.1910263 | 99.43968371 | 98.6995935 |
| 180308A00010 | 3/8/2018 | 2.72 | 4/8/2021 | 3/8/2018 | 102.13739 | 102.1373874 | 102.1373874 | 102.1373874 | 101.9430009 | 101.0747124 | 100.2211979 | 99.3820823 | 98.55700338 |
| 180308A00014 | 3/8/2018 | 2.79 | 9/15/2021 | 3/8/2018 | 103.29106 | 103.2910627 | 103.2910627 | 103.2910627 | 103.0421867 | 101.7398066 | 100.4643099 | 99.2148704 | 97.99069564 |
| 180328A00010 | 3/28/2018 | 3.1 | 3/28/2025 | 3/28/2018 | 113.63984 | 113.6398423 | 113.6398423 | 113.6398423 | 111.1279387 | 106.2523971 | 101.6221388 | 97.22356412 | 93.043895 |
| 180328A00019 | 3/28/2018 | 2.55 | 3/29/2021 | 3/28/2018 | 102.05203 | 102.0520265 | 102.0520265 | 102.0520265 | 101.8639505 | 101.0216076 | 100.193162 | 99.378272 | 98.57660702 |
| 180328A00035 | 3/28/2018 | 2.73 | 3/29/2021 | 3/28/2018 | 102.0777 | 102.0776961 | 102.0776961 | 102.0776961 | 101.8899949 | 101.0492455 | 100.2223411 | 99.40894211 | 98.60871968 |
| 180402A00041 | 4/2/2018 | 2.77 | 4/6/2021 | 4/2/2018 | 102.16704 | 102.1670409 | 102.1670409 | 102.1670409 | 101.9739518 | 101.1109737 | 100.2625851 | 99.42841787 | 98.60811663 |
| 180410A00017 | 4/10/2018 | 3.02 | 10/10/2023 | 4/10/2018 | 109.25264 | 109.2526447 | 109.2526447 | 109.2526447 | 108.0703131 | 104.6780273 | 101.4111052 | 98.26426504 | 95.23247528 |
| 180411A00014 | 4/11/2018 | 2.88 | 6/27/2022 | 4/11/2018 | 105.43088 | 105.4308792 | 105.4308792 | 105.4308792 | 104.9843707 | 102.8978612 | 100.8634547 | 98.87950052 | 96.94441304 |
| 180430A00016 | 4/30/2018 | 3.07 | 12/15/2022 | 4/30/2018 | 107.13916 | 107.1391636 | 107.1391636 | 107.1391636 | 106.4817792 | 103.9176076 | 101.4288548 | 99.01285205 | 96.6670425 |
| 180430A00066 | 4/30/2018 | 2.84 | 3/30/2022 | 4/30/2018 | 105.05901 | 105.0590065 | 105.0590065 | 105.0590065 | 104.6865959 | 102.8358417 | 101.0268917 | 99.25856017 | 97.52970257 |
| 180514A00032 | 5/14/2018 | 3.27 | 5/14/2026 | 5/14/2018 | 118.98005 | 118.9800477 | 118.9800477 | 118.9800477 | 114.8058513 | 108.7170541 | 102.9964277 | 97.61973337 | 92.5644503 |
| 180515A00018 | 5/15/2018 | 2.98 | 5/14/2021 | 5/15/2018 | 102.62498 | 102.6249841 | 102.6249841 | 102.6249841 | 102.4094351 | 101.4407612 | 100.4904022 | 99.55784179 | 98.64258308 |
| 180518A00020 | 5/21/2018 | 3.08 | 3/15/2022 | 5/21/2018 | 105.05163 | 105.0516329 | 105.0516329 | 105.0516329 | 104.6899503 | 102.8876856 | 101.125258 | 99.40149534 | 97.71527027 |
| 180524A00020 | 5/24/2018 | 2.74 | 5/24/2021 | 5/24/2018 | 102.61977 | 102.6197709 | 102.6197709 | 102.6197709 | 102.3991893 | 101.4010256 | 100.4222906 | 99.46242102 | 98.5208751 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180529A00037 | 5/29/2018 | 2.83 | 5/28/2021 | 5/29/2018 | 102.57825 | 102.5782494 | 102.5782494 | 102.5782494 | 102.3564286 | 101.3498822 | 100.3630988 | 99.3955006 | 98.44653224 |
| 180626A00033 | 6/26/2018 | 2.79 | 6/26/2020 | 6/26/2018 | 100.18985 | 100.1898474 | 100.1898474 | 100.1898474 | 100.1788788 | 100.1012947 | 100.0238345 | 99.94649787 | 99.86928457 |
| 180627A00014 | 6/27/2018 | 2.8 | 6/26/2020 | 6/27/2018 | 100.19062 | 100.190625 | 100.190625 | 100.190625 | 100.1796563 | 100.1020715 | 100.0246106 | 99.94727332 | 99.87005936 |
| 180628A00027 | 6/28/2018 | 2.72 | 6/28/2021 | 6/28/2018 | 102.85254 | 102.8525376 | 102.8525376 | 102.8525376 | 102.6229048 | 101.5277435 | 100.4559085 | 99.40666054 | 98.37929132 |
| 180629A00004 | 6/29/2018 | 2.65 | 6/29/2020 | 6/29/2018 | 100.21815 | 100.2181543 | 100.2181543 | 100.2181543 | 100.2059808 | 100.1198797 | 100.0339254 | 99.94811769 | 99.86245609 |
| 180629A00071 | 6/29/2018 | 3.02 | 6/29/2023 | 6/29/2018 | 108.48038 | 108.480385 | 108.480385 | 108.480385 | 107.4975736 | 104.3893716 | 101.3880751 | 98.48939205 | 95.68922979 |
| 180705A00061 | 7/5/2018 | 3 | 7/6/2022 | 7/5/2018 | 105.75018 | 105.7501794 | 105.7501794 | 105.7501794 | 105.2937877 | 103.1793935 | 101.1182137 | 99.10854531 | 97.14875312 |
| 180719A00011 | 7/19/2018 | 3 | 11/12/2021 | 7/19/2018 | 104.01735 | 104.0173456 | 104.0173456 | 104.0173456 | 103.7314112 | 102.2725955 | 100.8416451 | 99.43783056 | 98.06044752 |
| 180720A00029 | 7/20/2018 | 2.71 | 7/20/2020 | 7/20/2018 | 100.37436 | 100.3743606 | 100.3743606 | 100.3743606 | 100.3518841 | 100.2074512 | 100.0634464 | 99.91986795 | 99.77671378 |
| 180720A00049 | 7/20/2018 | 2.93 | 7/20/2021 | 7/20/2018 | 103.06889 | 103.0688936 | 103.0688936 | 103.0688936 | 102.8361433 | 101.6823044 | 100.5543349 | 99.45137157 | 98.37258931 |
| 180720A00068 | 7/20/2018 | 2.89 | 7/20/2023 | 7/20/2018 | 108.81309 | 108.8130921 | 108.8130921 | 108.8130921 | 107.7847548 | 104.6008009 | 101.5282284 | 98.56248419 | 95.69923107 |
| 180723A00030 | 6/21/2019 | 3.24 | 6/21/2024 | 6/21/2019 | 112.06205 | 112.0620464 | 112.0620464 | 112.0620464 | 110.309114 | 106.1948121 | 102.2589731 | 98.49288622 | 94.88831459 |
| 180731A00002 | 7/31/2018 | 2.83 | 2/16/2021 | 7/31/2018 | 101.98036 | 101.9803606 | 101.9803606 | 101.9803606 | 101.8219834 | 101.0921041 | 100.3726848 | 99.66350172 | 98.96433722 |
| 180731A00004 | 7/31/2018 | 2.97 | 7/31/2023 | 7/31/2018 | 109.15425 | 109.1542536 | 109.1542536 | 109.1542536 | 108.1039526 | 104.8848816 | 101.7792333 | 98.78233422 | 95.88973486 |
| 180731A00046 | 7/31/2018 | 2.84 | 3/26/2021 | 7/31/2018 | 102.27417 | 102.2741736 | 102.2741736 | 102.2741736 | 102.0880227 | 101.2528585 | 100.4313401 | 99.62313528 | 98.82792215 |
| 180802A00006 | 8/2/2018 | 2.99 | 8/2/2023 | 8/2/2018 | 109.23436 | 109.2343639 | 109.2343639 | 109.2343639 | 108.1799212 | 104.9543054 | 101.8424914 | 98.83978306 | 95.94170985 |
| 180809A00016 | 8/9/2018 | 3.1 | 8/9/2023 | 8/9/2018 | 109.04556 | 109.0455604 | 109.0455604 | 109.0455604 | 107.9840539 | 104.7573396 | 101.6447351 | 98.64151783 | 95.74319273 |
| 180814A00032 | 8/14/2018 | 3.1 | 8/14/2025 | 8/14/2018 | 115.71062 | 115.710616 | 115.710616 | 115.710616 | 112.7121678 | 107.4015324 | 102.3766916 | 97.62069331 | 93.11768511 |
| 180820A00002 | 8/20/2018 | 2.91 | 8/20/2021 | 8/20/2018 | 103.27201 | 103.2720055 | 103.2720055 | 103.2720055 | 103.032873 | 101.7933584 | 100.5836384 | 99.40264773 | 98.24937151 |
| 180821A00014 | 8/21/2018 | 2.68 | 8/21/2020 | 8/21/2018 | 100.59775 | 100.5977496 | 100.5977496 | 100.5977496 | 100.558472 | 100.3252034 | 100.0930274 | 99.86193627 | 99.63192238 |
| 180823A00033 | 8/23/2018 | 2.85 | 8/23/2023 | 8/23/2018 | 108.94298 | 108.9429765 | 108.9429765 | 108.9429765 | 107.8495333 | 104.5734554 | 101.4147097 | 98.36837698 | 95.4297785 |
| 180823A00035 | 8/23/2018 | 3.05 | 8/22/2025 | 8/23/2018 | 115.51193 | 115.5119316 | 115.5119316 | 115.5119316 | 112.486867 | 107.1612272 | 102.1233037 | 97.35596612 | 92.84319983 |
| 180827A00034 | 8/27/2018 | 2.99 | 8/28/2023 | 8/27/2018 | 108.83182 | 108.8318223 | 108.8318223 | 108.8318223 | 107.7351356 | 104.4624071 | 101.3069858 | 98.26394738 | 95.32860842 |
| 180831A00019 | 8/31/2018 | 3.21 | 9/2/2025 | 8/31/2018 | 115.37901 | 115.3790082 | 115.3790082 | 115.3790082 | 112.3404867 | 107.0244589 | 101.996099 | 97.23825887 | 92.7349076 |
| 180905A00024 | 9/5/2018 | 2.9 | 9/5/2023 | 9/5/2018 | 109.2068 | 109.2068015 | 109.2068015 | 109.2068015 | 108.0871237 | 104.772639 | 101.5779153 | 98.497917 | 95.5278539 |
| 180620A00026 | 6/20/2018 | 2.91 | 6/18/2021 | 6/20/2018 | 102.81246 | 102.812465 | 102.812465 | 102.812465 | 102.5855912 | 101.5204814 | 100.4774707 | 99.45587607 | 98.45504257 |
| 180622A00004 | 6/22/2018 | 3.47 | 12/22/2028 | 6/22/2018 | 127.13941 | 127.1394091 | 127.1394091 | 127.1098602 | 118.2290663 | 109.6705183 | 101.8182964 | 94.60993146 | 87.98879696 |
| 180627A00057 | 6/27/2018 | 2.98 | 6/27/2022 | 6/27/2018 | 105.64103 | 105.6410313 | 105.6410313 | 105.6410313 | 105.1940683 | 103.1053174 | 101.0687143 | 99.08260707 | 97.14540882 |
| 180705A00057 | 7/5/2018 | 2.81 | 7/6/2020 | 7/5/2018 | 100.26158 | 100.2615773 | 100.2615773 | 100.2615773 | 100.246005 | 100.1406941 | 100.0356133 | 99.93076172 | 99.82613869 |
| 180705A00060 | 7/5/2018 | 3 | 7/6/2022 | 7/5/2018 | 105.75018 | 105.7501794 | 105.7501794 | 105.7501794 | 105.2937877 | 103.1793935 | 101.1182137 | 99.10854531 | 97.14875312 |
| 180716A00034 | 7/16/2018 | 2.89 | 7/14/2023 | 7/16/2018 | 108.7671 | 108.7671044 | 108.7671044 | 108.7671044 | 107.7501538 | 104.5832191 | 101.5266171 | 98.57585755 | 95.726662 |
| 180717A00076 | 7/17/2018 | 3.03 | 7/17/2023 | 7/17/2018 | 108.64672 | 108.6467199 | 108.6467199 | 108.6467199 | 107.629892 | 104.4705418 | 101.4212013 | 98.47739415 | 95.63485517 |
| 180719A00058 | 7/19/2018 | 2.9 | 7/20/2020 | 7/19/2018 | 100.37483 | 100.3748287 | 100.3748287 | 100.3748287 | 100.3523959 | 100.2082408 | 100.0645099 | 99.92120135 | 99.77831329 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180720A00006 | 7/20/2018 | 3.03 | 7/17/2023 | 7/20/2018 | 108.64672 | 108.6467199 | 108.6467199 | 108.6467199 | 107.629892 | 104.4705418 | 101.4212013 | 98.47739415 | 95.63485517 |
| 180720A00010 | 7/20/2018 | 2.86 | 7/20/2020 | 7/20/2018 | 100.36905 | 100.369053 | 100.369053 | 100.369053 | 100.3466212 | 100.202473 | 100.058749 | 99.91544731 | 99.77256608 |
| 180720A00050 | 7/20/2018 | 2.86 | 7/20/2020 | 7/20/2018 | 100.36905 | 100.369053 | 100.369053 | 100.369053 | 100.3466212 | 100.202473 | 100.058749 | 99.91544731 | 99.77256608 |
| 180730A00036 | 7/30/2018 | 3.14 | 7/31/2023 | 7/30/2018 | 109.10404 | 109.104043 | 109.104043 | 109.104043 | 108.0594029 | 104.8552554 | 101.7636989 | 98.7801057 | 95.90006886 |
| 180730A00078 | 7/30/2018 | 3.14 | 7/28/2023 | 7/30/2018 | 109.08055 | 109.0805516 | 109.0805516 | 109.0805516 | 108.0416584 | 104.8458076 | 101.7620244 | 98.78571297 | 95.91249607 |
| 180801A00013 | 8/1/2018 | 3.04 | 10/15/2021 | 8/1/2018 | 103.86219 | 103.8621947 | 103.8621947 | 103.8621947 | 103.5953844 | 102.2132219 | 100.856187 | 99.52365288 | 98.21501331 |
| 180801A00014 | 8/1/2018 | 3.03 | 8/2/2021 | 8/1/2018 | 103.2836 | 103.2836004 | 103.2836004 | 103.2836004 | 103.0483461 | 101.85776 | 100.6946642 | 99.55811408 | 98.44720829 |
| 180806A00008 | 8/6/2018 | 2.95 | 8/7/2023 | 8/6/2018 | 109.14493 | 109.1449299 | 109.1449299 | 109.1449299 | 108.0812684 | 104.8439292 | 101.7212194 | 98.70839087 | 95.80092404 |
| 180810A00028 | 8/10/2018 | 2.91 | 8/10/2023 | 8/10/2018 | 109.03893 | 109.0389294 | 109.0389294 | 109.0389294 | 107.9699478 | 104.7264272 | 101.5980117 | 98.57992221 | 95.66761064 |
| 180813A00059 | 8/13/2018 | 3.01 | 8/11/2023 | 8/13/2018 | 108.7702 | 108.7702023 | 108.7702023 | 108.7702023 | 107.7059866 | 104.4784776 | 101.3653059 | 98.3617317 | 95.46324373 |
| 180815A00011 | 8/15/2018 | 2.97 | 8/15/2022 | 8/15/2018 | 105.98155 | 105.9815487 | 105.9815487 | 105.9815487 | 105.4818089 | 103.2569971 | 101.0903066 | 98.97979296 | 96.92359366 |
| 180816A00043 | 8/16/2018 | 2.83 | 8/16/2022 | 8/16/2018 | 106.08494 | 106.0849427 | 106.0849427 | 106.0849427 | 105.5819225 | 103.3452276 | 101.1671625 | 99.04575918 | 96.97913311 |
| 180817A00026 | 8/17/2018 | 2.83 | 8/17/2020 | 8/17/2018 | 100.56766 | 100.5676566 | 100.5676566 | 100.5676566 | 100.5305969 | 100.3088067 | 100.0880062 | 99.86818888 | 99.64934808 |
| 180821A00002 | 8/22/2018 | 2.89 | 8/23/2021 | 8/22/2018 | 103.26891 | 103.2689106 | 103.2689106 | 103.2689106 | 103.0291347 | 101.7814838 | 100.5640157 | 99.3756444 | 98.21533574 |
| 180821A00011 | 8/21/2018 | 2.98 | 8/21/2023 | 8/21/2018 | 108.74725 | 108.7472506 | 108.7472506 | 108.7472506 | 107.6641677 | 104.4110062 | 101.2738993 | 98.24799972 | 95.32869633 |
| 180823A00001 | 8/23/2018 | 2.88 | 8/23/2021 | 8/23/2018 | 103.25641 | 103.2564058 | 103.2564058 | 103.2564058 | 103.0166468 | 101.7690784 | 100.5516912 | 99.36339963 | 98.20316932 |
| 171115A00028 | 11/15/2017 | 2.25 | 8/18/2021 | 11/15/2017 | 102.44122 | 102.4412189 | 102.4412189 | 102.4412189 | 102.2036294 | 100.9749743 | 99.77576526 | 98.60495318 | 97.46153836 |
| 171120A00017 | 11/20/2017 | 2.41 | 11/21/2022 | 11/20/2017 | 105.30107 | 105.3010655 | 105.3010655 | 105.3010655 | 104.681958 | 102.2056178 | 99.8008087 | 97.46505462 | 95.19598079 |
| 171122A00012 | 11/22/2017 | 2.22 | 11/23/2020 | 11/22/2017 | 100.97109 | 100.9710882 | 100.9710882 | 100.9710882 | 100.8781935 | 100.3858098 | 99.8982269 | 99.41537471 | 98.93718462 |
| 171130A00003 | 11/30/2017 | 2.22 | 11/30/2020 | 11/30/2017 | 101.00929 | 101.0092864 | 101.0092864 | 101.0092864 | 100.911928 | 100.4002436 | 99.89373247 | 99.39231648 | 98.89591912 |
| 171206A00010 | 12/6/2017 | 2.45 | 12/6/2022 | 12/6/2017 | 105.49046 | 105.4904607 | 105.4904607 | 105.4904607 | 104.8503176 | 102.3318022 | 99.88700868 | 97.51334708 | 95.20833532 |
| 171208A00007 | 12/8/2017 | 2.47 | 12/9/2024 | 12/8/2017 | 110.78089 | 110.7808921 | 110.7808921 | 110.7808921 | 108.5852093 | 104.0333628 | 99.69976057 | 95.57278926 | 91.64151512 |
| 171214A00005 | 12/14/2017 | 2.29 | 12/14/2022 | 12/14/2017 | 105.59508 | 105.5950814 | 105.5950814 | 105.5950814 | 104.9405639 | 102.3891403 | 99.91303851 | 97.50958711 | 95.17622698 |
| 171228A00089 | 12/28/2017 | 2.13 | 12/28/2020 | 12/28/2017 | 101.18998 | 101.1899817 | 101.1899817 | 101.1899817 | 101.0716917 | 100.4817582 | 99.89869299 | 99.32237662 | 98.7526925 |
| 180102A00004 | 1/2/2018 | 2.28 | 1/8/2021 | 1/2/2018 | 101.25881 | 101.2588062 | 101.2588062 | 101.2588062 | 101.1318313 | 100.5126018 | 99.9009463 | 99.2967262 | 98.69980644 |
| 180104A00018 | 1/4/2018 | 2.97 | 1/4/2027 | 1/4/2018 | 117.66102 | 117.6610249 | 117.6610249 | 117.6610249 | 112.4226356 | 105.8522054 | 99.71612909 | 93.98333973 | 88.62515036 |
| 180125A00022 | 1/25/2018 | 2.69 | 1/25/2023 | 1/25/2018 | 106.43212 | 106.4321185 | 106.4321185 | 106.4321185 | 105.7169509 | 103.053127 | 100.4702062 | 97.96521983 | 95.53532979 |
| 180205A00019 | 2/5/2018 | 2.88 | 2/5/2025 | 2/5/2018 | 113.10302 | 113.1030227 | 113.1030227 | 113.1030227 | 110.7267289 | 105.9722375 | 101.4515418 | 97.15186291 | 93.0611929 |
| 180215A00044 | 2/15/2018 | 2.64 | 2/1/2021 | 2/15/2018 | 101.64147 | 101.6414729 | 101.6414729 | 101.6414729 | 101.4949376 | 100.8087249 | 100.1317738 | 99.46389762 | 98.80491489 |
| 180220A00027 | 2/20/2018 | 2.69 | 2/19/2021 | 2/20/2018 | 101.79714 | 101.7971399 | 101.7971399 | 101.7971399 | 101.6369508 | 100.9009477 | 100.1755926 | 99.46065534 | 98.75591266 |
| 180226A00043 | 2/26/2018 | 2.73 | 9/27/2021 | 2/26/2018 | 103.29355 | 103.2935488 | 103.2935488 | 103.2935488 | 103.039162 | 101.7096576 | 100.4041846 | 99.12213538 | 97.86292274 |
| 180307A00010 | 3/7/2018 | 2.68 | 2/16/2021 | 3/7/2018 | 101.76963 | 101.7696324 | 101.7696324 | 101.7696324 | 101.6117201 | 100.8840195 | 100.1667323 | 99.45963621 | 98.76251487 |
| 180308A00016 | 3/8/2018 | 2.88 | 6/1/2022 | 3/8/2018 | 105.24502 | 105.2450165 | 105.2450165 | 105.2450165 | 104.8238661 | 102.8082485 | 100.8419048 | 98.92331861 | 97.05103107 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180313A00022 | 3/13/2018 | 2.54 | 3/12/2021 | 3/13/2018 | 101.92963 | 101.9296291 | 101.9296291 | 101.9296291 | 101.7537262 | 100.958381 | 100.1754536 | 99.40465441 | 98.64570317 |
| 180328A00006 | 3/28/2018 | 2.73 | 3/26/2021 | 3/28/2018 | 102.05732 | 102.0573201 | 102.0573201 | 102.0573201 | 101.8717601 | 101.0392743 | 100.2203706 | 99.41471861 | 98.62199852 |
| 180328A00008 | 3/28/2018 | 2.85 | 3/25/2022 | 3/28/2018 | 104.70449 | 104.7044927 | 104.7044927 | 104.7044927 | 104.3372077 | 102.509864 | 100.7234444 | 98.97677925 | 97.26874063 |
| 180329A00003 | 3/29/2018 | 3.08 | 3/29/2028 | 3/29/2018 | 123.42412 | 123.4241165 | 123.4241165 | 123.4241165 | 115.8347089 | 107.9572725 | 100.6851937 | 93.96861207 | 87.76201646 |
| 180329A00010 | 3/29/2018 | 2.76 | 3/29/2021 | 3/29/2018 | 102.103 | 102.1029983 | 102.1029983 | 102.1029983 | 101.9152738 | 101.0744082 | 100.247389 | 99.4338764 | 98.63354173 |
| 180403A00005 | 4/3/2018 | 2.72 | 4/3/2023 | 4/3/2018 | 107.4948 | 107.4947965 | 107.4947965 | 107.4947965 | 106.6644107 | 103.7884587 | 101.0051846 | 98.31111598 | 95.70292942 |
| 180418A00021 | 4/18/2018 | 2.85 | 4/19/2021 | 4/18/2018 | 102.32953 | 102.3295334 | 102.3295334 | 102.3295334 | 102.1276696 | 101.2284908 | 100.3451314 | 99.47717642 | 98.6242253 |
| 180524A00029 | 5/24/2018 | 2.74 | 5/24/2021 | 5/24/2018 | 102.61977 | 102.6197709 | 102.6197709 | 102.6197709 | 102.3991893 | 101.4010256 | 100.4222906 | 99.46242102 | 98.5208751 |
| 180525A00005 | 5/25/2018 | 3.32 | 5/25/2028 | 5/25/2018 | 125.82455 | 125.8245459 | 125.8245459 | 125.8245459 | 117.900467 | 109.801714 | 102.3348541 | 95.44697037 | 89.08984274 |
| 180529A00007 | 5/29/2018 | 2.83 | 6/1/2021 | 5/29/2018 | 102.60657 | 102.6065725 | 102.6065725 | 102.6065725 | 102.3836186 | 101.3660127 | 100.3686051 | 99.39079871 | 98.43201987 |
| 180529A00066 | 5/29/2018 | 2.99 | 5/26/2023 | 5/29/2018 | 108.13445 | 108.1344533 | 108.1344533 | 108.1344533 | 107.21439 | 104.200637 | 101.2882705 | 98.47331867 | 95.75198862 |
| 180530A00118 | 5/30/2018 | 2.9 | 11/30/2022 | 5/30/2018 | 106.59423 | 106.5942298 | 106.5942298 | 106.5942298 | 105.9595373 | 103.4432228 | 101.0001385 | 98.62772734 | 96.32353784 |
| 180604A00027 | 6/4/2018 | 2.87 | 6/4/2021 | 6/4/2018 | 102.66899 | 102.6689913 | 102.6689913 | 102.6689913 | 102.4453164 | 101.419184 | 100.4135842 | 99.4279052 | 98.46155903 |
| 180604A00044 | 6/4/2018 | 2.74 | 6/4/2020 | 6/4/2018 | 100.03969 | 100.0396865 | 100.0396865 | 100.0396865 | 100.0373358 | 100.020703 | 100.0040867 | 99.98748671 | 99.97090314 |
| 180605A00010 | 6/5/2018 | 2.87 | 6/5/2023 | 6/5/2018 | 108.4068 | 108.4068007 | 108.4068007 | 108.4068007 | 107.4630721 | 104.4057576 | 101.4522833 | 98.5985399 | 95.84060563 |
| 180615A00066 | 6/15/2018 | 3 | 6/14/2024 | 6/15/2018 | 111.79302 | 111.7930152 | 111.7930152 | 111.7930152 | 110.047399 | 105.9357049 | 102.0023123 | 98.23852657 | 94.63612486 |
| 180618A00024 | 6/18/2018 | 2.91 | 4/13/2021 | 6/18/2018 | 102.33959 | 102.3395946 | 102.3395946 | 102.3395946 | 102.1416982 | 101.2588184 | 100.3911923 | 99.53842671 | 98.70014193 |
| 180621A00051 | 6/25/2018 | 3.63 | 6/23/2023 | 6/25/2018 | 110.32415 | 110.3241532 | 110.3241532 | 110.3241532 | 109.3454367 | 106.2244871 | 103.2102234 | 100.2983846 | 97.48490673 |
| 180622A00018 | 6/22/2018 | 2.92 | 6/22/2023 | 6/22/2018 | 108.69148 | 108.6914767 | 108.6914767 | 108.6914767 | 107.7156424 | 104.6091207 | 101.6092329 | 98.7117086 | 95.91247525 |
| 180705A00003 | 7/5/2018 | 3.04 | 7/5/2023 | 7/5/2018 | 108.58788 | 108.5878774 | 108.5878774 | 108.5878774 | 107.5935304 | 104.4674608 | 101.4493472 | 98.53483579 | 95.71977625 |
| 180705A00059 | 7/5/2018 | 2.93 | 7/6/2021 | 7/5/2018 | 102.96618 | 102.9661776 | 102.9661776 | 102.9661776 | 102.7356765 | 101.6206124 | 100.5297303 | 99.46224949 | 98.4174225 |
| 180705A00062 | 7/5/2018 | 3.04 | 7/6/2023 | 7/5/2018 | 108.59542 | 108.5954164 | 108.5954164 | 108.5954164 | 107.5991855 | 104.4702998 | 101.4495415 | 98.53254675 | 95.71515555 |
| 180719A00061 | 7/19/2018 | 3.07 | 7/19/2023 | 7/19/2018 | 108.78846 | 108.7884632 | 108.7884632 | 108.7884632 | 107.7673858 | 104.6004137 | 101.5438497 | 98.59319493 | 95.74416307 |
| 180723A00028 | 1/23/2019 | 3.22 | 1/23/2024 | 1/23/2019 | 110.77602 | 110.7760241 | 110.7760241 | 110.7760241 | 109.3703404 | 105.6750614 | 102.1259667 | 98.71644241 | 95.44021434 |
| 180724A00025 | 7/24/2018 | 2.93 | 7/25/2022 | 7/24/2018 | 106.13791 | 106.1379136 | 106.1379136 | 106.1379136 | 105.6591394 | 103.480763 | 101.3583007 | 99.28992086 | 97.27386698 |
| 180730A00002 | 7/30/2018 | 3.03 | 7/30/2021 | 7/30/2018 | 103.26069 | 103.2606899 | 103.2606899 | 103.2606899 | 103.0261155 | 101.8438518 | 100.6886957 | 99.55972266 | 98.45604982 |
| 180730A00004 | 7/30/2018 | 3.14 | 7/28/2023 | 7/30/2018 | 109.08055 | 109.0805516 | 109.0805516 | 109.0805516 | 108.0416584 | 104.8458076 | 101.7620244 | 98.78571297 | 95.91249607 |
| 180801A00010 | 8/1/2018 | 2.99 | 4/15/2021 | 8/1/2018 | 102.42551 | 102.4255137 | 102.4255137 | 102.4255137 | 102.2262068 | 101.3374609 | 100.464162 | 99.60590952 | 98.76231682 |
| 180801A00015 | 8/1/2018 | 3.16 | 8/1/2023 | 8/1/2018 | 109.17596 | 109.1759572 | 109.1759572 | 109.1759572 | 108.129137 | 104.9212307 | 101.8261165 | 98.83915506 | 95.9559286 |
| 180808A00009 | 8/8/2018 | 3.12 | 8/7/2023 | 8/8/2018 | 109.09451 | 109.0945085 | 109.0945085 | 109.0945085 | 108.0366073 | 104.8143282 | 101.7058357 | 98.70642788 | 95.81162892 |
| 180809A00030 | 8/9/2018 | 2.94 | 2/9/2021 | 8/9/2018 | 101.90737 | 101.907372 | 101.907372 | 101.907372 | 101.7546185 | 101.0454949 | 100.3462509 | 99.65668089 | 98.97658497 |
| 180416A00016 | 4/16/2018 | 2.85 | 4/17/2023 | 4/16/2018 | 107.97527 | 107.9752687 | 107.9752687 | 107.9752687 | 107.1194516 | 104.199766 | 101.3752514 | 98.6422991 | 95.99745754 |
| 180425A00020 | 4/25/2018 | 3.11 | 10/25/2022 | 4/25/2018 | 106.84619 | 106.8461872 | 106.8461872 | 106.8461872 | 106.2588454 | 103.834308 | 101.4777247 | 99.18681235 | 96.95937841 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180430A00012 | 4/30/2018 | 2.95 | 7/15/2021 | 4/30/2018 | 103.05506 | 103.0550593 | 103.0550593 | 103.0550593 | 102.8230836 | 101.6829514 | 100.5680849 | 99.47765069 | 98.41085158 |
| 180430A00069 | 4/30/2018 | 2.75 | 3/30/2021 | 4/30/2018 | 102.22813 | 102.2281306 | 102.2281306 | 102.2281306 | 102.0392267 | 101.1933375 | 100.3614473 | 99.54321077 | 98.73829384 |
| 180514A00034 | 5/14/2018 | 3.07 | 5/14/2024 | 5/14/2018 | 111.82655 | 111.8265498 | 111.8265498 | 111.8265498 | 110.1545013 | 106.1238008 | 102.2647057 | 98.56900258 | 95.02891508 |
| 180516A00019 | 5/16/2018 | 3.19 | 5/16/2023 | 5/16/2018 | 108.65878 | 108.6587763 | 108.6587763 | 108.6587763 | 107.7544799 | 104.7597495 | 101.8648069 | 99.06577951 | 96.35896748 |
| 180522A00004 | 5/22/2018 | 2.98 | 5/21/2021 | 5/22/2018 | 102.67734 | 102.6773357 | 102.6773357 | 102.6773357 | 102.4585658 | 101.4705426 | 100.5015606 | 99.55107279 | 98.61855324 |
| 180522A00019 | 5/22/2018 | 3.16 | 5/22/2023 | 5/22/2018 | 108.61626 | 108.6162589 | 108.6162589 | 108.6162589 | 107.7015397 | 104.6912933 | 101.7818955 | 98.96941085 | 96.2500805 |
| 180522A00035 | 5/22/2018 | 2.83 | 5/21/2021 | 5/22/2018 | 102.68716 | 102.6871588 | 102.6871588 | 102.6871588 | 102.4678621 | 101.4775328 | 100.506324 | 99.55368561 | 98.61908856 |
| 180522A00038 | 5/22/2018 | 3.23 | 5/22/2025 | 5/22/2018 | 115.67398 | 115.6739787 | 115.6739787 | 115.6739787 | 112.9575463 | 107.8637263 | 103.0337702 | 98.4526064 | 94.10610231 |
| 180523A00025 | 5/23/2018 | 2.86 | 12/15/2021 | 5/23/2018 | 104.29873 | 104.2987304 | 104.2987304 | 104.2987304 | 103.9902605 | 102.4358907 | 100.9126257 | 99.41960358 | 97.9559943 |
| 180524A00024 | 5/24/2018 | 3 | 3/21/2022 | 5/24/2018 | 104.95107 | 104.9510666 | 104.9510666 | 104.9510666 | 104.5858169 | 102.7674806 | 100.9896509 | 99.25115675 | 97.55087011 |
| 180525A00001 | 5/25/2018 | 3.04 | 5/25/2023 | 5/25/2018 | 108.27788 | 108.2778806 | 108.2778806 | 108.2778806 | 107.3590703 | 104.3458432 | 101.4338767 | 98.61920804 | 95.8980524 |
| 180529A00026 | 5/29/2018 | 2.67 | 6/1/2021 | 5/29/2018 | 102.60644 | 102.6064396 | 102.6064396 | 102.6064396 | 102.3829567 | 101.3630055 | 100.3633361 | 99.38334807 | 98.42246442 |
| 180529A00043 | 5/29/2018 | 2.99 | 5/30/2023 | 5/29/2018 | 108.1641 | 108.164099 | 108.164099 | 108.164099 | 107.2368415 | 104.2119755 | 101.2892022 | 98.46450868 | 95.73406305 |
| 180530A00002 | 5/30/2018 | 2.75 | 11/30/2022 | 5/30/2018 | 106.67831 | 106.678314 | 106.678314 | 106.678314 | 106.0406803 | 103.5135773 | 101.0602031 | 98.67797695 | 96.36442521 |
| 180530A00024 | 5/30/2018 | 3.44 | 5/30/2029 | 5/30/2018 | 128.22808 | 128.2280846 | 128.2280846 | 127.822495 | 118.4534476 | 109.4981571 | 101.3150439 | 93.83288757 | 86.98739707 |
| 180530A00025 | 5/30/2018 | 3.49 | 5/30/2030 | 5/30/2018 | 131.8127 | 131.8127036 | 131.8127036 | 130.2458894 | 119.7572832 | 109.8768924 | 100.9290632 | 92.81989781 | 85.46543392 |
| 180530A00038 | 5/30/2018 | 2.77 | 5/28/2021 | 5/30/2018 | 102.51767 | 102.5176741 | 102.5176741 | 102.5176741 | 102.2959212 | 101.2897023 | 100.303242 | 99.33596252 | 98.38730856 |
| 180530A00041 | 5/30/2018 | 2.64 | 6/1/2020 | 5/30/2018 | 100.01885 | 100.0188488 | 100.0188488 | 100.0188488 | 100.0176738 | 100.009359 | 100.0010518 | 99.99275212 | 99.9844599 |
| 180601A00018 | 6/1/2018 | 2.87 | 6/1/2023 | 6/1/2018 | 108.37632 | 108.3763177 | 108.3763177 | 108.3763177 | 107.4400108 | 104.3937187 | 101.4506296 | 98.60667118 | 95.85795615 |
| 180601A00023 | 6/1/2018 | 3.3 | 6/1/2028 | 6/1/2018 | 125.72449 | 125.7244852 | 125.7244852 | 125.7244852 | 117.7684339 | 109.6572205 | 102.1803363 | 95.28454346 | 88.92133942 |
| 180604A00048 | 6/4/2018 | 3.01 | 6/5/2023 | 6/4/2018 | 108.26962 | 108.2696159 | 108.2696159 | 108.2696159 | 107.3310937 | 104.2889078 | 101.3497837 | 98.50965274 | 95.76463131 |
| 180612A00018 | 6/12/2018 | 2.88 | 6/10/2022 | 6/12/2018 | 105.68446 | 105.6844609 | 105.6844609 | 105.6844609 | 105.2521975 | 103.2010244 | 101.2004718 | 99.24896208 | 97.34497873 |
| 180706A00010 | 7/6/2018 | 2.92 | 7/6/2021 | 7/6/2018 | 102.955 | 102.9550017 | 102.9550017 | 102.9550017 | 102.7245143 | 101.6095167 | 100.5187 | 99.45128356 | 98.40652003 |
| 180712A00002 | 7/12/2018 | 3.06 | 7/12/2023 | 7/12/2018 | 108.70362 | 108.703625 | 108.703625 | 108.703625 | 107.6958545 | 104.5490903 | 101.5115107 | 98.57868955 | 95.74640867 |
| 180713A00027 | 7/13/2018 | 3.23 | 7/13/2028 | 7/13/2018 | 125.51808 | 125.5180778 | 125.5180778 | 125.5180778 | 117.3599669 | 109.1597635 | 101.6089502 | 94.65237472 | 88.23984923 |
| 180713A00035 | 7/13/2018 | 3.02 | 7/13/2022 | 7/13/2018 | 105.84525 | 105.8452514 | 105.8452514 | 105.8452514 | 105.3813812 | 103.2467963 | 101.1662782 | 99.13808286 | 97.1605365 |
| 180719A00004 | 7/19/2018 | 3.07 | 7/19/2023 | 7/19/2018 | 108.78846 | 108.7884632 | 108.7884632 | 108.7884632 | 107.7673858 | 104.6004137 | 101.5438497 | 98.59319493 | 95.74416307 |
| 180719A00065 | 7/19/2018 | 3.36 | 7/20/2026 | 7/19/2018 | 118.84808 | 118.8480751 | 118.8480751 | 118.8480751 | 114.4015085 | 108.1942226 | 102.3709316 | 96.90577069 | 91.77475244 |
| 180727A00002 | 7/27/2018 | 2.93 | 7/28/2020 | 7/27/2018 | 100.44064 | 100.4406354 | 100.4406354 | 100.4406354 | 100.4142799 | 100.247922 | 100.0821129 | 99.91684988 | 99.75213034 |
| 180727A00028 | 7/27/2018 | 3.25 | 7/27/2026 | 7/27/2018 | 119.49857 | 119.4985731 | 119.4985731 | 119.4985731 | 114.9674266 | 108.679836 | 102.7834248 | 97.25170658 | 92.06012776 |
| 180727A00038 | 7/27/2018 | 3.36 | 7/25/2025 | 7/27/2018 | 115.84721 | 115.8472111 | 115.8472111 | 115.8472111 | 112.9418441 | 107.7112093 | 102.7584911 | 98.06740205 | 93.62269807 |
| 180803A00009 | 8/3/2018 | 2.93 | 10/30/2020 | 8/3/2018 | 101.14356 | 101.1435642 | 101.1435642 | 101.1435642 | 101.0654367 | 100.6385075 | 100.2151765 | 99.79539842 | 99.37912872 |
| 180807A00016 | 8/7/2018 | 2.86 | 8/6/2021 | 8/7/2018 | 103.30253 | 103.3025264 | 103.3025264 | 103.3025264 | 103.0658104 | 101.8612684 | 100.6848451 | 99.53556382 | 98.41249307 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180813A00026 | 8/13/2018 | 2.87 | 8/11/2023 | 8/13/2018 | 108.91703 | 108.9170263 | 108.9170263 | 108.9170263 | 107.8466155 | 104.6024311 | 101.4734736 | 98.45495506 | 95.54231882 |
| 180817A00013 | 8/17/2018 | 2.94 | 2/15/2022 | 8/17/2018 | 104.61131 | 104.6113125 | 104.6113125 | 104.6113125 | 104.2672821 | 102.5469375 | 100.8633251 | 99.21533277 | 97.60189377 |
| 180820A00054 | 8/20/2018 | 3 | 8/18/2023 | 8/20/2018 | 108.79007 | 108.7900653 | 108.7900653 | 108.7900653 | 107.7124973 | 104.4664463 | 101.3359489 | 98.31618948 | 95.40258668 |
| 180823A00044 | 8/23/2018 | 2.69 | 8/21/2020 | 8/23/2018 | 100.60008 | 100.6000825 | 100.6000825 | 100.6000825 | 100.5608042 | 100.3275319 | 100.0953521 | 99.86425728 | 99.63423966 |
| 180829A00008 | 8/29/2018 | 3.23 | 8/30/2027 | 8/29/2018 | 122.79487 | 122.7948676 | 122.7948676 | 122.7948676 | 116.2438933 | 108.8867069 | 102.0573032 | 95.71484359 | 89.82186364 |
| 180830A00005 | 8/30/2018 | 2.88 | 8/28/2020 | 8/30/2018 | 100.65843 | 100.6584256 | 100.6584256 | 100.6584256 | 100.6154503 | 100.3631734 | 100.1121571 | 99.86239184 | 99.61386851 |
| 180906A00047 | 9/6/2018 | 2.81 | 9/7/2021 | 9/6/2018 | 103.48136 | 103.4813646 | 103.4813646 | 103.4813646 | 103.2352603 | 101.9462582 | 100.6862068 | 99.45413008 | 98.24909592 |
| 180912A00011 | 9/12/2018 | 3.41 | 9/11/2026 | 9/12/2018 | 119.60543 | 119.6054313 | 119.6054313 | 119.6054313 | 114.8952814 | 108.5382939 | 102.582289 | 96.9997743 | 91.76528506 |
| 180914A00011 | 9/14/2018 | 3.01 | 4/12/2021 | 9/14/2018 | 102.42048 | 102.4204754 | 102.4204754 | 102.4204754 | 102.2231635 | 101.342622 | 100.4772449 | 99.62664256 | 98.79043871 |
| 180917A00054 | 9/17/2018 | 3.17 | 9/15/2023 | 9/17/2018 | 109.56442 | 109.5644203 | 109.5644203 | 109.5644203 | 108.4298095 | 105.0981839 | 101.8874034 | 98.79240971 | 95.80838677 |
| 180918A00037 | 9/18/2018 | 3.06 | 9/17/2021 | 9/18/2018 | 103.66123 | 103.6612334 | 103.6612334 | 103.6612334 | 103.410918 | 102.1014545 | 100.8184414 | 99.56108726 | 98.32863235 |
| 180920A00030 | 9/20/2018 | 3.12 | 9/20/2023 | 9/20/2018 | 110.05965 | 110.0596524 | 110.0596524 | 110.0596524 | 108.9070531 | 105.5390694 | 102.2939503 | 99.16654556 | 96.1519506 |
| 180921A00024 | 9/21/2018 | 2.99 | 9/21/2021 | 9/21/2018 | 103.82575 | 103.8257491 | 103.8257491 | 103.8257491 | 103.572696 | 102.2494804 | 100.9519056 | 99.67924726 | 98.43080877 |
| 180529A00044 | 5/29/2018 | 3.11 | 5/29/2024 | 5/29/2018 | 111.35153 | 111.3515279 | 111.3515279 | 111.3515279 | 109.6576714 | 105.6168664 | 101.7494145 | 98.04695293 | 94.50156761 |
| 180529A00056 | 5/29/2018 | 3 | 5/26/2023 | 5/29/2018 | 108.16465 | 108.1646473 | 108.1646473 | 108.1646473 | 107.2444775 | 104.23027 | 101.3174605 | 98.50207666 | 95.7803253 |
| 180601A00022 | 6/1/2018 | 3.03 | 6/1/2023 | 6/1/2018 | 108.30039 | 108.3003948 | 108.3003948 | 108.3003948 | 107.3690222 | 104.3368522 | 101.4071361 | 98.57584102 | 95.83911677 |
| 180614A00034 | 6/15/2018 | 2.89 | 1/11/2021 | 6/15/2018 | 101.65997 | 101.6599665 | 101.6599665 | 101.6599665 | 101.5302911 | 100.9014354 | 100.2803694 | 99.66694877 | 99.06103273 |
| 180615A00031 | 6/15/2018 | 2.92 | 6/15/2021 | 6/15/2018 | 102.80113 | 102.8011347 | 102.8011347 | 102.8011347 | 102.5749238 | 101.5180556 | 100.4829501 | 99.46893961 | 98.47538375 |
| 180618A00026 | 6/18/2018 | 3.05 | 4/13/2023 | 6/18/2018 | 107.98964 | 107.9896384 | 107.9896384 | 107.9896384 | 107.1446553 | 104.2473469 | 101.4439018 | 98.73078193 | 96.10460226 |
| 180620A00038 | 6/20/2018 | 3.4 | 6/20/2028 | 6/20/2018 | 124.98901 | 124.9890123 | 124.9890123 | 124.9890123 | 117.0498126 | 108.9901131 | 101.5619699 | 94.71224972 | 88.39255813 |
| 180702A00034 | 7/2/2018 | 2.86 | 7/3/2023 | 7/2/2018 | 108.58881 | 108.5888067 | 108.5888067 | 108.5888067 | 107.5930879 | 104.4588389 | 101.4329758 | 98.51112343 | 95.68911093 |
| 180712A00033 | 7/12/2018 | 2.86 | 7/13/2020 | 7/12/2018 | 100.31705 | 100.3170487 | 100.3170487 | 100.3170487 | 100.2980477 | 100.1733223 | 100.0489201 | 99.92483992 | 99.80108047 |
| 180716A00016 | 7/16/2018 | 3.03 | 7/14/2023 | 7/16/2018 | 108.62419 | 108.6241854 | 108.6241854 | 108.6241854 | 107.6130062 | 104.4620949 | 101.4206748 | 98.48430062 | 95.64873599 |
| 180716A00056 | 7/16/2018 | 3.1 | 7/16/2025 | 7/16/2018 | 115.47191 | 115.4719063 | 115.4719063 | 115.4719063 | 112.5772121 | 107.3467802 | 102.3942246 | 97.7032754 | 93.25870332 |
| 180718A00026 | 7/18/2018 | 3.03 | 7/18/2023 | 7/18/2018 | 108.65423 | 108.6542314 | 108.6542314 | 108.6542314 | 107.6355207 | 104.473358 | 101.4213781 | 98.47509432 | 95.63023179 |
| 180719A00063 | 7/19/2018 | 3.21 | 7/19/2024 | 7/19/2018 | 112.16289 | 112.1628906 | 112.1628906 | 112.1628906 | 110.3414346 | 106.1513796 | 102.145832 | 98.31564646 | 94.65218396 |
| 180723A00026 | 10/23/2018 | 3.2 | 10/23/2023 | 10/23/2018 | 109.96763 | 109.9676306 | 109.9676306 | 109.9676306 | 108.7563701 | 105.3172151 | 102.0062928 | 98.81814919 | 95.74759154 |
| 180731A00022 | 7/31/2018 | 3.47 | 7/31/2028 | 7/31/2018 | 125.90549 | 125.9054927 | 125.9054927 | 125.9054927 | 117.7443872 | 109.5558418 | 102.0159963 | 95.06966919 | 88.66665722 |
| 180816A00044 | 8/16/2018 | 2.83 | 8/17/2020 | 8/16/2018 | 100.56766 | 100.5676566 | 100.5676566 | 100.5676566 | 100.5305969 | 100.3088067 | 100.0880062 | 99.86818888 | 99.64934808 |
| 180821A00028 | 8/21/2018 | 2.99 | 8/21/2023 | 8/21/2018 | 108.77984 | 108.7798385 | 108.7798385 | 108.7798385 | 107.696625 | 104.442936 | 101.3053155 | 98.27891582 | 95.35912543 |
| 180823A00055 | 8/23/2018 | 3.44 | 8/23/2033 | 8/23/2018 | 144.2455 | 144.2454972 | 144.2454972 | 135.8382098 | 121.7084813 | 108.9745677 | 97.77538851 | 87.91484568 | 79.22295569 |
| 180830A00039 | 8/30/2018 | 3.03 | 8/30/2023 | 8/30/2018 | 108.97802 | 108.9780151 | 108.9780151 | 108.9780151 | 107.8768995 | 104.5965869 | 101.4339973 | 98.38418655 | 95.44245266 |
| 180831A00018 | 8/31/2018 | 2.95 | 8/31/2022 | 8/31/2018 | 106.05422 | 106.0542208 | 106.0542208 | 106.0542208 | 105.5363302 | 103.2684361 | 101.0606947 | 98.9110687 | 96.81760795 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180910A00028 | 9/10/2018 | 3.56 | 9/9/2033 | 9/10/2018 | 146.00404 | 146.0040389 | 146.0040389 | 137.4646415 | 123.2015674 | 110.3395668 | 99.02919282 | 89.07185138 | 80.29544286 |
| 180911A00080 | 9/11/2018 | 2.94 | 9/9/2022 | 9/11/2018 | 106.51952 | 106.5195231 | 106.5195231 | 106.5195231 | 105.9877025 | 103.6821858 | 101.4384918 | 99.25454716 | 97.1283641 |
| 180918A00038 | 9/18/2018 | 3.11 | 9/16/2022 | 9/18/2018 | 106.5436 | 106.5436036 | 106.5436036 | 106.5436036 | 106.0054621 | 103.68959 | 101.4360839 | 99.24287514 | 97.10797821 |
| 180924A00047 | 9/24/2018 | 3.14 | 9/23/2022 | 9/24/2018 | 106.66838 | 106.6683772 | 106.6683772 | 106.6683772 | 106.1215849 | 103.7857453 | 101.5132301 | 99.30195659 | 97.14992341 |
| 180910A00032 | 9/10/2018 | 3.22 | 9/10/2024 | 9/10/2018 | 112.6302 | 112.6301962 | 112.6301962 | 112.6301962 | 110.6731855 | 106.336741 | 102.1967857 | 98.24334287 | 94.46699868 |
| 180911A00012 | 9/11/2018 | 3.06 | 9/9/2022 | 9/11/2018 | 106.37387 | 106.3738748 | 106.3738748 | 106.3738748 | 105.8444904 | 103.5491054 | 101.3151241 | 99.14049161 | 97.02323791 |
| 180913A00040 | 9/13/2018 | 2.89 | 9/13/2021 | 9/13/2018 | 103.63099 | 103.6309893 | 103.6309893 | 103.6309893 | 103.3819059 | 102.0782355 | 100.8020939 | 99.55261233 | 98.32895842 |
| 180914A00012 | 9/14/2018 | 2.97 | 10/13/2020 | 9/14/2018 | 101.02907 | 101.0290739 | 101.0290739 | 101.0290739 | 100.9606577 | 100.5808244 | 100.2038558 | 99.82971947 | 99.4583835 |
| 180920A00027 | 9/20/2018 | 3.04 | 9/20/2022 | 9/20/2018 | 106.83967 | 106.8396675 | 106.8396675 | 106.8396675 | 106.2938698 | 103.9553285 | 101.6801512 | 99.46624132 | 97.31158593 |
| 180920A00062 | 9/20/2018 | 3.12 | 9/20/2023 | 9/20/2018 | 110.05965 | 110.0596524 | 110.0596524 | 110.0596524 | 108.9070531 | 105.5390694 | 102.2939503 | 99.16654556 | 96.1519506 |
| 180924A00056 | 9/24/2018 | 3.14 | 9/23/2022 | 9/24/2018 | 106.66838 | 106.6683772 | 106.6683772 | 106.6683772 | 106.1215849 | 103.7857453 | 101.5132301 | 99.30195659 | 97.14992341 |
| 181005A00010 | 10/5/2018 | 2.95 | 10/5/2020 | 10/5/2018 | 101.01474 | 101.01474 | 101.01474 | 101.01474 | 100.9507408 | 100.5923729 | 100.2365542 | 99.88325735 | 99.53245561 |
| 181009A00024 | 10/9/2018 | 3.06 | 10/9/2020 | 10/9/2018 | 101.03234 | 101.0323387 | 101.0323387 | 101.0323387 | 100.9661812 | 100.5973552 | 100.2312292 | 99.8677736 | 99.50695911 |
| 181009A00035 | 10/9/2018 | 3.12 | 10/11/2022 | 10/9/2018 | 107.20154 | 107.2015373 | 107.2015373 | 107.2015373 | 106.6287194 | 104.2290022 | 101.8957001 | 99.62660995 | 97.41961446 |
| 181010A00020 | 10/10/2018 | 3.27 | 12/1/2022 | 10/10/2018 | 107.53919 | 107.5391936 | 107.5391936 | 107.5391936 | 106.9005197 | 104.3694436 | 101.9120009 | 99.52561924 | 97.20783247 |
| 181015A00008 | 10/15/2018 | 3.15 | 9/15/2021 | 10/15/2018 | 103.76412 | 103.7641157 | 103.7641157 | 103.7641157 | 103.5145761 | 102.2089332 | 100.9302296 | 99.67763708 | 98.45036195 |
| 181018A00014 | 10/18/2018 | 3.21 | 10/18/2021 | 10/18/2018 | 104.12403 | 104.1240277 | 104.1240277 | 104.1240277 | 103.8548338 | 102.4625288 | 101.0956686 | 99.75361508 | 98.43575125 |
| 181022A00026 | 10/22/2018 | 3.18 | 10/15/2021 | 10/22/2018 | 104.05779 | 104.0577942 | 104.0577942 | 104.0577942 | 103.7906953 | 102.4071062 | 101.048669 | 99.71475658 | 98.40476185 |
| 181115A00036 | 11/15/2018 | 3.2 | 11/15/2021 | 11/15/2018 | 104.32166 | 104.3216631 | 104.3216631 | 104.3216631 | 104.0332514 | 102.5643819 | 101.1237093 | 99.71049188 | 98.32401336 |
| 181126A00050 | 11/26/2018 | 3.29 | 11/24/2023 | 11/26/2018 | 110.54021 | 110.5402144 | 110.5402144 | 110.5402144 | 109.2615148 | 105.7290423 | 102.331361 | 99.06259883 | 95.91717222 |
| 181130A00019 | 11/30/2018 | 3.06 | 6/1/2020 | 11/30/2018 | 100.02235 | 100.0223477 | 100.0223477 | 100.0223477 | 100.0211722 | 100.0128545 | 100.0045443 | 99.99624157 | 99.98794636 |
| 181206A00011 | 12/6/2018 | 3.11 | 12/6/2022 | 12/6/2018 | 107.17238 | 107.1723847 | 107.1723847 | 107.1723847 | 106.5276341 | 103.9875796 | 101.5217293 | 99.1274787 | 96.80233141 |
| 181206A00027 | 12/6/2018 | 2.98 | 6/8/2020 | 12/6/2018 | 100.07281 | 100.072809 | 100.072809 | 100.072809 | 100.0688906 | 100.0411666 | 100.0134731 | 99.98580996 | 99.95817719 |
| 181211A00018 | 12/11/2018 | 3.14 | 12/11/2023 | 12/11/2018 | 110.14503 | 110.1450302 | 110.1450302 | 110.1450302 | 108.8329916 | 105.2622377 | 101.8292883 | 98.52807039 | 95.35281333 |
| 181212A00019 | 12/12/2018 | 3.19 | 12/12/2023 | 12/12/2018 | 110.33131 | 110.3313082 | 110.3313082 | 110.3313082 | 109.0163138 | 105.4395857 | 102.0009413 | 98.69429213 | 95.51385317 |
| 181213A00025 | 12/13/2018 | 3.05 | 12/11/2020 | 12/13/2018 | 101.52061 | 101.520606 | 101.520606 | 101.520606 | 101.4148569 | 100.8714382 | 100.3338457 | 99.80198573 | 99.27576691 |
| 181214A00023 | 12/14/2018 | 3.07 | 12/14/2021 | 12/14/2018 | 104.3522 | 104.3522019 | 104.3522019 | 104.3522019 | 104.0451328 | 102.4975431 | 100.9808224 | 99.49411866 | 98.03661078 |
| 181218A00077 | 12/18/2018 | 3.09 | 12/18/2023 | 12/18/2018 | 110.02036 | 110.0203627 | 110.0203627 | 110.0203627 | 108.6943518 | 105.1070271 | 101.6587457 | 98.34335285 | 95.1550016 |
| 180827A00010 | 8/27/2018 | 2.99 | 8/25/2023 | 8/27/2018 | 108.80954 | 108.8095435 | 108.8095435 | 108.8095435 | 107.7186306 | 104.4540606 | 101.3062661 | 98.27035576 | 95.34167704 |
| 180827A00032 | 8/27/2018 | 2.96 | 8/29/2022 | 8/27/2018 | 106.0623 | 106.0623024 | 106.0623024 | 106.0623024 | 105.546777 | 103.2840767 | 101.0812717 | 98.93632811 | 96.84729934 |
| 180904A00036 | 9/4/2018 | 2.83 | 9/4/2020 | 9/4/2018 | 100.6955 | 100.6955048 | 100.6955048 | 100.6955048 | 100.6487179 | 100.3770642 | 100.1068807 | 99.83815544 | 99.57087672 |
| 180914A00028 | 9/14/2018 | 3.37 | 9/12/2025 | 9/14/2018 | 116.31007 | 116.3100716 | 116.3100716 | 116.3100716 | 113.2253959 | 107.8605844 | 102.7870512 | 97.98740735 | 93.44539451 |
| 180914A00034 | 9/14/2018 | 2.85 | 9/15/2020 | 9/14/2018 | 100.82718 | 100.8271761 | 100.8271761 | 100.8271761 | 100.7742699 | 100.471509 | 100.1705801 | 99.87146674 | 99.57415227 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180917A00032 | 9/17/2018 | 3.17 | 9/15/2023 | 9/17/2018 | 109.56442 | 109.5644203 | 109.5644203 | 109.5644203 | 108.4298095 | 105.0981839 | 101.8874034 | 98.79240971 | 95.80838677 |
| 180917A00078 | 9/17/2018 | 3.05 | 9/15/2023 | 9/17/2018 | 109.78447 | 109.7844654 | 109.7844654 | 109.7844654 | 108.6428153 | 105.2925409 | 102.0640958 | 98.95236828 | 95.9524922 |
| 180920A00011 | 9/20/2018 | 2.89 | 9/18/2020 | 9/20/2018 | 100.86239 | 100.862389 | 100.862389 | 100.862389 | 100.8078362 | 100.4967208 | 100.1875373 | 99.88026753 | 99.57489365 |
| 180921A00021 | 9/21/2018 | 2.99 | 9/21/2021 | 9/21/2018 | 103.82575 | 103.8257491 | 103.8257491 | 103.8257491 | 103.572696 | 102.2494804 | 100.9519056 | 99.67924726 | 98.43080877 |
| 180924A00052 | 9/24/2018 | 3.22 | 9/22/2023 | 9/24/2018 | 109.7872 | 109.7871961 | 109.7871961 | 109.7871961 | 108.6380512 | 105.284495 | 102.053148 | 98.93890123 | 95.93688775 |
| 180927A00015 | 9/27/2018 | 3.02 | 9/27/2022 | 9/27/2018 | 106.84915 | 106.849148 | 106.849148 | 106.849148 | 106.2949289 | 103.9376608 | 101.644698 | 99.41392988 | 97.24332794 |
| 180927A00029 | 9/27/2018 | 3.01 | 10/27/2020 | 9/27/2018 | 101.15485 | 101.1548514 | 101.1548514 | 101.1548514 | 101.0784678 | 100.659762 | 100.2445188 | 99.83269533 | 99.4242496 |
| 180928A00033 | 9/28/2018 | 2.87 | 9/28/2020 | 9/28/2018 | 100.93263 | 100.9326282 | 100.9326282 | 100.9326282 | 100.8726025 | 100.533741 | 100.1971528 | 99.86281512 | 99.53070543 |
| 181001A00019 | 10/1/2018 | 3.02 | 10/1/2020 | 10/1/2018 | 100.95653 | 100.95653 | 100.95653 | 100.95653 | 100.8949231 | 100.5483087 | 100.204071 | 99.86218571 | 99.52262877 |
| 181005A00017 | 10/5/2018 | 3.27 | 4/11/2023 | 10/5/2018 | 108.61145 | 108.6114527 | 108.6114527 | 108.6114527 | 107.767801 | 104.8667234 | 102.0593987 | 99.34230018 | 96.71205342 |
| 181010A00023 | 10/10/2018 | 3.41 | 4/1/2024 | 10/10/2018 | 112.06573 | 112.0657308 | 112.0657308 | 112.0657308 | 110.5015699 | 106.5984074 | 102.8562978 | 99.26776762 | 95.82572833 |
| 181016A00084 | 10/16/2018 | 3.21 | 10/17/2022 | 10/16/2018 | 107.02525 | 107.0252463 | 107.0252463 | 107.0252463 | 106.4475828 | 104.0426059 | 101.704456 | 99.43090697 | 97.2198202 |
| 181114A00012 | 11/14/2018 | 3.13 | 11/14/2022 | 11/14/2018 | 107.50912 | 107.5091207 | 107.5091207 | 107.5091207 | 106.8909093 | 104.3956653 | 101.971977 | 99.61738238 | 97.32951963 |
| 181121A00013 | 11/21/2018 | 3.11 | 11/20/2020 | 11/21/2018 | 101.38703 | 101.3870299 | 101.3870299 | 101.3870299 | 101.2957798 | 100.8104376 | 100.3297491 | 99.85364769 | 99.3820677 |
| 181123A00013 | 11/23/2018 | 3.14 | 11/23/2021 | 11/23/2018 | 104.29596 | 104.2959601 | 104.2959601 | 104.2959601 | 104.0021147 | 102.5122305 | 101.0513436 | 99.61868129 | 98.21349741 |
| 181126A00046 | 11/26/2018 | 3.13 | 11/25/2020 | 11/26/2018 | 101.43667 | 101.4366695 | 101.4366695 | 101.4366695 | 101.3422986 | 100.8430759 | 100.3487678 | 99.85930201 | 99.37460757 |
| 181204A00023 | 12/4/2018 | 3.16 | 12/3/2021 | 12/4/2018 | 104.40558 | 104.4055801 | 104.4055801 | 104.4055801 | 104.1050475 | 102.5873621 | 101.0996293 | 99.64103739 | 98.21080343 |
| 181206A00009 | 12/6/2018 | 3.03 | 12/4/2020 | 12/6/2018 | 101.45595 | 101.4559488 | 101.4559488 | 101.4559488 | 101.355401 | 100.8313999 | 100.312813 | 99.79955667 | 99.29154903 |
| 181214A00016 | 12/14/2018 | 3.03 | 12/14/2020 | 12/14/2018 | 101.53277 | 101.5327733 | 101.5327733 | 101.5327733 | 101.4248041 | 100.8731147 | 100.3274298 | 99.78765153 | 99.25368419 |
| 180425A00023 | 4/25/2018 | 2.97 | 4/23/2021 | 4/25/2018 | 102.46775 | 102.4677463 | 102.4677463 | 102.4677463 | 102.263093 | 101.35234 | 100.4577953 | 99.57902894 | 98.71562594 |
| 180427A00011 | 4/27/2018 | 3.03 | 4/27/2022 | 4/27/2018 | 105.28552 | 105.2855243 | 105.2855243 | 105.2855243 | 104.8939106 | 102.9729209 | 101.0967978 | 99.26422442 | 97.47393138 |
| 180510A00024 | 5/10/2018 | 2.77 | 5/10/2021 | 5/10/2018 | 102.54683 | 102.5468284 | 102.5468284 | 102.5468284 | 102.3326711 | 101.3731455 | 100.4315933 | 99.50751282 | 98.60042072 |
| 180514A00030 | 5/14/2018 | 2.9 | 5/16/2022 | 5/14/2018 | 105.53293 | 105.5329344 | 105.5329344 | 105.5329344 | 105.1236176 | 103.1417182 | 101.2074235 | 99.31929544 | 97.47594976 |
| 180514A00035 | 5/14/2018 | 3.07 | 5/14/2024 | 5/14/2018 | 111.82655 | 111.8265498 | 111.8265498 | 111.8265498 | 110.1545013 | 106.1238008 | 102.2647057 | 98.56900258 | 95.02891508 |
| 180515A00035 | 5/16/2018 | 2.98 | 5/17/2021 | 5/16/2018 | 102.64742 | 102.6474205 | 102.6474205 | 102.6474205 | 102.430491 | 101.4535237 | 100.4951817 | 99.55493564 | 98.63227624 |
| 180517A00036 | 5/17/2018 | 2.74 | 9/17/2020 | 5/17/2018 | 100.80845 | 100.8084483 | 100.8084483 | 100.8084483 | 100.7544584 | 100.4462117 | 100.1398631 | 99.83539491 | 99.53278978 |
| 180521A00025 | 5/21/2018 | 3.24 | 5/21/2025 | 5/21/2018 | 115.71574 | 115.715739 | 115.715739 | 115.715739 | 113.0020467 | 107.9098205 | 103.0812207 | 98.50119808 | 94.1556399 |
| 180521A00072 | 5/21/2018 | 2.96 | 5/23/2022 | 5/21/2018 | 105.70737 | 105.7073731 | 105.7073731 | 105.7073731 | 105.291757 | 103.2888815 | 101.3345591 | 99.42730928 | 97.56570724 |
| 180529A00060 | 5/29/2018 | 2.83 | 6/1/2021 | 5/29/2018 | 102.60657 | 102.6065725 | 102.6065725 | 102.6065725 | 102.3836186 | 101.3660127 | 100.3686051 | 99.39079871 | 98.43201987 |
| 180530A00006 | 5/30/2018 | 2.87 | 5/31/2022 | 5/30/2018 | 105.2176 | 105.2175981 | 105.2175981 | 105.2175981 | 104.7974656 | 102.7847858 | 100.8212689 | 98.90540365 | 97.03573605 |
| 180530A00084 | 5/30/2018 | 2.61 | 6/1/2021 | 5/30/2018 | 102.54515 | 102.5451464 | 102.5451464 | 102.5451464 | 102.321733 | 101.3021173 | 100.3027788 | 99.32311707 | 98.36255527 |
| 180604A00026 | 6/4/2018 | 2.74 | 6/4/2020 | 6/4/2018 | 100.03969 | 100.0396865 | 100.0396865 | 100.0396865 | 100.0373358 | 100.020703 | 100.0040867 | 99.98748671 | 99.97090314 |
| 180604A00045 | 6/4/2018 | 2.87 | 6/4/2021 | 6/4/2018 | 102.66899 | 102.6689913 | 102.6689913 | 102.6689913 | 102.4453164 | 101.419184 | 100.4135842 | 99.4279052 | 98.46155903 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180604A00047 | 6/4/2018 | 2.97 | 6/3/2022 | 6/4/2018 | 105.44249 | 105.4424876 | 105.4424876 | 105.4424876 | 105.0190032 | 102.9960326 | 101.0225875 | 99.09714036 | 97.2182216 |
| 180604A00050 | 6/4/2018 | 3.15 | 6/4/2024 | 6/4/2018 | 111.55995 | 111.5599504 | 111.5599504 | 111.5599504 | 109.8505589 | 105.7901382 | 101.9044098 | 98.18492041 | 94.623672 |
| 180614A00006 | 6/14/2018 | 2.94 | 6/14/2021 | 6/14/2018 | 102.81493 | 102.8149321 | 102.8149321 | 102.8149321 | 102.5889217 | 101.534702 | 100.5021344 | 99.49055653 | 98.49933269 |
| 180615A00069 | 6/15/2018 | 2.86 | 6/15/2022 | 6/15/2018 | 105.6813 | 105.681302 | 105.681302 | 105.681302 | 105.2442133 | 103.1797206 | 101.1663878 | 99.20261198 | 97.28685198 |
| 180619A00031 | 6/19/2018 | 2.74 | 6/21/2021 | 6/19/2018 | 102.82352 | 102.8235174 | 102.8235174 | 102.8235174 | 102.5954382 | 101.519572 | 100.4662357 | 99.4347269 | 98.42437202 |
| 180625A00009 | 6/25/2018 | 3 | 6/27/2022 | 6/25/2018 | 105.68306 | 105.6830617 | 105.6830617 | 105.6830617 | 105.2360078 | 103.1468086 | 101.1097662 | 99.12322839 | 97.18560797 |
| 180626A00045 | 6/26/2018 | 2.91 | 6/25/2021 | 6/26/2018 | 102.86362 | 102.8636228 | 102.8636228 | 102.8636228 | 102.6351733 | 101.5506977 | 100.4891131 | 99.44970021 | 98.43176951 |
| 180627A00017 | 6/27/2018 | 2.9 | 6/25/2021 | 6/27/2018 | 102.85275 | 102.8527515 | 102.8527515 | 102.8527515 | 102.624315 | 101.5399024 | 100.4783799 | 99.43902805 | 98.42115759 |
| 180628A00018 | 6/28/2018 | 2.76 | 6/29/2020 | 6/28/2018 | 100.20761 | 100.2076061 | 100.2076061 | 100.2076061 | 100.195463 | 100.1095756 | 100.0238325 | 99.93823321 | 99.85277754 |
| 180628A00081 | 6/28/2018 | 2.72 | 6/21/2021 | 6/28/2018 | 102.80198 | 102.8019767 | 102.8019767 | 102.8019767 | 102.5739231 | 101.4981808 | 100.4449666 | 99.41357801 | 98.40334168 |
| 180615A00061 | 6/15/2018 | 3.28 | 6/15/2028 | 6/15/2018 | 125.68461 | 125.6846142 | 125.6846142 | 125.6846142 | 117.660548 | 109.5187866 | 102.0163558 | 95.09938979 | 88.71883309 |
| 180618A00011 | 6/18/2018 | 3.02 | 6/20/2022 | 6/18/2018 | 105.67235 | 105.6723464 | 105.6723464 | 105.6723464 | 105.232039 | 103.1615217 | 101.1423978 | 99.17305171 | 97.2519306 |
| 180618A00012 | 6/18/2018 | 2.9 | 6/19/2023 | 6/18/2018 | 108.60632 | 108.6063161 | 108.6063161 | 108.6063161 | 107.6362766 | 104.5389776 | 101.5478026 | 98.65851047 | 95.86705584 |
| 180618A00032 | 6/18/2018 | 2.93 | 6/18/2021 | 6/18/2018 | 102.83382 | 102.8338199 | 102.8338199 | 102.8338199 | 102.6069208 | 101.5416894 | 100.4985587 | 99.47684584 | 98.47589579 |
| 180619A00019 | 6/19/2018 | 2.89 | 6/18/2021 | 6/19/2018 | 102.79111 | 102.7911101 | 102.7911101 | 102.7911101 | 102.5642615 | 101.4992735 | 100.4563827 | 99.4349063 | 98.43418936 |
| 180620A00015 | 6/20/2018 | 3.04 | 6/20/2023 | 6/20/2018 | 108.47454 | 108.4745361 | 108.4745361 | 108.4745361 | 107.5080616 | 104.4234771 | 101.4443763 | 98.56655084 | 95.78598611 |
| 180620A00044 | 6/20/2018 | 2.89 | 6/20/2023 | 6/20/2018 | 108.58305 | 108.5830506 | 108.5830506 | 108.5830506 | 107.6112694 | 104.511693 | 101.51839 | 98.62711026 | 95.83379998 |
| 180622A00005 | 6/22/2018 | 3.5 | 7/2/2029 | 6/22/2018 | 129.05354 | 129.0535357 | 129.0535357 | 128.5588967 | 119.0736432 | 110.0127738 | 101.7390332 | 94.17927225 | 87.26751342 |
| 180628A00034 | 6/28/2018 | 2.72 | 6/28/2021 | 6/28/2018 | 102.85254 | 102.8525376 | 102.8525376 | 102.8525376 | 102.6229048 | 101.5277435 | 100.4559085 | 99.40666054 | 98.37929132 |
| 180705A00058 | 7/5/2018 | 2.93 | 7/6/2021 | 7/5/2018 | 102.96618 | 102.9661776 | 102.9661776 | 102.9661776 | 102.7356765 | 101.6206124 | 100.5297303 | 99.46224949 | 98.4174225 |
| 180716A00037 | 7/16/2018 | 3.01 | 7/18/2022 | 7/16/2018 | 105.86119 | 105.8611889 | 105.8611889 | 105.8611889 | 105.3920924 | 103.243655 | 101.1498864 | 99.10901323 | 97.119334 |
| 180719A00059 | 7/19/2018 | 2.98 | 7/19/2021 | 7/19/2018 | 103.11924 | 103.1192358 | 103.1192358 | 103.1192358 | 102.8865733 | 101.7351503 | 100.6094807 | 99.50870729 | 98.4320103 |
| 180719A00060 | 7/19/2018 | 3.05 | 7/19/2022 | 7/19/2018 | 105.95516 | 105.9551572 | 105.9551572 | 105.9551572 | 105.484813 | 103.3326111 | 101.235219 | 99.19085684 | 97.19781705 |
| 180720A00008 | 7/20/2018 | 3 | 7/20/2022 | 7/20/2018 | 105.8545 | 105.8544967 | 105.8544967 | 105.8544967 | 105.3833393 | 103.2295064 | 101.1305812 | 99.08477842 | 97.09038579 |
| 180720A00011 | 7/20/2018 | 2.93 | 7/20/2021 | 7/20/2018 | 103.06889 | 103.0688936 | 103.0688936 | 103.0688936 | 102.8361433 | 101.6823044 | 100.5543349 | 99.45137157 | 98.37258931 |
| 180723A00024 | 10/23/2018 | 3.1 | 10/22/2021 | 10/23/2018 | 104.00064 | 104.0006378 | 104.0006378 | 104.0006378 | 103.7289656 | 102.3266001 | 100.9500448 | 99.59864816 | 98.27178019 |
| 180731A00009 | 7/31/2018 | 2.97 | 7/31/2023 | 7/31/2018 | 109.15425 | 109.1542536 | 109.1542536 | 109.1542536 | 108.1039526 | 104.8848816 | 101.7792333 | 98.78233422 | 95.88973486 |
| 180801A00012 | 8/1/2018 | 3.03 | 8/16/2021 | 8/1/2018 | 103.39052 | 103.3905176 | 103.3905176 | 103.3905176 | 103.1520913 | 101.9226866 | 100.7225732 | 99.55071286 | 98.40611579 |
| 180806A00009 | 8/6/2018 | 2.9 | 8/6/2020 | 8/6/2018 | 100.50105 | 100.5010471 | 100.5010471 | 100.5010471 | 100.4699015 | 100.2785981 | 100.0880319 | 99.89819841 | 99.70909348 |
| 180813A00013 | 8/13/2018 | 2.99 | 12/5/2022 | 8/13/2018 | 106.85917 | 106.8591661 | 106.8591661 | 106.8591661 | 106.2166867 | 103.6833686 | 101.2240297 | 98.83607527 | 96.51701835 |
| 180813A00016 | 8/13/2018 | 2.92 | 8/13/2021 | 8/13/2018 | 103.2331 | 103.2330997 | 103.2330997 | 103.2330997 | 102.9955313 | 101.7753113 | 100.58398 | 99.42051993 | 98.28396086 |
| 180813A00037 | 8/13/2018 | 2.95 | 2/14/2022 | 8/13/2018 | 104.62133 | 104.6213326 | 104.6213326 | 104.6213326 | 104.2778626 | 102.5601731 | 100.8791147 | 99.23357984 | 97.62250612 |
| 180815A00010 | 8/15/2018 | 3.02 | 8/15/2023 | 8/15/2018 | 108.83255 | 108.8325499 | 108.8325499 | 108.8325499 | 107.760501 | 104.5215729 | 101.397698 | 98.3840927 | 95.47620494 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180816A00032 | 8/16/2018 | 3.02 | 8/16/2023 | 8/16/2018 | 108.84006 | 108.8400586 | 108.8400586 | 108.8400586 | 107.7660835 | 104.5244309 | 101.3980074 | 98.38201849 | 95.47190202 |
| 180925A00060 | 9/25/2018 | 3.23 | 8/25/2023 | 9/25/2018 | 109.59429 | 109.5942945 | 109.5942945 | 109.5942945 | 108.5002197 | 105.222904 | 102.0627034 | 99.01471459 | 96.0742737 |
| 180927A00008 | 9/27/2018 | 3.14 | 9/27/2022 | 9/27/2018 | 106.69982 | 106.6998191 | 106.6998191 | 106.6998191 | 106.1481812 | 103.8014035 | 101.5184911 | 99.29735291 | 97.13597884 |
| 180928A00011 | 9/28/2018 | 3.12 | 7/15/2022 | 9/28/2018 | 106.07538 | 106.075384 | 106.075384 | 106.075384 | 105.6089264 | 103.4663591 | 101.3781484 | 99.34253705 | 97.3578389 |
| 181002A00055 | 10/2/2018 | 3.14 | 10/3/2022 | 10/2/2018 | 106.74687 | 106.7468664 | 106.7468664 | 106.7468664 | 106.1876553 | 103.8241413 | 101.525348 | 99.28915153 | 97.1135104 |
| 181004A00029 | 10/4/2018 | 3.7 | 10/4/2028 | 10/4/2018 | 128.38653 | 128.3865285 | 128.3865285 | 128.3865285 | 119.8405286 | 111.4101936 | 103.6584326 | 96.52664348 | 89.96157716 |
| 181005A00012 | 10/5/2018 | 3.33 | 10/4/2024 | 10/5/2018 | 114.13793 | 114.1379315 | 114.1379315 | 114.1379315 | 112.09535 | 107.6413095 | 103.3920528 | 99.33710819 | 95.46659229 |
| 181010A00017 | 10/10/2018 | 3.08 | 10/1/2020 | 10/10/2018 | 100.97735 | 100.9773514 | 100.9773514 | 100.9773514 | 100.915737 | 100.5690777 | 100.2247953 | 99.88286559 | 99.54326445 |
| 181010A00019 | 10/10/2018 | 3.21 | 9/15/2021 | 10/10/2018 | 103.84296 | 103.8429579 | 103.8429579 | 103.8429579 | 103.5933076 | 102.287121 | 101.0078828 | 99.75476486 | 98.526973 |
| 181015A00024 | 10/15/2018 | 3.29 | 10/16/2023 | 10/15/2018 | 110.21897 | 110.2189691 | 110.2189691 | 110.2189691 | 109.020535 | 105.5958712 | 102.2981873 | 99.12211157 | 96.06252854 |
| 181023A00020 | 10/23/2018 | 3.15 | 10/22/2021 | 10/23/2018 | 104.07146 | 104.0714631 | 104.0714631 | 104.0714631 | 103.7996853 | 102.3967967 | 101.0197274 | 99.6678255 | 98.34046079 |
| 181102A00007 | 11/2/2018 | 3.01 | 11/2/2020 | 11/2/2018 | 101.26092 | 101.2609223 | 101.2609223 | 101.2609223 | 101.1807507 | 100.7445542 | 100.3121191 | 99.88339684 | 99.45833973 |
| 181106A00003 | 11/6/2018 | 3.31 | 11/5/2021 | 11/6/2018 | 104.41563 | 104.4156288 | 104.4156288 | 104.4156288 | 104.1338758 | 102.6906111 | 101.2745704 | 99.88504957 | 98.52136842 |
| 181115A00076 | 11/15/2018 | 3.22 | 12/31/2021 | 11/15/2018 | 104.72442 | 104.7244209 | 104.7244209 | 104.7244209 | 104.4065702 | 102.8092687 | 101.2443566 | 99.71091589 | 98.20806315 |
| 181120A00006 | 11/20/2018 | 3.08 | 11/16/2020 | 11/20/2018 | 101.34107 | 101.3410726 | 101.3410726 | 101.3410726 | 101.2523222 | 100.7781036 | 100.3083327 | 99.84294702 | 99.38188515 |
| 181123A00007 | 11/23/2018 | 3.08 | 11/23/2020 | 11/23/2018 | 101.396 | 101.3959958 | 101.3959958 | 101.3959958 | 101.3028838 | 100.8092731 | 100.3204719 | 99.83640988 | 99.3570185 |
| 181211A00009 | 12/11/2018 | 3.14 | 12/11/2023 | 12/11/2018 | 110.14503 | 110.1450302 | 110.1450302 | 110.1450302 | 108.8329916 | 105.2622377 | 101.8292883 | 98.52807039 | 95.35281333 |
| 181211A00020 | 12/11/2018 | 3.04 | 12/11/2020 | 12/11/2018 | 101.51517 | 101.515166 | 101.515166 | 101.515166 | 101.4094199 | 100.8660183 | 100.3284427 | 99.79659955 | 99.27039741 |
| 181211A00043 | 12/11/2018 | 3.14 | 12/11/2023 | 12/11/2018 | 110.14503 | 110.1450302 | 110.1450302 | 110.1450302 | 108.8329916 | 105.2622377 | 101.8292883 | 98.52807039 | 95.35281333 |
| 181219A00022 | 12/19/2018 | 2.94 | 12/18/2020 | 12/19/2018 | 101.5128 | 101.5127953 | 101.5127953 | 101.5127953 | 101.4018878 | 100.8392914 | 100.2829384 | 99.73272493 | 99.18854979 |
| 181220A00020 | 12/20/2018 | 2.78 | 12/20/2021 | 12/20/2018 | 104.21017 | 104.2101688 | 104.2101688 | 104.2101688 | 103.8988251 | 102.3313561 | 100.795408 | 99.29010064 | 97.81458631 |
| 181221A00024 | 12/21/2018 | 2.96 | 12/28/2020 | 12/21/2018 | 101.59895 | 101.5989475 | 101.5989475 | 101.5989475 | 101.4806164 | 100.8903288 | 100.3068953 | 99.730197 | 99.16011789 |
| 181226A00061 | 12/26/2018 | 2.95 | 12/27/2022 | 12/26/2018 | 106.91803 | 106.9180323 | 106.9180323 | 106.9180323 | 106.2443197 | 103.6503683 | 101.1334195 | 98.69071903 | 96.31963001 |
| 181227A00027 | 12/27/2018 | 3.24 | 12/26/2025 | 12/27/2018 | 116.45969 | 116.4596915 | 116.4596915 | 116.4596915 | 112.9624297 | 107.3311346 | 102.0205167 | 97.01058429 | 92.28269628 |
| 190102A00004 | 1/2/2019 | 2.8 | 2/24/2021 | 1/2/2019 | 101.91354 | 101.9135397 | 101.9135397 | 101.9135397 | 101.7494987 | 100.9993671 | 100.26028 | 99.53199468 | 98.81427571 |
| 180814A00033 | 8/14/2018 | 3.25 | 8/13/2027 | 8/14/2018 | 122.79469 | 122.7946936 | 122.7946936 | 122.7946936 | 116.3264128 | 109.0089373 | 102.2134323 | 95.89972868 | 90.03095794 |
| 180815A00009 | 8/15/2018 | 2.93 | 8/16/2021 | 8/15/2018 | 103.26741 | 103.2674081 | 103.2674081 | 103.2674081 | 103.0291458 | 101.800541 | 100.6012143 | 99.43012768 | 98.28629181 |
| 180815A00024 | 8/15/2018 | 2.71 | 8/17/2020 | 8/15/2018 | 100.57594 | 100.5759385 | 100.5759385 | 100.5759385 | 100.5388133 | 100.3166358 | 100.0954542 | 99.87526169 | 99.6560516 |
| 180816A00024 | 8/16/2018 | 3.01 | 8/16/2023 | 8/16/2018 | 108.80761 | 108.8076082 | 108.8076082 | 108.8076082 | 107.7337622 | 104.4926329 | 101.3667188 | 98.35122596 | 95.44159261 |
| 180821A00021 | 8/21/2018 | 2.68 | 8/21/2020 | 8/21/2018 | 100.59775 | 100.5977496 | 100.5977496 | 100.5977496 | 100.558472 | 100.3252034 | 100.0930274 | 99.86193627 | 99.63192238 |
| 180824A00023 | 8/24/2018 | 2.79 | 8/24/2021 | 8/24/2018 | 103.35168 | 103.3516841 | 103.3516841 | 103.3516841 | 103.1109967 | 101.8569773 | 100.6334078 | 99.43918894 | 98.27327397 |
| 180827A00031 | 8/27/2018 | 2.9 | 8/27/2021 | 8/27/2018 | 103.31052 | 103.310524 | 103.310524 | 103.310524 | 103.0698286 | 101.8110306 | 100.5829397 | 99.38444224 | 98.21447799 |
| 180905A00011 | 9/5/2018 | 2.85 | 9/8/2020 | 9/5/2018 | 100.72957 | 100.7295746 | 100.7295746 | 100.7295746 | 100.6806011 | 100.3978535 | 100.116702 | 99.83713309 | 99.55913335 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180906A00013 | 9/6/2018 | 2.81 | 9/7/2021 | 9/6/2018 | 103.48136 | 103.4813646 | 103.4813646 | 103.4813646 | 103.2352603 | 101.9462582 | 100.6862068 | 99.45413008 | 98.24909592 |
| 180906A00020 | 9/6/2018 | 2.81 | 9/7/2021 | 9/6/2018 | 103.48136 | 103.4813646 | 103.4813646 | 103.4813646 | 103.2352603 | 101.9462582 | 100.6862068 | 99.45413008 | 98.24909592 |
| 180910A00007 | 9/10/2018 | 2.96 | 9/8/2023 | 9/10/2018 | 109.429 | 109.4290036 | 109.4290036 | 109.4290036 | 108.3025381 | 104.9765229 | 101.7709087 | 98.68063663 | 95.70089318 |
| 180910A00033 | 9/10/2018 | 3.43 | 9/8/2028 | 9/10/2018 | 125.90853 | 125.908527 | 125.908527 | 125.908527 | 117.5558808 | 109.2804936 | 101.6682343 | 94.66209479 | 88.21025934 |
| 180911A00011 | 9/11/2018 | 3 | 9/10/2021 | 9/11/2018 | 103.54241 | 103.5424117 | 103.5424117 | 103.5424117 | 103.2954446 | 102.0024517 | 100.7375735 | 99.4998928 | 98.28853238 |
| 180918A00012 | 9/18/2018 | 3.06 | 9/17/2021 | 9/18/2018 | 103.66123 | 103.6612334 | 103.6612334 | 103.6612334 | 103.410918 | 102.1014545 | 100.8184414 | 99.56108726 | 98.32863235 |
| 180918A00023 | 9/18/2018 | 3.17 | 9/18/2023 | 9/18/2018 | 109.58818 | 109.5881784 | 109.5881784 | 109.5881784 | 108.4476391 | 105.1078043 | 101.8893662 | 98.78724605 | 95.79660704 |
| 180924A00043 | 9/24/2018 | 2.99 | 9/24/2020 | 9/24/2018 | 100.89316 | 100.8931622 | 100.8931622 | 100.8931622 | 100.835427 | 100.5082291 | 100.1831558 | 99.86018646 | 99.53930073 |
| 180924A00055 | 9/24/2018 | 3.1 | 9/24/2021 | 9/24/2018 | 103.76862 | 103.7686243 | 103.7686243 | 103.7686243 | 103.5149375 | 102.1888744 | 100.8876108 | 99.61048255 | 98.35684888 |
| 180925A00045 | 9/25/2018 | 3.31 | 9/25/2025 | 9/25/2018 | 117.1874 | 117.1874016 | 117.1874016 | 117.1874016 | 114.0197025 | 108.5653125 | 103.4095391 | 98.53446438 | 93.92333522 |
| 181002A00019 | 10/2/2018 | 2.98 | 10/4/2021 | 10/2/2018 | 103.91561 | 103.9156134 | 103.9156134 | 103.9156134 | 103.6553947 | 102.2995722 | 100.9679642 | 99.65997741 | 98.37503742 |
| 181004A00049 | 10/4/2018 | 3.06 | 11/4/2020 | 10/4/2018 | 101.23809 | 101.2380919 | 101.2380919 | 101.2380919 | 101.1568237 | 100.715889 | 100.2787986 | 99.84550213 | 99.41595041 |
| 181009A00008 | 10/9/2018 | 3.24 | 10/7/2022 | 10/9/2018 | 107.01649 | 107.0164869 | 107.0164869 | 107.0164869 | 106.451528 | 104.0738859 | 101.7616122 | 99.51255274 | 97.324637 |
| 181009A00036 | 10/9/2018 | 3.07 | 10/8/2021 | 10/9/2018 | 104.07148 | 104.071477 | 104.071477 | 104.071477 | 103.8083575 | 102.4403895 | 101.0970303 | 99.77767249 | 98.48172821 |
| 181022A00051 | 10/22/2018 | 3.11 | 10/22/2020 | 10/22/2018 | 101.15723 | 101.1572297 | 101.1572297 | 101.1572297 | 101.0836687 | 100.6787121 | 100.2770022 | 99.87849993 | 99.48316706 |
| 181025A00021 | 10/25/2018 | 2.97 | 10/26/2020 | 10/25/2018 | 101.18806 | 101.1880587 | 101.1880587 | 101.1880587 | 101.1121009 | 100.6953923 | 100.2821172 | 99.87223334 | 99.46569907 |
| 181220A00009 | 12/20/2018 | 2.95 | 12/21/2020 | 12/20/2018 | 101.54081 | 101.5408114 | 101.5408114 | 101.5408114 | 101.4276754 | 100.8567632 | 100.2922761 | 99.7341059 | 99.18214691 |
| 181224A00038 | 12/24/2018 | 3.04 | 12/22/2023 | 12/24/2018 | 109.87118 | 109.871183 | 109.871183 | 109.871183 | 108.5375679 | 104.9421805 | 101.486507 | 98.16434687 | 94.96981098 |
| 190102A00058 | 1/2/2019 | 2.91 | 1/2/2024 | 1/2/2019 | 109.48257 | 109.4825736 | 109.4825736 | 109.4825736 | 108.1278065 | 104.5102939 | 101.034349 | 97.69364451 | 94.48217336 |
| 190103A00005 | 1/3/2019 | 2.61 | 1/4/2021 | 1/3/2019 | 101.52231 | 101.5223074 | 101.5223074 | 101.5223074 | 101.3981872 | 100.7879211 | 100.1849951 | 99.58927719 | 99.00063864 |
| 190107A00010 | 1/7/2019 | 2.66 | 1/9/2023 | 1/7/2019 | 106.73135 | 106.7313523 | 106.7313523 | 106.7313523 | 106.0359502 | 103.3997043 | 100.8427277 | 98.3621454 | 95.95520668 |
| 190107A00019 | 1/7/2019 | 2.92 | 1/5/2024 | 1/7/2019 | 109.54052 | 109.5405189 | 109.5405189 | 109.5405189 | 108.1791108 | 104.5527998 | 101.0686447 | 97.7202803 | 94.50166409 |
| 190110A00002 | 1/10/2019 | 2.93 | 1/10/2023 | 1/10/2019 | 106.96769 | 106.9676907 | 106.9676907 | 106.9676907 | 106.2731955 | 103.6415694 | 101.0889041 | 98.61234049 | 96.20914286 |
| 190110A00009 | 1/10/2019 | 2.97 | 1/16/2024 | 1/10/2019 | 109.80327 | 109.8032713 | 109.8032713 | 109.8032713 | 108.4172588 | 104.7577694 | 101.2426308 | 97.86533584 | 94.61971051 |
| 190110A00075 | 1/10/2019 | 2.67 | 4/7/2021 | 1/10/2019 | 102.21708 | 102.2170753 | 102.2170753 | 102.2170753 | 102.0228611 | 101.1551445 | 100.3021698 | 99.46356349 | 98.63896458 |
| 190110A00087 | 1/10/2019 | 2.89 | 8/7/2020 | 1/10/2019 | 100.50637 | 100.5063739 | 100.5063739 | 100.5063739 | 100.4746911 | 100.2806185 | 100.0873051 | 99.8947465 | 99.70293823 |
| 190115A00028 | 1/15/2019 | 2.86 | 11/8/2021 | 1/15/2019 | 103.78226 | 103.7822562 | 103.7822562 | 103.7822562 | 103.4994193 | 102.0529999 | 100.6340175 | 99.24175919 | 97.87553585 |
| 190122A00042 | 1/22/2019 | 2.79 | 1/23/2023 | 1/22/2019 | 107.1793 | 107.179298 | 107.179298 | 107.179298 | 106.4616852 | 103.7824298 | 101.1845645 | 98.66510191 | 96.22118616 |
| 190123A00005 | 1/23/2019 | 2.94 | 1/24/2022 | 1/23/2019 | 104.45006 | 104.4500558 | 104.4500558 | 104.4500558 | 104.11899 | 102.4600428 | 100.8356125 | 99.24468683 | 97.68629271 |
| 190123A00033 | 1/23/2019 | 2.8 | 1/23/2023 | 1/23/2019 | 107.20617 | 107.2061705 | 107.2061705 | 107.2061705 | 106.4884785 | 103.808861 | 101.2106421 | 98.69083406 | 96.24658073 |
| 190123A00035 | 1/23/2019 | 3.18 | 1/22/2027 | 1/23/2019 | 120.57361 | 120.5736072 | 120.5736072 | 120.5736072 | 115.1459886 | 108.3916763 | 102.0867297 | 96.19877632 | 90.69794373 |
| 190131A00053 | 1/31/2019 | 2.67 | 1/31/2023 | 1/31/2019 | 106.91337 | 106.9133717 | 106.9133717 | 106.9133717 | 106.1844611 | 103.4874964 | 100.8730011 | 98.33792651 | 95.8793594 |
| 190205A00013 | 2/5/2019 | 2.85 | 2/5/2021 | 2/5/2019 | 101.81472 | 101.8147169 | 101.8147169 | 101.8147169 | 101.6650438 | 100.9672235 | 100.278974 | 99.60009935 | 98.93040879 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190215A00004 | 2/15/2019 | 2.84 | 2/15/2023 | 2/15/2019 | 106.9821 | 106.9821014 | 106.9821014 | 106.9821014 | 106.2329529 | 103.5052109 | 100.8617011 | 98.2992738 | 95.81492082 |
| 190215A00006 | 2/15/2019 | 2.89 | 2/15/2024 | 2/15/2019 | 109.72425 | 109.7242541 | 109.7242541 | 109.7242541 | 108.274219 | 104.5388041 | 100.9534545 | 97.5112756 | 94.20573328 |
| 190219A00020 | 2/19/2019 | 2.88 | 2/16/2024 | 2/19/2019 | 109.69389 | 109.6938865 | 109.6938865 | 109.6938865 | 108.2418399 | 104.5044142 | 100.9172327 | 97.47338807 | 94.16633423 |
| 190219A00026 | 2/19/2019 | 2.8 | 2/22/2022 | 2/19/2019 | 104.41667 | 104.4166706 | 104.4166706 | 104.4166706 | 104.0689461 | 102.3311544 | 100.6307862 | 98.9666974 | 97.33779096 |
| 190220A00007 | 2/20/2019 | 2.87 | 2/20/2024 | 2/20/2019 | 109.68472 | 109.6847204 | 109.6847204 | 109.6847204 | 108.2240538 | 104.4765121 | 100.8799925 | 97.42753428 | 94.11254155 |
| 190225A00026 | 2/25/2019 | 3.43 | 2/27/2034 | 2/25/2019 | 145.81389 | 145.8138911 | 145.8138911 | 136.1823357 | 121.5424368 | 108.4298428 | 96.95003397 | 86.88756817 | 78.05660309 |
| 190308A00007 | 3/8/2019 | 2.8 | 3/8/2024 | 3/8/2019 | 109.53813 | 109.5381253 | 109.5381253 | 109.5381253 | 108.0410066 | 104.2511675 | 100.6157518 | 97.12760037 | 93.7799292 |
| 180925A00095 | 9/25/2018 | 3.01 | 9/25/2020 | 9/25/2018 | 100.90734 | 100.9073424 | 100.9073424 | 100.9073424 | 100.8490585 | 100.5190768 | 100.191254 | 99.86556908 | 99.54200108 |
| 180927A00042 | 9/27/2018 | 3.02 | 9/27/2022 | 9/27/2018 | 106.84915 | 106.849148 | 106.849148 | 106.849148 | 106.2949289 | 103.9376608 | 101.644698 | 99.41392988 | 97.24332794 |
| 181001A00049 | 10/1/2018 | 3.01 | 10/1/2020 | 10/1/2018 | 100.95306 | 100.9530598 | 100.9530598 | 100.9530598 | 100.8914541 | 100.5448472 | 100.200617 | 99.85873907 | 99.51918949 |
| 181001A00074 | 10/1/2018 | 3.03 | 10/3/2022 | 10/1/2018 | 106.92113 | 106.9211313 | 106.9211313 | 106.9211313 | 106.3592292 | 103.9848197 | 101.6755839 | 99.42937833 | 97.2441424 |
| 181005A00005 | 10/5/2018 | 3.31 | 10/5/2023 | 10/5/2018 | 110.19619 | 110.1961928 | 110.1961928 | 110.1961928 | 109.0197593 | 105.6250125 | 102.3550932 | 99.20476507 | 96.16903883 |
| 181005A00016 | 10/5/2018 | 3.26 | 1/10/2023 | 10/5/2018 | 107.84049 | 107.8404856 | 107.8404856 | 107.8404856 | 107.1434717 | 104.5002657 | 101.9362863 | 99.44866603 | 97.03466123 |
| 181009A00060 | 10/9/2018 | 3.07 | 10/12/2021 | 10/9/2018 | 104.1042 | 104.1041966 | 104.1041966 | 104.1041966 | 103.8383551 | 102.4591253 | 101.1048859 | 99.77501563 | 98.46891337 |
| 181010A00021 | 10/10/2018 | 3.29 | 3/15/2023 | 10/10/2018 | 108.44709 | 108.447095 | 108.447095 | 108.447095 | 107.6487978 | 104.823423 | 102.0872575 | 99.43695857 | 96.86933095 |
| 181016A00004 | 10/16/2018 | 3.07 | 10/16/2020 | 10/16/2018 | 101.09424 | 101.0942367 | 101.0942367 | 101.0942367 | 101.0240913 | 100.6358019 | 100.2505039 | 99.86816292 | 99.48874487 |
| 181016A00087 | 10/16/2018 | 3.31 | 10/16/2023 | 10/16/2018 | 110.28722 | 110.287225 | 110.287225 | 110.287225 | 109.0884947 | 105.662676 | 102.3638689 | 99.18670071 | 96.12605468 |
| 181022A00029 | 10/22/2018 | 3.22 | 10/24/2022 | 10/22/2018 | 107.10572 | 107.1057182 | 107.1057182 | 107.1057182 | 106.5189758 | 104.0939774 | 101.7368549 | 99.44533048 | 97.21721645 |
| 181023A00025 | 10/23/2018 | 3.27 | 10/23/2023 | 10/23/2018 | 110.20787 | 110.2078734 | 110.2078734 | 110.2078734 | 108.9955603 | 105.5523187 | 102.2374226 | 99.04541407 | 95.97109639 |
| 181023A00052 | 10/23/2018 | 3.15 | 10/23/2023 | 10/23/2018 | 110.43689 | 110.4368929 | 110.4368929 | 110.4368929 | 109.2168691 | 105.7539361 | 102.4204112 | 99.21077793 | 96.11978486 |
| 181109A00029 | 11/9/2018 | 3.72 | 11/9/2026 | 11/9/2018 | 122.11181 | 122.111808 | 122.111808 | 122.111808 | 117.077893 | 110.5016881 | 104.3487377 | 98.58946732 | 93.1965177 |
| 181115A00012 | 11/15/2018 | 3.14 | 11/16/2020 | 11/15/2018 | 101.36955 | 101.3695522 | 101.3695522 | 101.3695522 | 101.2807877 | 100.8064894 | 100.3366394 | 99.87117504 | 99.41003508 |
| 181115A00028 | 11/15/2018 | 2.95 | 11/16/2020 | 11/15/2018 | 101.3449 | 101.3448953 | 101.3448953 | 101.3448953 | 101.2559935 | 100.7809827 | 100.3104372 | 99.84429389 | 99.38249111 |
| 181115A00055 | 11/15/2018 | 3.01 | 11/15/2021 | 11/15/2018 | 104.2934 | 104.2933979 | 104.2933979 | 104.2933979 | 104.0042237 | 102.5314475 | 101.0870063 | 99.67015297 | 98.28016661 |
| 181120A00023 | 11/20/2018 | 3.15 | 11/19/2021 | 11/20/2018 | 104.27927 | 104.2792665 | 104.2792665 | 104.2792665 | 103.9881836 | 102.5090323 | 101.0584731 | 99.63574897 | 98.24012881 |
| 181206A00010 | 12/6/2018 | 3.09 | 12/6/2021 | 12/6/2018 | 104.32153 | 104.3215262 | 104.3215262 | 104.3215262 | 104.0193217 | 102.494029 | 100.9989274 | 99.53319458 | 98.09603741 |
| 181207A00004 | 12/7/2018 | 3.05 | 12/7/2020 | 12/7/2018 | 101.48965 | 101.4896543 | 101.4896543 | 101.4896543 | 101.3868741 | 100.854532 | 100.3277799 | 99.80653003 | 99.29069636 |
| 181211A00019 | 12/11/2018 | 3.04 | 12/11/2020 | 12/11/2018 | 101.51517 | 101.515166 | 101.515166 | 101.515166 | 101.4094199 | 100.8660183 | 100.3284427 | 99.79659955 | 99.27039741 |
| 181213A00031 | 12/13/2018 | 2.97 | 12/13/2023 | 12/13/2018 | 110.21954 | 110.2195409 | 110.2195409 | 110.2195409 | 108.8954699 | 105.301225 | 101.846242 | 98.52436072 | 95.32972893 |
| 181219A00005 | 12/19/2018 | 3.06 | 12/19/2023 | 12/19/2018 | 109.92037 | 109.9203684 | 109.9203684 | 109.9203684 | 108.5927528 | 105.0045232 | 101.5554728 | 98.23943636 | 95.05055759 |
| 181226A00033 | 12/26/2018 | 2.87 | 12/28/2020 | 12/26/2018 | 101.54574 | 101.5457434 | 101.5457434 | 101.5457434 | 101.427445 | 100.837336 | 100.2540795 | 99.67755683 | 99.10765188 |
| 190107A00029 | 1/7/2019 | 2.59 | 1/7/2021 | 1/7/2019 | 101.53069 | 101.5306875 | 101.5306875 | 101.5306875 | 101.4041191 | 100.7855927 | 100.1746089 | 99.57103023 | 98.97472244 |
| 190107A00036 | 1/7/2019 | 2.84 | 4/15/2022 | 1/7/2019 | 104.83373 | 104.8337332 | 104.8337332 | 104.8337332 | 104.4515704 | 102.5667191 | 100.7252409 | 98.92588209 | 97.16743336 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190108A00002 | 1/8/2019 | 2.89 | 1/8/2021 | 1/8/2019 | 101.63802 | 101.6380189 | 101.6380189 | 101.6380189 | 101.510796 | 100.8902326 | 100.2772548 | 99.67172387 | 99.07350463 |
| 190108A00039 | 1/8/2019 | 3.04 | 4/30/2024 | 1/8/2019 | 110.85109 | 110.8510921 | 110.8510921 | 110.8510921 | 109.2275739 | 105.2731481 | 101.4852185 | 97.85590825 | 94.37775437 |
| 190109A00023 | 1/9/2019 | 2.92 | 10/9/2020 | 1/9/2019 | 100.98065 | 100.9806478 | 100.9806478 | 100.9806478 | 100.9145104 | 100.5458022 | 100.1797934 | 99.81645434 | 99.45575578 |
| 190110A00015 | 1/10/2019 | 2.88 | 1/18/2022 | 1/10/2019 | 104.30636 | 104.3063632 | 104.3063632 | 104.3063632 | 103.9789601 | 102.3372039 | 100.7293933 | 99.15454071 | 97.61169679 |
| 190110A00022 | 1/10/2019 | 2.86 | 5/10/2021 | 1/10/2019 | 102.48948 | 102.489477 | 102.489477 | 102.489477 | 102.27585 | 101.3186473 | 100.3793449 | 99.45744386 | 98.55246366 |
| 190110A00071 | 1/10/2019 | 2.67 | 2/8/2021 | 1/10/2019 | 101.80692 | 101.8069175 | 101.8069175 | 101.8069175 | 101.6547075 | 100.9474409 | 100.2500091 | 99.56220803 | 98.88383886 |
| 190114A00061 | 1/14/2019 | 2.98 | 1/31/2024 | 1/14/2019 | 109.95077 | 109.9507659 | 109.9507659 | 109.9507659 | 108.5321264 | 104.8312102 | 101.2775624 | 97.86448338 | 94.58561981 |
| 190115A00063 | 1/15/2019 | 2.96 | 1/16/2024 | 1/15/2019 | 109.76661 | 109.7666149 | 109.7666149 | 109.7666149 | 108.3807829 | 104.7219576 | 101.2074636 | 97.83079482 | 94.58577778 |
| 190117A00002 | 1/17/2019 | 2.87 | 1/7/2021 | 1/17/2019 | 101.61833 | 101.6183253 | 101.6183253 | 101.6183253 | 101.491928 | 100.8741723 | 100.2639342 | 99.66107669 | 99.06546644 |
| 190117A00004 | 1/17/2019 | 2.9 | 1/18/2022 | 1/17/2019 | 104.33956 | 104.3395581 | 104.3395581 | 104.3395581 | 104.0120979 | 102.3700579 | 100.7619686 | 99.18684233 | 97.64372951 |
| 190118A00023 | 1/18/2019 | 2.9 | 1/19/2021 | 1/18/2019 | 101.72502 | 101.7250151 | 101.7250151 | 101.7250151 | 101.5887962 | 100.9378109 | 100.2951661 | 99.66070196 | 99.03426288 |
| 190122A00046 | 1/22/2019 | 3.29 | 1/22/2029 | 1/22/2019 | 127.69362 | 127.6936227 | 127.6936227 | 127.5970517 | 118.4983459 | 109.7740575 | 101.7788185 | 94.44742305 | 87.72083016 |
| 190131A00019 | 1/31/2019 | 3.44 | 1/30/2034 | 1/31/2019 | 145.69827 | 145.6982668 | 145.6982668 | 136.2445925 | 121.6747174 | 108.6118197 | 97.16746716 | 87.12913941 | 78.31337252 |
| 190211A00016 | 2/11/2019 | 3.01 | 2/11/2025 | 2/11/2019 | 112.81928 | 112.8192798 | 112.8192798 | 112.8192798 | 110.4457804 | 105.7101471 | 101.2074042 | 96.92481553 | 92.85041412 |
| 190214A00004 | 2/14/2019 | 2.6 | 2/14/2022 | 2/14/2019 | 104.31075 | 104.3107493 | 104.3107493 | 104.3107493 | 103.9667951 | 102.2467026 | 100.5633848 | 98.91572771 | 97.30266275 |
| 190214A00006 | 2/14/2019 | 2.67 | 2/14/2024 | 2/14/2019 | 109.58914 | 109.5891364 | 109.5891364 | 109.5891364 | 108.1333672 | 104.3849575 | 100.7875088 | 97.33407167 | 94.01806064 |
| 190215A00017 | 2/15/2019 | 2.89 | 2/15/2024 | 2/15/2019 | 109.72425 | 109.7242541 | 109.7242541 | 109.7242541 | 108.274219 | 104.5388041 | 100.9534545 | 97.5112756 | 94.20573328 |
| 190226A00006 | 2/26/2019 | 2.64 | 2/26/2024 | 2/26/2019 | 109.56014 | 109.5601374 | 109.5601374 | 109.5601374 | 108.0783147 | 104.299366 | 100.6737369 | 97.194315 | 93.8543636 |
| 190326A00002 | 3/26/2019 | 2.56 | 9/26/2022 | 3/26/2019 | 105.32745 | 105.3274498 | 105.3274498 | 105.3274498 | 104.7803894 | 102.452542 | 100.1880796 | 97.98492328 | 95.84107511 |
| 190327A00006 | 3/27/2019 | 2.53 | 3/27/2024 | 3/27/2019 | 108.62564 | 108.6256431 | 108.6256431 | 108.6256431 | 107.0914066 | 103.266992 | 99.60058173 | 96.08484295 | 92.71282106 |
| 190328A00003 | 3/28/2019 | 2.64 | 9/30/2024 | 3/28/2019 | 110.25407 | 110.2540725 | 110.2540725 | 110.2540725 | 108.2621063 | 103.9254185 | 99.78806268 | 95.83987135 | 92.07124609 |
| 190328A00022 | 3/28/2019 | 2.53 | 11/20/2020 | 3/28/2019 | 101.10529 | 101.1052914 | 101.1052914 | 101.1052914 | 101.0141831 | 100.529644 | 100.0497531 | 99.57444364 | 99.10365015 |
| 180629A00039 | 6/29/2018 | 2.91 | 6/29/2021 | 6/29/2018 | 102.89286 | 102.892856 | 102.892856 | 102.892856 | 102.6635064 | 101.567968 | 100.4957762 | 99.44619055 | 98.41850177 |
| 180703A00015 | 7/3/2018 | 3.06 | 7/3/2023 | 7/3/2018 | 108.63528 | 108.6352793 | 108.6352793 | 108.6352793 | 107.644467 | 104.5230588 | 101.509289 | 98.59882366 | 95.78753036 |
| 180719A00064 | 7/19/2018 | 3.3 | 7/21/2025 | 7/19/2018 | 115.50322 | 115.5032174 | 115.5032174 | 115.5032174 | 112.6145873 | 107.4029287 | 102.467801 | 97.79302336 | 93.36344958 |
| 180720A00030 | 7/20/2018 | 2.79 | 7/20/2021 | 7/20/2018 | 103.09223 | 103.0922255 | 103.0922255 | 103.0922255 | 102.858886 | 101.7021254 | 100.5713447 | 99.46567566 | 98.38428847 |
| 180723A00027 | 1/23/2019 | 3.13 | 1/24/2022 | 1/23/2019 | 104.76856 | 104.7685583 | 104.7685583 | 104.7685583 | 104.4369402 | 102.7752454 | 101.1481173 | 99.55454184 | 97.9935449 |
| 180723A00029 | 6/21/2019 | 3.17 | 6/21/2022 | 6/21/2019 | 105.99263 | 105.992625 | 105.992625 | 105.992625 | 105.55067 | 103.4741079 | 101.449115 | 99.47406864 | 97.54740921 |
| 180724A00075 | 7/24/2018 | 2.98 | 7/24/2023 | 7/24/2018 | 109.13094 | 109.1309421 | 109.1309421 | 109.1309421 | 108.0939064 | 104.8940539 | 101.806404 | 98.82635718 | 95.94953318 |
| 180725A00027 | 7/25/2018 | 2.95 | 12/17/2020 | 7/25/2018 | 101.51097 | 101.5109689 | 101.5109689 | 101.5109689 | 101.4007998 | 100.8409514 | 100.2872862 | 99.73970206 | 99.19809898 |
| 180725A00029 | 7/25/2018 | 2.98 | 4/16/2021 | 7/25/2018 | 102.42414 | 102.4241416 | 102.4241416 | 102.4241416 | 102.2241729 | 101.3327076 | 100.4567836 | 99.59599665 | 98.74995664 |
| 180727A00037 | 7/27/2018 | 3.13 | 7/27/2023 | 7/27/2018 | 109.04084 | 109.0408372 | 109.0408372 | 109.0408372 | 108.0039524 | 104.811427 | 101.7307813 | 98.75743019 | 95.88700669 |
| 180727A00039 | 7/27/2018 | 3.48 | 7/27/2028 | 7/27/2018 | 125.95297 | 125.952967 | 125.952967 | 125.952967 | 117.8102166 | 109.6289204 | 102.0949419 | 95.15328238 | 88.75389881 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180730A00023 | 7/30/2018 | 3.13 | 7/30/2024 | 7/30/2018 | 112.7079 | 112.7079008 | 112.7079008 | 112.7079008 | 110.8440963 | 106.5918019 | 102.5283292 | 98.6442406 | 94.93062556 |
| 180730A00033 | 7/30/2018 | 3.11 | 7/29/2022 | 7/30/2018 | 106.16244 | 106.1624404 | 106.1624404 | 106.1624404 | 105.6812487 | 103.4994111 | 101.3736394 | 99.30209301 | 97.2830075 |
| 180730A00041 | 7/30/2018 | 3.14 | 7/31/2023 | 7/30/2018 | 109.10404 | 109.104043 | 109.104043 | 109.104043 | 108.0594029 | 104.8552554 | 101.7636989 | 98.7801057 | 95.90006886 |
| 180730A00081 | 7/30/2018 | 3.5 | 7/28/2028 | 7/30/2018 | 126.12512 | 126.1251195 | 126.1251195 | 126.1251195 | 117.9731931 | 109.7829807 | 102.2408369 | 95.29169001 | 88.88543163 |
| 180801A00009 | 8/1/2018 | 2.98 | 3/15/2021 | 8/1/2018 | 102.18376 | 102.1837601 | 102.1837601 | 102.1837601 | 102.0058765 | 101.2028171 | 100.4123959 | 99.63431604 | 98.86829002 |
| 180801A00011 | 8/1/2018 | 3 | 5/14/2021 | 8/1/2018 | 102.6444 | 102.6444002 | 102.6444002 | 102.6444002 | 102.4288304 | 101.460055 | 100.5095959 | 99.57693664 | 98.66158039 |
| 180814A00010 | 8/14/2018 | 3.1 | 8/14/2025 | 8/14/2018 | 115.71062 | 115.710616 | 115.710616 | 115.710616 | 112.7121678 | 107.4015324 | 102.3766916 | 97.62069331 | 93.11768511 |
| 180815A00008 | 8/15/2018 | 2.85 | 8/14/2020 | 8/15/2018 | 100.55062 | 100.5506229 | 100.5506229 | 100.5506229 | 100.5151748 | 100.3016898 | 100.0891241 | 99.87747144 | 99.66672607 |
| 180815A00021 | 8/15/2018 | 3.01 | 8/15/2023 | 8/15/2018 | 108.80013 | 108.800127 | 108.800127 | 108.800127 | 107.728207 | 104.4898012 | 101.3664349 | 98.35332488 | 95.44591947 |
| 180817A00022 | 8/17/2018 | 2.87 | 8/17/2023 | 8/17/2018 | 108.96274 | 108.9627417 | 108.9627417 | 108.9627417 | 107.8806818 | 104.6200148 | 101.4756392 | 98.44270108 | 95.51658252 |
| 180820A00017 | 8/20/2018 | 3 | 8/18/2023 | 8/20/2018 | 108.79007 | 108.7900653 | 108.7900653 | 108.7900653 | 107.7124973 | 104.4664463 | 101.3359489 | 98.31618948 | 95.40258668 |
| 180820A00055 | 8/20/2018 | 3.37 | 8/21/2028 | 8/20/2018 | 125.2614 | 125.2614031 | 125.2614031 | 125.2614031 | 117.0137605 | 108.8033807 | 101.2480051 | 94.29155377 | 87.88303842 |
| 180823A00053 | 8/23/2018 | 3.2 | 8/23/2028 | 8/23/2018 | 125.61961 | 125.6196148 | 125.6196148 | 125.6196148 | 117.2554672 | 108.9575049 | 101.3246104 | 94.29963369 | 87.83063079 |
| 180816A00038 | 8/16/2018 | 3.38 | 8/16/2028 | 8/16/2018 | 125.30214 | 125.3021393 | 125.3021393 | 125.3021393 | 117.0778916 | 108.8770101 | 101.3293836 | 94.37916346 | 87.97556434 |
| 180820A00036 | 8/20/2018 | 3 | 8/21/2023 | 8/20/2018 | 108.81243 | 108.8124265 | 108.8124265 | 108.8124265 | 107.7290824 | 104.4748657 | 101.3367316 | 98.30983192 | 95.38955453 |
| 180827A00030 | 8/27/2018 | 2.84 | 8/27/2020 | 8/27/2018 | 100.64119 | 100.6411881 | 100.6411881 | 100.6411881 | 100.598753 | 100.3492621 | 100.1010062 | 99.85397636 | 99.60816347 |
| 180829A00044 | 8/29/2018 | 2.98 | 8/26/2022 | 8/29/2018 | 106.08555 | 106.0855466 | 106.0855466 | 106.0855466 | 105.5733074 | 103.3182571 | 101.1227296 | 98.98470981 | 96.90226909 |
| 180904A00014 | 9/4/2018 | 3.37 | 9/1/2028 | 9/4/2018 | 125.35283 | 125.3528322 | 125.3528322 | 125.3528322 | 117.0490026 | 108.8107359 | 101.231742 | 94.25541188 | 87.8302895 |
| 180911A00042 | 9/11/2018 | 2.99 | 9/11/2023 | 9/11/2018 | 109.5524 | 109.5524038 | 109.5524038 | 109.5524038 | 108.4195533 | 105.0836246 | 101.868695 | 98.76968369 | 95.78175494 |
| 180913A00029 | 9/13/2018 | 3.11 | 9/13/2023 | 9/13/2018 | 109.34926 | 109.3492585 | 109.3492585 | 109.3492585 | 108.2194259 | 104.8965611 | 101.6940859 | 98.60695854 | 95.63037965 |
| 180914A00026 | 9/14/2018 | 3.15 | 9/14/2023 | 9/14/2018 | 109.49 | 109.4900049 | 109.4900049 | 109.4900049 | 108.3576462 | 105.0298548 | 101.8226954 | 98.73111751 | 95.75031281 |
| 180914A00029 | 9/14/2018 | 3.48 | 9/14/2028 | 9/14/2018 | 126.37478 | 126.374778 | 126.374778 | 126.374778 | 117.980466 | 109.6736043 | 102.0331631 | 95.00179218 | 88.52736727 |
| 180919A00018 | 9/19/2018 | 3.12 | 6/20/2022 | 9/19/2018 | 105.88057 | 105.880566 | 105.880566 | 105.880566 | 105.4398127 | 103.3670934 | 101.3458113 | 99.37434957 | 97.45115414 |
| 180920A00014 | 9/20/2018 | 3.59 | 9/20/2028 | 9/20/2018 | 127.34213 | 127.3421266 | 127.3421266 | 127.3421266 | 118.8930536 | 110.5351172 | 102.8480316 | 95.77402576 | 89.26059447 |
| 180924A00021 | 9/24/2018 | 2.88 | 9/24/2020 | 9/24/2018 | 100.90532 | 100.9053212 | 100.9053212 | 100.9053212 | 100.8474843 | 100.5197179 | 100.1940865 | 99.8705691 | 99.5491452 |
| 180927A00017 | 9/27/2018 | 3 | 9/29/2020 | 9/27/2018 | 100.93444 | 100.9344407 | 100.9344407 | 100.9344407 | 100.8739725 | 100.5329186 | 100.194162 | 99.85767979 | 99.52344911 |
| 181001A00020 | 10/1/2018 | 3.16 | 10/3/2022 | 10/1/2018 | 106.7943 | 106.7943046 | 106.7943046 | 106.7943046 | 106.2349752 | 103.8708938 | 101.5715451 | 99.33480512 | 97.15863189 |
| 181002A00018 | 10/2/2018 | 3.1 | 10/4/2021 | 10/2/2018 | 103.8465 | 103.8464965 | 103.8464965 | 103.8464965 | 103.5870704 | 102.2354123 | 100.9078419 | 99.60376998 | 98.32262634 |
| 181003A00021 | 10/3/2018 | 3.1 | 4/5/2021 | 10/3/2018 | 102.44481 | 102.4448147 | 102.4448147 | 102.4448147 | 102.2521254 | 101.3905691 | 100.5435247 | 99.71062756 | 98.89152524 |
| 181005A00037 | 10/9/2018 | 3.4 | 10/3/2025 | 10/9/2018 | 117.74453 | 117.7445322 | 117.7445322 | 117.7445322 | 114.5405967 | 109.0512272 | 103.8632977 | 98.95867686 | 94.32041357 |
| 181016A00011 | 10/16/2018 | 3.06 | 10/15/2021 | 10/16/2018 | 104.11475 | 104.1147486 | 104.1147486 | 104.1147486 | 103.8468863 | 102.4593139 | 101.0970177 | 99.75936627 | 98.44574838 |
| 181017A00023 | 10/17/2018 | 3.07 | 10/14/2020 | 10/17/2018 | 101.07864 | 101.0786431 | 101.0786431 | 101.0786431 | 101.0096341 | 100.6268882 | 100.2470502 | 99.87008667 | 99.49596517 |
| 181023A00036 | 10/23/2018 | 2.98 | 10/23/2020 | 10/23/2018 | 101.1684 | 101.1684046 | 101.1684046 | 101.1684046 | 101.0941528 | 100.6857628 | 100.2806761 | 99.87885251 | 99.4802528 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 181026A00002 | 10/26/2018 | 3.28 | 10/26/2023 | 10/26/2018 | 110.26677 | 110.2667736 | 110.2667736 | 110.2667736 | 109.0482352 | 105.5959537 | 102.272635 | 99.07278255 | 95.99116386 |
| 181029A00081 | 10/29/2018 | 3.27 | 4/28/2023 | 10/29/2018 | 108.75093 | 108.7509319 | 108.7509319 | 108.7509319 | 107.8779992 | 104.9303835 | 102.0793962 | 99.32134964 | 96.65271759 |
| 181101A00020 | 11/1/2018 | 3.26 | 11/1/2021 | 11/1/2018 | 104.3098 | 104.3097959 | 104.3097959 | 104.3097959 | 104.0309458 | 102.5991154 | 101.1941013 | 99.81521508 | 98.46179107 |
| 181107A00008 | 11/7/2018 | 3.42 | 11/7/2023 | 11/7/2018 | 110.85157 | 110.8515709 | 110.8515709 | 110.8515709 | 109.6061099 | 106.1123707 | 102.7502231 | 99.51400877 | 96.39834379 |
| 190313A00019 | 3/13/2019 | 2.73 | 7/15/2022 | 3/13/2019 | 105.23642 | 105.236417 | 105.236417 | 105.236417 | 104.7718219 | 102.6384051 | 100.5591597 | 98.5323339 | 96.55624654 |
| 190313A00029 | 3/13/2019 | 2.56 | 3/13/2023 | 3/13/2019 | 106.89213 | 106.8921266 | 106.8921266 | 106.8921266 | 106.0982933 | 103.2889515 | 100.5685619 | 97.93377695 | 95.38139763 |
| 190321A00020 | 3/21/2019 | 2.62 | 3/22/2021 | 3/21/2019 | 101.93951 | 101.9395117 | 101.9395117 | 101.9395117 | 101.7568885 | 100.9358322 | 100.1280045 | 99.33308751 | 98.55077354 |
| 190327A00031 | 3/27/2019 | 2.53 | 3/27/2024 | 3/27/2019 | 108.62564 | 108.6256431 | 108.6256431 | 108.6256431 | 107.0914066 | 103.266992 | 99.60058173 | 96.08484295 | 92.71282106 |
| 190328A00007 | 3/28/2019 | 2.38 | 3/26/2021 | 3/28/2019 | 101.88977 | 101.8897713 | 101.8897713 | 101.8897713 | 101.7039717 | 100.8705615 | 100.0507771 | 99.24428634 | 98.45076788 |
| 190328A00011 | 3/28/2019 | 2.37 | 3/28/2024 | 3/28/2019 | 108.72905 | 108.7290474 | 108.7290474 | 108.7290474 | 107.1826686 | 103.3345963 | 99.64605813 | 96.10963149 | 92.71827715 |
| 190328A00030 | 4/25/2019 | 2.48 | 4/26/2021 | 4/25/2019 | 102.03898 | 102.0389765 | 102.0389765 | 102.0389765 | 101.8327713 | 100.915982 | 100.015661 | 99.13136752 | 98.26267653 |
| 190328A00031 | 4/25/2019 | 2.56 | 4/25/2024 | 4/25/2019 | 108.92205 | 108.9220499 | 108.9220499 | 108.9220499 | 107.3207785 | 103.4166654 | 99.67682393 | 96.09349784 | 92.65933748 |
| 190329A00016 | 3/29/2019 | 2.56 | 3/29/2022 | 3/29/2019 | 104.19518 | 104.1951819 | 104.1951819 | 104.1951819 | 103.8263677 | 101.9925365 | 100.2000017 | 98.44759649 | 96.73419404 |
| 190404A00023 | 4/5/2019 | 2.62 | 5/16/2022 | 4/5/2019 | 104.61471 | 104.6147147 | 104.6147147 | 104.6147147 | 104.2086911 | 102.2428088 | 100.3240719 | 98.45105952 | 96.62240326 |
| 190408A00004 | 4/8/2019 | 2.6 | 10/8/2021 | 4/8/2019 | 103.18875 | 103.1887535 | 103.1887535 | 103.1887535 | 102.9276241 | 101.5697263 | 100.2362078 | 98.92646826 | 97.63992671 |
| 190409A00009 | 4/9/2019 | 2.57 | 4/9/2021 | 4/9/2019 | 102.01312 | 102.013117 | 102.013117 | 102.013117 | 101.8181874 | 100.9477649 | 100.0922025 | 99.25112201 | 98.42415765 |
| 190416A00026 | 4/16/2019 | 2.63 | 10/14/2021 | 4/16/2019 | 103.28287 | 103.282866 | 103.282866 | 103.282866 | 103.0175742 | 101.6423712 | 100.2921288 | 98.96622582 | 97.66406117 |
| 190426A00012 | 5/1/2019 | 2.57 | 7/15/2022 | 5/1/2019 | 104.89223 | 104.8922254 | 104.8922254 | 104.8922254 | 104.4283943 | 102.2987317 | 100.2231644 | 98.19994286 | 96.22738814 |
| 190430A00002 | 4/30/2019 | 2.4 | 11/2/2022 | 4/30/2019 | 105.61304 | 105.6130385 | 105.6130385 | 105.6130385 | 105.0159996 | 102.5760705 | 100.2053831 | 97.90158421 | 95.66241472 |
| 190507A00014 | 5/7/2019 | 2.6 | 5/7/2024 | 5/7/2019 | 109.15552 | 109.1555228 | 109.1555228 | 109.1555228 | 107.5253926 | 103.585643 | 99.81293553 | 96.19932044 | 92.73726816 |
| 190510A00005 | 5/10/2019 | 2.47 | 5/10/2021 | 5/10/2019 | 102.11516 | 102.1151638 | 102.1151638 | 102.1151638 | 101.9019351 | 100.9466683 | 100.0092765 | 99.08926122 | 98.1861425 |
| 190513A00076 | 5/13/2019 | 2.42 | 11/12/2021 | 5/13/2019 | 103.16208 | 103.1620777 | 103.1620777 | 103.1620777 | 102.8774651 | 101.4252045 | 100.0006953 | 98.60321115 | 97.23205075 |
| 190514A00013 | 5/14/2019 | 2.49 | 11/16/2020 | 5/14/2019 | 101.06102 | 101.0610236 | 101.0610236 | 101.0610236 | 100.9724112 | 100.4989764 | 100.029984 | 99.56537145 | 99.10507753 |
| 190514A00015 | 5/14/2019 | 2.43 | 5/14/2021 | 5/14/2019 | 102.09104 | 102.0910395 | 102.0910395 | 102.0910395 | 101.8760656 | 100.9101822 | 99.96257665 | 99.03273358 | 98.12015688 |
| 190515A00055 | 5/15/2019 | 2.26 | 5/15/2023 | 5/15/2019 | 106.41855 | 106.4185543 | 106.4185543 | 106.4185543 | 105.5193686 | 102.5481476 | 99.6763923 | 96.90023192 | 94.21596861 |
| 190515A00057 | 5/15/2019 | 2.25 | 5/16/2022 | 5/15/2019 | 104.23994 | 104.2399404 | 104.2399404 | 104.2399404 | 103.8332652 | 101.864471 | 99.94302645 | 98.0675011 | 96.23651746 |
| 190516A00010 | 5/16/2019 | 2.43 | 5/17/2021 | 5/16/2019 | 102.10891 | 102.1089054 | 102.1089054 | 102.1089054 | 101.8925611 | 100.9184298 | 99.96288585 | 99.02540091 | 98.10546642 |
| 190517A00019 | 5/17/2019 | 2.41 | 5/17/2021 | 5/17/2019 | 102.08932 | 102.089323 | 102.089323 | 102.089323 | 101.873 | 100.8989718 | 99.94352964 | 99.0061451 | 98.0863097 |
| 181228A00008 | 12/28/2018 | 2.9 | 12/28/2021 | 12/28/2018 | 104.18753 | 104.1875281 | 104.1875281 | 104.1875281 | 103.8723145 | 102.2875497 | 100.734831 | 99.21325409 | 97.72194865 |
| 190102A00037 | 1/2/2019 | 2.8 | 7/2/2021 | 1/2/2019 | 102.79298 | 102.7929834 | 102.7929834 | 102.7929834 | 102.5633006 | 101.4601662 | 100.3807239 | 99.32421646 | 98.28991861 |
| 190104A00027 | 1/4/2019 | 2.76 | 1/4/2021 | 1/4/2019 | 101.52938 | 101.5293817 | 101.5293817 | 101.5293817 | 101.4054797 | 100.7962495 | 100.1943324 | 99.59959727 | 99.01191602 |
| 190107A00034 | 1/7/2019 | 2.8 | 4/15/2021 | 1/7/2019 | 102.25632 | 102.2563164 | 102.2563164 | 102.2563164 | 102.0571758 | 101.1692478 | 100.2967568 | 99.43930251 | 98.5964984 |
| 190110A00013 | 1/10/2019 | 2.97 | 1/17/2024 | 1/10/2019 | 109.81063 | 109.8106333 | 109.8106333 | 109.8106333 | 108.4224646 | 104.7602574 | 101.2425926 | 97.86295068 | 94.61514566 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190114A00030 | 1/14/2019 | 2.85 | 1/14/2021 | 1/14/2019 | 101.65638 | 101.6563821 | 101.6563821 | 101.6563821 | 101.5242717 | 100.8872172 | 100.2581568 | 99.63694069 | 99.02342248 |
| 190114A00042 | 1/14/2019 | 2.92 | 1/13/2023 | 1/14/2019 | 106.96298 | 106.9629812 | 106.9629812 | 106.9629812 | 106.2640473 | 103.6245952 | 101.0645221 | 98.5809462 | 96.17111042 |
| 190115A00029 | 1/15/2019 | 2.86 | 11/8/2021 | 1/15/2019 | 103.78226 | 103.7822562 | 103.7822562 | 103.7822562 | 103.4994193 | 102.0529999 | 100.6340175 | 99.24175919 | 97.87553585 |
| 190118A00020 | 1/18/2019 | 2.89 | 7/15/2020 | 1/18/2019 | 100.33629 | 100.336291 | 100.336291 | 100.336291 | 100.3163083 | 100.186023 | 100.0560891 | 99.92650526 | 99.79726995 |
| 190122A00043 | 1/22/2019 | 2.96 | 1/22/2025 | 1/22/2019 | 113.37271 | 113.3727124 | 113.3727124 | 113.3727124 | 111.0344107 | 106.3100077 | 101.8162206 | 97.54053497 | 93.47118531 |
| 190129A00028 | 1/30/2019 | 2.92 | 2/1/2022 | 1/30/2019 | 104.47481 | 104.4748141 | 104.4748141 | 104.4748141 | 104.1391241 | 102.4584252 | 100.8130106 | 99.20183364 | 97.62388898 |
| 190130A00020 | 1/30/2019 | 2.97 | 4/17/2023 | 1/30/2019 | 107.78707 | 107.7870713 | 107.7870713 | 107.7870713 | 106.9359945 | 104.0311885 | 101.2208347 | 98.50136035 | 95.86934751 |
| 190131A00036 | 1/31/2019 | 2.69 | 7/31/2023 | 1/31/2019 | 108.25535 | 108.2553452 | 108.2553452 | 108.2553452 | 107.2085476 | 104.0038206 | 100.9121392 | 97.92884305 | 95.04949494 |
| 190211A00010 | 2/11/2019 | 2.79 | 2/11/2021 | 2/11/2019 | 101.81484 | 101.8148412 | 101.8148412 | 101.8148412 | 101.6606536 | 100.9464295 | 100.2422349 | 99.54785926 | 98.86309819 |
| 190212A00017 | 2/12/2019 | 2.86 | 6/30/2023 | 2/12/2019 | 107.98935 | 107.9893516 | 107.9893516 | 107.9893516 | 107.0065079 | 103.9032201 | 100.9068095 | 98.01298064 | 95.21763789 |
| 190221A00002 | 2/21/2019 | 2.81 | 2/22/2022 | 2/21/2019 | 104.43424 | 104.4342354 | 104.4342354 | 104.4342354 | 104.0864791 | 102.3485291 | 100.6480055 | 98.98376417 | 97.35470793 |
| 190227A00002 | 2/27/2019 | 2.61 | 2/28/2022 | 2/27/2019 | 104.42474 | 104.4247412 | 104.4247412 | 104.4247412 | 104.072462 | 102.3128266 | 100.5914449 | 98.90713561 | 97.25876661 |
| 190228A00037 | 2/28/2019 | 2.85 | 2/28/2023 | 2/28/2019 | 107.10087 | 107.1008679 | 107.1008679 | 107.1008679 | 106.3311665 | 103.5666643 | 100.88844 | 98.29322945 | 95.77791717 |
| 190313A00018 | 3/13/2019 | 2.68 | 3/12/2021 | 3/13/2019 | 101.93033 | 101.9303292 | 101.9303292 | 101.9303292 | 101.7547672 | 100.9609 | 100.1794058 | 99.40999673 | 98.65239396 |
| 190318A00008 | 3/18/2019 | 2.76 | 3/18/2024 | 3/18/2019 | 109.45305 | 109.4530524 | 109.4530524 | 109.4530524 | 107.9342465 | 104.1186605 | 100.4596044 | 96.94981967 | 93.58242501 |
| 190318A00021 | 3/18/2019 | 2.76 | 3/18/2024 | 3/18/2019 | 109.45305 | 109.4530524 | 109.4530524 | 109.4530524 | 107.9342465 | 104.1186605 | 100.4596044 | 96.94981967 | 93.58242501 |
| 190321A00044 | 3/21/2019 | 2.45 | 3/21/2022 | 3/21/2019 | 104.27597 | 104.2759731 | 104.2759731 | 104.2759731 | 103.9107892 | 102.0928297 | 100.3154905 | 98.57759463 | 96.87800828 |
| 190322A00022 | 3/22/2019 | 2.56 | 7/22/2021 | 3/22/2019 | 102.65367 | 102.6536684 | 102.6536684 | 102.6536684 | 102.4211437 | 101.2644145 | 100.1337566 | 99.02829571 | 97.94719643 |
| 190326A00021 | 3/26/2019 | 2.52 | 3/26/2021 | 3/26/2019 | 101.88195 | 101.8819509 | 101.8819509 | 101.8819509 | 101.6965508 | 100.864864 | 100.04675 | 99.24187871 | 98.44993052 |
| 181219A00023 | 12/19/2018 | 2.97 | 12/20/2021 | 12/19/2018 | 104.24036 | 104.2403649 | 104.2403649 | 104.2403649 | 103.9298704 | 102.3666697 | 100.8348332 | 99.33348683 | 97.86178863 |
| 181224A00015 | 12/24/2018 | 2.72 | 6/24/2020 | 12/24/2018 | 100.18802 | 100.1880231 | 100.1880231 | 100.1880231 | 100.1778122 | 100.1055864 | 100.0334739 | 99.96147423 | 99.8895873 |
| 181226A00036 | 12/26/2018 | 3.02 | 12/26/2023 | 12/26/2018 | 109.82914 | 109.8291426 | 109.8291426 | 109.8291426 | 108.4874209 | 104.8820815 | 101.4171828 | 98.08647627 | 94.88402836 |
| 181231A00052 | 12/31/2018 | 2.64 | 6/30/2020 | 12/31/2018 | 100.22429 | 100.2242912 | 100.2242912 | 100.2242912 | 100.2116273 | 100.1227485 | 100.0340284 | 99.94546671 | 99.85706286 |
| 190104A00012 | 1/4/2019 | 2.76 | 1/4/2021 | 1/4/2019 | 101.52938 | 101.5293817 | 101.5293817 | 101.5293817 | 101.4054797 | 100.7962495 | 100.1943324 | 99.59959727 | 99.01191602 |
| 190104A00033 | 1/4/2019 | 3.37 | 1/31/2029 | 1/4/2019 | 126.61362 | 126.6136211 | 126.6136211 | 126.4977257 | 117.5134277 | 108.8881066 | 100.9830185 | 93.73376201 | 87.08202453 |
| 190107A00022 | 1/7/2019 | 2.83 | 1/7/2022 | 1/7/2019 | 104.14586 | 104.145857 | 104.145857 | 104.145857 | 103.8249877 | 102.2138561 | 100.6356519 | 99.08943209 | 97.57428953 |
| 190107A00023 | 1/7/2019 | 2.87 | 1/6/2023 | 1/7/2019 | 106.78057 | 106.7805668 | 106.7805668 | 106.7805668 | 106.0925465 | 103.4739166 | 100.9336334 | 98.46886954 | 96.07691932 |
| 190110A00003 | 1/10/2019 | 2.97 | 1/10/2024 | 1/10/2019 | 109.7591 | 109.7590996 | 109.7590996 | 109.7590996 | 108.3860254 | 104.742848 | 101.2428737 | 97.87967108 | 94.64713612 |
| 190110A00006 | 1/10/2019 | 2.73 | 11/15/2022 | 1/10/2019 | 106.519 | 106.5189954 | 106.5189954 | 106.5189954 | 105.9020695 | 103.4166138 | 101.0025894 | 98.65753487 | 96.37908898 |
| 190110A00028 | 1/10/2019 | 2.78 | 1/10/2024 | 1/10/2019 | 109.74471 | 109.7447102 | 109.7447102 | 109.7447102 | 108.363721 | 104.7034426 | 101.1874586 | 97.8092721 | 94.56271792 |
| 190110A00077 | 1/10/2019 | 2.68 | 12/8/2020 | 1/10/2019 | 101.37316 | 101.3731584 | 101.3731584 | 101.3731584 | 101.2695257 | 100.7338953 | 100.2039323 | 99.67954694 | 99.16065136 |
| 190111A00013 | 1/11/2019 | 2.87 | 1/7/2022 | 1/11/2019 | 104.21103 | 104.2110304 | 104.2110304 | 104.2110304 | 103.8900509 | 102.2783716 | 100.6996296 | 99.15288148 | 97.63721984 |
| 190111A00026 | 1/11/2019 | 3.48 | 1/11/2034 | 1/11/2019 | 146.07397 | 146.0739707 | 146.0739707 | 136.7362545 | 122.1875071 | 109.1307267 | 97.68552523 | 87.6410352 | 78.81512388 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190114A00045 | 1/14/2019 | 2.84 | 1/14/2021 | 1/14/2019 | 101.65 | 101.6499991 | 101.6499991 | 101.6499991 | 101.517893 | 100.8808615 | 100.2518239 | 99.63063036 | 99.01713452 |
| 190123A00036 | 1/23/2019 | 3.32 | 1/23/2029 | 1/23/2019 | 127.96439 | 127.9643854 | 127.9643854 | 127.8654231 | 118.7562117 | 110.0187032 | 102.0112891 | 94.66866506 | 87.9317019 |
| 190129A00061 | 1/30/2019 | 2.92 | 2/1/2022 | 1/30/2019 | 104.47481 | 104.4748141 | 104.4748141 | 104.4748141 | 104.1391241 | 102.4584252 | 100.8130106 | 99.20183364 | 97.62388898 |
| 190130A00007 | 1/30/2019 | 2.89 | 5/14/2021 | 1/30/2019 | 102.53761 | 102.5376113 | 102.5376113 | 102.5376113 | 102.3221565 | 101.3539392 | 100.4040308 | 99.471915 | 98.55709515 |
| 190130A00011 | 1/30/2019 | 2.88 | 1/29/2021 | 1/30/2019 | 101.78485 | 101.7848537 | 101.7848537 | 101.7848537 | 101.6404721 | 100.9619188 | 100.2924066 | 99.63175585 | 98.97979153 |
| 190131A00011 | 1/31/2019 | 3.13 | 1/30/2026 | 1/31/2019 | 116.11294 | 116.1129405 | 116.1129405 | 116.1129405 | 112.4728484 | 106.7654801 | 101.3879681 | 96.31945323 | 91.54050684 |
| 190131A00049 | 1/31/2019 | 2.79 | 1/29/2021 | 1/31/2019 | 101.72366 | 101.7236634 | 101.7236634 | 101.7236634 | 101.5793258 | 100.9010046 | 100.2317223 | 99.57129917 | 98.91956039 |
| 190201A00013 | 2/1/2019 | 2.89 | 2/1/2024 | 2/1/2019 | 109.62429 | 109.6242894 | 109.6242894 | 109.6242894 | 108.2051209 | 104.5076032 | 100.9573726 | 97.54772281 | 94.27229447 |
| 190205A00047 | 2/5/2019 | 2.85 | 2/5/2021 | 2/5/2019 | 101.81472 | 101.8147169 | 101.8147169 | 101.8147169 | 101.6650438 | 100.9672235 | 100.278974 | 99.60009935 | 98.93040879 |
| 190206A00013 | 2/6/2019 | 2.68 | 2/6/2023 | 2/6/2019 | 106.98299 | 106.9829877 | 106.9829877 | 106.9829877 | 106.2444791 | 103.5302163 | 100.8993637 | 98.34882094 | 95.87562566 |
| 190328A00083 | 3/28/2019 | 2.37 | 3/28/2024 | 3/28/2019 | 108.72905 | 108.7290474 | 108.7290474 | 108.7290474 | 107.1826686 | 103.3345963 | 99.64605813 | 96.10963149 | 92.71827715 |
| 190329A00034 | 3/29/2019 | 2.56 | 3/29/2022 | 3/29/2019 | 104.19518 | 104.1951819 | 104.1951819 | 104.1951819 | 103.8263677 | 101.9925365 | 100.2000017 | 98.44759649 | 96.73419404 |
| 190403A00006 | 4/3/2019 | 2.48 | 4/3/2024 | 4/3/2019 | 109.1947 | 109.1947037 | 109.1947037 | 109.1947037 | 107.6321515 | 103.7595887 | 100.0481032 | 96.49017795 | 93.07868531 |
| 190403A00024 | 4/3/2019 | 2.61 | 7/29/2022 | 4/3/2019 | 105.06752 | 105.0675232 | 105.0675232 | 105.0675232 | 104.5888098 | 102.4191129 | 100.3052337 | 98.24533879 | 96.23767073 |
| 190426A00008 | 4/26/2019 | 2.57 | 4/26/2022 | 4/26/2019 | 104.39 | 104.3899986 | 104.3899986 | 104.3899986 | 104.0008725 | 102.0913427 | 100.2263926 | 98.40471524 | 96.62505069 |
| 190429A00004 | 4/29/2019 | 2.65 | 4/15/2024 | 4/29/2019 | 109.21189 | 109.2118941 | 109.2118941 | 109.2118941 | 107.6315985 | 103.7472776 | 100.0252918 | 96.45802652 | 93.0382635 |
| 190509A00019 | 5/9/2019 | 2.5 | 10/12/2021 | 5/9/2019 | 103.07544 | 103.0754402 | 103.0754402 | 103.0754402 | 102.8118224 | 101.4438127 | 100.1005424 | 98.78139813 | 97.48578636 |
| 190515A00024 | 5/15/2019 | 2.38 | 5/17/2021 | 5/15/2019 | 102.05995 | 102.0599494 | 102.0599494 | 102.0599494 | 101.8436584 | 100.8697849 | 99.91449532 | 98.97726138 | 98.05757461 |
| 190515A00059 | 5/15/2019 | 2.38 | 5/14/2021 | 5/15/2019 | 102.0425 | 102.0424991 | 102.0424991 | 102.0424991 | 101.8275775 | 100.8619478 | 99.91459251 | 98.98499648 | 98.07266358 |
| 190516A00016 | 5/16/2019 | 2.53 | 6/29/2020 | 5/16/2019 | 100.18781 | 100.1878065 | 100.1878065 | 100.1878065 | 100.1756658 | 100.0897954 | 100.0040692 | 99.91848682 | 99.83304804 |
| 190521A00068 | 5/21/2019 | 2.47 | 9/15/2021 | 5/21/2019 | 102.87057 | 102.8705711 | 102.8705711 | 102.8705711 | 102.6222851 | 101.3228051 | 100.0501592 | 98.80352224 | 97.58210337 |
| 190522A00003 | 5/22/2019 | 2.55 | 5/22/2024 | 5/22/2019 | 109.04949 | 109.0494919 | 109.0494919 | 109.0494919 | 107.3853003 | 103.4084288 | 99.60190138 | 95.9575271 | 92.46755246 |
| 190523A00014 | 5/23/2019 | 2.5 | 11/15/2023 | 5/23/2019 | 107.70475 | 107.7047469 | 107.7047469 | 107.7047469 | 106.4572064 | 102.9971421 | 99.66871771 | 96.46622758 | 93.3842445 |
| 190523A00016 | 5/23/2019 | 2.48 | 2/15/2023 | 5/23/2019 | 105.99425 | 105.9942527 | 105.9942527 | 105.9942527 | 105.2481118 | 102.5339436 | 99.90368846 | 97.35420673 | 94.88250003 |
| 190524A00004 | 5/24/2019 | 2.27 | 5/24/2021 | 5/24/2019 | 102.15007 | 102.150072 | 102.150072 | 102.150072 | 101.9300118 | 100.9343692 | 99.95812081 | 99.00070427 | 98.06157862 |
| 190528A00015 | 5/28/2019 | 2.42 | 5/27/2022 | 5/28/2019 | 104.28199 | 104.2819895 | 104.2819895 | 104.2819895 | 103.8673996 | 101.8750658 | 99.93123524 | 98.03442405 | 96.18320411 |
| 190528A00042 | 5/28/2019 | 2.38 | 11/29/2021 | 5/28/2019 | 103.18707 | 103.1870655 | 103.1870655 | 103.1870655 | 102.8908779 | 101.3938399 | 99.92625465 | 98.48732943 | 97.07629953 |
| 190529A00012 | 5/29/2019 | 2.34 | 11/29/2021 | 5/29/2019 | 103.12621 | 103.1262054 | 103.1262054 | 103.1262054 | 102.8301143 | 101.3335561 | 99.86644213 | 98.42798002 | 97.01740528 |
| 190530A00024 | 5/30/2019 | 2.25 | 5/30/2024 | 5/30/2019 | 108.63508 | 108.635083 | 108.635083 | 108.635083 | 106.9441768 | 102.9343956 | 99.09787436 | 95.42621395 | 91.91146764 |
| 190530A00034 | 5/30/2019 | 2.44 | 5/30/2024 | 5/30/2019 | 108.65492 | 108.6549235 | 108.6549235 | 108.6549235 | 106.9745195 | 102.9846746 | 99.16670825 | 95.51230984 | 92.01361526 |
| 190530A00074 | 5/30/2019 | 2.4 | 5/31/2022 | 5/30/2019 | 104.26491 | 104.2649141 | 104.2649141 | 104.2649141 | 103.8467639 | 101.8439041 | 99.89001459 | 97.98358955 | 96.12318027 |
| 190531A00035 | 5/31/2019 | 2.29 | 5/31/2022 | 5/31/2019 | 104.04195 | 104.0419455 | 104.0419455 | 104.0419455 | 103.6242593 | 101.6236978 | 99.67206145 | 97.76784582 | 95.90960338 |
| 190531A00037 | 5/31/2019 | 2.61 | 5/31/2029 | 5/31/2019 | 122.63876 | 122.6387632 | 122.6387632 | 122.2235971 | 112.9073245 | 104.1052086 | 96.07170997 | 88.73538903 | 82.03179631 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190603A00002 | 6/3/2019 | 2.03 | 6/2/2023 | 6/3/2019 | 105.82436 | 105.8243624 | 105.8243624 | 105.8243624 | 104.8953526 | 101.8851668 | 98.97735925 | 96.16788146 | 93.45286903 |
| 180827A00020 | 8/27/2018 | 3.21 | 8/27/2025 | 8/27/2018 | 115.3313 | 115.3313006 | 115.3313006 | 115.3313006 | 112.3150437 | 107.0151032 | 102.0011941 | 97.25629452 | 92.76449146 |
| 180830A00033 | 8/30/2018 | 2.87 | 8/31/2020 | 8/30/2018 | 100.67754 | 100.6775383 | 100.6775383 | 100.6775383 | 100.6329335 | 100.3723474 | 100.1131082 | 99.8552054 | 99.59862882 |
| 180904A00004 | 9/4/2018 | 2.89 | 9/5/2023 | 9/4/2018 | 109.1737 | 109.1737015 | 109.1737015 | 109.1737015 | 108.0541597 | 104.7402188 | 101.5460243 | 98.46654111 | 95.49697951 |
| 180904A00012 | 9/4/2018 | 3.35 | 9/4/2030 | 9/4/2018 | 133.45313 | 133.4531286 | 133.4531286 | 131.4491634 | 120.5045567 | 110.2571243 | 101.0026428 | 92.63864205 | 85.07375703 |
| 180906A00004 | 9/6/2018 | 2.92 | 9/7/2021 | 9/6/2018 | 103.4164 | 103.4163963 | 103.4163963 | 103.4163963 | 103.1709842 | 101.8856464 | 100.6291267 | 99.40045518 | 98.19870517 |
| 180913A00030 | 9/13/2018 | 3.33 | 9/12/2025 | 9/13/2018 | 116.09718 | 116.0971823 | 116.0971823 | 116.0971823 | 113.0146358 | 107.6553207 | 102.5870682 | 97.79249996 | 93.2553672 |
| 180914A00008 | 9/14/2018 | 3.15 | 9/14/2023 | 9/14/2018 | 109.49 | 109.4900049 | 109.4900049 | 109.4900049 | 108.3576462 | 105.0298548 | 101.8226954 | 98.73111751 | 95.75031281 |
| 180914A00046 | 9/14/2018 | 2.93 | 9/14/2021 | 9/14/2018 | 103.69119 | 103.6911937 | 103.6911937 | 103.6911937 | 103.441564 | 102.1352042 | 100.8561411 | 99.60352348 | 98.37653575 |
| 180918A00011 | 9/18/2018 | 3.17 | 9/18/2023 | 9/18/2018 | 109.58818 | 109.5881784 | 109.5881784 | 109.5881784 | 108.4476391 | 105.1078043 | 101.8893662 | 98.78724605 | 95.79660704 |
| 180918A00013 | 9/18/2018 | 3.11 | 9/16/2022 | 9/18/2018 | 106.5436 | 106.5436036 | 106.5436036 | 106.5436036 | 106.0054621 | 103.68959 | 101.4360839 | 99.24287514 | 97.10797821 |
| 180920A00035 | 9/20/2018 | 3.16 | 9/20/2022 | 9/20/2018 | 106.69152 | 106.6915169 | 106.6915169 | 106.6915169 | 106.1482449 | 103.8200597 | 101.5548067 | 99.35040827 | 97.20486963 |
| 180921A00039 | 9/21/2018 | 3.15 | 9/21/2022 | 9/21/2018 | 106.67604 | 106.6760444 | 106.6760444 | 106.6760444 | 106.1316178 | 103.8009722 | 101.5333874 | 99.32678423 | 97.17916576 |
| 180924A00044 | 9/24/2018 | 3.1 | 9/24/2021 | 9/24/2018 | 103.76862 | 103.7686243 | 103.7686243 | 103.7686243 | 103.5149375 | 102.1888744 | 100.8876108 | 99.61048255 | 98.35684888 |
| 180927A00030 | 9/27/2018 | 3.01 | 10/27/2020 | 9/27/2018 | 101.15485 | 101.1548514 | 101.1548514 | 101.1548514 | 101.0784678 | 100.659762 | 100.2445188 | 99.83269533 | 99.4242496 |
| 181010A00018 | 10/10/2018 | 3.17 | 6/1/2021 | 10/10/2018 | 102.9536 | 102.9535991 | 102.9535991 | 102.9535991 | 102.7302523 | 101.7107502 | 100.7114726 | 99.73182201 | 98.77122406 |
| 181026A00019 | 10/29/2018 | 3.09 | 10/16/2020 | 10/29/2018 | 101.10201 | 101.1020097 | 101.1020097 | 101.1020097 | 101.0318612 | 100.6435533 | 100.2582369 | 99.8758777 | 99.49644149 |
| 181109A00028 | 11/9/2018 | 3.72 | 11/9/2026 | 11/9/2018 | 122.11181 | 122.111808 | 122.111808 | 122.111808 | 117.077893 | 110.5016881 | 104.3487377 | 98.58946732 | 93.1965177 |
| 181113A00066 | 11/13/2018 | 3.25 | 11/15/2021 | 11/13/2018 | 104.3958 | 104.3958023 | 104.3958023 | 104.3958023 | 104.1072755 | 102.6378349 | 101.1966011 | 99.78283217 | 98.39581155 |
| 181114A00026 | 11/14/2018 | 3.32 | 12/14/2022 | 11/14/2018 | 107.77413 | 107.7741338 | 107.7741338 | 107.7741338 | 107.1164024 | 104.546757 | 102.0525787 | 99.63119995 | 97.2800654 |
| 181120A00024 | 11/20/2018 | 3.25 | 11/20/2023 | 11/20/2018 | 110.36687 | 110.3668728 | 110.3668728 | 110.3668728 | 109.097107 | 105.578009 | 102.1928266 | 98.9357428 | 95.80122546 |
| 181121A00016 | 11/21/2018 | 3.29 | 11/21/2023 | 11/21/2018 | 110.51548 | 110.5154785 | 110.5154785 | 110.5154785 | 109.2429995 | 105.7187285 | 102.3286432 | 99.0669109 | 95.92798495 |
| 181123A00015 | 11/23/2018 | 3.14 | 11/23/2021 | 11/23/2018 | 104.29596 | 104.2959601 | 104.2959601 | 104.2959601 | 104.0021147 | 102.5122305 | 101.0513436 | 99.61868129 | 98.21349741 |
| 181126A00048 | 11/26/2018 | 3.24 | 11/25/2022 | 11/26/2018 | 107.41442 | 107.4144204 | 107.4144204 | 107.4144204 | 106.7842834 | 104.2707781 | 101.829997 | 99.45941455 | 97.15660891 |
| 181128A00010 | 11/28/2018 | 2.95 | 11/30/2020 | 11/28/2018 | 101.45502 | 101.4550154 | 101.4550154 | 101.4550154 | 101.3572535 | 100.8433837 | 100.3347167 | 99.83117396 | 99.33267824 |
| 190520A00024 | 5/20/2019 | 2.32 | 5/20/2021 | 5/20/2019 | 102.17563 | 102.1756273 | 102.1756273 | 102.1756273 | 101.9573456 | 100.9724679 | 100.00657 | 99.05910701 | 98.12955487 |
| 190521A00044 | 5/21/2019 | 2.47 | 5/17/2021 | 5/21/2019 | 102.14807 | 102.1480701 | 102.1480701 | 102.1480701 | 101.9316833 | 100.9573457 | 100.0015983 | 99.06391252 | 98.14377986 |
| 190522A00019 | 5/23/2019 | 2.55 | 5/15/2024 | 5/23/2019 | 109.00626 | 109.0062647 | 109.0062647 | 109.0062647 | 107.3584947 | 103.4007531 | 99.61175505 | 95.98342482 | 92.50811599 |
| 190522A00021 | 5/23/2019 | 2.47 | 10/15/2021 | 5/23/2019 | 103.06583 | 103.0658254 | 103.0658254 | 103.0658254 | 102.80019 | 101.4238362 | 100.0725101 | 98.74558779 | 97.44246567 |
| 190523A00008 | 5/23/2019 | 2.29 | 5/23/2023 | 5/23/2019 | 106.55652 | 106.556517 | 106.556517 | 106.556517 | 105.642741 | 102.6479902 | 99.75419501 | 96.95739809 | 94.25382022 |
| 190524A00002 | 5/24/2019 | 2.39 | 5/24/2021 | 5/24/2019 | 102.11065 | 102.1106523 | 102.1106523 | 102.1106523 | 101.8911549 | 100.8979976 | 99.92415174 | 98.96905836 | 98.03217966 |
| 190524A00013 | 5/24/2019 | 2.39 | 5/24/2021 | 5/24/2019 | 102.11065 | 102.1106523 | 102.1106523 | 102.1106523 | 101.8911549 | 100.8979976 | 99.92415174 | 98.96905836 | 98.03217966 |
| 190524A00015 | 5/24/2019 | 2.24 | 5/24/2022 | 5/24/2019 | 104.26704 | 104.2670414 | 104.2670414 | 104.2670414 | 103.8535517 | 101.8626827 | 99.92020924 | 98.02465329 | 96.17459222 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190524A00026 | 5/28/2019 | 2.45 | 6/15/2023 | 5/28/2019 | 106.62277 | 106.6227744 | 106.6227744 | 106.6227744 | 105.6721012 | 102.628962 | 99.68980006 | 96.8504773 | 94.1070455 |
| 190529A00005 | 5/29/2019 | 2.31 | 11/29/2021 | 5/29/2019 | 103.08056 | 103.0805603 | 103.0805603 | 103.0805603 | 102.7845417 | 101.2883432 | 99.82158273 | 98.38346796 | 96.97323459 |
| 190529A00028 | 5/29/2019 | 2.38 | 5/29/2024 | 5/29/2019 | 108.40701 | 108.4070099 | 108.4070099 | 108.4070099 | 106.7304233 | 102.7480398 | 98.9371817 | 95.28955866 | 91.79732541 |
| 190529A00049 | 5/29/2019 | 2.32 | 6/29/2021 | 5/29/2019 | 102.24491 | 102.2449128 | 102.2449128 | 102.2449128 | 102.0163485 | 100.9245947 | 99.8561312 | 98.81021899 | 97.78615007 |
| 190529A00080 | 5/29/2019 | 2.31 | 11/29/2021 | 5/29/2019 | 103.08056 | 103.0805603 | 103.0805603 | 103.0805603 | 102.7845417 | 101.2883432 | 99.82158273 | 98.38346796 | 96.97323459 |
| 190530A00026 | 5/30/2019 | 2.36 | 5/26/2021 | 5/30/2019 | 102.09222 | 102.0922199 | 102.0922199 | 102.0922199 | 101.8718432 | 100.8733543 | 99.89438369 | 98.93436341 | 97.99274728 |
| 190530A00047 | 5/30/2019 | 2.36 | 5/28/2021 | 5/30/2019 | 102.10374 | 102.1037429 | 102.1037429 | 102.1037429 | 101.8824536 | 100.8784732 | 99.89422067 | 98.92911897 | 97.98261342 |
| 190603A00003 | 6/3/2019 | 2.05 | 6/3/2024 | 6/3/2019 | 107.84623 | 107.8462311 | 107.8462311 | 107.8462311 | 106.1504626 | 102.1461771 | 98.31546284 | 94.64988301 | 91.14145676 |
| 190603A00005 | 6/3/2019 | 2.25 | 6/3/2024 | 6/3/2019 | 107.90953 | 107.9095285 | 107.9095285 | 107.9095285 | 106.2240714 | 102.2388961 | 98.42593188 | 94.77683016 | 91.28369213 |
| 190603A00019 | 6/3/2019 | 2.19 | 6/3/2021 | 6/3/2019 | 101.96397 | 101.9639743 | 101.9639743 | 101.9639743 | 101.7413187 | 100.7217872 | 99.7226243 | 98.74322424 | 97.78300511 |
| 190603A00032 | 6/3/2019 | 1.98 | 6/3/2022 | 6/3/2019 | 103.79567 | 103.7956675 | 103.7956675 | 103.7956675 | 103.3741289 | 101.3612574 | 99.39786939 | 97.48243437 | 95.61348005 |
| 190604A00047 | 6/4/2019 | 2.31 | 12/4/2020 | 6/4/2019 | 101.07824 | 101.078243 | 101.078243 | 101.078243 | 100.9779004 | 100.4550459 | 99.93759713 | 99.42547048 | 98.91858414 |
| 190605A00012 | 6/5/2019 | 1.92 | 6/6/2022 | 6/5/2019 | 103.68831 | 103.6883144 | 103.6883144 | 103.6883144 | 103.2641186 | 101.244422 | 99.27450556 | 97.35282411 | 95.47789163 |
| 190605A00020 | 6/5/2019 | 2.19 | 2/5/2024 | 6/5/2019 | 107.04844 | 107.04844 | 107.04844 | 107.04844 | 105.6336276 | 101.9731255 | 98.45929661 | 95.08543397 | 91.84517894 |
| 190607A00009 | 6/7/2019 | 2.14 | 6/7/2022 | 6/7/2019 | 103.77364 | 103.7736376 | 103.7736376 | 103.7736376 | 103.3498177 | 101.3335834 | 99.36695698 | 97.44840058 | 95.57643499 |
| 190610A00017 | 6/10/2019 | 2.29 | 6/10/2024 | 6/10/2019 | 108.10983 | 108.1098284 | 108.1098284 | 108.1098284 | 106.4066826 | 102.3997921 | 98.56663556 | 94.89876042 | 91.38817123 |
| 181108A00025 | 11/8/2018 | 3.44 | 7/31/2023 | 11/8/2018 | 110.06435 | 110.0643506 | 110.0643506 | 110.0643506 | 109.0159786 | 105.7965482 | 102.6901096 | 99.69202131 | 96.79786318 |
| 181109A00023 | 11/9/2018 | 3.39 | 11/9/2022 | 11/9/2018 | 107.6554 | 107.6553957 | 107.6553957 | 107.6553957 | 107.0461022 | 104.5717044 | 102.1676992 | 99.8316837 | 97.5613518 |
| 181114A00021 | 11/14/2018 | 3.17 | 11/14/2023 | 11/14/2018 | 110.69152 | 110.6915183 | 110.6915183 | 110.6915183 | 109.4254445 | 105.9000338 | 102.5085097 | 99.2450692 | 96.10419309 |
| 181121A00014 | 11/21/2018 | 3.18 | 11/19/2021 | 11/21/2018 | 104.32408 | 104.3240819 | 104.3240819 | 104.3240819 | 104.0329289 | 102.5534301 | 101.1025294 | 99.67946967 | 98.28351964 |
| 181123A00016 | 11/23/2018 | 3.19 | 11/23/2022 | 11/23/2018 | 107.27253 | 107.2725293 | 107.2725293 | 107.2725293 | 106.6454568 | 104.1390022 | 101.7049305 | 99.34073325 | 97.04400456 |
| 181123A00021 | 11/23/2018 | 3.25 | 11/22/2023 | 11/23/2018 | 110.38314 | 110.3831435 | 110.3831435 | 110.3831435 | 109.1092332 | 105.5846742 | 102.1944339 | 98.93266895 | 95.79382274 |
| 181126A00047 | 11/26/2018 | 3.19 | 11/26/2021 | 11/26/2018 | 104.39534 | 104.3953446 | 104.3953446 | 104.3953446 | 104.0992904 | 102.6006776 | 101.1313795 | 99.69061097 | 98.2776142 |
| 181127A00027 | 11/27/2018 | 3.25 | 11/28/2022 | 11/27/2018 | 107.46408 | 107.4640804 | 107.4640804 | 107.4640804 | 106.8297847 | 104.307765 | 101.8589366 | 99.48074983 | 97.17076003 |
| 181129A00027 | 11/29/2018 | 3.16 | 11/29/2021 | 11/29/2018 | 104.37384 | 104.3738386 | 104.3738386 | 104.3738386 | 104.0757668 | 102.5693745 | 101.0925989 | 99.64464288 | 98.22473734 |
| 181211A00031 | 12/11/2018 | 2.95 | 12/11/2023 | 12/11/2018 | 110.13221 | 110.1322103 | 110.1322103 | 110.1322103 | 108.8127461 | 105.2254588 | 101.7770144 | 98.46127843 | 95.27242282 |
| 181212A00036 | 12/12/2018 | 2.86 | 6/12/2020 | 12/12/2018 | 100.10669 | 100.106687 | 100.106687 | 100.106687 | 100.1011878 | 100.0622826 | 100.0234253 | 99.98461605 | 99.94585466 |
| 181217A00010 | 12/17/2018 | 3.11 | 12/15/2023 | 12/17/2018 | 110.06892 | 110.0689161 | 110.0689161 | 110.0689161 | 108.7489139 | 105.1687718 | 101.7271391 | 98.41789605 | 95.23522867 |
| 181218A00072 | 12/18/2018 | 3.04 | 12/19/2022 | 12/18/2018 | 107.09218 | 107.0921771 | 107.0921771 | 107.0921771 | 106.4292713 | 103.8548122 | 101.3563059 | 98.93105481 | 96.57647547 |
| 181219A00006 | 12/19/2018 | 3.06 | 12/19/2023 | 12/19/2018 | 109.92037 | 109.9203684 | 109.9203684 | 109.9203684 | 108.5927528 | 105.0045232 | 101.5554728 | 98.23943636 | 95.05055759 |
| 181220A00027 | 12/20/2018 | 2.97 | 2/28/2022 | 12/20/2018 | 104.75971 | 104.7597134 | 104.7597134 | 104.7597134 | 104.4079002 | 102.6505672 | 100.9313402 | 99.2490449 | 97.60255577 |
| 181221A00018 | 12/21/2018 | 2.98 | 12/21/2021 | 12/21/2018 | 104.2636 | 104.2635984 | 104.2635984 | 104.2635984 | 103.9524646 | 102.3863226 | 100.8516339 | 99.34752044 | 97.87313674 |
| 181226A00024 | 12/26/2018 | 2.9 | 12/27/2021 | 12/26/2018 | 104.18031 | 104.1803115 | 104.1803115 | 104.1803115 | 103.8657103 | 102.2837534 | 100.7337547 | 99.21481399 | 97.72606442 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190103A00010 | 1/3/2019 | 2.7 | 1/3/2024 | 1/3/2019 | 109.40179 | 109.4017895 | 109.4017895 | 109.4017895 | 108.0374323 | 104.4015804 | 100.9085256 | 97.55186497 | 94.325521 |
| 190107A00006 | 1/7/2019 | 2.82 | 3/29/2021 | 1/7/2019 | 102.1536 | 102.1536027 | 102.1536027 | 102.1536027 | 101.9658316 | 101.1247335 | 100.2974846 | 99.48374498 | 98.68318584 |
| 190107A00021 | 1/7/2019 | 2.79 | 1/7/2021 | 1/7/2019 | 101.56881 | 101.5688144 | 101.5688144 | 101.5688144 | 101.4424492 | 100.824867 | 100.2148008 | 99.61211377 | 99.01667251 |
| 190107A00024 | 1/7/2019 | 2.91 | 1/5/2024 | 1/7/2019 | 109.50416 | 109.5041647 | 109.5041647 | 109.5041647 | 108.142933 | 104.5172753 | 101.0337547 | 97.68600658 | 94.4679892 |
| 190110A00004 | 1/10/2019 | 3.09 | 1/10/2025 | 1/10/2019 | 112.95441 | 112.9544074 | 112.9544074 | 112.9544074 | 110.6703128 | 106.013385 | 101.5818332 | 97.36352877 | 93.34706224 |
| 190110A00005 | 1/10/2019 | 3.2 | 1/9/2026 | 1/10/2019 | 116.34607 | 116.3460672 | 116.3460672 | 116.3460672 | 112.791569 | 107.1289349 | 101.7906707 | 96.756439 | 92.00728462 |
| 190110A00010 | 1/10/2019 | 2.97 | 1/16/2024 | 1/10/2019 | 109.80327 | 109.8032713 | 109.8032713 | 109.8032713 | 108.4172588 | 104.7577694 | 101.2426308 | 97.86533584 | 94.61971051 |
| 181026A00021 | 10/29/2018 | 3.11 | 1/15/2021 | 10/29/2018 | 101.83027 | 101.8302655 | 101.8302655 | 101.8302655 | 101.6972249 | 101.0568054 | 100.4244541 | 99.80001925 | 99.18335251 |
| 181030A00012 | 10/30/2018 | 3.32 | 10/30/2023 | 10/30/2018 | 110.43762 | 110.4376228 | 110.4376228 | 110.4376228 | 109.2103249 | 105.7444916 | 102.4084876 | 99.19676336 | 96.10403669 |
| 181109A00027 | 11/13/2018 | 3.48 | 4/15/2024 | 11/13/2018 | 112.45953 | 112.4595284 | 112.4595284 | 112.4595284 | 110.8612189 | 106.9142955 | 103.1316187 | 99.50550001 | 96.02865029 |
| 181114A00010 | 11/14/2018 | 3.08 | 11/15/2021 | 11/14/2018 | 104.39733 | 104.3973291 | 104.3973291 | 104.3973291 | 104.1079931 | 102.6344147 | 101.1891852 | 99.77155725 | 98.38080946 |
| 181115A00061 | 11/15/2018 | 2.95 | 11/16/2020 | 11/15/2018 | 101.3449 | 101.3448953 | 101.3448953 | 101.3448953 | 101.2559935 | 100.7809827 | 100.3104372 | 99.84429389 | 99.38249111 |
| 181121A00015 | 11/21/2018 | 3.24 | 11/21/2022 | 11/21/2018 | 107.38189 | 107.3818915 | 107.3818915 | 107.3818915 | 106.7572086 | 104.2546308 | 101.8241658 | 99.46331964 | 97.16970055 |
| 181127A00026 | 11/27/2018 | 3.2 | 11/26/2021 | 11/27/2018 | 104.41048 | 104.4104767 | 104.4104767 | 104.4104767 | 104.1143985 | 102.615667 | 101.1462523 | 99.70536918 | 98.29225977 |
| 181129A00023 | 11/29/2018 | 3.16 | 11/29/2021 | 11/29/2018 | 104.37384 | 104.3738386 | 104.3738386 | 104.3738386 | 104.0757668 | 102.5693745 | 101.0925989 | 99.64464288 | 98.22473734 |
| 181130A00025 | 11/30/2018 | 3 | 6/1/2022 | 11/30/2018 | 105.85957 | 105.8595693 | 105.8595693 | 105.8595693 | 105.4356417 | 103.4067145 | 101.4274793 | 99.49640346 | 97.61201276 |
| 181206A00012 | 12/6/2018 | 3.14 | 12/6/2023 | 12/6/2018 | 110.10601 | 110.1060085 | 110.1060085 | 110.1060085 | 108.8045591 | 105.2479203 | 101.8281406 | 98.53920727 | 95.37540599 |
| 181213A00024 | 12/13/2018 | 3.05 | 12/11/2020 | 12/13/2018 | 101.52061 | 101.520606 | 101.520606 | 101.520606 | 101.4148569 | 100.8714382 | 100.3338457 | 99.80198573 | 99.27576691 |
| 181218A00033 | 12/18/2018 | 2.96 | 12/18/2020 | 12/18/2018 | 101.52406 | 101.5240638 | 101.5240638 | 101.5240638 | 101.4131496 | 100.8505168 | 100.2941276 | 99.74387835 | 99.19966765 |
| 181221A00015 | 12/21/2018 | 2.96 | 12/21/2020 | 12/21/2018 | 101.54653 | 101.5465288 | 101.5465288 | 101.5465288 | 101.4333894 | 100.8624585 | 100.2979529 | 99.73976427 | 99.18778703 |
| 181221A00022 | 12/21/2018 | 2.95 | 6/26/2020 | 12/21/2018 | 100.20229 | 100.2022881 | 100.2022881 | 100.2022881 | 100.191318 | 100.1137233 | 100.0362524 | 99.95890513 | 99.88168122 |
| 181226A00035 | 12/26/2018 | 2.95 | 12/27/2022 | 12/26/2018 | 106.91803 | 106.9180323 | 106.9180323 | 106.9180323 | 106.2443197 | 103.6503683 | 101.1334195 | 98.69071903 | 96.31963001 |
| 181227A00029 | 12/27/2018 | 2.91 | 12/27/2021 | 12/27/2018 | 104.1963 | 104.1963007 | 104.1963007 | 104.1963007 | 103.881673 | 102.2995842 | 100.7494558 | 99.23038773 | 97.74151303 |
| 181231A00007 | 12/31/2018 | 2.86 | 12/31/2021 | 12/31/2018 | 104.14483 | 104.1448266 | 104.1448266 | 104.1448266 | 103.8279445 | 102.2354577 | 100.6752746 | 99.14647939 | 97.64819102 |
| 190102A00050 | 1/2/2019 | 3.38 | 1/3/2034 | 1/2/2019 | 144.632 | 144.6320019 | 144.6320019 | 135.3658151 | 120.9150508 | 107.9555152 | 96.59621989 | 86.62785715 | 77.86962117 |
| 190103A00014 | 1/3/2019 | 2.8 | 1/4/2021 | 1/3/2019 | 101.5538 | 101.5538045 | 101.5538045 | 101.5538045 | 101.4298868 | 100.8205721 | 100.2185713 | 99.62375308 | 99.03598949 |
| 190107A00020 | 1/7/2019 | 2.8 | 1/7/2021 | 1/7/2019 | 101.575 | 101.5750032 | 101.5750032 | 101.5750032 | 101.448634 | 100.8310302 | 100.2209425 | 99.61823414 | 99.02277175 |
| 190110A00001 | 1/10/2019 | 2.88 | 1/10/2022 | 1/10/2019 | 104.24888 | 104.2488799 | 104.2488799 | 104.2488799 | 103.9261284 | 102.3061449 | 100.7193739 | 99.16485982 | 97.64168393 |
| 190122A00008 | 1/22/2019 | 2.98 | 1/20/2023 | 1/22/2019 | 107.17405 | 107.1740487 | 107.1740487 | 107.1740487 | 106.4641116 | 103.8034388 | 101.2231939 | 98.72043939 | 96.29236631 |
| 190123A00034 | 1/23/2019 | 2.98 | 1/23/2025 | 1/23/2019 | 113.47474 | 113.4747434 | 113.4747434 | 113.4747434 | 111.1328104 | 106.4035079 | 101.9051407 | 97.62517182 | 93.55181496 |
| 190130A00010 | 1/30/2019 | 2.89 | 7/30/2020 | 1/30/2019 | 100.44843 | 100.4484325 | 100.4484325 | 100.4484325 | 100.4210511 | 100.2491588 | 100.0778525 | 99.90712913 | 99.73698587 |
| 190327A00011 | 3/27/2019 | 2.51 | 9/28/2020 | 3/27/2019 | 100.76088 | 100.7608777 | 100.7608777 | 100.7608777 | 100.7010147 | 100.3630808 | 100.0274077 | 99.69397284 | 99.3627539 |
| 190327A00032 | 3/27/2019 | 2.53 | 1/26/2024 | 3/27/2019 | 108.25192 | 108.2519196 | 108.2519196 | 108.2519196 | 106.8524605 | 103.1954453 | 99.68383833 | 96.31103805 | 93.0707831 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190328A00009 | 3/28/2019 | 2.33 | 3/28/2022 | 3/28/2019 | 104.09868 | 104.098683 | 104.098683 | 104.098683 | 103.7294487 | 101.8933074 | 100.0985668 | 98.34405117 | 96.62862541 |
| 190328A00079 | 3/28/2019 | 2.37 | 3/28/2024 | 3/28/2019 | 108.72905 | 108.7290474 | 108.7290474 | 108.7290474 | 107.1826686 | 103.3345963 | 99.64605813 | 96.10963149 | 92.71827715 |
| 190401A00009 | 4/1/2019 | 2.39 | 4/1/2022 | 4/1/2019 | 104.23507 | 104.2350717 | 104.2350717 | 104.2350717 | 103.8628034 | 102.0145763 | 100.2082364 | 98.4425924 | 96.71649434 |
| 190401A00010 | 4/1/2019 | 2.62 | 4/1/2024 | 4/1/2019 | 109.00497 | 109.0049723 | 109.0049723 | 109.0049723 | 107.4574799 | 103.6127603 | 99.92732268 | 96.39376179 | 93.00505419 |
| 190402A00010 | 4/2/2019 | 2.4 | 4/6/2022 | 4/2/2019 | 104.28536 | 104.2853613 | 104.2853613 | 104.2853613 | 103.9094173 | 102.0474519 | 100.227961 | 98.44972842 | 96.7115806 |
| 190408A00047 | 4/8/2019 | 2.43 | 4/7/2023 | 4/8/2019 | 106.68491 | 106.6849118 | 106.6849118 | 106.6849118 | 105.8503828 | 102.9756299 | 100.1939303 | 97.50178374 | 94.8958409 |
| 190409A00031 | 4/9/2019 | 2.64 | 4/9/2024 | 4/9/2019 | 109.13406 | 109.1340632 | 109.1340632 | 109.1340632 | 107.5677671 | 103.7002095 | 99.9936815 | 96.44065856 | 93.03400599 |
| 190426A00011 | 5/1/2019 | 2.56 | 3/15/2022 | 5/1/2019 | 104.10818 | 104.1081767 | 104.1081767 | 104.1081767 | 103.7482553 | 101.9547546 | 100.2009279 | 98.48560783 | 96.80767135 |
| 190430A00003 | 4/30/2019 | 2.43 | 8/2/2023 | 4/30/2019 | 107.43345 | 107.433448 | 107.433448 | 107.433448 | 106.3860455 | 103.1892154 | 100.1054295 | 97.13001781 | 94.25853479 |
| 190430A00021 | 4/30/2019 | 2.52 | 10/29/2021 | 4/30/2019 | 103.22245 | 103.222446 | 103.222446 | 103.222446 | 102.9472928 | 101.5315675 | 100.1422241 | 98.77858924 | 97.44001175 |
| 190506A00011 | 5/6/2019 | 2.45 | 11/6/2020 | 5/6/2019 | 101.04269 | 101.0426891 | 101.0426891 | 101.0426891 | 100.9601353 | 100.5134901 | 100.0708003 | 99.63201337 | 99.19707773 |
| 190508A00008 | 5/8/2019 | 2.36 | 5/9/2022 | 5/8/2019 | 104.41531 | 104.4153081 | 104.4153081 | 104.4153081 | 104.0141943 | 102.0627272 | 100.1577409 | 98.29784454 | 96.4816986 |
| 190509A00029 | 5/9/2019 | 2.34 | 6/9/2022 | 5/9/2019 | 104.56671 | 104.5667117 | 104.5667117 | 104.5667117 | 104.1377775 | 102.1009616 | 100.1144273 | 98.17660885 | 96.28600087 |
| 190514A00014 | 5/14/2019 | 2.43 | 5/14/2021 | 5/14/2019 | 102.09104 | 102.0910395 | 102.0910395 | 102.0910395 | 101.8760656 | 100.9101822 | 99.96257665 | 99.03273358 | 98.12015688 |
| 190514A00056 | 5/14/2019 | 2.32 | 5/15/2023 | 5/14/2019 | 106.59839 | 106.598392 | 106.598392 | 106.598392 | 105.6985799 | 102.7246707 | 99.85029451 | 97.07157821 | 94.38482184 |
| 190516A00006 | 5/16/2019 | 2.43 | 5/13/2021 | 5/16/2019 | 102.09472 | 102.0947233 | 102.0947233 | 102.0947233 | 101.8801645 | 100.9168443 | 99.97170434 | 99.04423348 | 98.13393946 |
| 190521A00047 | 5/21/2019 | 2.54 | 5/19/2023 | 5/21/2019 | 106.73256 | 106.7325581 | 106.7325581 | 106.7325581 | 105.8297046 | 102.8557135 | 99.98132692 | 97.20266462 | 94.51601998 |
| 190523A00007 | 5/23/2019 | 2.28 | 5/23/2022 | 5/23/2019 | 104.34151 | 104.341512 | 104.341512 | 104.341512 | 103.9287134 | 101.9398067 | 99.99918002 | 98.10536066 | 96.2569313 |
| 190523A00022 | 5/23/2019 | 2.47 | 10/12/2022 | 5/23/2019 | 105.21154 | 105.2115446 | 105.2115446 | 105.2115446 | 104.6448033 | 102.2753508 | 99.97152315 | 97.73114477 | 95.55212472 |
| 190528A00002 | 5/28/2019 | 2.45 | 11/30/2020 | 5/28/2019 | 101.12739 | 101.1273908 | 101.1273908 | 101.1273908 | 101.0299698 | 100.5179341 | 100.0110743 | 99.50931211 | 99.01257109 |
| 190528A00003 | 5/28/2019 | 2.42 | 5/31/2022 | 5/28/2019 | 104.30545 | 104.3054538 | 104.3054538 | 104.3054538 | 103.8872193 | 101.8839417 | 99.92964243 | 98.02281568 | 96.16201243 |
| 190528A00009 | 5/28/2019 | 2.45 | 5/15/2024 | 5/28/2019 | 108.60675 | 108.6067486 | 108.6067486 | 108.6067486 | 106.9612814 | 103.0113954 | 99.23000903 | 95.60905625 | 92.14089975 |
| 190208A00010 | 2/8/2019 | 2.77 | 2/8/2021 | 2/8/2019 | 101.77965 | 101.7796478 | 101.7796478 | 101.7796478 | 101.6277437 | 100.9218583 | 100.2257711 | 99.53927881 | 98.86218401 |
| 190212A00024 | 2/12/2019 | 2.79 | 2/12/2021 | 2/12/2019 | 101.82185 | 101.8218549 | 101.8218549 | 101.8218549 | 101.6669097 | 100.949925 | 100.2430469 | 99.54606259 | 98.85876526 |
| 190214A00012 | 2/14/2019 | 2.6 | 2/14/2022 | 2/14/2019 | 104.31075 | 104.3107493 | 104.3107493 | 104.3107493 | 103.9667951 | 102.2467026 | 100.5633848 | 98.91572771 | 97.30266275 |
| 190219A00045 | 2/19/2019 | 2.8 | 2/28/2022 | 2/19/2019 | 104.45829 | 104.4582927 | 104.4582927 | 104.4582927 | 104.10703 | 102.3524359 | 100.6358974 | 98.95624157 | 97.31234419 |
| 190222A00031 | 2/22/2019 | 2.63 | 8/21/2020 | 2/22/2019 | 100.58609 | 100.5860852 | 100.5860852 | 100.5860852 | 100.5468105 | 100.3135608 | 100.0814036 | 99.85033122 | 99.62033599 |
| 190301A00009 | 3/1/2019 | 2.83 | 3/1/2022 | 3/1/2019 | 104.51847 | 104.5184748 | 104.5184748 | 104.5184748 | 104.1664764 | 102.4084999 | 100.6887008 | 99.00590607 | 97.35899143 |
| 190305A00010 | 3/5/2019 | 2.84 | 3/7/2022 | 3/5/2019 | 104.57834 | 104.5783402 | 104.5783402 | 104.5783402 | 104.222478 | 102.4469457 | 100.7102745 | 99.01129282 | 97.34887573 |
| 190308A00003 | 3/8/2019 | 2.69 | 3/8/2021 | 3/8/2019 | 101.91145 | 101.9114517 | 101.9114517 | 101.9114517 | 101.7387389 | 100.9558658 | 100.1850253 | 99.42594136 | 98.67834639 |
| 190313A00017 | 3/13/2019 | 2.73 | 7/15/2022 | 3/13/2019 | 105.23642 | 105.236417 | 105.236417 | 105.236417 | 104.7718219 | 102.6384051 | 100.5591597 | 98.5323339 | 96.55624654 |
| 190318A00015 | 3/18/2019 | 2.66 | 3/18/2021 | 3/18/2019 | 101.94608 | 101.9460803 | 101.9460803 | 101.9460803 | 101.7662816 | 100.9560938 | 100.1587901 | 99.37406454 | 98.60162119 |
| 190319A00013 | 3/19/2019 | 2.72 | 3/18/2022 | 3/19/2019 | 104.41844 | 104.4184408 | 104.4184408 | 104.4184408 | 104.0560668 | 102.2512004 | 100.486404 | 98.76050875 | 97.07238982 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190321A00004 | 3/21/2019 | 2.62 | 3/22/2021 | 3/21/2019 | 101.93951 | 101.9395117 | 101.9395117 | 101.9395117 | 101.7568885 | 100.9358322 | 100.1280045 | 99.33308751 | 98.55077354 |
| 190321A00038 | 3/21/2019 | 2.64 | 9/21/2020 | 3/21/2019 | 100.7587 | 100.7586989 | 100.7586989 | 100.7586989 | 100.7026408 | 100.3839812 | 100.0673433 | 99.75270783 | 99.44005584 |
| 190326A00024 | 3/26/2019 | 2.59 | 3/26/2024 | 3/26/2019 | 108.85102 | 108.8510222 | 108.8510222 | 108.8510222 | 107.3177734 | 103.4917911 | 99.82372581 | 96.30625024 | 92.93241509 |
| 190326A00032 | 3/26/2019 | 2.4 | 3/26/2024 | 3/26/2019 | 108.83277 | 108.8327727 | 108.8327727 | 108.8327727 | 107.2902821 | 103.4457167 | 99.76030721 | 96.22664979 | 92.83772356 |
| 190327A00024 | 3/27/2019 | 2.48 | 3/25/2022 | 3/27/2019 | 104.02297 | 104.0229659 | 104.0229659 | 104.0229659 | 103.6569711 | 101.8360471 | 100.0559269 | 98.31544446 | 96.61347498 |
| 190327A00041 | 3/27/2019 | 2.44 | 3/26/2021 | 3/27/2019 | 101.81514 | 101.8151436 | 101.8151436 | 101.8151436 | 101.6298044 | 100.7984219 | 99.98060882 | 99.17603494 | 98.38438081 |
| 190328A00025 | 3/28/2019 | 2.51 | 7/23/2021 | 3/28/2019 | 102.60175 | 102.601748 | 102.601748 | 102.601748 | 102.3691392 | 101.2100129 | 100.0770736 | 98.96944151 | 97.88627556 |
| 190401A00005 | 4/1/2019 | 2.54 | 4/1/2021 | 4/1/2019 | 101.93639 | 101.9363901 | 101.9363901 | 101.9363901 | 101.7468316 | 100.8985566 | 100.0643952 | 99.24399752 | 98.43702487 |
| 190401A00008 | 4/1/2019 | 2.62 | 4/1/2024 | 4/1/2019 | 109.00497 | 109.0049723 | 109.0049723 | 109.0049723 | 107.4574799 | 103.6127603 | 99.92732268 | 96.39376179 | 93.00505419 |
| 190411A00017 | 4/15/2019 | 2.65 | 4/15/2024 | 4/15/2019 | 109.21189 | 109.2118941 | 109.2118941 | 109.2118941 | 107.6315985 | 103.7472776 | 100.0252918 | 96.45802652 | 93.0382635 |
| 190411A00029 | 4/11/2019 | 2.46 | 4/11/2024 | 4/11/2019 | 109.16867 | 109.1686688 | 109.1686688 | 109.1686688 | 107.5880063 | 103.6954054 | 99.96555864 | 96.39083145 | 92.96398664 |
| 190416A00018 | 4/16/2019 | 2.63 | 4/16/2021 | 4/16/2019 | 102.11149 | 102.1114927 | 102.1114927 | 102.1114927 | 101.9118321 | 101.0218824 | 100.1474554 | 99.28814734 | 98.44356839 |
| 190422A00008 | 4/22/2019 | 2.6 | 4/22/2021 | 4/22/2019 | 102.12357 | 102.123575 | 102.123575 | 102.123575 | 101.9199304 | 101.0135971 | 100.1233556 | 99.24878013 | 98.38945972 |
| 190614A00013 | 6/14/2019 | 2.15 | 6/15/2020 | 6/14/2019 | 100.09602 | 100.0960241 | 100.0960241 | 100.0960241 | 100.0893507 | 100.0421404 | 99.99499227 | 99.94790627 | 99.90088226 |
| 190614A00018 | 6/14/2019 | 2.21 | 6/14/2021 | 6/14/2019 | 102.04356 | 102.0435643 | 102.0435643 | 102.0435643 | 101.818457 | 100.7685926 | 99.74031783 | 98.73297181 | 97.74592026 |
| 190620A00057 | 6/25/2019 | 2.09 | 5/15/2023 | 6/25/2019 | 105.36279 | 105.3627889 | 105.3627889 | 105.3627889 | 104.471703 | 101.5288058 | 98.68429111 | 95.93433751 | 93.27529393 |
| 190621A00019 | 6/21/2019 | 2.12 | 6/21/2021 | 6/21/2019 | 101.98431 | 101.9843072 | 101.9843072 | 101.9843072 | 101.75777 | 100.6892386 | 99.64307348 | 98.61857807 | 97.61508433 |
| 190621A00021 | 6/21/2019 | 2.12 | 6/21/2022 | 6/21/2019 | 103.80342 | 103.8034199 | 103.8034199 | 103.8034199 | 103.3661603 | 101.3127783 | 99.31050407 | 97.35772815 | 95.45290377 |
| 190621A00040 | 6/21/2019 | 2.12 | 6/21/2021 | 6/21/2019 | 101.98431 | 101.9843072 | 101.9843072 | 101.9843072 | 101.75777 | 100.6892386 | 99.64307348 | 98.61857807 | 97.61508433 |
| 190625A00008 | 6/25/2019 | 2.04 | 6/27/2022 | 6/25/2019 | 103.6656 | 103.6656024 | 103.6656024 | 103.6656024 | 103.222911 | 101.1552292 | 99.13927399 | 97.17340548 | 95.25604847 |
| 190625A00016 | 6/25/2019 | 2.13 | 6/25/2024 | 6/25/2019 | 107.5349 | 107.5349041 | 107.5349041 | 107.5349041 | 105.7999057 | 101.7666965 | 97.90986783 | 94.22076679 | 90.69121306 |
| 190701A00024 | 7/1/2019 | 2.24 | 7/1/2020 | 7/1/2019 | 100.17328 | 100.1732798 | 100.1732798 | 100.1732798 | 100.1601643 | 100.0687778 | 99.97755921 | 99.88650801 | 99.79562375 |
| 190702A00002 | 7/2/2019 | 2.16 | 7/2/2024 | 7/2/2019 | 107.69396 | 107.6939618 | 107.6939618 | 107.6939618 | 105.9413658 | 101.8870642 | 98.01069005 | 94.3034823 | 90.75716044 |
| 190703A00021 | 7/3/2019 | 2.11 | 7/2/2021 | 7/3/2019 | 102.02949 | 102.0294882 | 102.0294882 | 102.0294882 | 101.800737 | 100.7020953 | 99.62707845 | 98.57493084 | 97.54492879 |
| 190716A00046 | 7/16/2019 | 2.19 | 7/18/2022 | 7/16/2019 | 104.09042 | 104.0904179 | 104.0904179 | 104.0904179 | 103.6252692 | 101.4962154 | 99.42143717 | 97.39917253 | 95.42773108 |
| 190717A00007 | 7/17/2019 | 2.18 | 10/14/2022 | 7/17/2019 | 104.52686 | 104.5268625 | 104.5268625 | 104.5268625 | 103.9593332 | 101.5927745 | 99.29195172 | 97.05468014 | 94.87886049 |
| 190726A00005 | 7/26/2019 | 1.97 | 7/26/2022 | 7/26/2019 | 104.04719 | 104.0471897 | 104.0471897 | 104.0471897 | 103.5720958 | 101.4141263 | 99.31171953 | 97.26305156 | 95.26637364 |
| 190729A00009 | 7/29/2019 | 2.19 | 7/29/2024 | 7/29/2019 | 107.95775 | 107.9577532 | 107.9577532 | 107.9577532 | 106.1385202 | 102.0087105 | 98.06279524 | 94.2915829 | 90.68639484 |
| 190729A00017 | 7/29/2019 | 1.97 | 7/29/2021 | 7/29/2019 | 102.18927 | 102.1892699 | 102.1892699 | 102.1892699 | 101.955731 | 100.7800347 | 99.63132588 | 98.508684 | 97.41123009 |
| 190801A00007 | 8/1/2019 | 2.17 | 8/2/2021 | 8/1/2019 | 102.25819 | 102.2581859 | 102.2581859 | 102.2581859 | 102.0242634 | 100.8401419 | 99.68340651 | 98.55311575 | 97.44837077 |
| 190802A00029 | 8/2/2019 | 2 | 8/2/2022 | 8/2/2019 | 103.75059 | 103.7505916 | 103.7505916 | 103.7505916 | 103.2704271 | 101.1048612 | 98.99530046 | 96.93989598 | 94.93687561 |
| 190805A00037 | 8/5/2019 | 2.17 | 8/6/2029 | 8/5/2019 | 119.01846 | 119.018461 | 119.018461 | 118.4193838 | 109.0356244 | 100.245846 | 92.24130465 | 84.9475722 | 78.29763912 |
| 190806A00027 | 8/6/2019 | 1.71 | 8/7/2023 | 8/6/2019 | 105.14003 | 105.1400324 | 105.1400324 | 105.1400324 | 104.0921437 | 100.9190852 | 97.85895915 | 94.90707602 | 92.05897252 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190807A00014 | 8/7/2019 | 1.75 | 8/7/2023 | 8/7/2019 | 104.68272 | 104.6827235 | 104.6827235 | 104.6827235 | 103.6421466 | 100.4904898 | 97.45075963 | 94.51831842 | 91.68875171 |
| 190807A00022 | 8/7/2019 | 1.76 | 1/17/2023 | 8/7/2019 | 103.90158 | 103.9015841 | 103.9015841 | 103.9015841 | 103.2056423 | 100.5965768 | 98.06650833 | 95.61255419 | 93.23195726 |
| 190807A00036 | 8/7/2019 | 1.75 | 8/7/2023 | 8/7/2019 | 104.68272 | 104.6827235 | 104.6827235 | 104.6827235 | 103.6421466 | 100.4904898 | 97.45075963 | 94.51831842 | 91.68875171 |
| 190807A00060 | 8/7/2019 | 1.95 | 2/8/2021 | 8/7/2019 | 101.1994 | 101.1994027 | 101.1994027 | 101.1994027 | 101.0479383 | 100.3443391 | 99.65051541 | 98.9662646 | 98.29138945 |
| 190603A00041 | 6/3/2019 | 2.01 | 6/3/2021 | 6/3/2019 | 101.94272 | 101.9427205 | 101.9427205 | 101.9427205 | 101.7195601 | 100.6977893 | 99.69646984 | 98.71499247 | 97.75277194 |
| 190604A00031 | 6/4/2019 | 2.25 | 6/5/2023 | 6/4/2019 | 105.95395 | 105.9539525 | 105.9539525 | 105.9539525 | 105.0237248 | 102.0166984 | 99.11184406 | 96.30512301 | 93.59268011 |
| 190605A00004 | 6/5/2019 | 2.11 | 1/12/2022 | 6/5/2019 | 102.99802 | 102.99802 | 102.99802 | 102.99802 | 102.6762606 | 101.0615497 | 99.48004157 | 97.93077807 | 96.41283792 |
| 190605A00055 | 6/5/2019 | 2.11 | 6/6/2022 | 6/5/2019 | 103.70723 | 103.7072253 | 103.7072253 | 103.7072253 | 103.2845007 | 101.2715895 | 99.30816698 | 97.39270059 | 95.52371627 |
| 190606A00009 | 6/6/2019 | 2 | 6/4/2021 | 6/6/2019 | 101.93768 | 101.9376751 | 101.9376751 | 101.9376751 | 101.7143052 | 100.6898362 | 99.68592833 | 98.70196738 | 97.73736343 |
| 190606A00023 | 6/6/2019 | 2.23 | 6/6/2024 | 6/6/2019 | 107.84455 | 107.8445488 | 107.8445488 | 107.8445488 | 106.1524062 | 102.1609348 | 98.34223165 | 94.68790751 | 91.19002579 |
| 190606A00025 | 6/6/2019 | 2.18 | 6/4/2021 | 6/6/2019 | 101.959 | 101.9589988 | 101.9589988 | 101.9589988 | 101.7361343 | 100.7139121 | 99.71216788 | 98.73029096 | 97.7676947 |
| 190607A00003 | 6/7/2019 | 1.92 | 6/7/2022 | 6/7/2019 | 103.69331 | 103.693312 | 103.693312 | 103.693312 | 103.268145 | 101.2457507 | 99.27324398 | 97.3490746 | 95.47175173 |
| 190607A00005 | 6/7/2019 | 1.92 | 6/7/2022 | 6/7/2019 | 103.69331 | 103.693312 | 103.693312 | 103.693312 | 103.268145 | 101.2457507 | 99.27324398 | 97.3490746 | 95.47175173 |
| 190607A00018 | 6/7/2019 | 2.19 | 6/7/2024 | 6/7/2019 | 107.68754 | 107.6875398 | 107.6875398 | 107.6875398 | 105.9939728 | 102.0031058 | 98.18510824 | 94.53158039 | 91.03457634 |
| 190613A00022 | 6/13/2019 | 2.2 | 6/14/2021 | 6/13/2019 | 102.033 | 102.0329976 | 102.0329976 | 102.0329976 | 101.8079027 | 100.7580979 | 99.72988199 | 98.72259394 | 97.73559954 |
| 190617A00004 | 6/17/2019 | 2.2 | 6/15/2021 | 6/17/2019 | 102.03834 | 102.0383396 | 102.0383396 | 102.0383396 | 101.8130239 | 100.760473 | 99.72962255 | 98.71980657 | 97.73038604 |
| 190619A00007 | 6/19/2019 | 2.21 | 6/20/2022 | 6/19/2019 | 103.98577 | 103.985767 | 103.985767 | 103.985767 | 103.5490719 | 101.4963909 | 99.49474839 | 97.54253906 | 95.63821993 |
| 190619A00009 | 6/19/2019 | 2.26 | 6/19/2024 | 6/19/2019 | 108.03647 | 108.036474 | 108.036474 | 108.036474 | 106.3125605 | 102.2843796 | 98.43169184 | 94.74591782 | 91.21894487 |
| 190620A00055 | 6/25/2019 | 2.08 | 4/17/2023 | 6/25/2019 | 105.19536 | 105.1953641 | 105.1953641 | 105.1953641 | 104.3529243 | 101.4858058 | 98.71221642 | 96.02861348 | 93.43160809 |
| 190621A00015 | 6/21/2019 | 2.2 | 6/21/2024 | 6/21/2019 | 107.80148 | 107.8014813 | 107.8014813 | 107.8014813 | 106.0742766 | 102.0457751 | 98.19301927 | 94.50740704 | 90.98080484 |
| 190621A00023 | 6/21/2019 | 1.93 | 6/21/2022 | 6/21/2019 | 103.78417 | 103.7841686 | 103.7841686 | 103.7841686 | 103.3453623 | 101.2849924 | 99.27603363 | 97.31686314 | 95.4059216 |
| 190701A00028 | 7/1/2019 | 2.11 | 7/1/2021 | 7/1/2019 | 102.02442 | 102.0244217 | 102.0244217 | 102.0244217 | 101.795826 | 100.699929 | 99.62753859 | 98.57790476 | 97.55030926 |
| 190703A00014 | 7/3/2019 | 2.23 | 10/5/2020 | 7/3/2019 | 100.70413 | 100.7041334 | 100.7041334 | 100.7041334 | 100.6403604 | 100.2832838 | 99.92874094 | 99.57670495 | 99.22714924 |
| 190708A00021 | 7/8/2019 | 1.99 | 7/8/2022 | 7/8/2019 | 103.99766 | 103.9976627 | 103.9976627 | 103.9976627 | 103.541364 | 101.4330049 | 99.37803729 | 97.37474338 | 95.42147435 |
| 190711A00026 | 7/11/2019 | 2.17 | 7/11/2022 | 7/11/2019 | 104.0111 | 104.011104 | 104.011104 | 104.011104 | 103.553359 | 101.4441554 | 99.38837855 | 97.38430746 | 95.43029048 |
| 190711A00028 | 7/11/2019 | 2.22 | 7/11/2024 | 7/11/2019 | 107.98898 | 107.9889762 | 107.9889762 | 107.9889762 | 106.2128836 | 102.129178 | 98.2255128 | 94.49297954 | 90.92316098 |
| 190712A00018 | 7/12/2019 | 2.25 | 7/12/2024 | 7/12/2019 | 108.11887 | 108.1188724 | 108.1188724 | 108.1188724 | 106.3395654 | 102.2506084 | 98.34199099 | 94.60478549 | 91.03055704 |
| 190719A00003 | 7/19/2019 | 2.07 | 7/20/2020 | 7/19/2019 | 100.28193 | 100.2819291 | 100.2819291 | 100.2819291 | 100.2594694 | 100.1151468 | 99.9712522 | 99.82778353 | 99.68473893 |
| 181203A00053 | 12/4/2018 | 3.23 | 12/1/2023 | 12/4/2018 | 110.38552 | 110.3855191 | 110.3855191 | 110.3855191 | 109.0931874 | 105.5450906 | 102.1330684 | 98.8511627 | 95.69370951 |
| 181212A00033 | 12/12/2018 | 2.99 | 12/12/2023 | 12/12/2018 | 110.28328 | 110.2832807 | 110.2832807 | 110.2832807 | 108.9610073 | 105.3683395 | 101.9147782 | 98.59417421 | 95.40068538 |
| 181214A00012 | 12/14/2018 | 3.07 | 12/14/2021 | 12/14/2018 | 104.3522 | 104.3522019 | 104.3522019 | 104.3522019 | 104.0451328 | 102.4975431 | 100.9808224 | 99.49411866 | 98.03661078 |
| 181217A00052 | 12/17/2018 | 3.04 | 12/17/2021 | 12/17/2018 | 104.32812 | 104.3281236 | 104.3281236 | 104.3281236 | 104.0192891 | 102.4636314 | 100.9390942 | 99.44481451 | 97.97996059 |
| 181226A00034 | 12/26/2018 | 2.9 | 12/27/2021 | 12/26/2018 | 104.18031 | 104.1803115 | 104.1803115 | 104.1803115 | 103.8657103 | 102.2837534 | 100.7337547 | 99.21481399 | 97.72606442 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 181227A00026 | 12/27/2018 | 3.03 | 12/27/2023 | 12/27/2018 | 109.87272 | 109.8727243 | 109.8727243 | 109.8727243 | 108.5287174 | 104.9199261 | 101.4517851 | 98.118033 | 94.91272402 |
| 181227A00028 | 12/27/2018 | 3.46 | 12/27/2028 | 12/27/2018 | 127.09625 | 127.0962484 | 127.0962484 | 127.0602788 | 118.1617978 | 109.5936575 | 101.733665 | 94.51910518 | 87.89313601 |
| 181228A00006 | 12/28/2018 | 2.86 | 11/13/2020 | 12/28/2018 | 101.21494 | 101.2149401 | 101.2149401 | 101.2149401 | 101.1281087 | 100.6624863 | 100.2011569 | 99.74406108 | 99.29114067 |
| 190102A00026 | 1/2/2019 | 2.62 | 1/4/2022 | 1/2/2019 | 104.06111 | 104.061105 | 104.061105 | 104.061105 | 103.7411499 | 102.1340268 | 100.5597197 | 99.01729104 | 97.50583891 |
| 190102A00041 | 1/2/2019 | 2.91 | 1/2/2024 | 1/2/2019 | 109.48257 | 109.4825736 | 109.4825736 | 109.4825736 | 108.1278065 | 104.5102939 | 101.034349 | 97.69364451 | 94.48217336 |
| 190107A00028 | 1/7/2019 | 2.62 | 1/7/2022 | 1/7/2019 | 104.08193 | 104.0819271 | 104.0819271 | 104.0819271 | 103.7602223 | 102.1449088 | 100.5626841 | 99.01259878 | 97.49373951 |
| 190107A00035 | 1/7/2019 | 2.82 | 10/15/2021 | 1/7/2019 | 103.55482 | 103.5548241 | 103.5548241 | 103.5548241 | 103.2884673 | 101.9085467 | 100.5537152 | 99.22334705 | 97.91683703 |
| 190109A00010 | 1/9/2019 | 2.98 | 1/9/2023 | 1/9/2019 | 107.09252 | 107.0925207 | 107.0925207 | 107.0925207 | 106.3991502 | 103.7684998 | 101.2167087 | 98.74092391 | 96.33841578 |
| 190110A00012 | 1/10/2019 | 2.97 | 1/18/2024 | 1/10/2019 | 109.818 | 109.8179953 | 109.8179953 | 109.8179953 | 108.4276706 | 104.7627458 | 101.2425552 | 97.86056668 | 94.61058253 |
| 190110A00014 | 1/10/2019 | 2.97 | 1/17/2024 | 1/10/2019 | 109.81063 | 109.8106333 | 109.8106333 | 109.8106333 | 108.4224646 | 104.7602574 | 101.2425926 | 97.86295068 | 94.61514566 |
| 190110A00080 | 1/10/2019 | 2.68 | 6/7/2021 | 1/10/2019 | 102.65933 | 102.6593271 | 102.6593271 | 102.6593271 | 102.4344802 | 101.3978224 | 100.3821137 | 99.38672381 | 98.41104717 |
| 190111A00010 | 1/11/2019 | 2.87 | 1/7/2022 | 1/11/2019 | 104.21103 | 104.2110304 | 104.2110304 | 104.2110304 | 103.8900509 | 102.2783716 | 100.6996296 | 99.15288148 | 97.63721984 |
| 190111A00037 | 1/11/2019 | 2.68 | 1/11/2022 | 1/11/2019 | 104.20826 | 104.2082556 | 104.2082556 | 104.2082556 | 103.8840502 | 102.2569824 | 100.6633844 | 99.10228996 | 97.57277026 |
| 190114A00040 | 1/14/2019 | 2.89 | 1/14/2025 | 1/14/2019 | 112.982 | 112.9819973 | 112.9819973 | 112.9819973 | 110.6693925 | 105.9743836 | 101.5077887 | 97.25725752 | 93.2111757 |
| 190114A00043 | 1/14/2019 | 2.88 | 1/14/2022 | 1/14/2019 | 104.27762 | 104.2776215 | 104.2776215 | 104.2776215 | 103.9525441 | 102.3216731 | 100.72438 | 99.15969331 | 97.62667906 |
| 190117A00043 | 1/17/2019 | 2.88 | 7/17/2020 | 1/17/2019 | 100.3492 | 100.3492004 | 100.3492004 | 100.3492004 | 100.328239 | 100.1924141 | 100.0569692 | 99.92190274 | 99.78721304 |
| 190122A00007 | 1/22/2019 | 3.03 | 1/22/2024 | 1/22/2019 | 110.06837 | 110.0683709 | 110.0683709 | 110.0683709 | 108.668326 | 104.9885141 | 101.4543223 | 98.05916322 | 94.79678783 |
| 190122A00045 | 1/22/2019 | 3.17 | 1/22/2027 | 1/22/2019 | 120.50641 | 120.5064072 | 120.5064072 | 120.5064072 | 115.0798822 | 108.327723 | 102.0248267 | 96.13882673 | 90.63985619 |
| 190130A00012 | 1/30/2019 | 2.92 | 1/31/2022 | 1/30/2019 | 104.46755 | 104.4675459 | 104.4675459 | 104.4675459 | 104.1324473 | 102.4545593 | 100.8118536 | 99.20328828 | 97.62786226 |
| 190110A00073 | 1/10/2019 | 2.68 | 8/6/2021 | 1/10/2019 | 103.08569 | 103.0856919 | 103.0856919 | 103.0856919 | 102.8492602 | 101.6461001 | 100.4710361 | 99.32309233 | 98.20133779 |
| 190110A00078 | 1/10/2019 | 2.69 | 12/7/2021 | 1/10/2019 | 103.97519 | 103.9751881 | 103.9751881 | 103.9751881 | 103.6720739 | 102.1424309 | 100.6431679 | 99.17345434 | 97.73248949 |
| 190110A00079 | 1/10/2019 | 2.68 | 10/7/2021 | 1/10/2019 | 103.52643 | 103.5264284 | 103.5264284 | 103.5264284 | 103.2647723 | 101.9034858 | 100.5666467 | 99.25365298 | 97.96392167 |
| 190110A00090 | 1/10/2019 | 2.88 | 10/7/2020 | 1/10/2019 | 100.9514 | 100.9513959 | 100.9513959 | 100.9513959 | 100.8863997 | 100.5232655 | 100.1627489 | 99.8048215 | 99.44945549 |
| 190115A00034 | 1/15/2019 | 2.91 | 1/17/2023 | 1/15/2019 | 106.96533 | 106.9653251 | 106.9653251 | 106.9653251 | 106.2604494 | 103.6104536 | 101.0403988 | 98.54737248 | 96.12858919 |
| 190131A00027 | 1/31/2019 | 2.86 | 1/31/2023 | 1/31/2019 | 106.9312 | 106.9311958 | 106.9311958 | 106.9311958 | 106.2055162 | 103.5190621 | 100.9145369 | 98.38891923 | 95.93932143 |
| 190131A00048 | 1/31/2019 | 2.8 | 7/31/2020 | 1/31/2019 | 100.43993 | 100.4399309 | 100.4399309 | 100.4399309 | 100.412015 | 100.23737 | 100.063332 | 99.88989797 | 99.7170647 |
| 190201A00009 | 2/1/2019 | 2.8 | 2/4/2022 | 2/1/2019 | 104.29181 | 104.2918108 | 104.2918108 | 104.2918108 | 103.9547079 | 102.267374 | 100.6155984 | 98.99832143 | 97.41452575 |
| 190201A00011 | 2/1/2019 | 2.8 | 2/4/2022 | 2/1/2019 | 104.29181 | 104.2918108 | 104.2918108 | 104.2918108 | 103.9547079 | 102.267374 | 100.6155984 | 98.99832143 | 97.41452575 |
| 190208A00008 | 2/8/2019 | 2.86 | 2/8/2024 | 2/8/2019 | 109.56241 | 109.5624068 | 109.5624068 | 109.5624068 | 108.1283713 | 104.4139588 | 100.8481588 | 97.42417351 | 94.13555867 |
| 190211A00002 | 2/11/2019 | 2.88 | 2/12/2024 | 2/11/2019 | 109.66543 | 109.6654348 | 109.6654348 | 109.6654348 | 108.2222037 | 104.4955962 | 100.9184363 | 97.48387064 | 94.18540353 |
| 190211A00011 | 2/11/2019 | 2.8 | 2/11/2022 | 2/11/2019 | 104.34037 | 104.3403671 | 104.3403671 | 104.3403671 | 103.9991331 | 102.2921707 | 100.6214864 | 98.98598788 | 97.38462719 |
| 190214A00013 | 2/14/2019 | 2.64 | 2/14/2023 | 2/14/2019 | 106.92976 | 106.9297573 | 106.9297573 | 106.9297573 | 106.1788963 | 103.4435828 | 100.7928953 | 98.22366445 | 95.73286379 |
| 190222A00029 | 2/22/2019 | 2.62 | 2/22/2021 | 2/22/2019 | 101.86864 | 101.8686431 | 101.8686431 | 101.8686431 | 101.7058318 | 100.9599825 | 100.2250581 | 99.5008198 | 98.78703571 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190225A00039 | 2/25/2019 | 2.62 | 2/25/2022 | 2/25/2019 | 104.42171 | 104.4217111 | 104.4217111 | 104.4217111 | 104.0711758 | 102.319814 | 100.6063903 | 98.92973773 | 97.28873804 |
| 190228A00035 | 2/28/2019 | 2.8 | 2/26/2021 | 2/28/2019 | 101.92762 | 101.9276227 | 101.9276227 | 101.9276227 | 101.7620669 | 101.0064178 | 100.2619715 | 99.52848012 | 98.80570336 |
| 190228A00036 | 2/28/2019 | 2.81 | 2/28/2022 | 2/28/2019 | 104.47602 | 104.4760234 | 104.4760234 | 104.4760234 | 104.1247282 | 102.3699731 | 100.6532764 | 98.9734653 | 97.32941546 |
| 190301A00012 | 3/1/2019 | 3.41 | 3/1/2029 | 3/1/2019 | 127.204 | 127.2039997 | 127.2039997 | 127.0206136 | 117.9368635 | 109.222691 | 101.2416392 | 93.92765263 | 87.22096967 |
| 190311A00003 | 3/11/2019 | 2.68 | 9/10/2021 | 3/11/2019 | 103.12632 | 103.126319 | 103.126319 | 103.126319 | 102.8799309 | 101.5897806 | 100.3276965 | 99.09276275 | 97.88410356 |
| 190314A00027 | 3/22/2019 | 2.92 | 3/21/2025 | 3/22/2019 | 112.7143 | 112.7142957 | 112.7142957 | 112.7142957 | 110.2305953 | 105.3956728 | 100.8033876 | 96.44029731 | 92.29377354 |
| 190318A00024 | 3/18/2019 | 2.57 | 3/18/2024 | 3/18/2019 | 109.43682 | 109.436823 | 109.436823 | 109.436823 | 107.9089051 | 104.0748477 | 100.3985443 | 96.87266096 | 93.49024562 |
| 190319A00008 | 3/19/2019 | 2.72 | 3/21/2022 | 3/19/2019 | 104.43841 | 104.4384107 | 104.4384107 | 104.4384107 | 104.0741261 | 102.2605923 | 100.4874754 | 98.75360698 | 97.05786133 |
| 190321A00003 | 3/21/2019 | 2.67 | 3/21/2024 | 3/21/2019 | 109.12726 | 109.1272567 | 109.1272567 | 109.1272567 | 107.6035627 | 103.7859565 | 100.1253431 | 96.61444034 | 93.24634374 |
| 190321A00029 | 3/21/2019 | 2.62 | 3/22/2021 | 3/21/2019 | 101.93951 | 101.9395117 | 101.9395117 | 101.9395117 | 101.7568885 | 100.9358322 | 100.1280045 | 99.33308751 | 98.55077354 |
| 190328A00033 | 4/25/2019 | 2.56 | 4/25/2024 | 4/25/2019 | 108.92205 | 108.9220499 | 108.9220499 | 108.9220499 | 107.3207785 | 103.4166654 | 99.67682393 | 96.09349784 | 92.65933748 |
| 190328A00053 | 3/28/2019 | 2.33 | 3/28/2022 | 3/28/2019 | 104.09868 | 104.098683 | 104.098683 | 104.098683 | 103.7294487 | 101.8933074 | 100.0985668 | 98.34405117 | 96.62862541 |
| 190329A00018 | 3/29/2019 | 2.6 | 3/29/2024 | 3/29/2019 | 108.90846 | 108.9084635 | 108.9084635 | 108.9084635 | 107.3682827 | 103.5330447 | 99.85640762 | 96.33101181 | 92.94987633 |
| 190401A00006 | 4/1/2019 | 2.58 | 4/1/2022 | 4/1/2019 | 104.25121 | 104.2512125 | 104.2512125 | 104.2512125 | 103.8801541 | 102.0378721 | 100.2372397 | 98.47707508 | 96.75623743 |
| 190401A00007 | 4/1/2019 | 2.6 | 4/3/2023 | 4/1/2019 | 106.62058 | 106.6205843 | 106.6205843 | 106.6205843 | 105.797 | 102.9454832 | 100.1857083 | 97.51424515 | 94.92781014 |
| 190401A00023 | 4/1/2019 | 2.54 | 4/1/2021 | 4/1/2019 | 101.93639 | 101.9363901 | 101.9363901 | 101.9363901 | 101.7468316 | 100.8985566 | 100.0643952 | 99.24399752 | 98.43702487 |
| 190402A00004 | 4/2/2019 | 2.9 | 4/2/2029 | 4/2/2019 | 124.82282 | 124.8228172 | 124.8228172 | 124.5602268 | 115.3414752 | 106.5754019 | 98.55974586 | 91.22602278 | 84.51233134 |
| 190404A00003 | 4/4/2019 | 2.47 | 4/4/2024 | 4/4/2019 | 109.16228 | 109.1622752 | 109.1622752 | 109.1622752 | 107.5976185 | 103.7231091 | 100.0098692 | 96.45036772 | 93.03746407 |
| 190416A00019 | 4/16/2019 | 2.7 | 4/14/2023 | 4/16/2019 | 106.98092 | 106.9809178 | 106.9809178 | 106.9809178 | 106.1375891 | 103.2522981 | 100.4606779 | 97.75919279 | 95.14446024 |
| 190422A00084 | 4/22/2019 | 2.6 | 4/22/2021 | 4/22/2019 | 102.12357 | 102.123575 | 102.123575 | 102.123575 | 101.9199304 | 101.0135971 | 100.1233556 | 99.24878013 | 98.38945972 |
| 190426A00016 | 5/1/2019 | 2.58 | 4/14/2023 | 5/1/2019 | 106.63247 | 106.6324654 | 106.6324654 | 106.6324654 | 105.7902929 | 102.9100553 | 100.1233648 | 97.4266901 | 94.81665228 |
| 190426A00033 | 6/27/2019 | 2.55 | 6/27/2022 | 6/27/2019 | 104.73738 | 104.7373776 | 104.7373776 | 104.7373776 | 104.2923687 | 102.2132558 | 100.186098 | 98.2092489 | 96.28112696 |
| 190501A00003 | 5/1/2019 | 2.61 | 5/1/2024 | 5/1/2019 | 109.15722 | 109.1572156 | 109.1572156 | 109.1572156 | 107.5409586 | 103.6168885 | 99.85852217 | 96.25800628 | 92.80790074 |
| 190510A00009 | 5/10/2019 | 2.47 | 11/10/2021 | 5/10/2019 | 103.22364 | 103.2236426 | 103.2236426 | 103.2236426 | 102.9402989 | 101.4928481 | 100.0729585 | 98.67991126 | 97.31301219 |
| 190514A00023 | 5/14/2019 | 2.43 | 5/14/2021 | 5/14/2019 | 102.09104 | 102.0910395 | 102.0910395 | 102.0910395 | 101.8760656 | 100.9101822 | 99.96257665 | 99.03273358 | 98.12015688 |
| 190514A00024 | 5/14/2019 | 2.34 | 5/14/2024 | 5/14/2019 | 108.90149 | 108.9014932 | 108.9014932 | 108.9014932 | 107.2463396 | 103.2732824 | 99.47003787 | 95.82846313 | 92.34084902 |
| 190515A00008 | 5/15/2019 | 2.41 | 11/15/2021 | 5/15/2019 | 103.15026 | 103.1502638 | 103.1502638 | 103.1502638 | 102.8636713 | 101.4038253 | 99.97201907 | 98.56751531 | 97.18960194 |
| 190515A00013 | 5/15/2019 | 2.45 | 11/16/2020 | 5/15/2019 | 101.04204 | 101.0420372 | 101.0420372 | 101.0420372 | 100.9534341 | 100.4800525 | 100.0111129 | 99.54655277 | 99.08631091 |
| 190515A00014 | 5/15/2019 | 2.26 | 5/14/2021 | 5/15/2019 | 102.08071 | 102.0807114 | 102.0807114 | 102.0807114 | 101.8652437 | 100.8972246 | 99.94755807 | 99.01572577 | 98.10122868 |
| 190515A00046 | 5/15/2019 | 2.4 | 5/14/2021 | 5/15/2019 | 102.06192 | 102.0619152 | 102.0619152 | 102.0619152 | 101.8469728 | 100.8812415 | 99.93378616 | 99.00409132 | 98.0916609 |
| 190516A00012 | 5/16/2019 | 2.43 | 11/16/2021 | 5/16/2019 | 103.18586 | 103.1858639 | 103.1858639 | 103.1858639 | 102.8985345 | 101.4357759 | 100.0011616 | 98.59395032 | 97.21342604 |
| 190521A00025 | 5/21/2019 | 2.47 | 5/21/2021 | 5/21/2019 | 102.17233 | 102.1723346 | 102.1723346 | 102.1723346 | 101.9541196 | 100.9687825 | 100.0024502 | 99.0545768 | 98.124637 |
| 190521A00026 | 5/21/2019 | 2.54 | 5/19/2023 | 5/21/2019 | 106.73256 | 106.7325581 | 106.7325581 | 106.7325581 | 105.8297046 | 102.8557135 | 99.98132692 | 97.20266462 | 94.51601998 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190523A00006 | 5/23/2019 | 2.31 | 5/24/2021 | 5/23/2019 | 102.19005 | 102.1900464 | 102.1900464 | 102.1900464 | 101.9699418 | 100.9740846 | 99.99762463 | 99.03999931 | 98.10066768 |
| 190130A00019 | 1/30/2019 | 3.01 | 1/30/2024 | 1/30/2019 | 110.0545 | 110.054502 | 110.054502 | 110.054502 | 108.6375146 | 104.9372847 | 101.384185 | 97.97152685 | 94.69296713 |
| 190131A00017 | 1/31/2019 | 2.83 | 3/25/2022 | 1/31/2019 | 104.66765 | 104.6676534 | 104.6676534 | 104.6676534 | 104.3004381 | 102.4734415 | 100.6873624 | 98.94103143 | 97.23332087 |
| 190201A00016 | 2/1/2019 | 2.8 | 2/1/2022 | 2/1/2019 | 104.271 | 104.271001 | 104.271001 | 104.271001 | 103.9356688 | 102.2567494 | 100.6130821 | 99.00362101 | 97.42736175 |
| 190204A00036 | 2/4/2019 | 2.86 | 11/4/2021 | 2/4/2019 | 103.75361 | 103.7536109 | 103.7536109 | 103.7536109 | 103.4735527 | 102.0379496 | 100.6293852 | 99.24716158 | 97.89060439 |
| 190208A00009 | 2/8/2019 | 2.67 | 2/8/2024 | 2/8/2019 | 109.54677 | 109.5467668 | 109.5467668 | 109.5467668 | 108.1043245 | 104.3722587 | 100.7899499 | 97.35053067 | 94.04749139 |
| 190214A00008 | 2/14/2019 | 2.64 | 2/14/2023 | 2/14/2019 | 106.92976 | 106.9297573 | 106.9297573 | 106.9297573 | 106.1788963 | 103.4435828 | 100.7928953 | 98.22366445 | 95.73286379 |
| 190215A00003 | 2/15/2019 | 2.82 | 2/15/2022 | 2/15/2019 | 104.40286 | 104.4028564 | 104.4028564 | 104.4028564 | 104.0591998 | 102.3407146 | 100.6589277 | 99.01272781 | 97.40104913 |
| 190222A00028 | 2/22/2019 | 2.62 | 2/22/2022 | 2/22/2019 | 104.40092 | 104.4009234 | 104.4009234 | 104.4009234 | 104.0521659 | 102.3092459 | 100.6039465 | 98.93511536 | 97.30164761 |
| 190313A00011 | 3/13/2019 | 2.53 | 3/11/2022 | 3/13/2019 | 104.35602 | 104.3560191 | 104.3560191 | 104.3560191 | 103.9969586 | 102.2066593 | 100.4558468 | 98.7433426 | 97.06801441 |
| 190321A00021 | 3/21/2019 | 2.67 | 3/21/2024 | 3/21/2019 | 109.12726 | 109.1272567 | 109.1272567 | 109.1272567 | 107.6035627 | 103.7859565 | 100.1253431 | 96.61444034 | 93.24634374 |
| 190326A00004 | 3/26/2019 | 2.58 | 9/26/2023 | 3/26/2019 | 107.67043 | 107.6704299 | 107.6704299 | 107.6704299 | 106.5224394 | 103.1937252 | 99.98698792 | 96.89712495 | 93.91927444 |
| 190326A00014 | 3/26/2019 | 2.56 | 9/28/2020 | 3/26/2019 | 100.77781 | 100.7778126 | 100.7778126 | 100.7778126 | 100.7179437 | 100.379974 | 100.0442653 | 99.71079503 | 99.37954085 |
| 190328A00019 | 3/28/2019 | 2.56 | 3/28/2024 | 3/28/2019 | 108.74764 | 108.7476401 | 108.7476401 | 108.7476401 | 107.2105374 | 103.381082 | 99.70991775 | 96.18969905 | 92.81345846 |
| 190328A00024 | 3/28/2019 | 2.5 | 4/23/2021 | 3/28/2019 | 102.03879 | 102.0387872 | 102.0387872 | 102.0387872 | 101.8345664 | 100.9259321 | 100.0334796 | 99.1567796 | 98.29541754 |
| 190328A00032 | 4/25/2019 | 2.48 | 4/26/2021 | 4/25/2019 | 102.03898 | 102.0389765 | 102.0389765 | 102.0389765 | 101.8327713 | 100.915982 | 100.015661 | 99.13136752 | 98.26267653 |
| 190329A00017 | 3/29/2019 | 2.59 | 3/29/2023 | 3/29/2019 | 106.56019 | 106.5601894 | 106.5601894 | 106.5601894 | 105.7452372 | 102.907576 | 100.1608221 | 97.50159113 | 94.92664312 |
| 190410A00005 | 4/10/2019 | 2.49 | 10/13/2020 | 4/10/2019 | 100.90259 | 100.9025853 | 100.9025853 | 100.9025853 | 100.8341014 | 100.4539193 | 100.0766131 | 99.70215021 | 99.3304984 |
| 190423A00049 | 4/23/2019 | 2.6 | 4/23/2021 | 4/23/2019 | 102.13006 | 102.1300551 | 102.1300551 | 102.1300551 | 101.9257422 | 101.0166572 | 100.1237596 | 99.24661988 | 98.38482358 |
| 190424A00004 | 4/24/2019 | 2.55 | 4/23/2021 | 4/24/2019 | 102.08442 | 102.0844211 | 102.0844211 | 102.0844211 | 101.8801543 | 100.9712946 | 100.0786196 | 99.20169974 | 98.34012056 |
| 190424A00022 | 4/24/2019 | 2.62 | 4/24/2023 | 4/24/2019 | 106.81276 | 106.8127644 | 106.8127644 | 106.8127644 | 105.9531342 | 103.0443426 | 100.2308134 | 97.50891945 | 94.87519229 |
| 190430A00013 | 4/30/2019 | 2.52 | 4/30/2021 | 4/30/2019 | 102.10082 | 102.1008244 | 102.1008244 | 102.1008244 | 101.8921207 | 100.9641464 | 100.0530324 | 99.1583227 | 98.2795772 |
| 190502A00009 | 5/2/2019 | 2.56 | 5/3/2021 | 5/2/2019 | 102.15714 | 102.1571383 | 102.1571383 | 102.1571383 | 101.9470225 | 101.0105936 | 100.0913315 | 99.18876731 | 98.30244907 |
| 190502A00027 | 5/2/2019 | 2.42 | 5/2/2022 | 5/2/2019 | 104.48889 | 104.488887 | 104.488887 | 104.488887 | 104.0935479 | 102.1604689 | 100.2729878 | 98.42975384 | 96.62946535 |
| 190507A00023 | 5/7/2019 | 2.52 | 5/7/2021 | 5/7/2019 | 102.14445 | 102.1444541 | 102.1444541 | 102.1444541 | 101.9325471 | 100.9852928 | 100.0556099 | 99.14301278 | 98.24703342 |
| 190808A00012 | 8/8/2019 | 1.89 | 8/8/2024 | 8/8/2019 | 106.74134 | 106.741339 | 106.741339 | 106.741339 | 104.9052469 | 100.7755881 | 96.83114474 | 93.06259855 | 89.4611548 |
| 190809A00012 | 8/9/2019 | 1.69 | 8/9/2024 | 8/9/2019 | 106.67493 | 106.6749308 | 106.6749308 | 106.6749308 | 104.8247089 | 100.6721435 | 96.70650829 | 92.91836873 | 89.29882187 |
| 190814A00003 | 8/14/2019 | 2.01 | 8/14/2029 | 8/14/2019 | 117.5768 | 117.5768012 | 117.5768012 | 116.9548687 | 107.5961618 | 98.85196172 | 90.89220078 | 83.64229335 | 77.03510848 |
| 190814A00005 | 8/14/2019 | 1.65 | 8/14/2024 | 8/14/2019 | 106.52623 | 106.5262271 | 106.5262271 | 106.5262271 | 104.6645884 | 100.5025708 | 96.528464 | 92.73275585 | 89.1064722 |
| 190815A00008 | 8/15/2019 | 1.82 | 8/15/2022 | 8/15/2019 | 103.4093 | 103.409299 | 103.409299 | 103.409299 | 102.9155306 | 100.71983 | 98.58164851 | 96.49905936 | 94.47021712 |
| 190816A00014 | 8/16/2019 | 1.77 | 8/16/2024 | 8/16/2019 | 106.2664 | 106.266398 | 106.266398 | 106.266398 | 104.4137466 | 100.2740704 | 96.32099997 | 92.54510132 | 88.93747334 |
| 190816A00039 | 8/16/2019 | 1.91 | 2/16/2021 | 8/16/2019 | 101.20769 | 101.2076905 | 101.2076905 | 101.2076905 | 101.0502195 | 100.3247947 | 99.60976043 | 98.90489445 | 98.20998094 |
| 190819A00001 | 8/19/2019 | 1.82 | 8/19/2021 | 8/19/2019 | 101.91375 | 101.9137549 | 101.9137549 | 101.9137549 | 101.676658 | 100.4487422 | 99.25034369 | 98.0804081 | 96.93793085 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190819A00020 | 8/19/2019 | 1.79 | 8/19/2022 | 8/19/2019 | 103.35875 | 103.3587473 | 103.3587473 | 103.3587473 | 102.860674 | 100.6551154 | 98.50755829 | 96.41605116 | 94.37872537 |
| 190819A00027 | 8/19/2019 | 2.03 | 8/19/2020 | 8/19/2019 | 100.39972 | 100.3997207 | 100.3997207 | 100.3997207 | 100.3616324 | 100.1345915 | 99.90858731 | 99.68361256 | 99.45966023 |
| 190820A00012 | 8/20/2019 | 1.76 | 8/19/2022 | 8/20/2019 | 103.29131 | 103.291314 | 103.291314 | 103.291314 | 102.7933981 | 100.5886063 | 98.44179998 | 96.35102821 | 94.3144228 |
| 190820A00019 | 8/20/2019 | 1.76 | 8/21/2023 | 8/20/2019 | 104.77152 | 104.7715236 | 104.7715236 | 104.7715236 | 103.7043705 | 100.5155772 | 97.4411282 | 94.47623599 | 91.61634627 |
| 190820A00020 | 8/20/2019 | 1.76 | 8/20/2024 | 8/20/2019 | 106.24002 | 106.2400172 | 106.2400172 | 106.2400172 | 104.3777401 | 100.2286865 | 96.26707851 | 92.48341818 | 88.86874535 |
| 190820A00030 | 8/20/2019 | 1.76 | 4/16/2024 | 8/20/2019 | 105.73353 | 105.7335257 | 105.7335257 | 105.7335257 | 104.1702874 | 100.350518 | 96.69124418 | 93.1849162 | 89.82437785 |
| 190821A00009 | 8/21/2019 | 1.79 | 8/22/2022 | 8/21/2019 | 103.37116 | 103.3711601 | 103.3711601 | 103.3711601 | 102.8697416 | 100.6562219 | 98.50107849 | 96.40234101 | 94.358123 |
| 190821A00027 | 8/21/2019 | 1.79 | 8/22/2022 | 8/21/2019 | 103.37116 | 103.3711601 | 103.3711601 | 103.3711601 | 102.8697416 | 100.6562219 | 98.50107849 | 96.40234101 | 94.358123 |
| 190823A00002 | 8/23/2019 | 1.89 | 8/24/2020 | 8/23/2019 | 100.42823 | 100.4282275 | 100.4282275 | 100.4282275 | 100.387385 | 100.1461062 | 99.90599306 | 99.66703697 | 99.4292296 |
| 190826A00030 | 8/26/2019 | 1.72 | 8/26/2026 | 8/26/2019 | 110.10448 | 110.104475 | 110.104475 | 110.104475 | 105.5614972 | 99.48520014 | 93.79636316 | 88.46827204 | 83.47619392 |
| 190826A00057 | 8/26/2019 | 1.87 | 8/26/2025 | 8/26/2019 | 108.2538 | 108.2537986 | 108.2537986 | 108.2537986 | 105.3106092 | 100.1943581 | 95.35681958 | 90.78133216 | 86.45232227 |
| 190828A00019 | 8/28/2019 | 2 | 3/28/2028 | 8/28/2019 | 113.29733 | 113.2973254 | 113.2973254 | 113.2973254 | 106.0311863 | 98.59476236 | 91.73525103 | 85.40495321 | 79.5603366 |
| 190905A00035 | 9/5/2019 | 1.82 | 9/7/2021 | 9/5/2019 | 101.99521 | 101.9952104 | 101.9952104 | 101.9952104 | 101.7517655 | 100.4760789 | 99.22904609 | 98.00970154 | 96.81712317 |
| 190906A00004 | 9/6/2019 | 1.78 | 9/6/2022 | 9/6/2019 | 103.41024 | 103.4102411 | 103.4102411 | 103.4102411 | 102.8915366 | 100.6384834 | 98.44571862 | 96.31121421 | 94.23302674 |
| 190910A00009 | 9/10/2019 | 1.86 | 9/10/2020 | 9/10/2019 | 100.50329 | 100.5032877 | 100.5032877 | 100.5032877 | 100.4532085 | 100.1648739 | 99.87820616 | 99.59319073 | 99.30981324 |
| 190912A00028 | 9/12/2019 | 1.94 | 9/12/2024 | 9/12/2019 | 107.11109 | 107.1110891 | 107.1110891 | 107.1110891 | 105.1858533 | 100.9613127 | 96.92984302 | 93.08160259 | 89.40730572 |
| 190724A00021 | 7/24/2019 | 2.33 | 7/23/2027 | 7/24/2019 | 115.9699 | 115.9699003 | 115.9699003 | 115.9699003 | 109.7339723 | 102.6997526 | 96.16845877 | 90.10146657 | 84.46331202 |
| 190805A00048 | 8/5/2019 | 1.88 | 8/5/2022 | 8/5/2019 | 103.49964 | 103.4996446 | 103.4996446 | 103.4996446 | 103.016731 | 100.8461217 | 98.73182573 | 96.67197755 | 94.66478936 |
| 190805A00050 | 8/5/2019 | 1.91 | 8/5/2024 | 8/5/2019 | 106.81258 | 106.8125807 | 106.8125807 | 106.8125807 | 104.9833988 | 100.8597413 | 96.92070642 | 93.15702208 | 89.55993605 |
| 190807A00020 | 8/7/2019 | 1.57 | 2/7/2024 | 8/7/2019 | 105.4271 | 105.4271001 | 105.4271001 | 105.4271001 | 104.0078101 | 100.3543464 | 96.84820344 | 93.48261152 | 90.25115425 |
| 190807A00054 | 8/7/2019 | 1.66 | 8/6/2021 | 8/7/2019 | 101.85696 | 101.8569632 | 101.8569632 | 101.8569632 | 101.6221427 | 100.4268129 | 99.25945183 | 98.11908719 | 97.00479122 |
| 190808A00050 | 8/8/2019 | 1.7 | 8/8/2024 | 8/8/2019 | 106.71303 | 106.7130282 | 106.7130282 | 106.7130282 | 104.8650378 | 100.7141921 | 96.75008645 | 92.96330142 | 89.34494807 |
| 190808A00052 | 8/8/2019 | 1.7 | 8/8/2024 | 8/8/2019 | 106.71303 | 106.7130282 | 106.7130282 | 106.7130282 | 104.8650378 | 100.7141921 | 96.75008645 | 92.96330142 | 89.34494807 |
| 190814A00010 | 8/14/2019 | 1.84 | 4/5/2023 | 8/14/2019 | 104.44527 | 104.445273 | 104.445273 | 104.445273 | 103.6254355 | 100.8000128 | 98.06589799 | 95.41966736 | 92.85804396 |
| 190815A00004 | 8/15/2019 | 1.82 | 8/15/2022 | 8/15/2019 | 103.4093 | 103.409299 | 103.409299 | 103.409299 | 102.9155306 | 100.71983 | 98.58164851 | 96.49905936 | 94.47021712 |
| 190816A00020 | 8/16/2019 | 1.79 | 8/16/2024 | 8/16/2019 | 106.3514 | 106.3514043 | 106.3514043 | 106.3514043 | 104.4982029 | 100.3567537 | 96.40196808 | 92.62440969 | 89.01517518 |
| 190816A00022 | 8/16/2019 | 1.77 | 8/16/2024 | 8/16/2019 | 106.2664 | 106.266398 | 106.266398 | 106.266398 | 104.4137466 | 100.2740704 | 96.32099997 | 92.54510132 | 88.93747334 |
| 190816A00033 | 8/16/2019 | 1.77 | 8/16/2024 | 8/16/2019 | 106.2664 | 106.266398 | 106.266398 | 106.266398 | 104.4137466 | 100.2740704 | 96.32099997 | 92.54510132 | 88.93747334 |
| 190816A00035 | 8/16/2019 | 1.77 | 8/16/2023 | 8/16/2019 | 104.78376 | 104.7837605 | 104.7837605 | 104.7837605 | 103.7259232 | 100.5496807 | 97.48693503 | 94.5329517 | 91.68322604 |
| 190819A00007 | 8/19/2019 | 1.62 | 8/19/2024 | 8/19/2019 | 106.41917 | 106.4191683 | 106.4191683 | 106.4191683 | 104.5458568 | 100.3735416 | 96.39014792 | 92.58608477 | 88.95230528 |
| 190819A00022 | 8/19/2019 | 1.8 | 8/19/2024 | 8/19/2019 | 106.40633 | 106.4063282 | 106.4063282 | 106.4063282 | 104.5454201 | 100.3953727 | 96.43266988 | 92.6478251 | 89.03188879 |
| 190820A00054 | 8/20/2019 | 1.76 | 8/18/2022 | 8/20/2019 | 103.28726 | 103.2872592 | 103.2872592 | 103.2872592 | 102.790458 | 100.5883184 | 98.44403971 | 96.35567719 | 94.32136859 |
| 190821A00017 | 8/21/2019 | 1.8 | 8/21/2024 | 8/21/2019 | 106.41461 | 106.4146088 | 106.4146088 | 106.4146088 | 104.5487467 | 100.3935594 | 96.42615192 | 92.6370051 | 89.01713919 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190821A00021 | 8/21/2019 | 1.79 | 8/18/2022 | 8/21/2019 | 103.35461 | 103.3546096 | 103.3546096 | 103.3546096 | 102.8576515 | 100.654747 | 98.50971926 | 96.42062309 | 94.3855958 |
| 190822A00002 | 8/22/2019 | 1.89 | 8/20/2021 | 8/22/2019 | 102.00499 | 102.0049943 | 102.0049943 | 102.0049943 | 101.7675621 | 100.536347 | 99.33478778 | 98.16182297 | 97.01644137 |
| 190826A00004 | 8/26/2019 | 1.74 | 8/26/2022 | 8/26/2019 | 103.27436 | 103.2743563 | 103.2743563 | 103.2743563 | 102.7687452 | 100.5459121 | 98.38192987 | 96.27480363 | 94.22262374 |
| 190826A00028 | 8/26/2019 | 1.56 | 8/26/2022 | 8/26/2019 | 103.2749 | 103.2748998 | 103.2748998 | 103.2748998 | 102.7673146 | 100.5363359 | 98.36457429 | 96.25001796 | 94.19074129 |
| 190827A00001 | 8/27/2019 | 1.74 | 8/27/2024 | 8/27/2019 | 106.18262 | 106.1826219 | 106.1826219 | 106.1826219 | 104.3035837 | 100.138375 | 96.16207791 | 92.36508216 | 88.73832409 |
| 190827A00022 | 8/27/2019 | 1.83 | 8/27/2021 | 8/27/2019 | 101.96067 | 101.9606716 | 101.9606716 | 101.9606716 | 101.7218089 | 100.4719751 | 99.25269632 | 98.06286325 | 96.90141967 |
| 190827A00039 | 8/27/2019 | 1.78 | 8/26/2022 | 8/27/2019 | 103.36504 | 103.3650399 | 103.3650399 | 103.3650399 | 102.8592149 | 100.6353425 | 98.47034276 | 96.36221995 | 94.30906391 |
| 190130A00018 | 1/30/2019 | 2.95 | 10/17/2022 | 1/30/2019 | 106.39851 | 106.3985123 | 106.3985123 | 106.3985123 | 105.8224438 | 103.4250809 | 101.0943803 | 98.82812103 | 96.62416905 |
| 190131A00018 | 1/31/2019 | 2.83 | 3/25/2022 | 1/31/2019 | 104.66765 | 104.6676534 | 104.6676534 | 104.6676534 | 104.3004381 | 102.4734415 | 100.6873624 | 98.94103143 | 97.23332087 |
| 190213A00023 | 2/13/2019 | 2.93 | 2/13/2024 | 2/13/2019 | 109.85968 | 109.8596758 | 109.8596758 | 109.8596758 | 108.4132836 | 104.6805139 | 101.0974926 | 97.65734921 | 94.35357177 |
| 190226A00020 | 2/26/2019 | 2.64 | 2/26/2024 | 2/26/2019 | 109.56014 | 109.5601374 | 109.5601374 | 109.5601374 | 108.0783147 | 104.299366 | 100.6737369 | 97.194315 | 93.8543636 |
| 190227A00005 | 2/27/2019 | 2.87 | 2/27/2024 | 2/27/2019 | 109.73432 | 109.734319 | 109.734319 | 109.734319 | 108.2582336 | 104.4917824 | 100.8777558 | 97.40909714 | 94.07912179 |
| 190228A00039 | 2/28/2019 | 2.88 | 2/28/2024 | 2/28/2019 | 109.77924 | 109.7792421 | 109.7792421 | 109.7792421 | 108.300757 | 104.5308991 | 100.9136876 | 97.44205138 | 94.10929229 |
| 190308A00014 | 3/8/2019 | 2.69 | 3/8/2021 | 3/8/2019 | 101.91145 | 101.9114517 | 101.9114517 | 101.9114517 | 101.7387389 | 100.9558658 | 100.1850253 | 99.42594136 | 98.67834639 |
| 190311A00009 | 3/11/2019 | 2.54 | 3/11/2022 | 3/11/2019 | 104.37408 | 104.3740822 | 104.3740822 | 104.3740822 | 104.0149881 | 102.2245216 | 100.4735449 | 98.76087971 | 97.08539338 |
| 190321A00018 | 3/21/2019 | 2.45 | 3/21/2022 | 3/21/2019 | 104.27597 | 104.2759731 | 104.2759731 | 104.2759731 | 103.9107892 | 102.0928297 | 100.3154905 | 98.57759463 | 96.87800828 |
| 190325A00014 | 3/25/2019 | 2.43 | 9/25/2020 | 3/25/2019 | 100.76428 | 100.7642815 | 100.7642815 | 100.7642815 | 100.705949 | 100.3757166 | 100.047652 | 99.72173386 | 99.3979411 |
| 190326A00001 | 3/26/2019 | 2.55 | 3/28/2022 | 3/26/2019 | 104.17046 | 104.1704646 | 104.1704646 | 104.1704646 | 103.8023205 | 101.9715434 | 100.1819425 | 98.43235114 | 96.72164292 |
| 190326A00007 | 3/26/2019 | 2.5 | 3/26/2021 | 3/26/2019 | 101.86525 | 101.8652491 | 101.8652491 | 101.8652491 | 101.6798642 | 100.8482535 | 100.0302147 | 99.22541777 | 98.43354309 |
| 190327A00062 | 3/27/2019 | 2.44 | 3/26/2021 | 3/27/2019 | 101.81514 | 101.8151436 | 101.8151436 | 101.8151436 | 101.6298044 | 100.7984219 | 99.98060882 | 99.17603494 | 98.38438081 |
| 190328A00018 | 3/28/2019 | 2.5 | 3/29/2021 | 3/28/2019 | 101.88371 | 101.8837127 | 101.8837127 | 101.8837127 | 101.6961903 | 100.8563317 | 100.0303078 | 99.21777921 | 98.41841726 |
| 190328A00027 | 3/28/2019 | 2.51 | 9/21/2021 | 3/28/2019 | 102.96014 | 102.9601441 | 102.9601441 | 102.9601441 | 102.7089826 | 101.395352 | 100.1071369 | 98.84362076 | 97.60411407 |
| 190328A00046 | 3/28/2019 | 2.7 | 3/4/2025 | 3/28/2019 | 111.5372 | 111.5371972 | 111.5371972 | 111.5371972 | 109.1128255 | 104.3509084 | 99.82617609 | 95.52552002 | 91.43663059 |
| 190328A00065 | 3/28/2019 | 2.56 | 3/28/2024 | 3/28/2019 | 108.74764 | 108.7476401 | 108.7476401 | 108.7476401 | 107.2105374 | 103.381082 | 99.70991775 | 96.18969905 | 92.81345846 |
| 190329A00033 | 3/29/2019 | 2.52 | 3/29/2021 | 3/29/2019 | 101.90058 | 101.9005808 | 101.9005808 | 101.9005808 | 101.7130428 | 100.8731068 | 100.0470064 | 99.23440207 | 98.4349653 |
| 190401A00035 | 4/1/2019 | 2.53 | 10/1/2021 | 4/1/2019 | 103.04894 | 103.0489413 | 103.0489413 | 103.0489413 | 102.7926607 | 101.4549033 | 100.1408584 | 98.8499497 | 97.58161904 |
| 190409A00014 | 4/9/2019 | 2.59 | 10/12/2021 | 4/9/2019 | 103.20043 | 103.2004266 | 103.2004266 | 103.2004266 | 102.9366254 | 101.5677091 | 100.2235478 | 98.90352765 | 97.60705472 |
| 190409A00019 | 4/9/2019 | 2.91 | 4/9/2029 | 4/9/2019 | 124.9658 | 124.9658018 | 124.9658018 | 124.6850686 | 115.4428015 | 106.6557731 | 98.62229638 | 91.27347399 | 84.54704382 |
| 190411A00020 | 5/1/2019 | 2.63 | 5/2/2022 | 5/1/2019 | 104.5445 | 104.5445043 | 104.5445043 | 104.5445043 | 104.1504097 | 102.2232917 | 100.3415165 | 98.50374413 | 96.70868304 |
| 190411A00037 | 4/11/2019 | 2.59 | 4/9/2021 | 4/11/2019 | 102.03059 | 102.0305947 | 102.0305947 | 102.0305947 | 101.8356483 | 100.9651427 | 100.1094984 | 99.26833674 | 98.44129226 |
| 190416A00021 | 4/16/2019 | 2.73 | 4/16/2024 | 4/16/2019 | 109.53162 | 109.5316167 | 109.5316167 | 109.5316167 | 107.9472842 | 104.0542526 | 100.323955 | 96.74875468 | 93.32141267 |
| 190424A00007 | 4/24/2019 | 2.66 | 4/24/2024 | 4/24/2019 | 109.30957 | 109.3095711 | 109.3095711 | 109.3095711 | 107.7083829 | 103.7992915 | 100.054491 | 96.46623118 | 93.02716769 |
| 190426A00032 | 6/27/2019 | 2.55 | 6/27/2022 | 6/27/2019 | 104.73738 | 104.7373776 | 104.7373776 | 104.7373776 | 104.2923687 | 102.2132558 | 100.186098 | 98.2092489 | 96.28112696 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190429A00003 | 4/29/2019 | 2.62 | 10/13/2023 | 4/29/2019 | 107.91326 | 107.9132614 | 107.9132614 | 107.9132614 | 106.730762 | 103.3530707 | 100.1007053 | 96.96836944 | 93.95101837 |
| 190501A00028 | 5/1/2019 | 2.42 | 5/1/2024 | 5/1/2019 | 109.1394 | 109.1393982 | 109.1393982 | 109.1393982 | 107.513201 | 103.5697657 | 99.79335144 | 96.17602204 | 92.71025988 |
| 190503A00009 | 5/3/2019 | 2.57 | 5/3/2021 | 5/3/2019 | 102.16654 | 102.1665421 | 102.1665421 | 102.1665421 | 101.9564165 | 101.01994 | 100.1006308 | 99.19802009 | 98.31165594 |
| 190506A00027 | 5/6/2019 | 2.38 | 5/6/2022 | 5/6/2019 | 104.43592 | 104.4359183 | 104.4359183 | 104.4359183 | 104.0373007 | 102.0938199 | 100.1964386 | 98.34378322 | 96.53453069 |
| 190507A00004 | 5/7/2019 | 2.88 | 5/7/2029 | 5/7/2019 | 124.91006 | 124.9100648 | 124.9100648 | 124.5568877 | 115.2386983 | 106.39357 | 98.31309667 | 90.92681049 | 84.17108391 |
| 190510A00018 | 5/10/2019 | 2.54 | 5/10/2023 | 5/10/2019 | 106.67706 | 106.6770613 | 106.6770613 | 106.6770613 | 105.7901743 | 102.841028 | 99.98986573 | 97.23290196 | 94.56651898 |
| 190514A00022 | 5/14/2019 | 2.49 | 11/16/2020 | 5/14/2019 | 101.06102 | 101.0610236 | 101.0610236 | 101.0610236 | 100.9724112 | 100.4989764 | 100.029984 | 99.56537145 | 99.10507753 |
| 190514A00025 | 5/14/2019 | 2.43 | 5/14/2021 | 5/14/2019 | 102.09104 | 102.0910395 | 102.0910395 | 102.0910395 | 101.8760656 | 100.9101822 | 99.96257665 | 99.03273358 | 98.12015688 |
| 190514A00045 | 5/14/2019 | 2.49 | 5/13/2022 | 5/14/2019 | 104.33845 | 104.3384501 | 104.3384501 | 104.3384501 | 103.9355124 | 101.9805644 | 100.0723222 | 98.20938403 | 96.39039944 |
| 190515A00002 | 5/15/2019 | 2.44 | 5/16/2022 | 5/15/2019 | 104.25731 | 104.2573119 | 104.2573119 | 104.2573119 | 103.8520167 | 101.8897484 | 99.97455549 | 98.10501888 | 96.27977219 |
| 190515A00003 | 5/15/2019 | 2.45 | 11/16/2020 | 5/15/2019 | 101.04204 | 101.0420372 | 101.0420372 | 101.0420372 | 100.9534341 | 100.4800525 | 100.0111129 | 99.54655277 | 99.08631091 |
| 190515A00015 | 5/15/2019 | 2.25 | 5/16/2022 | 5/15/2019 | 104.23994 | 104.2399404 | 104.2399404 | 104.2399404 | 103.8332652 | 101.864471 | 99.94302645 | 98.0675011 | 96.23651746 |
| 190515A00044 | 5/15/2019 | 2.38 | 5/17/2021 | 5/15/2019 | 102.05995 | 102.0599494 | 102.0599494 | 102.0599494 | 101.8436584 | 100.8697849 | 99.91449532 | 98.97726138 | 98.05757461 |
| 190517A00017 | 5/17/2019 | 2.33 | 2/22/2021 | 5/17/2019 | 101.65206 | 101.6520551 | 101.6520551 | 101.6520551 | 101.4894184 | 100.7444645 | 100.0104264 | 99.28706519 | 98.57414922 |
| 190520A00034 | 5/20/2019 | 2.44 | 5/20/2021 | 5/20/2019 | 102.13665 | 102.1366456 | 102.1366456 | 102.1366456 | 101.9189201 | 100.9364898 | 99.97295841 | 99.02778429 | 98.10044645 |
| 190520A00054 | 5/20/2019 | 2.46 | 5/20/2021 | 5/20/2019 | 102.15639 | 102.1563941 | 102.1563941 | 102.1563941 | 101.9386471 | 100.956112 | 99.99247718 | 99.04720106 | 98.11976258 |
| 190521A00005 | 5/21/2019 | 2.56 | 5/21/2024 | 5/21/2019 | 109.08343 | 109.0834328 | 109.0834328 | 109.0834328 | 107.4213539 | 103.4464226 | 99.64163109 | 95.99880383 | 92.51020181 |
| 190521A00027 | 5/21/2019 | 2.56 | 5/21/2024 | 5/21/2019 | 109.08343 | 109.0834328 | 109.0834328 | 109.0834328 | 107.4213539 | 103.4464226 | 99.64163109 | 95.99880383 | 92.51020181 |
| 190521A00028 | 5/21/2019 | 2.47 | 11/22/2021 | 5/21/2019 | 103.28162 | 103.2816157 | 103.2816157 | 103.2816157 | 102.9900474 | 101.5107192 | 100.0601493 | 98.63757268 | 97.24225065 |
| 190521A00043 | 5/21/2019 | 2.54 | 5/22/2023 | 5/21/2019 | 106.75106 | 106.7510571 | 106.7510571 | 106.7510571 | 105.8428825 | 102.8606138 | 99.97849219 | 97.19260557 | 94.4992175 |
| 190523A00023 | 5/23/2019 | 2.48 | 3/22/2023 | 5/23/2019 | 106.20379 | 106.2037908 | 106.2037908 | 106.2037908 | 105.4012996 | 102.5881425 | 99.86459946 | 97.22732156 | 94.67310514 |
| 190524A00031 | 5/24/2019 | 2.43 | 5/24/2022 | 5/24/2019 | 104.28451 | 104.2845053 | 104.2845053 | 104.2845053 | 103.8724308 | 101.8881991 | 99.95208137 | 98.06261154 | 96.21837841 |
| 190509A00030 | 5/9/2019 | 2.48 | 11/9/2021 | 5/9/2019 | 103.23222 | 103.232223 | 103.232223 | 103.232223 | 102.9495483 | 101.5046733 | 100.0872617 | 98.69659848 | 97.33199296 |
| 190510A00004 | 5/10/2019 | 2.54 | 11/10/2020 | 5/10/2019 | 101.04667 | 101.0466681 | 101.0466681 | 101.0466681 | 100.9617742 | 100.5048552 | 100.0520751 | 99.60337774 | 99.15870795 |
| 190514A00021 | 5/14/2019 | 2.72 | 11/14/2025 | 5/14/2019 | 113.26624 | 113.266242 | 113.266242 | 113.266242 | 109.9728856 | 104.531561 | 99.3958347 | 94.54695188 | 89.96740258 |
| 190515A00011 | 5/15/2019 | 2.38 | 5/17/2021 | 5/15/2019 | 102.05995 | 102.0599494 | 102.0599494 | 102.0599494 | 101.8436584 | 100.8697849 | 99.91449532 | 98.97726138 | 98.05757461 |
| 190516A00027 | 5/16/2019 | 2.43 | 5/17/2021 | 5/16/2019 | 102.10891 | 102.1089054 | 102.1089054 | 102.1089054 | 101.8925611 | 100.9184298 | 99.96288585 | 99.02540091 | 98.10546642 |
| 190520A00036 | 5/20/2019 | 2.43 | 11/19/2021 | 5/20/2019 | 103.2037 | 103.2036969 | 103.2036969 | 103.2036969 | 102.9142951 | 101.4434852 | 100.0011219 | 98.5864522 | 97.19874889 |
| 190522A00017 | 5/23/2019 | 2.53 | 3/1/2023 | 5/23/2019 | 106.21743 | 106.2174327 | 106.2174327 | 106.2174327 | 105.4488535 | 102.6938552 | 100.025007 | 97.43904977 | 94.93287292 |
| 190523A00017 | 5/23/2019 | 2.51 | 3/15/2024 | 5/23/2019 | 108.47595 | 108.4759481 | 108.4759481 | 108.4759481 | 106.9689867 | 103.1800436 | 99.54642913 | 96.06093648 | 92.71673449 |
| 190523A00020 | 5/23/2019 | 2.5 | 2/9/2024 | 5/23/2019 | 108.2261 | 108.2260983 | 108.2260983 | 108.2260983 | 106.7966928 | 103.1043269 | 99.56004336 | 96.15705847 | 92.88894163 |
| 190528A00007 | 5/28/2019 | 2.44 | 11/15/2023 | 5/28/2019 | 107.49503 | 107.4950309 | 107.4950309 | 107.4950309 | 106.2484395 | 102.7920053 | 99.46710953 | 96.26805002 | 93.18940311 |
| 190529A00002 | 5/29/2019 | 2.32 | 5/28/2021 | 5/29/2019 | 102.06336 | 102.0633593 | 102.0633593 | 102.0633593 | 101.8421153 | 100.8383533 | 99.85431616 | 98.88942691 | 97.94313096 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190529A00016 | 5/29/2019 | 2.32 | 5/28/2021 | 5/29/2019 | 102.06336 | 102.0633593 | 102.0633593 | 102.0633593 | 101.8421153 | 100.8383533 | 99.85431616 | 98.88942691 | 97.94313096 |
| 190529A00022 | 5/29/2019 | 2.32 | 5/28/2021 | 5/29/2019 | 102.06336 | 102.0633593 | 102.0633593 | 102.0633593 | 101.8421153 | 100.8383533 | 99.85431616 | 98.88942691 | 97.94313096 |
| 190530A00009 | 5/30/2019 | 2.25 | 5/30/2024 | 5/30/2019 | 108.63508 | 108.635083 | 108.635083 | 108.635083 | 106.9441768 | 102.9343956 | 99.09787436 | 95.42621395 | 91.91146764 |
| 190530A00021 | 5/30/2019 | 2.21 | 5/27/2022 | 5/30/2019 | 104.22407 | 104.2240727 | 104.2240727 | 104.2240727 | 103.8081382 | 101.8095407 | 99.85972259 | 97.95718805 | 96.10049765 |
| 190530A00030 | 5/30/2019 | 2.36 | 5/28/2021 | 5/30/2019 | 102.10374 | 102.1037429 | 102.1037429 | 102.1037429 | 101.8824536 | 100.8784732 | 99.89422067 | 98.92911897 | 97.98261342 |
| 190530A00064 | 5/30/2019 | 2.51 | 6/1/2020 | 5/30/2019 | 100.01777 | 100.0177658 | 100.0177658 | 100.0177658 | 100.0165909 | 100.0082771 | 99.99997084 | 99.99167206 | 99.98338076 |
| 190531A00009 | 6/5/2019 | 2.1 | 6/3/2022 | 6/5/2019 | 104.04036 | 104.0403595 | 104.0403595 | 104.0403595 | 103.6183082 | 101.6028985 | 99.63702231 | 97.71914767 | 95.84780093 |
| 190604A00033 | 6/4/2019 | 2.23 | 6/4/2021 | 6/4/2019 | 102.01045 | 102.0104475 | 102.0104475 | 102.0104475 | 101.7875243 | 100.7650188 | 99.76299516 | 98.78084271 | 97.81797473 |
| 190604A00048 | 6/4/2019 | 2.23 | 6/4/2021 | 6/4/2019 | 102.01045 | 102.0104475 | 102.0104475 | 102.0104475 | 101.7875243 | 100.7650188 | 99.76299516 | 98.78084271 | 97.81797473 |
| 190606A00027 | 6/6/2019 | 2.51 | 6/5/2026 | 6/6/2019 | 113.33238 | 113.3323791 | 113.3323791 | 113.3323791 | 109.1685978 | 103.2315986 | 97.65837184 | 92.42472411 | 87.50819201 |
| 190607A00011 | 6/7/2019 | 1.94 | 6/7/2021 | 6/7/2019 | 101.89106 | 101.8910598 | 101.8910598 | 101.8910598 | 101.6670984 | 100.6347121 | 99.62321471 | 98.63197709 | 97.66039521 |
| 190610A00018 | 6/10/2019 | 2.52 | 6/10/2026 | 6/10/2019 | 113.42312 | 113.4231175 | 113.4231175 | 113.4231175 | 109.2351963 | 103.2838261 | 97.69774432 | 92.45261434 | 87.52584337 |
| 190611A00006 | 6/11/2019 | 2.26 | 6/11/2021 | 6/11/2019 | 102.07987 | 102.0798734 | 102.0798734 | 102.0798734 | 101.8553674 | 100.8134494 | 99.79279112 | 98.79274653 | 97.81269573 |
| 190912A00033 | 9/12/2019 | 1.77 | 9/12/2023 | 9/12/2019 | 105.49853 | 105.4985324 | 105.4985324 | 105.4985324 | 104.3805384 | 101.1089628 | 97.95675972 | 94.91890512 | 91.99061751 |
| 190913A00012 | 9/13/2019 | 2.04 | 9/13/2023 | 9/13/2019 | 105.79466 | 105.7946638 | 105.7946638 | 105.7946638 | 104.6795522 | 101.4153054 | 98.26986865 | 95.23825587 | 92.31572064 |
| 190916A00008 | 9/16/2019 | 2.05 | 9/16/2021 | 9/16/2019 | 102.32357 | 102.3235716 | 102.3235716 | 102.3235716 | 102.0755962 | 100.777641 | 99.50621695 | 98.26051873 | 97.03977399 |
| 190917A00022 | 9/17/2019 | 2.02 | 9/16/2022 | 9/17/2019 | 104.00933 | 104.0093347 | 104.0093347 | 104.0093347 | 103.4773568 | 101.1912372 | 98.96685429 | 96.80215797 | 94.69518086 |
| 190920A00018 | 9/20/2019 | 1.98 | 9/20/2022 | 9/20/2019 | 103.93498 | 103.9349767 | 103.9349767 | 103.9349767 | 103.3984476 | 101.1027683 | 98.86933154 | 96.69608041 | 94.58103977 |
| 190926A00007 | 9/26/2019 | 1.88 | 9/26/2022 | 9/26/2019 | 103.72768 | 103.7276809 | 103.7276809 | 103.7276809 | 103.1845668 | 100.8757082 | 98.62982977 | 96.44486505 | 94.31882761 |
| 190926A00015 | 9/26/2019 | 2.32 | 11/26/2030 | 9/26/2019 | 121.10074 | 121.1007403 | 121.1007403 | 118.7894135 | 108.2508983 | 98.53000807 | 89.78153028 | 81.90264167 | 74.80188714 |
| 190926A00017 | 9/26/2019 | 2.23 | 9/26/2029 | 9/26/2019 | 117.9501 | 117.9500988 | 117.9500988 | 117.2148817 | 107.8520361 | 99.08722583 | 91.11340123 | 83.85489786 | 77.24364696 |
| 190930A00008 | 9/30/2019 | 1.9 | 10/10/2023 | 9/30/2019 | 105.44879 | 105.4487917 | 105.4487917 | 105.4487917 | 104.2828272 | 100.9546055 | 97.74999267 | 94.66376935 | 91.69096367 |
| 191003A00033 | 10/3/2019 | 1.54 | 10/3/2022 | 10/3/2019 | 103.37927 | 103.379274 | 103.379274 | 103.379274 | 102.8262219 | 100.4942845 | 98.22660938 | 96.02108043 | 93.87566335 |
| 191004A00001 | 10/4/2019 | 2.47 | 10/4/2034 | 10/4/2019 | 130.81628 | 130.8162775 | 130.8162775 | 120.3667985 | 106.3392277 | 93.97142543 | 83.22616424 | 73.87983822 | 65.74076385 |
| 191009A00028 | 10/9/2019 | 1.76 | 10/9/2024 | 10/9/2019 | 106.44123 | 106.4412278 | 106.4412278 | 106.4412278 | 104.4522067 | 100.1743208 | 96.09515653 | 92.20449774 | 88.49270401 |
| 191010A00013 | 10/10/2019 | 1.59 | 10/7/2022 | 10/10/2019 | 103.51441 | 103.5144117 | 103.5144117 | 103.5144117 | 102.9559698 | 100.6116355 | 98.33217481 | 96.11544222 | 93.95937547 |
| 191015A00013 | 10/15/2019 | 1.72 | 10/15/2024 | 10/15/2019 | 107.09909 | 107.0990911 | 107.0990911 | 107.0990911 | 105.0764384 | 100.7457316 | 96.61735247 | 92.68083988 | 88.92632581 |
| 191017A00026 | 10/17/2019 | 2.3 | 7/17/2029 | 10/17/2019 | 118.22006 | 118.2200627 | 118.2200627 | 117.6870899 | 108.4971431 | 99.86266664 | 91.99261501 | 84.81511224 | 78.26539116 |
| 191021A00033 | 10/22/2019 | 1.9 | 7/18/2022 | 10/22/2019 | 103.46417 | 103.4641696 | 103.4641696 | 103.4641696 | 103.0004171 | 100.8782185 | 98.81015632 | 96.79447277 | 94.82948127 |
| 191025A00013 | 10/25/2019 | 1.98 | 10/25/2024 | 10/25/2019 | 107.48255 | 107.4825524 | 107.4825524 | 107.4825524 | 105.4451989 | 101.1040034 | 96.96608053 | 93.02088911 | 89.25848763 |
| 191101A00006 | 11/1/2019 | 1.69 | 11/2/2020 | 11/1/2019 | 100.68543 | 100.6854327 | 100.6854327 | 100.6854327 | 100.6055211 | 100.1708213 | 99.73987346 | 99.31262913 | 98.88904066 |
| 191104A00009 | 11/4/2019 | 1.91 | 11/6/2023 | 11/4/2019 | 105.60247 | 105.6024727 | 105.6024727 | 105.6024727 | 104.3825078 | 100.9816159 | 97.70960661 | 94.56092489 | 91.5302852 |
| 191104A00018 | 11/5/2019 | 1.96 | 11/5/2024 | 11/5/2019 | 107.44394 | 107.4439377 | 107.4439377 | 107.4439377 | 105.3781524 | 101.0103261 | 96.84834493 | 92.88146465 | 89.09955645 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 191104A00025 | 11/4/2019 | 2.33 | 8/2/2030 | 11/4/2019 | 120.5729 | 120.5729015 | 120.5729015 | 118.7660441 | 108.5276664 | 99.04194626 | 90.47948537 | 82.74518072 | 75.75419074 |
| 191106A00004 | 11/6/2019 | 2.01 | 11/6/2024 | 11/6/2019 | 107.67227 | 107.6722696 | 107.6722696 | 107.6722696 | 105.6022241 | 101.2269308 | 97.05788818 | 93.08432626 | 89.29609214 |
| 191108A00014 | 11/8/2019 | 2.25 | 11/8/2029 | 11/8/2019 | 120.31067 | 120.3106694 | 120.3106694 | 119.4296329 | 109.757084 | 100.7195063 | 92.50843074 | 85.04374455 | 78.25348333 |
| 191113A00020 | 11/13/2019 | 1.88 | 11/13/2020 | 11/13/2019 | 100.75793 | 100.75793 | 100.75793 | 100.75793 | 100.67132 | 100.2069583 | 99.74688098 | 99.29102896 | 98.83934407 |
| 190528A00006 | 5/28/2019 | 2.43 | 9/15/2023 | 5/28/2019 | 107.10203 | 107.1020322 | 107.1020322 | 107.1020322 | 105.9776482 | 102.6866934 | 99.5154864 | 96.45900764 | 93.51247787 |
| 190529A00031 | 5/29/2019 | 2.36 | 5/30/2023 | 5/29/2019 | 106.25494 | 106.2549391 | 106.2549391 | 106.2549391 | 105.3344577 | 102.3384255 | 99.44375917 | 96.64646999 | 93.94274943 |
| 190529A00034 | 5/29/2019 | 2.32 | 5/28/2021 | 5/29/2019 | 102.06336 | 102.0633593 | 102.0633593 | 102.0633593 | 101.8421153 | 100.8383533 | 99.85431616 | 98.88942691 | 97.94313096 |
| 190529A00060 | 5/29/2019 | 2.31 | 11/29/2021 | 5/29/2019 | 103.08056 | 103.0805603 | 103.0805603 | 103.0805603 | 102.7845417 | 101.2883432 | 99.82158273 | 98.38346796 | 96.97323459 |
| 190529A00067 | 5/29/2019 | 2.32 | 6/1/2021 | 5/29/2019 | 102.08603 | 102.0860326 | 102.0860326 | 102.0860326 | 101.8636681 | 100.8489066 | 99.85430383 | 98.87926378 | 97.92321358 |
| 190529A00079 | 5/29/2019 | 2.32 | 5/28/2021 | 5/29/2019 | 102.06336 | 102.0633593 | 102.0633593 | 102.0633593 | 101.8421153 | 100.8383533 | 99.85431616 | 98.88942691 | 97.94313096 |
| 190530A00003 | 5/30/2019 | 2.21 | 5/27/2022 | 5/30/2019 | 104.22407 | 104.2240727 | 104.2240727 | 104.2240727 | 103.8081382 | 101.8095407 | 99.85972259 | 97.95718805 | 96.10049765 |
| 190530A00004 | 5/30/2019 | 2.24 | 5/30/2023 | 5/30/2019 | 106.44662 | 106.4466249 | 106.4466249 | 106.4466249 | 105.5208438 | 102.509055 | 99.59941879 | 96.78790582 | 94.07066944 |
| 190531A00047 | 5/31/2019 | 2.32 | 5/28/2021 | 5/31/2019 | 102.06336 | 102.0633593 | 102.0633593 | 102.0633593 | 101.8421153 | 100.8383533 | 99.85431616 | 98.88942691 | 97.94313096 |
| 190603A00009 | 6/3/2019 | 2.17 | 7/6/2022 | 6/3/2019 | 103.9853 | 103.9853011 | 103.9853011 | 103.9853011 | 103.5327765 | 101.4374194 | 99.39489381 | 97.40350767 | 95.46163652 |
| 190603A00050 | 6/3/2019 | 2.19 | 6/3/2021 | 6/3/2019 | 101.96397 | 101.9639743 | 101.9639743 | 101.9639743 | 101.7413187 | 100.7217872 | 99.7226243 | 98.74322424 | 97.78300511 |
| 190604A00008 | 6/4/2019 | 2.23 | 6/4/2021 | 6/4/2019 | 102.01045 | 102.0104475 | 102.0104475 | 102.0104475 | 101.7875243 | 100.7650188 | 99.76299516 | 98.78084271 | 97.81797473 |
| 190604A00028 | 6/4/2019 | 2.2 | 6/3/2022 | 6/4/2019 | 103.87533 | 103.8753307 | 103.8753307 | 103.8753307 | 103.4551219 | 101.4483696 | 99.49082397 | 97.58096653 | 95.71733654 |
| 190605A00034 | 6/5/2019 | 2.11 | 6/6/2022 | 6/5/2019 | 103.70723 | 103.7072253 | 103.7072253 | 103.7072253 | 103.2845007 | 101.2715895 | 99.30816698 | 97.39270059 | 95.52371627 |
| 190606A00026 | 6/6/2019 | 2.23 | 6/6/2023 | 6/6/2019 | 105.89835 | 105.8983522 | 105.8983522 | 105.8983522 | 104.966522 | 101.9577519 | 99.05128646 | 96.24307845 | 93.52926506 |
| 190606A00029 | 6/6/2019 | 2.96 | 6/6/2034 | 6/6/2019 | 136.94518 | 136.9451767 | 136.9451767 | 127.0756537 | 112.9299814 | 100.3481533 | 89.36936788 | 79.77799974 | 71.38855319 |
| 190607A00012 | 6/7/2019 | 2.13 | 6/7/2022 | 6/7/2019 | 103.75317 | 103.7531745 | 103.7531745 | 103.7531745 | 103.3293976 | 101.3133762 | 99.34695846 | 97.42860667 | 95.55684172 |
| 190607A00023 | 6/7/2019 | 1.92 | 6/7/2022 | 6/7/2019 | 103.69331 | 103.693312 | 103.693312 | 103.693312 | 103.268145 | 101.2457507 | 99.27324398 | 97.3490746 | 95.47175173 |
| 190610A00016 | 6/10/2019 | 2.21 | 6/10/2022 | 6/10/2019 | 103.93278 | 103.9327764 | 103.9327764 | 103.9327764 | 103.5057533 | 101.4799593 | 99.50412408 | 97.57669341 | 95.69617291 |
| 190611A00007 | 6/11/2019 | 2.25 | 6/10/2022 | 6/11/2019 | 104.01496 | 104.0149601 | 104.0149601 | 104.0149601 | 103.5877634 | 101.5611112 | 99.58443461 | 97.65617907 | 95.77484972 |
| 190613A00011 | 6/13/2019 | 2.26 | 6/13/2024 | 6/13/2019 | 108.00405 | 108.0040466 | 108.0040466 | 108.0040466 | 106.2944618 | 102.2820987 | 98.44400369 | 94.771684 | 91.25710721 |
| 190619A00024 | 6/19/2019 | 2.21 | 7/19/2022 | 6/19/2019 | 104.13888 | 104.1388785 | 104.1388785 | 104.1388785 | 103.6725891 | 101.5402928 | 99.46240207 | 97.43714894 | 95.46283717 |
| 190620A00025 | 6/20/2019 | 2.04 | 6/20/2022 | 6/20/2019 | 103.63179 | 103.6317935 | 103.6317935 | 103.6317935 | 103.1958566 | 101.146919 | 99.14894542 | 97.2003327 | 95.29953991 |
| 190620A00026 | 6/20/2019 | 2.09 | 6/20/2023 | 6/20/2019 | 105.54074 | 105.540738 | 105.540738 | 105.540738 | 104.5850069 | 101.5455444 | 98.61041278 | 95.77544248 | 93.03665623 |
| 190828A00009 | 8/28/2019 | 1.71 | 8/28/2024 | 8/28/2019 | 106.0581 | 106.058101 | 106.058101 | 106.058101 | 104.1774329 | 100.0123623 | 96.03633301 | 92.23972187 | 88.61345354 |
| 190829A00029 | 8/29/2019 | 1.75 | 7/14/2023 | 8/29/2019 | 104.58674 | 104.5867442 | 104.5867442 | 104.5867442 | 103.590878 | 100.5033318 | 97.52363296 | 94.64739225 | 91.87042709 |
| 190903A00004 | 9/3/2019 | 1.77 | 9/6/2022 | 9/3/2019 | 103.38727 | 103.3872668 | 103.3872668 | 103.3872668 | 102.8686173 | 100.6158308 | 98.42332708 | 96.2890783 | 94.21114119 |
| 190910A00013 | 9/10/2019 | 1.9 | 9/9/2022 | 9/10/2019 | 103.69925 | 103.6992529 | 103.6992529 | 103.6992529 | 103.1763071 | 100.9120747 | 98.70859016 | 96.56381807 | 94.4758072 |
| 190912A00026 | 9/12/2019 | 1.94 | 9/12/2022 | 9/12/2019 | 103.80513 | 103.8051321 | 103.8051321 | 103.8051321 | 103.2783822 | 101.0050905 | 98.79296281 | 96.63995765 | 94.54411717 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190912A00031 | 9/12/2019 | 1.75 | 9/12/2024 | 9/12/2019 | 107.08327 | 107.0832722 | 107.0832722 | 107.0832722 | 105.1453361 | 100.8988097 | 96.84696284 | 92.9798456 | 89.28807186 |
| 190913A00014 | 9/13/2019 | 2.08 | 9/13/2024 | 9/13/2019 | 107.72141 | 107.7214056 | 107.7214056 | 107.7214056 | 105.7895723 | 101.5495962 | 97.50334081 | 93.64093416 | 89.95306164 |
| 190913A00025 | 9/13/2019 | 2.04 | 3/15/2022 | 9/13/2019 | 103.16472 | 103.1647206 | 103.1647206 | 103.1647206 | 102.8065603 | 101.0218235 | 99.27659781 | 97.56972032 | 95.90007242 |
| 190919A00017 | 9/19/2019 | 1.8 | 9/19/2022 | 9/19/2019 | 103.93207 | 103.9320688 | 103.9320688 | 103.9320688 | 103.394591 | 101.0930427 | 98.8539954 | 96.67537619 | 94.55519518 |
| 190920A00021 | 9/20/2019 | 1.96 | 9/18/2026 | 9/20/2019 | 111.73561 | 111.7356095 | 111.7356095 | 111.7356095 | 107.0597583 | 100.8809554 | 95.09876784 | 89.68572324 | 84.61638737 |
| 190923A00012 | 9/23/2019 | 2.43 | 9/25/2034 | 9/23/2019 | 133.30492 | 133.304924 | 133.304924 | 122.6131156 | 108.248071 | 95.59458142 | 84.60423597 | 75.04756887 | 66.72790499 |
| 190923A00081 | 9/23/2019 | 1.96 | 9/20/2024 | 9/23/2019 | 107.2342 | 107.2341997 | 107.2341997 | 107.2341997 | 105.2880329 | 101.0409822 | 96.98886362 | 93.12173169 | 89.43020056 |
| 190924A00010 | 9/24/2019 | 1.95 | 9/24/2021 | 9/24/2019 | 102.22884 | 102.2288437 | 102.2288437 | 102.2288437 | 101.9773489 | 100.6620841 | 99.3714344 | 98.10474062 | 96.86136706 |
| 190930A00011 | 9/30/2019 | 1.89 | 10/24/2022 | 9/30/2019 | 103.87406 | 103.8740585 | 103.8740585 | 103.8740585 | 103.2956232 | 100.9101788 | 98.59175072 | 96.33808717 | 94.14702536 |
| 190930A00069 | 9/30/2019 | 1.9 | 9/29/2023 | 9/30/2019 | 105.4004 | 105.4004043 | 105.4004043 | 105.4004043 | 104.2562355 | 100.9576936 | 97.78063862 | 94.71998388 | 91.77088201 |
| 190930A00077 | 9/30/2019 | 2.23 | 9/28/2029 | 9/30/2019 | 117.96052 | 117.9605152 | 117.9605152 | 117.2194412 | 107.8512039 | 99.08200336 | 91.1045915 | 83.84319542 | 77.22965066 |
| 191002A00006 | 10/2/2019 | 1.84 | 10/2/2024 | 10/2/2019 | 106.76355 | 106.7635493 | 106.7635493 | 106.7635493 | 104.7902779 | 100.5232935 | 96.45361492 | 92.57114285 | 88.8663447 |
| 191002A00017 | 10/2/2019 | 1.84 | 10/2/2024 | 10/2/2019 | 106.76355 | 106.7635493 | 106.7635493 | 106.7635493 | 104.7902779 | 100.5232935 | 96.45361492 | 92.57114285 | 88.8663447 |
| 191003A00014 | 10/3/2019 | 1.71 | 9/20/2024 | 10/3/2019 | 106.14763 | 106.1476276 | 106.1476276 | 106.1476276 | 104.2087931 | 99.98489151 | 95.95515354 | 92.10966566 | 88.43907242 |
| 191003A00020 | 10/3/2019 | 1.72 | 10/3/2022 | 10/3/2019 | 103.37876 | 103.378758 | 103.378758 | 103.378758 | 102.8279416 | 100.5047181 | 98.24535244 | 96.047747 | 93.90988489 |
| 191004A00003 | 10/4/2019 | 1.89 | 10/5/2026 | 10/4/2019 | 110.11003 | 110.1100345 | 110.1100345 | 110.1100345 | 105.4232276 | 99.29946278 | 93.57082915 | 88.20986972 | 83.1911652 |
| 191004A00005 | 10/4/2019 | 1.54 | 10/4/2024 | 10/4/2019 | 106.25808 | 106.2580805 | 106.2580805 | 106.2580805 | 104.2697541 | 99.98550478 | 95.90034797 | 92.00405061 | 88.28695619 |
| 191007A00027 | 10/7/2019 | 1.69 | 10/7/2022 | 10/7/2019 | 103.32293 | 103.3229327 | 103.3229327 | 103.3229327 | 102.7672358 | 100.4339762 | 98.16513216 | 95.95857807 | 93.8122709 |
| 191008A00006 | 10/8/2019 | 1.73 | 10/8/2021 | 10/8/2019 | 101.99018 | 101.9901784 | 101.9901784 | 101.9901784 | 101.7307962 | 100.3815277 | 99.05649053 | 97.75508849 | 96.47674457 |
| 190611A00047 | 6/11/2019 | 2.26 | 6/11/2021 | 6/11/2019 | 102.07987 | 102.0798734 | 102.0798734 | 102.0798734 | 101.8553674 | 100.8134494 | 99.79279112 | 98.79274653 | 97.81269573 |
| 190618A00002 | 6/18/2019 | 2.11 | 6/18/2025 | 6/18/2019 | 110.18059 | 110.1805918 | 110.1805918 | 110.1805918 | 107.428013 | 102.4012638 | 97.64014713 | 93.12924525 | 88.85411549 |
| 190620A00027 | 6/20/2019 | 2.14 | 6/20/2024 | 6/20/2019 | 107.5506 | 107.5506042 | 107.5506042 | 107.5506042 | 105.8272658 | 101.8063367 | 97.96079227 | 94.2820513 | 90.76199956 |
| 190620A00044 | 6/20/2019 | 2.04 | 6/20/2022 | 6/20/2019 | 103.63179 | 103.6317935 | 103.6317935 | 103.6317935 | 103.1958566 | 101.146919 | 99.14894542 | 97.2003327 | 95.29953991 |
| 190625A00013 | 6/25/2019 | 2.01 | 6/24/2022 | 6/25/2019 | 103.58832 | 103.5883157 | 103.5883157 | 103.5883157 | 103.1486542 | 101.0896719 | 99.08207536 | 97.12424072 | 95.21460791 |
| 190626A00009 | 6/26/2019 | 2.08 | 6/25/2021 | 6/26/2019 | 101.9613 | 101.9613038 | 101.9613038 | 101.9613038 | 101.7339383 | 100.6546878 | 99.59825115 | 98.56391111 | 97.55098004 |
| 190626A00019 | 6/26/2019 | 2.1 | 6/24/2022 | 6/26/2019 | 103.77671 | 103.7767071 | 103.7767071 | 103.7767071 | 103.3366399 | 101.2756556 | 99.26609693 | 97.30633896 | 95.39482052 |
| 190627A00052 | 6/27/2019 | 2.1 | 6/27/2022 | 6/27/2019 | 103.79169 | 103.7916936 | 103.7916936 | 103.7916936 | 103.3487296 | 101.279703 | 99.26242975 | 97.29526941 | 95.37664594 |
| 190703A00022 | 7/3/2019 | 2.08 | 7/5/2022 | 7/3/2019 | 103.78902 | 103.7890166 | 103.7890166 | 103.7890166 | 103.3379543 | 101.2474261 | 99.20956929 | 97.22269892 | 95.28519705 |
| 190708A00001 | 7/8/2019 | 1.99 | 7/8/2022 | 7/8/2019 | 103.99766 | 103.9976627 | 103.9976627 | 103.9976627 | 103.541364 | 101.4330049 | 99.37803729 | 97.37474338 | 95.42147435 |
| 190711A00016 | 7/11/2019 | 2.17 | 7/11/2022 | 7/11/2019 | 104.0111 | 104.011104 | 104.011104 | 104.011104 | 103.553359 | 101.4441554 | 99.38837855 | 97.38430746 | 95.43029048 |
| 190722A00027 | 7/22/2019 | 2.25 | 7/22/2020 | 7/22/2019 | 100.29322 | 100.2932192 | 100.2932192 | 100.2932192 | 100.2698227 | 100.120228 | 99.97108767 | 99.82239949 | 99.67416143 |
| 190724A00005 | 7/24/2019 | 2.12 | 7/26/2021 | 7/24/2019 | 102.16281 | 102.1628142 | 102.1628142 | 102.1628142 | 101.9303179 | 100.7657678 | 99.62772525 | 98.51529341 | 97.42761536 |
| 190729A00006 | 7/29/2019 | 2.14 | 7/29/2022 | 7/29/2019 | 104.0383 | 104.038301 | 104.038301 | 104.038301 | 103.5619172 | 101.4036326 | 99.30093229 | 97.25198982 | 95.25505417 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190730A00007 | 7/30/2019 | 2.19 | 7/30/2024 | 7/30/2019 | 107.96296 | 107.962963 | 107.962963 | 107.962963 | 106.1412311 | 102.0088031 | 98.06048642 | 94.28707367 | 90.6798713 |
| 190802A00016 | 8/2/2019 | 2.01 | 7/12/2023 | 8/2/2019 | 105.39744 | 105.3974396 | 105.3974396 | 105.3974396 | 104.4021722 | 101.3072099 | 98.32008997 | 95.43643216 | 92.65206198 |
| 190802A00032 | 8/2/2019 | 2.01 | 8/2/2024 | 8/2/2019 | 107.22045 | 107.2204469 | 107.2204469 | 107.2204469 | 105.3960392 | 101.2714315 | 97.3310796 | 93.56574837 | 89.96671921 |
| 190805A00029 | 8/5/2019 | 1.93 | 8/5/2022 | 8/5/2019 | 103.6101 | 103.610102 | 103.610102 | 103.610102 | 103.1269358 | 100.9550911 | 98.83958512 | 96.77855161 | 94.77020201 |
| 190807A00005 | 8/7/2019 | 1.77 | 8/7/2024 | 8/7/2019 | 106.22988 | 106.2298763 | 106.2298763 | 106.2298763 | 104.3995119 | 100.2829537 | 96.35105292 | 92.59452139 | 89.00459257 |
| 190808A00011 | 8/8/2019 | 1.86 | 8/8/2023 | 8/8/2019 | 105.04127 | 105.0412721 | 105.0412721 | 105.0412721 | 103.9974116 | 100.8374585 | 97.7897527 | 94.84964062 | 92.01269302 |
| 190808A00023 | 8/8/2019 | 1.68 | 11/8/2023 | 8/8/2019 | 105.44514 | 105.4451354 | 105.4451354 | 105.4451354 | 104.2149723 | 100.7958489 | 97.50689034 | 94.34246283 | 91.29720718 |
| 190809A00005 | 8/9/2019 | 1.88 | 7/11/2022 | 8/9/2019 | 103.39046 | 103.3904581 | 103.3904581 | 103.3904581 | 102.9340829 | 100.8316158 | 98.78243935 | 96.78483663 | 94.83715978 |
| 190809A00010 | 8/9/2019 | 1.88 | 8/8/2024 | 8/9/2019 | 106.69906 | 106.6990552 | 106.6990552 | 106.6990552 | 104.8632341 | 100.7344529 | 96.79085859 | 93.02313414 | 89.4224859 |
| 190813A00022 | 8/13/2019 | 1.88 | 8/13/2024 | 8/13/2019 | 106.72085 | 106.7208534 | 106.7208534 | 106.7208534 | 104.8726221 | 100.730935 | 96.77551949 | 92.99697736 | 89.38644017 |
| 190423A00002 | 4/23/2019 | 2.52 | 4/23/2024 | 4/23/2019 | 109.48336 | 109.4833561 | 109.4833561 | 109.4833561 | 107.8735644 | 103.944087 | 100.180104 | 96.5737941 | 93.11774624 |
| 190424A00015 | 4/24/2019 | 2.55 | 4/26/2021 | 4/24/2019 | 102.10345 | 102.103446 | 102.103446 | 102.103446 | 101.8971751 | 100.9800649 | 100.0794271 | 99.19482073 | 98.32582074 |
| 190424A00021 | 4/24/2019 | 2.6 | 4/22/2022 | 4/24/2019 | 104.42239 | 104.4223934 | 104.4223934 | 104.4223934 | 104.0360497 | 102.1367375 | 100.2815408 | 98.46917284 | 96.69839275 |
| 190424A00027 | 4/24/2019 | 2.55 | 4/23/2021 | 4/24/2019 | 102.08442 | 102.0844211 | 102.0844211 | 102.0844211 | 101.8801543 | 100.9712946 | 100.0786196 | 99.20169974 | 98.34012056 |
| 190429A00076 | 4/29/2019 | 2.52 | 4/29/2021 | 4/29/2019 | 102.09459 | 102.0945918 | 102.0945918 | 102.0945918 | 101.8863458 | 100.9611267 | 100.052667 | 99.16051472 | 98.28423377 |
| 190501A00017 | 5/1/2019 | 2.61 | 5/1/2024 | 5/1/2019 | 109.15722 | 109.1572156 | 109.1572156 | 109.1572156 | 107.5409586 | 103.6168885 | 99.85852217 | 96.25800628 | 92.80790074 |
| 190513A00013 | 5/13/2019 | 2.52 | 5/13/2024 | 5/13/2019 | 108.87422 | 108.874224 | 108.874224 | 108.874224 | 107.2318349 | 103.2819115 | 99.50020273 | 95.87866835 | 92.40969515 |
| 190514A00020 | 5/14/2019 | 2.66 | 5/14/2025 | 5/14/2019 | 111.75191 | 111.7519109 | 111.7519109 | 111.7519109 | 109.1158876 | 104.1690558 | 99.47786136 | 95.02776838 | 90.80514107 |
| 190515A00023 | 5/15/2019 | 2.25 | 5/16/2022 | 5/15/2019 | 104.23994 | 104.2399404 | 104.2399404 | 104.2399404 | 103.8332652 | 101.864471 | 99.94302645 | 98.0675011 | 96.23651746 |
| 190515A00038 | 5/15/2019 | 2.38 | 5/14/2021 | 5/15/2019 | 102.0425 | 102.0424991 | 102.0424991 | 102.0424991 | 101.8275775 | 100.8619478 | 99.91459251 | 98.98499648 | 98.07266358 |
| 190515A00041 | 5/15/2019 | 2.41 | 11/15/2021 | 5/15/2019 | 103.15026 | 103.1502638 | 103.1502638 | 103.1502638 | 102.8636713 | 101.4038253 | 99.97201907 | 98.56751531 | 97.18960194 |
| 190515A00060 | 5/15/2019 | 2.38 | 5/14/2021 | 5/15/2019 | 102.0425 | 102.0424991 | 102.0424991 | 102.0424991 | 101.8275775 | 100.8619478 | 99.91459251 | 98.98499648 | 98.07266358 |
| 190520A00007 | 5/20/2019 | 2.52 | 5/20/2024 | 5/20/2019 | 108.91687 | 108.9168747 | 108.9168747 | 108.9168747 | 107.2580721 | 103.2890375 | 99.48981523 | 95.85225021 | 92.36862241 |
| 190521A00023 | 5/21/2019 | 2.47 | 11/22/2021 | 5/21/2019 | 103.28162 | 103.2816157 | 103.2816157 | 103.2816157 | 102.9900474 | 101.5107192 | 100.0601493 | 98.63757268 | 97.24225065 |
| 190523A00018 | 5/23/2019 | 2.51 | 3/15/2024 | 5/23/2019 | 108.47595 | 108.4759481 | 108.4759481 | 108.4759481 | 106.9689867 | 103.1800436 | 99.54642913 | 96.06093648 | 92.71673449 |
| 190524A00040 | 5/24/2019 | 2.47 | 5/24/2024 | 5/24/2019 | 108.74025 | 108.7402535 | 108.7402535 | 108.7402535 | 107.0732455 | 103.0972708 | 99.29190027 | 95.64891764 | 92.16054615 |
| 190528A00028 | 5/28/2019 | 2.42 | 5/30/2023 | 5/28/2019 | 106.43676 | 106.4367639 | 106.4367639 | 106.4367639 | 105.5156372 | 102.5168588 | 99.61951565 | 96.81961653 | 94.11335072 |
| 190529A00023 | 5/29/2019 | 2.38 | 5/29/2024 | 5/29/2019 | 108.40701 | 108.4070099 | 108.4070099 | 108.4070099 | 106.7304233 | 102.7480398 | 98.9371817 | 95.28955866 | 91.79732541 |
| 190530A00006 | 5/30/2019 | 2.25 | 5/30/2024 | 5/30/2019 | 108.63508 | 108.635083 | 108.635083 | 108.635083 | 106.9441768 | 102.9343956 | 99.09787436 | 95.42621395 | 91.91146764 |
| 190530A00008 | 5/30/2019 | 2.38 | 5/30/2025 | 5/30/2019 | 111.44208 | 111.4420841 | 111.4420841 | 111.4420841 | 108.7387007 | 103.728052 | 98.97954183 | 94.47809135 | 90.20956646 |
| 190530A00016 | 5/30/2019 | 2.51 | 6/1/2020 | 5/30/2019 | 100.01777 | 100.0177658 | 100.0177658 | 100.0177658 | 100.0165909 | 100.0082771 | 99.99997084 | 99.99167206 | 99.98338076 |
| 190530A00029 | 5/30/2019 | 2.25 | 5/30/2024 | 5/30/2019 | 108.63508 | 108.635083 | 108.635083 | 108.635083 | 106.9441768 | 102.9343956 | 99.09787436 | 95.42621395 | 91.91146764 |
| 190531A00008 | 5/31/2019 | 2.14 | 6/1/2021 | 5/31/2019 | 102.06502 | 102.0650159 | 102.0650159 | 102.0650159 | 101.8421472 | 100.8251599 | 99.82841317 | 98.85130756 | 97.89326697 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190603A00047 | 6/3/2019 | 2.22 | 6/2/2023 | 6/3/2019 | 105.84661 | 105.8466129 | 105.8466129 | 105.8466129 | 104.9221745 | 101.9245413 | 99.02857836 | 96.23027508 | 93.52580285 |
| 190523A00024 | 5/23/2019 | 2.47 | 10/31/2022 | 5/23/2019 | 105.32529 | 105.3252927 | 105.3252927 | 105.3252927 | 104.7341516 | 102.3122465 | 99.95877099 | 97.67140975 | 95.44793984 |
| 190523A00034 | 5/23/2019 | 2.31 | 5/21/2021 | 5/23/2019 | 102.17182 | 102.1718201 | 102.1718201 | 102.1718201 | 101.9530908 | 100.9655075 | 99.99700751 | 99.04704171 | 98.11508178 |
| 190524A00032 | 5/24/2019 | 2.45 | 5/24/2023 | 5/24/2019 | 106.49214 | 106.4921393 | 106.4921393 | 106.4921393 | 105.5813721 | 102.5976617 | 99.7143585 | 96.92753249 | 94.23343049 |
| 190528A00005 | 5/28/2019 | 2.42 | 6/15/2023 | 5/28/2019 | 106.53054 | 106.530541 | 106.530541 | 106.530541 | 105.5802031 | 102.5384765 | 99.60069111 | 96.76271018 | 94.0205866 |
| 190528A00039 | 5/28/2019 | 2.38 | 11/29/2021 | 5/28/2019 | 103.18707 | 103.1870655 | 103.1870655 | 103.1870655 | 102.8908779 | 101.3938399 | 99.92625465 | 98.48732943 | 97.07629953 |
| 190529A00009 | 5/29/2019 | 2.35 | 5/31/2022 | 5/29/2019 | 104.16356 | 104.1635647 | 104.1635647 | 104.1635647 | 103.7456255 | 101.7438103 | 99.79094498 | 97.88552422 | 96.02609986 |
| 190529A00032 | 5/29/2019 | 2.38 | 5/29/2024 | 5/29/2019 | 108.40701 | 108.4070099 | 108.4070099 | 108.4070099 | 106.7304233 | 102.7480398 | 98.9371817 | 95.28955866 | 91.79732541 |
| 190529A00059 | 5/29/2019 | 2.32 | 5/28/2021 | 5/29/2019 | 102.06336 | 102.0633593 | 102.0633593 | 102.0633593 | 101.8421153 | 100.8383533 | 99.85431616 | 98.88942691 | 97.94313096 |
| 190529A00062 | 5/29/2019 | 2.32 | 5/28/2021 | 5/29/2019 | 102.06336 | 102.0633593 | 102.0633593 | 102.0633593 | 101.8421153 | 100.8383533 | 99.85431616 | 98.88942691 | 97.94313096 |
| 190530A00002 | 5/30/2019 | 2.24 | 5/28/2021 | 5/30/2019 | 102.14362 | 102.1436161 | 102.1436161 | 102.1436161 | 101.9217573 | 100.9152531 | 99.92856137 | 98.96110161 | 98.01231592 |
| 190530A00005 | 5/30/2019 | 2.36 | 5/28/2021 | 5/30/2019 | 102.10374 | 102.1037429 | 102.1037429 | 102.1037429 | 101.8824536 | 100.8784732 | 99.89422067 | 98.92911897 | 97.98261342 |
| 190530A00045 | 5/30/2019 | 2.44 | 5/30/2024 | 5/30/2019 | 108.65492 | 108.6549235 | 108.6549235 | 108.6549235 | 106.9745195 | 102.9846746 | 99.16670825 | 95.51230984 | 92.01361526 |
| 190531A00003 | 5/31/2019 | 2.31 | 10/29/2021 | 5/31/2019 | 102.92091 | 102.9209125 | 102.9209125 | 102.9209125 | 102.6462142 | 101.2327421 | 99.84561319 | 98.48415489 | 97.14771714 |
| 190603A00012 | 6/3/2019 | 2.44 | 6/3/2020 | 6/3/2019 | 100.02877 | 100.0287723 | 100.0287723 | 100.0287723 | 100.026814 | 100.012958 | 99.99911516 | 99.98528564 | 99.97146937 |
| 190603A00048 | 6/3/2019 | 2.24 | 6/3/2024 | 6/3/2019 | 107.86906 | 107.8690554 | 107.8690554 | 107.8690554 | 106.1838373 | 102.1994676 | 98.38728381 | 94.73893823 | 91.24653302 |
| 190604A00009 | 6/4/2019 | 2.23 | 6/4/2021 | 6/4/2019 | 102.01045 | 102.0104475 | 102.0104475 | 102.0104475 | 101.7875243 | 100.7650188 | 99.76299516 | 98.78084271 | 97.81797473 |
| 190605A00035 | 6/5/2019 | 2.18 | 6/5/2023 | 6/5/2019 | 105.74067 | 105.7406678 | 105.7406678 | 105.7406678 | 104.811204 | 101.8074159 | 98.90571804 | 96.10207422 | 93.39263198 |
| 190606A00028 | 6/6/2019 | 2.74 | 6/6/2029 | 6/6/2019 | 121.97006 | 121.970055 | 121.970055 | 121.5464241 | 112.3488615 | 103.6410672 | 95.69189102 | 88.43092818 | 81.79465454 |
| 190611A00015 | 6/11/2019 | 2.32 | 6/11/2024 | 6/11/2019 | 108.23739 | 108.237393 | 108.237393 | 108.237393 | 106.5311291 | 102.5191549 | 98.68119533 | 95.00878028 | 91.49389812 |
| 190620A00010 | 6/20/2019 | 2.04 | 6/20/2022 | 6/20/2019 | 103.63179 | 103.6317935 | 103.6317935 | 103.6317935 | 103.1958566 | 101.146919 | 99.14894542 | 97.2003327 | 95.29953991 |
| 190620A00024 | 6/20/2019 | 2.05 | 6/21/2021 | 6/20/2019 | 101.90898 | 101.9089834 | 101.9089834 | 101.9089834 | 101.6825359 | 100.6144368 | 99.56869765 | 98.54462207 | 97.54154214 |
| 190624A00008 | 6/24/2019 | 2.08 | 6/24/2022 | 6/24/2019 | 103.73484 | 103.7348424 | 103.7348424 | 103.7348424 | 103.2948653 | 101.2343259 | 99.22520325 | 97.26587269 | 95.35477327 |
| 190624A00052 | 6/24/2019 | 1.89 | 6/24/2022 | 6/24/2019 | 103.71535 | 103.7153531 | 103.7153531 | 103.7153531 | 103.2738148 | 101.2062504 | 99.19040829 | 97.22465041 | 95.30740309 |
| 190625A00017 | 6/25/2019 | 2.02 | 12/15/2022 | 6/25/2019 | 104.43733 | 104.437328 | 104.437328 | 104.437328 | 103.7874456 | 101.2581969 | 98.80357988 | 96.42094987 | 94.10777348 |
| 190529A00013 | 5/29/2019 | 2.38 | 5/29/2024 | 5/29/2019 | 108.40701 | 108.4070099 | 108.4070099 | 108.4070099 | 106.7304233 | 102.7480398 | 98.9371817 | 95.28955866 | 91.79732541 |
| 190529A00020 | 5/29/2019 | 2.38 | 5/29/2024 | 5/29/2019 | 108.40701 | 108.4070099 | 108.4070099 | 108.4070099 | 106.7304233 | 102.7480398 | 98.9371817 | 95.28955866 | 91.79732541 |
| 190529A00050 | 5/29/2019 | 2.31 | 11/29/2021 | 5/29/2019 | 103.08056 | 103.0805603 | 103.0805603 | 103.0805603 | 102.7845417 | 101.2883432 | 99.82158273 | 98.38346796 | 96.97323459 |
| 190529A00069 | 5/29/2019 | 2.34 | 11/29/2021 | 5/29/2019 | 103.12621 | 103.1262054 | 103.1262054 | 103.1262054 | 102.8301143 | 101.3335561 | 99.86644213 | 98.42798002 | 97.01740528 |
| 190530A00007 | 5/30/2019 | 2.35 | 11/30/2021 | 5/30/2019 | 103.14712 | 103.147116 | 103.147116 | 103.147116 | 102.8503925 | 101.3509254 | 99.88098776 | 98.43978346 | 97.02654451 |
| 190530A00031 | 5/30/2019 | 2.21 | 5/31/2022 | 5/30/2019 | 104.24726 | 104.247257 | 104.247257 | 104.247257 | 103.8276601 | 101.8180683 | 99.85773444 | 97.9451403 | 96.07882543 |
| 190530A00062 | 5/30/2019 | 2.5 | 6/15/2020 | 5/30/2019 | 100.10203 | 100.1020304 | 100.1020304 | 100.1020304 | 100.095371 | 100.048259 | 100.001208 | 99.95421779 | 99.90728835 |
| 190531A00007 | 6/5/2019 | 2.14 | 6/4/2021 | 6/5/2019 | 102.08186 | 102.0818578 | 102.0818578 | 102.0818578 | 101.8583231 | 100.8330585 | 99.82836626 | 98.84363184 | 97.87826505 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190603A00033 | 6/3/2019 | 2.05 | 6/3/2024 | 6/3/2019 | 107.84623 | 107.8462311 | 107.8462311 | 107.8462311 | 106.1504626 | 102.1461771 | 98.31546284 | 94.64988301 | 91.14145676 |
| 190603A00046 | 6/3/2019 | 2.17 | 6/3/2022 | 6/3/2019 | 103.81427 | 103.8142726 | 103.8142726 | 103.8142726 | 103.3941915 | 101.388071 | 99.43114487 | 97.52189482 | 95.6588605 |
| 190604A00007 | 6/4/2019 | 2.23 | 7/8/2021 | 6/4/2019 | 102.19466 | 102.1946622 | 102.1946622 | 102.1946622 | 101.9648117 | 100.8488998 | 99.75733787 | 98.68933545 | 97.64413592 |
| 190611A00004 | 6/11/2019 | 2.33 | 6/11/2020 | 6/11/2019 | 100.07154 | 100.0715364 | 100.0715364 | 100.0715364 | 100.066445 | 100.0304232 | 99.99444403 | 99.95850737 | 99.92261317 |
| 190612A00011 | 6/12/2019 | 2.2 | 6/30/2022 | 6/12/2019 | 104.01763 | 104.0176319 | 104.0176319 | 104.0176319 | 103.5712352 | 101.4918224 | 99.46454501 | 97.48774515 | 95.55983027 |
| 190614A00005 | 6/14/2019 | 1.99 | 6/14/2022 | 6/14/2019 | 103.87317 | 103.8731659 | 103.8731659 | 103.8731659 | 103.4408929 | 101.398094 | 99.40596909 | 97.46293107 | 95.56745426 |
| 190617A00027 | 6/17/2019 | 2.21 | 6/16/2023 | 6/17/2019 | 105.89019 | 105.8901902 | 105.8901902 | 105.8901902 | 104.9403799 | 101.9058761 | 98.97521893 | 96.14427078 | 93.40908413 |
| 190621A00041 | 6/21/2019 | 2.12 | 6/21/2022 | 6/21/2019 | 103.80342 | 103.8034199 | 103.8034199 | 103.8034199 | 103.3661603 | 101.3127783 | 99.31050407 | 97.35772815 | 95.45290377 |
| 190625A00007 | 6/25/2019 | 2.06 | 6/25/2021 | 6/25/2019 | 101.93956 | 101.9395612 | 101.9395612 | 101.9395612 | 101.7122218 | 100.6330972 | 99.5767846 | 98.5425668 | 97.52975619 |
| 190625A00027 | 6/25/2019 | 2.04 | 6/24/2022 | 6/25/2019 | 103.65111 | 103.6511128 | 103.6511128 | 103.6511128 | 103.2113161 | 101.1516665 | 99.14341588 | 97.18494013 | 95.27467878 |
| 190627A00009 | 6/27/2019 | 1.93 | 6/27/2023 | 6/27/2019 | 105.64513 | 105.6451336 | 105.6451336 | 105.6451336 | 104.6714636 | 101.599017 | 98.63278495 | 95.76849143 | 93.00205936 |
| 190627A00038 | 6/27/2019 | 2.12 | 6/27/2023 | 6/27/2019 | 105.66863 | 105.6686331 | 105.6686331 | 105.6686331 | 104.6998455 | 101.640366 | 98.68635914 | 95.83358946 | 93.07801778 |
| 190628A00024 | 6/28/2019 | 2.09 | 6/28/2022 | 6/28/2019 | 103.77565 | 103.7756463 | 103.7756463 | 103.7756463 | 103.3317623 | 101.2602799 | 99.24065603 | 97.27124493 | 95.35046582 |
| 190701A00006 | 7/1/2019 | 2.11 | 7/1/2021 | 7/1/2019 | 102.02442 | 102.0244217 | 102.0244217 | 102.0244217 | 101.795826 | 100.699929 | 99.62753859 | 98.57790476 | 97.55030926 |
| 190701A00023 | 7/1/2019 | 1.95 | 7/1/2024 | 7/1/2019 | 107.58191 | 107.5819068 | 107.5819068 | 107.5819068 | 105.8211393 | 101.7507443 | 97.8594504 | 94.1384204 | 90.57930264 |
| 190711A00022 | 7/11/2019 | 2 | 7/11/2023 | 7/11/2019 | 105.93612 | 105.9361219 | 105.9361219 | 105.9361219 | 104.9354995 | 101.821153 | 98.81547289 | 95.91403914 | 93.1126399 |
| 191126A00026 | 11/26/2019 | 1.91 | 11/25/2026 | 11/26/2019 | 111.75284 | 111.7528434 | 111.7528434 | 111.7528434 | 106.7496552 | 100.412517 | 94.49338064 | 88.96254656 | 83.79257001 |
| 191210A00011 | 12/10/2019 | 1.92 | 12/12/2022 | 12/10/2019 | 104.16662 | 104.166615 | 104.166615 | 104.166615 | 103.5216883 | 101.0039985 | 98.56045664 | 96.18844195 | 93.88544353 |
| 191212A00019 | 12/13/2019 | 1.93 | 12/19/2022 | 12/13/2019 | 104.22371 | 104.2237127 | 104.2237127 | 104.2237127 | 103.5688183 | 101.031586 | 98.56946472 | 96.17978327 | 93.85998303 |
| 191218A00014 | 12/18/2019 | 2.04 | 12/18/2024 | 12/18/2019 | 107.96039 | 107.9603873 | 107.9603873 | 107.9603873 | 105.7773799 | 101.2917038 | 97.02217422 | 92.95724887 | 89.08606318 |
| 191219A00047 | 12/19/2019 | 1.76 | 12/17/2021 | 12/19/2019 | 102.58312 | 102.5831224 | 102.5831224 | 102.5831224 | 102.2762562 | 100.7303254 | 99.21542302 | 97.73068665 | 96.27528552 |
| 191226A00020 | 12/26/2019 | 2.44 | 12/21/2029 | 12/26/2019 | 120.4038 | 120.4038008 | 120.4038008 | 119.4043367 | 109.7390698 | 100.6956194 | 92.48426614 | 85.02376367 | 78.24119456 |
| 200106A00019 | 1/6/2020 | 1.89 | 7/16/2024 | 1/6/2020 | 106.64077 | 106.6407669 | 106.6407669 | 106.6407669 | 104.8610281 | 100.7919081 | 96.9030157 | 93.18539992 | 89.63060518 |
| 200115A00014 | 1/17/2020 | 1.88 | 9/15/2022 | 1/17/2020 | 103.67945 | 103.6794475 | 103.6794475 | 103.6794475 | 103.1494542 | 100.8698131 | 98.651696 | 96.49305725 | 94.39193376 |
| 200115A00018 | 1/15/2020 | 1.9 | 1/16/2024 | 1/15/2020 | 105.88103 | 105.8810326 | 105.8810326 | 105.8810326 | 104.5143404 | 100.9258979 | 97.47974342 | 94.16944694 | 90.98890758 |
| 200122A00003 | 1/22/2020 | 1.88 | 1/22/2021 | 1/22/2020 | 101.07335 | 101.0733546 | 101.0733546 | 101.0733546 | 100.9351552 | 100.2783792 | 99.63012926 | 98.99024026 | 98.35855118 |
| 200122A00010 | 1/22/2020 | 1.84 | 1/24/2022 | 1/22/2020 | 102.60609 | 102.6060935 | 102.6060935 | 102.6060935 | 102.2782258 | 100.6351853 | 99.02637468 | 97.45078944 | 95.90746429 |
| 200127A00013 | 1/27/2020 | 1.56 | 1/27/2023 | 1/27/2020 | 103.88997 | 103.8899724 | 103.8899724 | 103.8899724 | 103.1761437 | 100.5307941 | 97.96637078 | 95.47988797 | 93.06849183 |
| 200130A00048 | 1/30/2020 | 1.74 | 1/31/2022 | 1/30/2020 | 102.46665 | 102.4666451 | 102.4666451 | 102.4666451 | 102.1350529 | 100.4746076 | 98.84902858 | 97.25728242 | 95.69837668 |
| 200131A00006 | 1/31/2020 | 1.52 | 1/31/2022 | 1/31/2020 | 102.38045 | 102.3804528 | 102.3804528 | 102.3804528 | 102.0480147 | 100.3833563 | 98.75373438 | 97.15810858 | 95.59547978 |
| 200207A00004 | 2/7/2020 | 1.53 | 2/7/2023 | 2/7/2020 | 103.85198 | 103.8519791 | 103.8519791 | 103.8519791 | 103.12135 | 100.447163 | 97.85553638 | 95.34339293 | 92.90779298 |
| 200207A00006 | 2/7/2020 | 1.76 | 2/8/2021 | 2/7/2020 | 101.06496 | 101.0649556 | 101.0649556 | 101.0649556 | 100.9135932 | 100.2105236 | 99.51722446 | 98.83349302 | 98.15913217 |
| 200207A00009 | 2/7/2020 | 1.58 | 2/7/2025 | 2/7/2020 | 106.94296 | 106.9429593 | 106.9429593 | 106.9429593 | 104.6099153 | 99.99282128 | 95.60493578 | 91.43366408 | 87.46717417 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200214A00007 | 2/14/2020 | 1.59 | 2/14/2025 | 2/14/2020 | 107.01888 | 107.0188779 | 107.0188779 | 107.0188779 | 104.6653331 | 100.0286354 | 95.62292349 | 91.4354591 | 87.45427858 |
| 200214A00016 | 2/14/2020 | 1.57 | 2/14/2024 | 2/14/2020 | 105.45524 | 105.4552385 | 105.4552385 | 105.4552385 | 104.0207075 | 100.3489451 | 96.82587603 | 93.44463658 | 90.19872316 |
| 200218A00023 | 2/18/2020 | 1.55 | 2/21/2023 | 2/18/2020 | 103.96197 | 103.9619736 | 103.9619736 | 103.9619736 | 103.2093088 | 100.4960752 | 97.8675802 | 95.32062439 | 92.85215387 |
| 200219A00006 | 2/19/2020 | 1.76 | 2/18/2022 | 2/19/2020 | 102.57368 | 102.5736817 | 102.5736817 | 102.5736817 | 102.2315858 | 100.5212665 | 98.84765412 | 97.2096321 | 95.60612931 |
| 200224A00002 | 2/24/2020 | 1.56 | 2/24/2023 | 2/24/2020 | 103.50099 | 103.5009902 | 103.5009902 | 103.5009902 | 102.7486019 | 100.044783 | 97.42544199 | 94.88738732 | 92.42757271 |
| 200224A00004 | 2/24/2020 | 1.68 | 2/24/2021 | 2/24/2020 | 101.07133 | 101.0713294 | 101.0713294 | 101.0713294 | 100.9079716 | 100.1613382 | 99.42571289 | 98.70085356 | 97.98652531 |
| 200224A00015 | 2/24/2020 | 1.57 | 1/10/2024 | 2/24/2020 | 104.65028 | 104.6502766 | 104.6502766 | 104.6502766 | 103.3021642 | 99.75113006 | 96.34063313 | 93.06434095 | 89.9162441 |
| 191009A00017 | 10/9/2019 | 1.76 | 10/4/2024 | 10/9/2019 | 106.42122 | 106.421218 | 106.421218 | 106.421218 | 104.4451588 | 100.1804278 | 96.11322725 | 92.23343191 | 88.53148565 |
| 191009A00026 | 10/9/2019 | 1.74 | 10/7/2022 | 10/9/2019 | 103.44208 | 103.4420796 | 103.4420796 | 103.4420796 | 102.8860839 | 100.5513927 | 98.28114764 | 96.07322242 | 93.92557303 |
| 191015A00026 | 10/15/2019 | 1.69 | 10/15/2021 | 10/15/2019 | 102.19843 | 102.1984323 | 102.1984323 | 102.1984323 | 101.9334026 | 100.5598344 | 99.21130147 | 97.88717884 | 96.58686182 |
| 191017A00022 | 10/17/2019 | 2.25 | 7/17/2028 | 10/17/2019 | 115.84438 | 115.8443806 | 115.8443806 | 115.8443806 | 108.0016313 | 100.230411 | 93.0808541 | 86.49990848 | 80.43930953 |
| 191021A00002 | 10/21/2019 | 1.9 | 10/21/2020 | 10/21/2019 | 100.66227 | 100.6622651 | 100.6622651 | 100.6622651 | 100.5894766 | 100.1884797 | 99.79067963 | 99.39603823 | 99.00451797 |
| 191021A00021 | 10/21/2019 | 2.22 | 12/21/2027 | 10/21/2019 | 114.51536 | 114.5153583 | 114.5153583 | 114.5153583 | 107.6728622 | 100.4076858 | 93.68788264 | 87.46964529 | 81.712899 |
| 191025A00002 | 10/25/2019 | 1.75 | 10/26/2020 | 10/25/2019 | 100.67988 | 100.6798758 | 100.6798758 | 100.6798758 | 100.6041374 | 100.1887005 | 99.77668951 | 99.36806209 | 98.96277669 |
| 191031A00019 | 10/31/2019 | 1.88 | 10/31/2022 | 10/31/2019 | 103.88031 | 103.8803108 | 103.8803108 | 103.8803108 | 103.2929218 | 100.8888345 | 98.55278749 | 96.28247741 | 94.07569261 |
| 191101A00002 | 11/1/2019 | 1.85 | 11/1/2022 | 11/1/2019 | 103.81114 | 103.811137 | 103.811137 | 103.811137 | 103.222598 | 100.816774 | 98.47911782 | 96.20731897 | 93.99915931 |
| 191105A00007 | 11/5/2019 | 1.98 | 11/5/2026 | 11/5/2019 | 112.10932 | 112.1093238 | 112.1093238 | 112.1093238 | 107.1972993 | 100.8945699 | 95.00407102 | 89.49675324 | 84.34575452 |
| 191106A00022 | 11/6/2019 | 2.34 | 1/2/2030 | 11/6/2019 | 119.51367 | 119.5136719 | 119.5136719 | 118.4762893 | 108.8103119 | 99.78224471 | 91.58843135 | 84.14712625 | 77.38499115 |
| 191115A00015 | 11/18/2019 | 2.61 | 11/18/2024 | 11/18/2019 | 110.43363 | 110.433629 | 110.433629 | 110.433629 | 108.3120235 | 103.8462276 | 99.59160353 | 95.53706702 | 91.67217296 |
| 191115A00030 | 11/15/2019 | 2.35 | 11/9/2029 | 11/15/2019 | 119.31188 | 119.311881 | 119.311881 | 118.4445776 | 108.9237177 | 100.011784 | 91.912208 | 84.54644568 | 77.84392369 |
| 191120A00031 | 11/20/2019 | 1.69 | 11/21/2022 | 11/20/2019 | 103.94912 | 103.9491185 | 103.9491185 | 103.9491185 | 103.3310142 | 100.8622309 | 98.46506114 | 96.1370186 | 93.87571877 |
| 191121A00004 | 11/21/2019 | 1.77 | 11/21/2024 | 11/21/2019 | 107.48962 | 107.4896172 | 107.4896172 | 107.4896172 | 105.3668121 | 100.9343499 | 96.7133616 | 92.69267601 | 88.86176975 |
| 191122A00020 | 11/26/2019 | 3.2 | 11/23/2037 | 11/26/2019 | 149.97907 | 149.979066 | 149.979066 | 133.6880999 | 116.189775 | 101.1362948 | 88.37378791 | 77.53299108 | 68.30632475 |
| 191206A00019 | 12/6/2019 | 1.96 | 11/15/2023 | 12/6/2019 | 105.8173 | 105.8173034 | 105.8173034 | 105.8173034 | 104.5783039 | 101.1509113 | 97.85424408 | 94.68262948 | 91.630672 |
| 191212A00026 | 12/13/2019 | 1.92 | 6/16/2022 | 12/13/2019 | 103.36394 | 103.3639357 | 103.3639357 | 103.3639357 | 102.9323885 | 100.8967807 | 98.91165263 | 96.97542294 | 95.08657167 |
| 191226A00019 | 12/26/2019 | 2.4 | 12/22/2028 | 12/26/2019 | 117.96289 | 117.9628913 | 117.9628913 | 117.9333687 | 109.3059712 | 101.1152564 | 93.6090918 | 86.72653324 | 80.4123595 |
| 200113A00003 | 1/13/2020 | 1.72 | 1/13/2022 | 1/13/2020 | 102.64009 | 102.6400941 | 102.6400941 | 102.6400941 | 102.3174266 | 100.6983468 | 99.11267873 | 97.55945501 | 96.03774547 |
| 200115A00022 | 1/15/2020 | 1.88 | 10/14/2022 | 1/15/2020 | 103.80619 | 103.8061899 | 103.8061899 | 103.8061899 | 103.2404866 | 100.8826548 | 98.59037049 | 96.36145483 | 94.19381391 |
| 200115A00024 | 1/15/2020 | 1.88 | 1/17/2023 | 1/15/2020 | 104.22128 | 104.2212788 | 104.2212788 | 104.2212788 | 103.5244048 | 100.9110683 | 98.37682733 | 95.9187961 | 93.53421451 |
| 200117A00026 | 1/17/2020 | 1.69 | 1/18/2022 | 1/17/2020 | 102.61246 | 102.6124575 | 102.6124575 | 102.6124575 | 102.2870011 | 100.6549084 | 99.05667731 | 97.49132027 | 95.95788827 |
| 200121A00008 | 1/24/2020 | 1.84 | 1/20/2022 | 1/24/2020 | 102.58885 | 102.5888514 | 102.5888514 | 102.5888514 | 102.2632716 | 100.6309246 | 99.0324404 | 97.46683081 | 95.93314587 |
| 190815A00012 | 8/15/2019 | 1.81 | 8/15/2024 | 8/15/2019 | 106.43224 | 106.4322428 | 106.4322428 | 106.4322428 | 104.5809694 | 100.4403194 | 96.48617362 | 92.70910962 | 89.10023681 |
| 190816A00013 | 8/16/2019 | 2.2 | 8/16/2029 | 8/16/2019 | 117.46005 | 117.4600529 | 117.4600529 | 116.8439281 | 107.6005438 | 98.93781677 | 91.04898425 | 83.86067439 | 77.30683134 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190816A00031 | 8/16/2019 | 1.77 | 8/16/2024 | 8/16/2019 | 106.2664 | 106.266398 | 106.266398 | 106.266398 | 104.4137466 | 100.2740704 | 96.32099997 | 92.54510132 | 88.93747334 |
| 190819A00026 | 8/19/2019 | 1.62 | 8/19/2024 | 8/19/2019 | 106.41917 | 106.4191683 | 106.4191683 | 106.4191683 | 104.5458568 | 100.3735416 | 96.39014792 | 92.58608477 | 88.95230528 |
| 190822A00016 | 8/22/2019 | 1.84 | 8/22/2022 | 8/22/2019 | 103.48396 | 103.4839628 | 103.4839628 | 103.4839628 | 102.9822798 | 100.7674731 | 98.6110695 | 96.5110978 | 94.46567077 |
| 190826A00006 | 8/26/2019 | 1.72 | 8/26/2024 | 8/26/2019 | 106.09309 | 106.0930913 | 106.0930913 | 106.0930913 | 104.2170866 | 100.0562349 | 96.08401783 | 92.29084404 | 88.66766728 |
| 190829A00011 | 8/30/2019 | 1.98 | 12/15/2020 | 8/30/2019 | 100.9576 | 100.9576001 | 100.9576001 | 100.9576001 | 100.8492259 | 100.2966293 | 99.75008221 | 99.20948569 | 98.67474281 |
| 190830A00023 | 8/30/2019 | 1.78 | 9/15/2022 | 8/30/2019 | 103.44722 | 103.4472216 | 103.4472216 | 103.4472216 | 102.9177923 | 100.6408745 | 98.42542313 | 96.26939424 | 94.17082642 |
| 190906A00012 | 9/6/2019 | 1.76 | 9/6/2024 | 9/6/2019 | 106.30853 | 106.3085284 | 106.3085284 | 106.3085284 | 104.4037009 | 100.2110454 | 96.2095762 | 92.3895489 | 88.74177166 |
| 190909A00029 | 9/9/2019 | 1.83 | 9/8/2023 | 9/9/2019 | 105.07586 | 105.0758623 | 105.0758623 | 105.0758623 | 103.973315 | 100.7336671 | 97.6116259 | 94.60224903 | 91.70083344 |
| 190909A00030 | 9/9/2019 | 1.83 | 9/9/2024 | 9/9/2019 | 106.62275 | 106.6227459 | 106.6227459 | 106.6227459 | 104.708303 | 100.5015614 | 96.48688625 | 92.65448701 | 88.99512749 |
| 190910A00017 | 9/16/2019 | 1.86 | 9/16/2024 | 9/16/2019 | 106.78236 | 106.7823558 | 106.7823558 | 106.7823558 | 104.8492763 | 100.6217761 | 96.58800143 | 92.73807041 | 89.06265821 |
| 190910A00027 | 9/10/2019 | 1.86 | 9/9/2022 | 9/10/2019 | 103.60702 | 103.6070246 | 103.6070246 | 103.6070246 | 103.0843008 | 100.8211426 | 98.61870968 | 96.47496725 | 94.38796476 |
| 190917A00029 | 9/17/2019 | 2.02 | 12/6/2022 | 9/17/2019 | 104.39466 | 104.3946617 | 104.3946617 | 104.3946617 | 103.7575204 | 101.2530382 | 98.82196344 | 96.46171588 | 94.16982272 |
| 190919A00007 | 9/19/2019 | 2.04 | 9/19/2024 | 9/19/2019 | 107.57711 | 107.5771055 | 107.5771055 | 107.5771055 | 105.6311404 | 101.3792747 | 97.32236113 | 93.45045678 | 89.75417835 |
| 190923A00020 | 9/23/2019 | 2.05 | 9/24/2029 | 9/23/2019 | 118.16627 | 118.1662724 | 118.1662724 | 117.4230624 | 107.9396397 | 99.08747205 | 91.03742779 | 83.71255376 | 77.04364197 |
| 190925A00011 | 9/25/2019 | 1.89 | 9/25/2024 | 9/25/2019 | 106.95189 | 106.9518898 | 106.9518898 | 106.9518898 | 104.9950775 | 100.7416335 | 96.68403375 | 92.81227798 | 89.11692726 |
| 190926A00006 | 9/26/2019 | 1.7 | 9/26/2022 | 9/26/2019 | 103.72895 | 103.7289453 | 103.7289453 | 103.7289453 | 103.183642 | 100.8661579 | 98.61205153 | 96.41923838 | 94.2857149 |
| 190927A00036 | 9/27/2019 | 1.94 | 9/6/2024 | 9/27/2019 | 107.08395 | 107.0839508 | 107.0839508 | 107.0839508 | 105.1739777 | 100.9649409 | 96.94763043 | 93.11227947 | 89.44967502 |
| 190930A00041 | 9/30/2019 | 1.94 | 10/25/2021 | 9/30/2019 | 102.37127 | 102.3712683 | 102.3712683 | 102.3712683 | 102.1000435 | 100.7015523 | 99.32895009 | 97.98158041 | 96.65880866 |
| 191002A00013 | 10/2/2019 | 1.78 | 10/3/2022 | 10/2/2019 | 103.52107 | 103.5210724 | 103.5210724 | 103.5210724 | 102.9699013 | 100.6449754 | 98.3839438 | 96.18470775 | 94.04524935 |
| 191007A00018 | 10/8/2019 | 1.77 | 7/16/2021 | 10/8/2019 | 101.71102 | 101.7110248 | 101.7110248 | 101.7110248 | 101.480587 | 100.3458992 | 99.23647088 | 98.15146586 | 97.09008459 |
| 191010A00012 | 10/10/2019 | 1.61 | 10/8/2021 | 10/10/2019 | 102.05761 | 102.057612 | 102.057612 | 102.057612 | 101.7974342 | 100.4439946 | 99.11491433 | 97.80959286 | 96.52744894 |
| 191018A00006 | 10/18/2019 | 1.89 | 6/1/2022 | 10/18/2019 | 103.23557 | 103.2355661 | 103.2355661 | 103.2355661 | 102.8186034 | 100.8237263 | 98.87771588 | 96.97906749 | 95.12633333 |
| 190625A00024 | 6/25/2019 | 2.26 | 6/25/2025 | 6/25/2019 | 109.98002 | 109.9800234 | 109.9800234 | 109.9800234 | 107.2292178 | 102.2215559 | 97.47847673 | 92.9846194 | 88.72559527 |
| 190626A00015 | 6/26/2019 | 2.15 | 6/26/2024 | 6/26/2019 | 107.62216 | 107.6221604 | 107.6221604 | 107.6221604 | 105.8842813 | 101.8467914 | 97.98593935 | 94.29305578 | 90.75994482 |
| 190701A00008 | 7/3/2019 | 2.1 | 7/3/2023 | 7/3/2019 | 105.63625 | 105.6362544 | 105.6362544 | 105.6362544 | 104.6566329 | 101.5818567 | 98.61351764 | 95.74732224 | 92.97917731 |
| 190701A00017 | 7/1/2019 | 1.9 | 7/1/2022 | 7/1/2019 | 103.7709 | 103.770899 | 103.770899 | 103.770899 | 103.3223649 | 101.2355472 | 99.20124435 | 97.21778031 | 95.28354556 |
| 190703A00004 | 7/3/2019 | 2.08 | 7/5/2022 | 7/3/2019 | 103.78902 | 103.7890166 | 103.7890166 | 103.7890166 | 103.3379543 | 101.2474261 | 99.20956929 | 97.22269892 | 95.28519705 |
| 190712A00001 | 7/12/2019 | 2.05 | 7/12/2024 | 7/12/2019 | 108.05454 | 108.0545387 | 108.0545387 | 108.0545387 | 106.264117 | 102.1552292 | 98.22812468 | 94.4737807 | 90.88367374 |
| 190712A00009 | 7/12/2019 | 2.19 | 7/12/2023 | 7/12/2019 | 105.96421 | 105.9642143 | 105.9642143 | 105.9642143 | 104.9668035 | 101.8629608 | 98.86719066 | 95.97510485 | 93.18252141 |
| 190715A00022 | 7/15/2019 | 2.27 | 7/15/2020 | 7/15/2019 | 100.25538 | 100.2553755 | 100.2553755 | 100.2553755 | 100.2354066 | 100.1052135 | 99.97537164 | 99.84587954 | 99.71673579 |
| 190715A00027 | 7/15/2019 | 1.99 | 7/15/2021 | 7/15/2019 | 102.14031 | 102.140307 | 102.140307 | 102.140307 | 101.9089239 | 100.771617 | 99.65959536 | 98.57202301 | 97.50810037 |
| 190715A00028 | 7/17/2019 | 2.17 | 1/18/2022 | 7/17/2019 | 103.12795 | 103.1279457 | 103.1279457 | 103.1279457 | 102.8025682 | 101.1708864 | 99.57296894 | 98.0078333 | 96.47453497 |
| 190719A00012 | 7/19/2019 | 2.07 | 7/20/2020 | 7/19/2019 | 100.28193 | 100.2819291 | 100.2819291 | 100.2819291 | 100.2594694 | 100.1151468 | 99.9712522 | 99.82778353 | 99.68473893 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190724A00024 | 7/24/2019 | 2.49 | 7/24/2029 | 7/24/2019 | 121.9003 | 121.9002951 | 121.9002951 | 121.3374834 | 111.8973457 | 103.0114811 | 94.91348705 | 87.52909304 | 80.79139683 |
| 190729A00007 | 7/29/2019 | 2.17 | 7/28/2023 | 7/29/2019 | 105.98356 | 105.9835626 | 105.9835626 | 105.9835626 | 104.9566516 | 101.8099655 | 98.77406025 | 95.84438396 | 93.01660187 |
| 190729A00019 | 7/29/2019 | 2.16 | 7/29/2021 | 7/29/2019 | 102.22535 | 102.2253479 | 102.2253479 | 102.2253479 | 101.9923246 | 100.8192543 | 99.67306218 | 98.55283294 | 97.4576924 |
| 190731A00004 | 7/31/2019 | 2.18 | 7/31/2024 | 7/31/2019 | 107.92611 | 107.9261081 | 107.9261081 | 107.9261081 | 106.1021435 | 101.9679646 | 98.01808628 | 94.24328609 | 90.63485669 |
| 190802A00004 | 8/2/2019 | 2 | 8/2/2022 | 8/2/2019 | 103.75059 | 103.7505916 | 103.7505916 | 103.7505916 | 103.2704271 | 101.1048612 | 98.99530046 | 96.93989598 | 94.93687561 |
| 190806A00007 | 8/6/2019 | 1.88 | 8/5/2022 | 8/6/2019 | 103.49964 | 103.4996446 | 103.4996446 | 103.4996446 | 103.016731 | 100.8461217 | 98.73182573 | 96.67197755 | 94.66478936 |
| 190807A00012 | 8/7/2019 | 1.76 | 2/7/2023 | 8/7/2019 | 103.98638 | 103.9863792 | 103.9863792 | 103.9863792 | 103.2586754 | 100.5934219 | 98.01022147 | 95.50602325 | 93.07791247 |
| 190807A00045 | 8/7/2019 | 1.77 | 8/7/2024 | 8/7/2019 | 106.22988 | 106.2298763 | 106.2298763 | 106.2298763 | 104.3995119 | 100.2829537 | 96.35105292 | 92.59452139 | 89.00459257 |
| 190808A00024 | 8/8/2019 | 1.69 | 2/8/2024 | 8/8/2019 | 105.8801 | 105.8800995 | 105.8800995 | 105.8800995 | 104.4563439 | 100.791976 | 97.27536891 | 93.89973042 | 90.65862291 |
| 190809A00001 | 8/9/2019 | 1.88 | 8/9/2022 | 8/9/2019 | 103.51719 | 103.517188 | 103.517188 | 103.517188 | 103.0298075 | 100.8485521 | 98.72410323 | 96.65457074 | 94.63814349 |
| 190809A00022 | 8/9/2019 | 1.88 | 8/9/2024 | 8/9/2019 | 106.70341 | 106.7034149 | 106.7034149 | 106.7034149 | 104.8651115 | 100.7337486 | 96.78778935 | 93.01790043 | 89.4152733 |
| 190813A00008 | 8/13/2019 | 1.88 | 8/13/2024 | 8/13/2019 | 106.72085 | 106.7208534 | 106.7208534 | 106.7208534 | 104.8726221 | 100.730935 | 96.77551949 | 92.99697736 | 89.38644017 |
| 190814A00006 | 8/14/2019 | 1.84 | 8/14/2023 | 8/14/2019 | 105.00239 | 105.0023878 | 105.0023878 | 105.0023878 | 103.9474298 | 100.7727693 | 97.7113585 | 94.75848085 | 91.90964844 |
| 200224A00020 | 2/24/2020 | 1.59 | 2/24/2025 | 2/24/2020 | 106.18286 | 106.1828598 | 106.1828598 | 106.1828598 | 103.8248345 | 99.20863405 | 94.82311469 | 90.65551509 | 86.69385264 |
| 200224A00035 | 2/24/2020 | 1.59 | 2/24/2025 | 2/24/2020 | 106.18286 | 106.1828598 | 106.1828598 | 106.1828598 | 103.8248345 | 99.20863405 | 94.82311469 | 90.65551509 | 86.69385264 |
| 200226A00005 | 2/26/2020 | 1.53 | 2/27/2023 | 2/26/2020 | 103.42809 | 103.4280911 | 103.4280911 | 103.4280911 | 102.6713172 | 99.96054665 | 97.3346891 | 94.79052781 | 92.32499284 |
| 200226A00013 | 2/26/2020 | 1.35 | 2/26/2024 | 2/26/2020 | 104.6694 | 104.669396 | 104.669396 | 104.669396 | 103.2130972 | 99.52558198 | 95.98866268 | 92.59533048 | 89.33894761 |
| 200227A00052 | 2/27/2020 | 1.41 | 2/27/2023 | 2/27/2020 | 103.09484 | 103.0948411 | 103.0948411 | 103.0948411 | 102.3390996 | 99.63295988 | 97.01162337 | 94.47187684 | 92.01065373 |
| 200228A00013 | 3/3/2020 | 1.33 | 1/14/2022 | 3/3/2020 | 101.72216 | 101.7221589 | 101.7221589 | 101.7221589 | 101.4014478 | 99.79228955 | 98.21631948 | 96.67257698 | 95.16013838 |
| 200228A00020 | 2/28/2020 | 1.32 | 2/24/2023 | 2/28/2020 | 102.83647 | 102.8364738 | 102.8364738 | 102.8364738 | 102.0861353 | 99.39152499 | 96.78117466 | 94.25189977 | 91.80066072 |
| 200228A00061 | 2/28/2020 | 1.13 | 7/20/2022 | 2/28/2020 | 102.19421 | 102.1942086 | 102.1942086 | 102.1942086 | 101.7294943 | 99.60825255 | 97.54143326 | 95.52726034 | 93.56403021 |
| 200228A00062 | 2/28/2020 | 1.32 | 2/28/2023 | 2/28/2020 | 102.84771 | 102.8477144 | 102.8477144 | 102.8477144 | 102.0912059 | 99.38585679 | 96.76538229 | 94.22656308 | 91.766327 |
| 200228A00064 | 2/28/2020 | 1.35 | 2/28/2024 | 2/28/2020 | 103.99009 | 103.9900882 | 103.9900882 | 103.9900882 | 102.5417952 | 98.88000717 | 95.36765056 | 91.99777623 | 88.76380268 |
| 200302A00035 | 3/2/2020 | 1.22 | 7/3/2023 | 3/2/2020 | 102.88715 | 102.8871482 | 102.8871482 | 102.8871482 | 101.9177849 | 98.88575485 | 95.95906052 | 93.13344593 | 90.40485369 |
| 200304A00007 | 3/4/2020 | 1.01 | 3/15/2022 | 3/4/2020 | 101.29595 | 101.2959517 | 101.2959517 | 101.2959517 | 100.9412799 | 99.17390247 | 97.44571324 | 95.75555853 | 94.1023284 |
| 200304A00010 | 3/4/2020 | 1.2 | 3/4/2027 | 3/4/2020 | 107.39003 | 107.3900276 | 107.3900276 | 107.3900276 | 101.9811561 | 95.55581301 | 89.57264343 | 83.99902379 | 78.80490028 |
| 200304A00040 | 3/4/2020 | 1.12 | 3/1/2024 | 3/4/2020 | 103.12433 | 103.124325 | 103.124325 | 103.124325 | 101.676255 | 98.02548761 | 94.52407252 | 91.16505585 | 87.94185168 |
| 200305A00008 | 3/10/2020 | 1.01 | 6/19/2023 | 3/10/2020 | 102.20349 | 102.2034923 | 102.2034923 | 102.2034923 | 101.2617624 | 98.27616211 | 95.39342781 | 92.60944334 | 89.92028226 |
| 200305A00029 | 3/5/2020 | 1.14 | 3/5/2025 | 3/5/2020 | 104.05401 | 104.0540069 | 104.0540069 | 104.0540069 | 101.6878111 | 97.0984538 | 92.74023348 | 88.6003061 | 84.66661255 |
| 200306A00039 | 3/6/2020 | 0.88 | 3/6/2023 | 3/6/2020 | 101.634 | 101.6339976 | 101.6339976 | 101.6339976 | 100.8716787 | 98.16688823 | 95.54754092 | 93.01040595 | 90.55239818 |
| 200309A00021 | 3/9/2020 | 1.05 | 3/9/2026 | 3/9/2020 | 104.32399 | 104.3239851 | 104.3239851 | 104.3239851 | 100.6607081 | 95.18832491 | 90.04293291 | 85.20337151 | 80.64995719 |
| 200310A00073 | 3/12/2020 | 2.12 | 3/11/2027 | 3/12/2020 | 112.35228 | 112.3522773 | 112.3522773 | 112.3522773 | 106.8828951 | 100.3289607 | 94.22218492 | 88.52974148 | 83.22137767 |
| 200312A00017 | 3/16/2020 | 1.09 | 2/15/2023 | 3/16/2020 | 102.18006 | 102.1800591 | 102.1800591 | 102.1800591 | 101.4455309 | 98.78377274 | 96.20469518 | 93.70519775 | 91.28231976 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200403A00021 | 4/3/2020 | 0.74 | 4/29/2022 | 4/3/2020 | 100.86119 | 100.8611908 | 100.8611908 | 100.8611908 | 100.4769481 | 98.59439294 | 96.75610298 | 94.96077481 | 93.207152 |
| 200407A00001 | 4/8/2020 | 2.41 | 4/7/2025 | 4/8/2020 | 110.34159 | 110.3415892 | 110.3415892 | 110.3415892 | 107.8276677 | 103.0055054 | 98.42829827 | 94.08236914 | 89.95487175 |
| 200420A00011 | 4/20/2020 | 0.7 | 4/19/2024 | 4/20/2020 | 102.28996 | 102.289955 | 102.289955 | 102.289955 | 100.7295276 | 96.94974516 | 93.33032605 | 89.86367565 | 86.54259766 |
| 200427A00010 | 4/27/2020 | 0.68 | 4/27/2022 | 4/27/2020 | 100.74272 | 100.7427206 | 100.7427206 | 100.7427206 | 100.3601168 | 98.48390449 | 96.65170149 | 94.86221521 | 93.11419953 |
| 200123A00005 | 1/23/2020 | 1.81 | 1/24/2022 | 1/23/2020 | 102.5558 | 102.5558036 | 102.5558036 | 102.5558036 | 102.2280231 | 100.5854164 | 98.97703183 | 97.40186497 | 95.85895078 |
| 200123A00013 | 1/27/2020 | 1.89 | 1/27/2025 | 1/27/2020 | 107.44585 | 107.4458497 | 107.4458497 | 107.4458497 | 105.1572865 | 100.5837713 | 96.23511858 | 92.09908125 | 88.16414687 |
| 200129A00008 | 1/29/2020 | 1.76 | 1/31/2022 | 1/29/2020 | 102.50056 | 102.5005587 | 102.5005587 | 102.5005587 | 102.168907 | 100.5081661 | 98.8822968 | 97.29026557 | 95.73107983 |
| 200129A00010 | 1/29/2020 | 1.76 | 1/31/2022 | 1/29/2020 | 102.50056 | 102.5005587 | 102.5005587 | 102.5005587 | 102.168907 | 100.5081661 | 98.8822968 | 97.29026557 | 95.73107983 |
| 200130A00016 | 1/30/2020 | 1.58 | 1/30/2025 | 1/30/2020 | 106.9107 | 106.9107048 | 106.9107048 | 106.9107048 | 104.6006593 | 100.0047177 | 95.63600627 | 91.48209109 | 87.53128771 |
| 200131A00032 | 1/31/2020 | 2.1 | 1/31/2030 | 1/31/2020 | 117.35237 | 117.3523688 | 117.3523688 | 116.220002 | 106.5557287 | 97.5677823 | 89.41901367 | 82.02648826 | 75.31586879 |
| 200131A00048 | 1/31/2020 | 1.69 | 1/31/2024 | 1/31/2020 | 105.16893 | 105.1689254 | 105.1689254 | 105.1689254 | 103.7743137 | 100.1609347 | 96.69226066 | 93.36168813 | 90.16295541 |
| 200203A00051 | 2/3/2020 | 1.58 | 11/3/2021 | 2/3/2020 | 102.12153 | 102.1215321 | 102.1215321 | 102.1215321 | 101.8439201 | 100.419546 | 99.02202512 | 97.65066467 | 96.30479515 |
| 200204A00015 | 2/4/2020 | 1.72 | 2/6/2023 | 2/4/2020 | 103.87359 | 103.8735881 | 103.8735881 | 103.8735881 | 103.1477639 | 100.4867138 | 97.90753014 | 95.40717152 | 92.98273226 |
| 200207A00015 | 2/7/2020 | 1.73 | 2/7/2022 | 2/7/2020 | 102.47754 | 102.4775444 | 102.4775444 | 102.4775444 | 102.1419218 | 100.4623479 | 98.81834565 | 97.20884964 | 95.63283732 |
| 200210A00021 | 2/10/2020 | 1.76 | 2/10/2025 | 2/10/2020 | 106.89064 | 106.8906398 | 106.8906398 | 106.8906398 | 104.5671818 | 99.97122144 | 95.60302351 | 91.45008756 | 87.50066946 |
| 200214A00014 | 2/18/2020 | 1.8 | 2/18/2025 | 2/18/2020 | 107.16127 | 107.1612726 | 107.1612726 | 107.1612726 | 104.8122172 | 100.1883526 | 95.79452608 | 91.61806008 | 87.64704776 |
| 200219A00015 | 2/19/2020 | 1.77 | 2/19/2027 | 2/19/2020 | 111.22577 | 111.2257707 | 111.2257707 | 111.2257707 | 105.8149085 | 99.29532047 | 93.21969155 | 87.5554993 | 82.27276953 |
| 200220A00007 | 2/20/2020 | 1.72 | 2/21/2023 | 2/20/2020 | 103.93227 | 103.9322655 | 103.9322655 | 103.9322655 | 103.1831646 | 100.4813534 | 97.86370268 | 95.32704251 | 92.86834652 |
| 200221A00001 | 2/21/2020 | 1.57 | 2/22/2021 | 2/21/2020 | 101.08445 | 101.084445 | 101.084445 | 101.084445 | 100.9222659 | 100.1796589 | 99.44794329 | 98.72688071 | 98.01623982 |
| 200221A00003 | 2/25/2020 | 1.69 | 2/25/2025 | 2/25/2020 | 106.66431 | 106.6643129 | 106.6643129 | 106.6643129 | 104.2995878 | 99.66965378 | 95.27104645 | 91.09096652 | 87.11739607 |
| 200224A00017 | 2/24/2020 | 1.59 | 2/24/2025 | 2/24/2020 | 106.18286 | 106.1828598 | 106.1828598 | 106.1828598 | 103.8248345 | 99.20863405 | 94.82311469 | 90.65551509 | 86.69385264 |
| 200225A00004 | 2/25/2020 | 1.54 | 2/26/2024 | 2/25/2020 | 104.70214 | 104.7021379 | 104.7021379 | 104.7021379 | 103.2543952 | 99.58432434 | 96.0636936 | 92.68556561 | 89.44336941 |
| 200225A00006 | 2/25/2020 | 1.57 | 2/25/2022 | 2/25/2020 | 102.26681 | 102.2668125 | 102.2668125 | 102.2668125 | 101.921266 | 100.1947139 | 98.50553953 | 96.85259446 | 95.23477789 |
| 200225A00012 | 2/25/2020 | 1.57 | 2/25/2025 | 2/25/2020 | 106.09081 | 106.0908082 | 106.0908082 | 106.0908082 | 103.730724 | 99.11416074 | 94.7284446 | 90.56079759 | 86.59922201 |
| 200225A00014 | 2/25/2020 | 1.57 | 2/25/2022 | 2/25/2020 | 102.26681 | 102.2668125 | 102.2668125 | 102.2668125 | 101.921266 | 100.1947139 | 98.50553953 | 96.85259446 | 95.23477789 |
| 200226A00009 | 2/26/2020 | 1.75 | 2/26/2030 | 2/26/2020 | 116.03915 | 116.0391456 | 116.0391456 | 114.7972688 | 104.9875791 | 95.9206693 | 87.71197968 | 80.27574728 | 73.53519067 |
| 200227A00009 | 2/27/2020 | 1.47 | 2/27/2025 | 2/27/2020 | 105.6193 | 105.6192955 | 105.6192955 | 105.6192955 | 103.2574296 | 98.64685662 | 94.2672218 | 90.10572463 | 86.15034726 |
| 200227A00012 | 2/27/2020 | 1.41 | 2/27/2023 | 2/27/2020 | 103.09484 | 103.0948411 | 103.0948411 | 103.0948411 | 102.3390996 | 99.63295988 | 97.01162337 | 94.47187684 | 92.01065373 |
| 190607A00019 | 6/7/2019 | 2.04 | 12/7/2020 | 6/7/2019 | 101.02484 | 101.0248441 | 101.0248441 | 101.0248441 | 100.9221436 | 100.390337 | 99.86413087 | 99.34343695 | 98.82816883 |
| 190611A00046 | 6/11/2019 | 2.25 | 6/13/2022 | 6/11/2019 | 104.03119 | 104.0311884 | 104.0311884 | 104.0311884 | 103.6010885 | 101.5663616 | 99.58193308 | 97.64623299 | 95.75775198 |
| 190617A00026 | 6/17/2019 | 2.17 | 6/17/2022 | 6/17/2019 | 103.88691 | 103.8869131 | 103.8869131 | 103.8869131 | 103.4532963 | 101.4095537 | 99.41650688 | 97.47256645 | 95.57620459 |
| 190620A00045 | 6/20/2019 | 2.14 | 6/20/2024 | 6/20/2019 | 107.5506 | 107.5506042 | 107.5506042 | 107.5506042 | 105.8272658 | 101.8063367 | 97.96079227 | 94.2820513 | 90.76199956 |
| 190625A00021 | 6/25/2019 | 1.88 | 6/26/2023 | 6/25/2019 | 105.48444 | 105.4844376 | 105.4844376 | 105.4844376 | 104.5131737 | 101.445813 | 98.48444514 | 95.62480557 | 92.86282799 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190626A00020 | 6/26/2019 | 2.08 | 6/25/2021 | 6/26/2019 | 101.9613 | 101.9613038 | 101.9613038 | 101.9613038 | 101.7339383 | 100.6546878 | 99.59825115 | 98.56391111 | 97.55098004 |
| 190628A00017 | 6/28/2019 | 2.25 | 6/30/2020 | 6/28/2019 | 100.16895 | 100.1689494 | 100.1689494 | 100.1689494 | 100.1563227 | 100.0677041 | 99.97924139 | 99.89093426 | 99.80278229 |
| 190701A00007 | 7/2/2019 | 2.09 | 7/1/2022 | 7/2/2019 | 103.79049 | 103.7904935 | 103.7904935 | 103.7904935 | 103.3435576 | 101.263863 | 99.23637196 | 97.25942212 | 95.33141703 |
| 190703A00017 | 7/3/2019 | 2.33 | 5/4/2026 | 7/3/2019 | 112.06728 | 112.0672811 | 112.0672811 | 112.0672811 | 108.064614 | 102.2405947 | 96.76919455 | 91.6272599 | 86.7932705 |
| 190711A00019 | 7/11/2019 | 2.19 | 7/11/2023 | 7/11/2019 | 105.95901 | 105.9590141 | 105.9590141 | 105.9590141 | 104.9634631 | 101.8623633 | 98.86916643 | 95.97949424 | 93.18917434 |
| 190711A00025 | 7/11/2019 | 2.18 | 7/12/2021 | 7/11/2019 | 102.15955 | 102.159547 | 102.159547 | 102.159547 | 101.9291425 | 100.8025821 | 99.70084497 | 98.62311725 | 97.5686205 |
| 190715A00014 | 7/15/2019 | 2.16 | 3/30/2022 | 7/15/2019 | 103.45914 | 103.4591397 | 103.4591397 | 103.4591397 | 103.0910162 | 101.2615266 | 99.47331658 | 97.72521799 | 96.01610308 |
| 190719A00006 | 7/19/2019 | 2.17 | 7/19/2024 | 7/19/2019 | 107.82244 | 107.8224359 | 107.8224359 | 107.8224359 | 106.0281158 | 101.9270313 | 98.00759475 | 94.26077654 | 90.67804772 |
| 190722A00035 | 7/22/2019 | 2.18 | 4/13/2021 | 7/22/2019 | 101.69357 | 101.6935666 | 101.6935666 | 101.6935666 | 101.4963002 | 100.616526 | 99.75196775 | 98.90223309 | 98.06694305 |
| 190724A00025 | 7/24/2019 | 1.96 | 7/24/2023 | 7/24/2019 | 105.8761 | 105.8761043 | 105.8761043 | 105.8761043 | 104.8516279 | 101.703417 | 98.66605707 | 95.73499537 | 92.90589587 |
| 190730A00016 | 7/30/2019 | 2 | 7/30/2024 | 7/30/2019 | 107.93957 | 107.9395678 | 107.9395678 | 107.9395678 | 106.1060774 | 101.9524798 | 97.98450539 | 94.19284694 | 90.56871799 |
| 190731A00029 | 7/31/2019 | 1.93 | 7/29/2022 | 7/31/2019 | 103.97479 | 103.9747942 | 103.9747942 | 103.9747942 | 103.4967519 | 101.3314177 | 99.22199418 | 97.16664003 | 95.16359009 |
| 190801A00010 | 8/1/2019 | 1.97 | 8/1/2023 | 8/1/2019 | 105.949 | 105.9489952 | 105.9489952 | 105.9489952 | 104.9092911 | 101.7387775 | 98.68051273 | 95.72985913 | 92.88240159 |
| 190802A00017 | 8/2/2019 | 2.01 | 11/15/2023 | 8/2/2019 | 105.99207 | 105.9920667 | 105.9920667 | 105.9920667 | 104.7522764 | 101.3218586 | 98.0222509 | 94.84777745 | 91.79303982 |
| 190805A00009 | 8/5/2019 | 1.91 | 8/5/2024 | 8/5/2019 | 106.81258 | 106.8125807 | 106.8125807 | 106.8125807 | 104.9833988 | 100.8597413 | 96.92070642 | 93.15702208 | 89.55993605 |
| 190806A00010 | 8/6/2019 | 1.7 | 8/5/2022 | 8/6/2019 | 103.50082 | 103.5008248 | 103.5008248 | 103.5008248 | 103.0160661 | 100.8376031 | 98.71580044 | 96.64877682 | 94.63472958 |
| 190806A00012 | 8/6/2019 | 1.93 | 8/6/2021 | 8/6/2019 | 101.99039 | 101.9903918 | 101.9903918 | 101.9903918 | 101.7559636 | 100.5627041 | 99.39730985 | 98.25881379 | 97.14629296 |
| 190807A00053 | 8/7/2019 | 1.66 | 8/6/2021 | 8/7/2019 | 101.85696 | 101.8569632 | 101.8569632 | 101.8569632 | 101.6221427 | 100.4268129 | 99.25945183 | 98.11908719 | 97.00479122 |
| 190807A00055 | 8/7/2019 | 1.76 | 8/8/2022 | 8/7/2019 | 103.24671 | 103.2467111 | 103.2467111 | 103.2467111 | 102.7610588 | 100.5854513 | 98.46646541 | 96.40221888 | 94.39090815 |
| 190731A00028 | 7/31/2019 | 1.93 | 7/29/2022 | 7/31/2019 | 103.97479 | 103.9747942 | 103.9747942 | 103.9747942 | 103.4967519 | 101.3314177 | 99.22199418 | 97.16664003 | 95.16359009 |
| 190805A00008 | 8/5/2019 | 1.88 | 8/4/2023 | 8/5/2019 | 105.08824 | 105.0882419 | 105.0882419 | 105.0882419 | 104.0517012 | 100.9012269 | 97.86234276 | 94.93043658 | 92.10111773 |
| 190807A00023 | 8/7/2019 | 1.77 | 8/7/2024 | 8/7/2019 | 106.22988 | 106.2298763 | 106.2298763 | 106.2298763 | 104.3995119 | 100.2829537 | 96.35105292 | 92.59452139 | 89.00459257 |
| 190809A00013 | 8/9/2019 | 1.91 | 8/10/2020 | 8/9/2019 | 100.36333 | 100.3633274 | 100.3633274 | 100.3633274 | 100.3300103 | 100.1275064 | 99.92583408 | 99.72498814 | 99.52496342 |
| 190809A00020 | 8/9/2019 | 2.44 | 8/9/2034 | 8/9/2019 | 133.15081 | 133.1508091 | 133.1508091 | 122.7353367 | 108.4727807 | 95.89059035 | 84.94919554 | 75.42389365 | 67.12187558 |
| 190813A00016 | 8/13/2019 | 1.88 | 8/13/2024 | 8/13/2019 | 106.72085 | 106.7208534 | 106.7208534 | 106.7208534 | 104.8726221 | 100.730935 | 96.77551949 | 92.99697736 | 89.38644017 |
| 190813A00020 | 8/13/2019 | 1.89 | 8/12/2022 | 8/13/2019 | 103.55263 | 103.5526303 | 103.5526303 | 103.5526303 | 103.0618484 | 100.8723589 | 98.74005245 | 96.66302014 | 94.63943308 |
| 190815A00015 | 8/15/2019 | 1.82 | 8/15/2022 | 8/15/2019 | 103.4093 | 103.409299 | 103.409299 | 103.409299 | 102.9155306 | 100.71983 | 98.58164851 | 96.49905936 | 94.47021712 |
| 190816A00025 | 8/16/2019 | 1.89 | 3/16/2021 | 8/16/2019 | 101.3112 | 101.3112048 | 101.3112048 | 101.3112048 | 101.1333801 | 100.3314537 | 99.54220823 | 98.7653447 | 98.00057335 |
| 190820A00021 | 8/20/2019 | 2.13 | 8/20/2029 | 8/20/2019 | 116.83465 | 116.8346534 | 116.8346534 | 116.2073189 | 106.9736593 | 98.32977037 | 90.45960693 | 83.28970329 | 76.7539289 |
| 190820A00038 | 8/20/2019 | 1.76 | 8/20/2024 | 8/20/2019 | 106.24002 | 106.2400172 | 106.2400172 | 106.2400172 | 104.3777401 | 100.2286865 | 96.26707851 | 92.48341818 | 88.86874535 |
| 190821A00028 | 8/21/2019 | 1.8 | 8/21/2023 | 8/21/2019 | 104.90188 | 104.9018754 | 104.9018754 | 104.9018754 | 103.8341999 | 100.6432961 | 97.56679282 | 94.59990037 | 91.73806266 |
| 190826A00029 | 8/26/2019 | 1.53 | 8/26/2024 | 8/26/2019 | 106.06176 | 106.0617628 | 106.0617628 | 106.0617628 | 104.1734929 | 99.99116519 | 95.99903396 | 92.18740304 | 88.54712893 |
| 190826A00034 | 8/26/2019 | 1.9 | 8/24/2029 | 8/26/2019 | 116.60363 | 116.60363 | 116.60363 | 115.95298 | 106.5996446 | 97.87716431 | 89.94034722 | 82.71424469 | 76.13142192 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190826A00063 | 8/26/2019 | 2.05 | 8/28/2028 | 8/26/2019 | 114.41336 | 114.4133643 | 114.4133643 | 114.4133643 | 106.4090931 | 98.60376102 | 91.43191769 | 84.838786 | 78.77459676 |
| 190828A00020 | 8/28/2019 | 1.95 | 5/28/2027 | 8/28/2019 | 111.54303 | 111.5430314 | 111.5430314 | 111.5430314 | 105.7186446 | 99.01461079 | 92.78209625 | 86.98552644 | 81.59218255 |
| 190829A00031 | 8/29/2019 | 1.54 | 8/29/2024 | 8/29/2019 | 106.11651 | 106.1165101 | 106.1165101 | 106.1165101 | 104.2204726 | 100.0294946 | 96.02940424 | 92.21045427 | 88.56345391 |
| 190829A00045 | 8/29/2019 | 1.9 | 8/28/2026 | 8/29/2019 | 110.00841 | 110.0084099 | 110.0084099 | 110.0084099 | 105.501427 | 99.4670306 | 93.81629442 | 88.52282367 | 83.56217745 |
| 190829A00050 | 8/29/2019 | 1.73 | 8/29/2024 | 8/29/2019 | 106.14771 | 106.147714 | 106.147714 | 106.147714 | 104.2640112 | 100.0945813 | 96.11447007 | 92.31403542 | 88.68418455 |
| 190904A00001 | 9/4/2019 | 1.5 | 9/4/2024 | 9/4/2019 | 105.96734 | 105.9673442 | 105.9673442 | 105.9673442 | 104.0571167 | 99.854292 | 95.84358115 | 92.01516686 | 88.35979066 |
| 190905A00003 | 9/5/2019 | 1.76 | 9/5/2024 | 9/5/2019 | 106.3045 | 106.3044989 | 106.3044989 | 106.3044989 | 104.402206 | 100.2121149 | 96.21298733 | 92.3950913 | 88.74924696 |
| 190910A00030 | 9/10/2019 | 1.86 | 9/10/2024 | 9/10/2019 | 106.75653 | 106.7565334 | 106.7565334 | 106.7565334 | 104.8386887 | 100.6266319 | 96.60695574 | 92.76985352 | 89.10607334 |
| 190913A00011 | 9/13/2019 | 2.02 | 9/13/2022 | 9/13/2019 | 103.99502 | 103.9950218 | 103.9950218 | 103.9950218 | 103.4666291 | 101.1885075 | 98.97172711 | 96.8142433 | 94.71409486 |
| 190916A00009 | 9/16/2019 | 2.04 | 9/16/2022 | 9/16/2019 | 104.05584 | 104.0558351 | 104.0558351 | 104.0558351 | 103.5237441 | 101.2370786 | 99.01216125 | 96.84694177 | 94.73945237 |
| 191025A00005 | 10/28/2019 | 1.98 | 10/28/2024 | 10/28/2019 | 107.49637 | 107.4963679 | 107.4963679 | 107.4963679 | 105.4512075 | 101.1020582 | 96.95690738 | 93.00515779 | 89.23681621 |
| 191025A00010 | 10/25/2019 | 2.24 | 7/25/2028 | 10/25/2019 | 115.80471 | 115.8047112 | 115.8047112 | 115.8047112 | 107.9253903 | 100.1381544 | 92.97539111 | 86.38368374 | 80.31444765 |
| 191104A00019 | 11/5/2019 | 1.9 | 2/1/2022 | 11/5/2019 | 102.7424 | 102.7424029 | 102.7424029 | 102.7424029 | 102.4097536 | 100.7441809 | 99.11361816 | 97.51702633 | 95.95340748 |
| 191104A00024 | 11/4/2019 | 2.26 | 8/3/2029 | 11/4/2019 | 117.94427 | 117.9442702 | 117.9442702 | 117.3650056 | 108.1393489 | 99.48178046 | 91.59446874 | 84.40465653 | 77.84681526 |
| 191120A00002 | 11/20/2019 | 1.73 | 11/20/2020 | 11/20/2019 | 100.78351 | 100.7835061 | 100.7835061 | 100.7835061 | 100.692406 | 100.2079831 | 99.72822009 | 99.25304988 | 98.78240663 |
| 191121A00010 | 11/21/2019 | 2.59 | 11/20/2037 | 11/21/2019 | 143.36903 | 143.3690337 | 143.3690337 | 126.9309694 | 109.6415045 | 94.87148837 | 82.38737821 | 71.8171266 | 62.85124713 |
| 191122A00018 | 11/26/2019 | 3.11 | 11/22/2039 | 11/26/2019 | 153.78657 | 153.7865733 | 153.7865733 | 134.0020424 | 114.8970253 | 98.7834014 | 85.34912962 | 74.12188582 | 64.71554074 |
| 191126A00023 | 11/26/2019 | 1.81 | 5/27/2025 | 11/26/2019 | 108.54415 | 108.544147 | 108.544147 | 108.544147 | 105.8760929 | 100.9441831 | 96.27095427 | 91.84151846 | 87.64192048 |
| 191210A00009 | 12/10/2019 | 1.92 | 12/10/2020 | 12/10/2019 | 100.90128 | 100.901275 | 100.901275 | 100.901275 | 100.7966124 | 100.2578729 | 99.72488551 | 99.19755847 | 98.67580182 |
| 191212A00028 | 12/13/2019 | 1.93 | 1/17/2023 | 12/13/2019 | 104.35448 | 104.354485 | 104.354485 | 104.354485 | 103.6572225 | 101.0421064 | 98.50612692 | 96.04639689 | 93.66015502 |
| 191218A00013 | 12/18/2019 | 1.94 | 12/19/2022 | 12/18/2019 | 104.24955 | 104.2495548 | 104.2495548 | 104.2495548 | 103.5945882 | 101.0570204 | 98.59457139 | 96.2045695 | 93.88445594 |
| 191223A00009 | 12/23/2019 | 1.95 | 12/23/2022 | 12/23/2019 | 104.29359 | 104.2935881 | 104.2935881 | 104.2935881 | 103.6328935 | 101.0840109 | 98.61080406 | 96.21057208 | 93.88072863 |
| 200108A00018 | 1/8/2020 | 1.68 | 1/18/2022 | 1/8/2020 | 102.59584 | 102.5958358 | 102.5958358 | 102.5958358 | 102.270408 | 100.6384578 | 99.04036648 | 97.47514679 | 95.9418497 |
| 200109A00014 | 1/14/2020 | 1.93 | 8/15/2022 | 1/14/2020 | 103.65534 | 103.6553403 | 103.6553403 | 103.6553403 | 103.1610007 | 100.9625156 | 98.82160711 | 96.73634692 | 94.70488792 |
| 200110A00013 | 1/10/2020 | 1.76 | 1/10/2024 | 1/10/2020 | 106.01019 | 106.0101854 | 106.0101854 | 106.0101854 | 104.6475012 | 101.0547675 | 97.60436926 | 94.28988255 | 91.10521169 |
| 200127A00019 | 1/27/2020 | 1.8 | 1/27/2025 | 1/27/2020 | 107.02297 | 107.0229686 | 107.0229686 | 107.0229686 | 104.7377176 | 100.1739041 | 95.83460996 | 91.70760306 | 87.78138529 |
| 200127A00030 | 1/27/2020 | 1.8 | 1/27/2025 | 1/27/2020 | 107.02297 | 107.0229686 | 107.0229686 | 107.0229686 | 104.7377176 | 100.1739041 | 95.83460996 | 91.70760307 | 87.78138529 |
| 200129A00017 | 2/3/2020 | 1.75 | 8/15/2022 | 2/3/2020 | 103.25273 | 103.2527273 | 103.2527273 | 103.2527273 | 102.7593224 | 100.5653938 | 98.42894758 | 96.34805818 | 94.32088116 |
| 200130A00012 | 1/30/2020 | 1.72 | 1/30/2023 | 1/30/2020 | 103.84621 | 103.846206 | 103.846206 | 103.846206 | 103.1312484 | 100.4892365 | 97.92803102 | 95.44464964 | 93.03624206 |
| 200130A00021 | 1/30/2020 | 1.54 | 1/30/2023 | 1/30/2020 | 103.84782 | 103.8478206 | 103.8478206 | 103.8478206 | 103.1296084 | 100.4769448 | 97.90562802 | 95.41264896 | 92.99513165 |
| 200131A00007 | 1/31/2020 | 1.68 | 1/31/2023 | 1/31/2020 | 103.74201 | 103.7420095 | 103.7420095 | 103.7420095 | 103.025821 | 100.3825522 | 97.82020674 | 95.33579505 | 92.92645997 |
| 200131A00010 | 2/3/2020 | 1.68 | 2/3/2023 | 2/3/2020 | 103.75341 | 103.7534142 | 103.7534142 | 103.7534142 | 103.032571 | 100.3811514 | 97.81110878 | 95.31942826 | 92.90322895 |
| 200131A00017 | 1/31/2020 | 1.51 | 1/31/2024 | 1/31/2020 | 105.1758 | 105.1757992 | 105.1757992 | 105.1757992 | 103.7728782 | 100.1418198 | 96.65659541 | 93.31053311 | 90.09730737 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200203A00001 | 2/3/2020 | 1.7 | 2/3/2023 | 2/3/2020 | 103.80763 | 103.8076335 | 103.8076335 | 103.8076335 | 103.0866282 | 100.4344722 | 97.86371038 | 95.37132729 | 92.95444153 |
| 190814A00009 | 8/14/2019 | 1.84 | 8/14/2024 | 8/14/2019 | 106.55542 | 106.55542 | 106.55542 | 106.55542 | 104.7058027 | 100.5650723 | 96.6107155 | 92.83332256 | 89.22401456 |
| 190814A00015 | 8/14/2019 | 1.84 | 8/14/2024 | 8/14/2019 | 106.55542 | 106.55542 | 106.55542 | 106.55542 | 104.7058027 | 100.5650723 | 96.6107155 | 92.83332256 | 89.22401456 |
| 190815A00025 | 8/15/2019 | 1.97 | 8/15/2029 | 8/15/2019 | 117.2102 | 117.2101953 | 117.2101953 | 116.585456 | 107.2358478 | 98.50536475 | 90.558713 | 83.32132507 | 76.72608956 |
| 190816A00007 | 8/16/2019 | 1.77 | 8/16/2023 | 8/16/2019 | 104.78376 | 104.7837605 | 104.7837605 | 104.7837605 | 103.7259232 | 100.5496807 | 97.48693503 | 94.5329517 | 91.68322604 |
| 190816A00016 | 8/16/2019 | 2.2 | 8/16/2029 | 8/16/2019 | 117.46005 | 117.4600529 | 117.4600529 | 116.8439281 | 107.6005438 | 98.93781677 | 91.04898425 | 83.86067439 | 77.30683134 |
| 190819A00004 | 8/20/2019 | 1.81 | 5/24/2024 | 8/20/2019 | 106.08714 | 106.0871439 | 106.0871439 | 106.0871439 | 104.4356015 | 100.512099 | 96.75756388 | 93.16384424 | 89.72322496 |
| 190820A00005 | 8/21/2019 | 1.76 | 2/27/2023 | 8/21/2019 | 104.06682 | 104.0668203 | 104.0668203 | 104.0668203 | 103.3080677 | 100.5884213 | 97.95389842 | 95.40127549 | 92.92747612 |
| 190829A00015 | 8/30/2019 | 2.06 | 8/30/2022 | 8/30/2019 | 104.01935 | 104.019354 | 104.019354 | 104.019354 | 103.5074805 | 101.2656559 | 99.08336435 | 96.95858493 | 94.88938318 |
| 190830A00002 | 8/30/2019 | 1.93 | 8/28/2026 | 8/30/2019 | 110.19672 | 110.1967231 | 110.1967231 | 110.1967231 | 105.6870776 | 99.64700567 | 93.99085009 | 88.69220208 | 83.72660768 |
| 190904A00007 | 9/4/2019 | 1.69 | 9/1/2023 | 9/4/2019 | 104.58576 | 104.5857567 | 104.5857567 | 104.5857567 | 103.4986313 | 100.2848453 | 97.18721934 | 94.20086346 | 91.32112682 |
| 190904A00019 | 9/4/2019 | 1.69 | 9/4/2024 | 9/4/2019 | 105.9993 | 105.9993002 | 105.9993002 | 105.9993002 | 104.1015355 | 99.92036368 | 95.92972345 | 92.11990388 | 88.48174533 |
| 190904A00020 | 9/4/2019 | 1.69 | 9/1/2023 | 9/4/2019 | 104.58576 | 104.5857567 | 104.5857567 | 104.5857567 | 103.4986313 | 100.2848453 | 97.18721934 | 94.20086346 | 91.32112682 |
| 190905A00002 | 9/5/2019 | 1.78 | 9/6/2022 | 9/5/2019 | 103.41024 | 103.4102411 | 103.4102411 | 103.4102411 | 102.8915366 | 100.6384834 | 98.44571862 | 96.31121421 | 94.23302674 |
| 190909A00025 | 9/9/2019 | 1.88 | 9/9/2024 | 9/9/2019 | 106.83855 | 106.8385523 | 106.8385523 | 106.8385523 | 104.9226721 | 100.7113631 | 96.69227135 | 92.85560005 | 89.19210707 |
| 190910A00004 | 9/11/2019 | 1.86 | 9/11/2024 | 9/11/2019 | 106.76084 | 106.7608371 | 106.7608371 | 106.7608371 | 104.840453 | 100.6258217 | 96.60379489 | 92.76455338 | 89.09883317 |
| 190917A00044 | 9/17/2019 | 1.86 | 9/17/2021 | 9/17/2019 | 102.301 | 102.3010025 | 102.3010025 | 102.3010025 | 102.0519482 | 100.7484098 | 99.47128576 | 98.21978401 | 96.99314431 |
| 190918A00007 | 9/20/2019 | 1.95 | 12/15/2022 | 9/20/2019 | 104.25721 | 104.2572056 | 104.2572056 | 104.2572056 | 103.6078233 | 101.0809029 | 98.62856155 | 96.24815639 | 93.93715554 |
| 190923A00017 | 9/23/2019 | 1.74 | 9/23/2024 | 9/23/2019 | 107.08921 | 107.0892127 | 107.0892127 | 107.0892127 | 105.1233459 | 100.8491097 | 96.77202489 | 92.88200175 | 89.16951879 |
| 190924A00035 | 9/24/2019 | 1.88 | 9/13/2024 | 9/24/2019 | 106.85599 | 106.8559865 | 106.8559865 | 106.8559865 | 104.9299447 | 100.7083291 | 96.67982676 | 92.83459097 | 89.16333106 |
| 190925A00004 | 9/25/2019 | 1.7 | 9/24/2024 | 9/25/2019 | 106.91872 | 106.9187186 | 106.9187186 | 106.9187186 | 104.9514773 | 100.6783873 | 96.60255205 | 92.71387391 | 89.00282391 |
| 190925A00019 | 9/27/2019 | 1.93 | 9/27/2023 | 9/27/2019 | 105.49237 | 105.4923672 | 105.4923672 | 105.4923672 | 104.3516445 | 101.0566639 | 97.88285376 | 94.82513941 | 91.87868561 |
| 190926A00019 | 9/26/2019 | 1.94 | 9/26/2024 | 9/26/2019 | 107.17441 | 107.1744129 | 107.1744129 | 107.1744129 | 105.2135788 | 100.9528967 | 96.88843991 | 93.01018897 | 89.30868642 |
| 190930A00014 | 9/30/2019 | 1.89 | 9/30/2022 | 9/30/2019 | 103.76883 | 103.7688287 | 103.7688287 | 103.7688287 | 103.2208106 | 100.9009701 | 98.64465928 | 96.44979842 | 94.31438775 |
| 191002A00005 | 10/2/2019 | 1.83 | 10/2/2020 | 10/2/2019 | 100.59927 | 100.599271 | 100.599271 | 100.599271 | 100.5371238 | 100.1879445 | 99.84118886 | 99.49683183 | 99.15484852 |
| 190624A00036 | 6/24/2019 | 1.95 | 12/28/2020 | 6/24/2019 | 101.08352 | 101.0835241 | 101.0835241 | 101.0835241 | 100.9652997 | 100.375724 | 99.79301364 | 99.21704916 | 98.64771401 |
| 190625A00003 | 6/25/2019 | 2.03 | 6/27/2022 | 6/25/2019 | 103.64459 | 103.6445872 | 103.6445872 | 103.6445872 | 103.2019413 | 101.1344836 | 99.11874803 | 97.15309483 | 95.2359489 |
| 190625A00023 | 6/25/2019 | 2.47 | 6/25/2027 | 6/25/2019 | 115.35848 | 115.3584809 | 115.3584809 | 115.3584809 | 109.3326683 | 102.4381534 | 96.03033778 | 90.07228273 | 84.53003614 |
| 190627A00010 | 6/27/2019 | 1.97 | 6/27/2024 | 6/27/2019 | 107.64423 | 107.6442262 | 107.6442262 | 107.6442262 | 105.8926806 | 101.8313466 | 97.94831637 | 94.2348117 | 90.68253532 |
| 190627A00037 | 6/27/2019 | 1.93 | 6/27/2023 | 6/27/2019 | 105.64513 | 105.6451336 | 105.6451336 | 105.6451336 | 104.6714636 | 101.599017 | 98.63278495 | 95.76849143 | 93.00205936 |
| 190628A00004 | 6/28/2019 | 2.12 | 6/28/2023 | 6/28/2019 | 105.67367 | 105.6736687 | 105.6736687 | 105.6736687 | 104.7030645 | 101.6409299 | 98.68442631 | 95.82930902 | 93.07153017 |
| 190701A00009 | 7/3/2019 | 2.14 | 7/2/2024 | 7/3/2019 | 107.61142 | 107.6114242 | 107.6114242 | 107.6114242 | 105.8593335 | 101.8067056 | 97.93195188 | 94.22631339 | 90.68151165 |
| 190703A00019 | 7/3/2019 | 2.08 | 7/5/2022 | 7/3/2019 | 103.78902 | 103.7890166 | 103.7890166 | 103.7890166 | 103.3379543 | 101.2474261 | 99.20956929 | 97.22269892 | 95.28519705 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190709A00018 | 7/9/2019 | 2.24 | 7/9/2024 | 7/9/2019 | 108.06136 | 108.0613641 | 108.0613641 | 108.0613641 | 106.2896433 | 102.2096653 | 98.30934672 | 94.57980843 | 91.01266026 |
| 190710A00012 | 7/10/2019 | 2.18 | 7/10/2023 | 7/10/2019 | 105.92238 | 105.9223815 | 105.9223815 | 105.9223815 | 104.9288088 | 101.8309439 | 98.84079952 | 95.9540081 | 93.1664071 |
| 190711A00020 | 7/11/2019 | 1.98 | 7/11/2022 | 7/11/2019 | 103.99176 | 103.9917598 | 103.9917598 | 103.9917598 | 103.5323591 | 101.4158808 | 99.35314944 | 97.34242995 | 95.38205714 |
| 190715A00010 | 7/15/2019 | 2.23 | 7/15/2024 | 7/15/2019 | 108.05167 | 108.0516692 | 108.0516692 | 108.0516692 | 106.2655508 | 102.1701639 | 98.25571621 | 94.51323485 | 90.9342432 |
| 190715A00024 | 7/15/2019 | 2.17 | 7/15/2021 | 7/15/2019 | 102.1639 | 102.1639029 | 102.1639029 | 102.1639029 | 101.9330451 | 100.7983177 | 99.68877247 | 98.60357819 | 97.54193974 |
| 190715A00029 | 7/17/2019 | 2.16 | 4/18/2022 | 7/17/2019 | 103.55725 | 103.5572474 | 103.5572474 | 103.5572474 | 103.1754461 | 101.2951025 | 99.45824588 | 97.66361406 | 95.90998983 |
| 190724A00023 | 7/24/2019 | 2.13 | 7/24/2025 | 7/24/2019 | 110.48269 | 110.482689 | 110.482689 | 110.482689 | 107.6083178 | 102.4831453 | 97.6331252 | 93.04203318 | 88.69468881 |
| 190726A00017 | 7/26/2019 | 2.44 | 7/24/2026 | 7/26/2019 | 113.19412 | 113.1941165 | 113.1941165 | 113.1941165 | 108.8060353 | 102.756879 | 97.08544588 | 91.76615296 | 86.77528198 |
| 190729A00008 | 7/29/2019 | 2.18 | 1/29/2024 | 7/29/2019 | 106.9749 | 106.9749035 | 106.9749035 | 106.9749035 | 105.5755201 | 101.9341686 | 98.43810674 | 95.08072096 | 91.85573918 |
| 190802A00003 | 8/2/2019 | 2.01 | 8/2/2024 | 8/2/2019 | 107.22045 | 107.2204469 | 107.2204469 | 107.2204469 | 105.3960392 | 101.2714315 | 97.3310796 | 93.56574837 | 89.96671921 |
| 190802A00015 | 8/2/2019 | 2 | 2/15/2023 | 8/2/2019 | 104.67712 | 104.6771211 | 104.6771211 | 104.6771211 | 103.9349903 | 101.2389206 | 98.62633826 | 96.0941173 | 93.63927231 |
| 190805A00004 | 8/5/2019 | 1.7 | 8/5/2022 | 8/5/2019 | 103.50082 | 103.5008248 | 103.5008248 | 103.5008248 | 103.0160661 | 100.8376031 | 98.71580044 | 96.64877682 | 94.63472958 |
| 190805A00007 | 8/5/2019 | 1.88 | 8/5/2022 | 8/5/2019 | 103.49964 | 103.4996446 | 103.4996446 | 103.4996446 | 103.016731 | 100.8461217 | 98.73182573 | 96.67197755 | 94.66478936 |
| 190805A00011 | 8/5/2019 | 1.91 | 8/5/2024 | 8/5/2019 | 106.81258 | 106.8125807 | 106.8125807 | 106.8125807 | 104.9833988 | 100.8597413 | 96.92070642 | 93.15702208 | 89.55993605 |
| 190806A00026 | 8/6/2019 | 1.71 | 8/7/2023 | 8/6/2019 | 105.14003 | 105.1400324 | 105.1400324 | 105.1400324 | 104.0921437 | 100.9190852 | 97.85895915 | 94.90707602 | 92.05897252 |
| 190807A00027 | 8/7/2019 | 1.77 | 8/7/2024 | 8/7/2019 | 106.22988 | 106.2298763 | 106.2298763 | 106.2298763 | 104.3995119 | 100.2829537 | 96.35105292 | 92.59452139 | 89.00459257 |
| 200228A00041 | 2/28/2020 | 1.14 | 2/28/2023 | 2/28/2020 | 102.84705 | 102.8470465 | 102.8470465 | 102.8470465 | 102.0870045 | 99.37056926 | 96.73958407 | 94.19080009 | 91.72111733 |
| 200228A00059 | 2/28/2020 | 1.79 | 2/28/2030 | 2/28/2020 | 114.46645 | 114.4664468 | 114.4664468 | 113.2426414 | 103.6081954 | 94.69499591 | 86.62361315 | 79.31007872 | 72.67920262 |
| 200302A00031 | 3/2/2020 | 1.02 | 11/18/2022 | 3/2/2020 | 102.25804 | 102.2580377 | 102.2580377 | 102.2580377 | 101.6484673 | 99.20879788 | 96.83982073 | 94.53908737 | 92.30424939 |
| 200302A00054 | 3/2/2020 | 1.31 | 3/3/2025 | 3/2/2020 | 104.86472 | 104.8647225 | 104.8647225 | 104.8647225 | 102.4976191 | 97.89443318 | 93.52255832 | 89.36915286 | 85.42216027 |
| 200303A00004 | 3/3/2020 | 1.06 | 3/3/2022 | 3/3/2020 | 101.68 | 101.6799977 | 101.6799977 | 101.6799977 | 101.3308793 | 99.58781234 | 97.88287219 | 96.21489155 | 94.5827509 |
| 200303A00018 | 3/3/2020 | 1.27 | 3/3/2025 | 3/3/2020 | 104.6729 | 104.6728971 | 104.6728971 | 104.6728971 | 102.3073562 | 97.70865708 | 93.3411076 | 89.19187333 | 85.24890456 |
| 200306A00001 | 3/6/2020 | 1.11 | 3/6/2026 | 3/6/2020 | 104.66602 | 104.6660186 | 104.6660186 | 104.6660186 | 101.0114223 | 95.53673266 | 90.38856151 | 85.54579935 | 80.98881034 |
| 200306A00037 | 3/6/2020 | 1.11 | 3/6/2026 | 3/6/2020 | 104.66602 | 104.6660186 | 104.6660186 | 104.6660186 | 101.0114223 | 95.53673266 | 90.38856151 | 85.54579935 | 80.98881034 |
| 200309A00004 | 3/9/2020 | 0.71 | 3/8/2024 | 3/9/2020 | 102.26086 | 102.2608608 | 102.2608608 | 102.2608608 | 100.7932686 | 97.12196842 | 93.60219454 | 90.22687019 | 86.98929169 |
| 200309A00041 | 3/9/2020 | 0.73 | 3/9/2022 | 3/9/2020 | 100.79874 | 100.7987435 | 100.7987435 | 100.7987435 | 100.4486257 | 98.70223652 | 96.99428926 | 95.32363088 | 93.68915378 |
| 200310A00042 | 3/10/2020 | 1.41 | 3/11/2030 | 3/10/2020 | 110.79557 | 110.7955738 | 110.7955738 | 109.5378415 | 100.0039507 | 91.23407114 | 83.29960418 | 76.11677734 | 69.61060497 |
| 200311A00016 | 3/11/2020 | 0.87 | 5/11/2021 | 3/11/2020 | 100.58118 | 100.5811816 | 100.5811816 | 100.5811816 | 100.3691398 | 99.41910748 | 98.48694778 | 97.57216027 | 96.6742631 |
| 200312A00016 | 3/16/2020 | 1.09 | 2/15/2023 | 3/16/2020 | 102.18006 | 102.1800591 | 102.1800591 | 102.1800591 | 101.4455309 | 98.78377274 | 96.20469518 | 93.70519775 | 91.28231976 |
| 200316A00013 | 3/16/2020 | 1 | 4/15/2022 | 3/16/2020 | 101.3378 | 101.3377962 | 101.3377962 | 101.3377962 | 100.9624541 | 99.11151715 | 97.30330945 | 95.53659549 | 93.81018341 |
| 200316A00064 | 3/16/2020 | 0.99 | 3/16/2022 | 3/16/2020 | 101.26154 | 101.2615423 | 101.2615423 | 101.2615423 | 100.9063187 | 99.13647442 | 97.40592522 | 95.71351772 | 94.05814201 |
| 200317A00065 | 3/19/2020 | 2.05 | 3/19/2025 | 3/19/2020 | 108.48969 | 108.4896941 | 108.4896941 | 108.4896941 | 106.0468675 | 101.3169582 | 96.82554767 | 92.55938985 | 88.50604264 |
| 200326A00028 | 3/26/2020 | 1.54 | 3/26/2025 | 3/26/2020 | 106.04514 | 106.0451449 | 106.0451449 | 106.0451449 | 103.6025476 | 98.91221363 | 94.46009417 | 90.23291834 | 86.21821983 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200331A00060 | 3/31/2020 | 1.09 | 3/31/2025 | 3/31/2020 | 103.86955 | 103.8695534 | 103.8695534 | 103.8695534 | 101.4307841 | 96.77953681 | 92.36589016 | 88.17656578 | 84.19909109 |
| 200401A00025 | 4/1/2020 | 0.54 | 4/1/2022 | 4/1/2020 | 100.78572 | 100.785721 | 100.785721 | 100.785721 | 100.4200627 | 98.6047215 | 96.8306475 | 95.0966669 | 93.40164662 |
| 200413A00032 | 4/13/2020 | 0.82 | 4/13/2023 | 4/13/2020 | 101.52037 | 101.5203722 | 101.5203722 | 101.5203722 | 100.6968214 | 97.89324771 | 95.18124739 | 92.5573572 | 90.01826381 |
| 200414A00016 | 4/16/2020 | 1.64 | 4/15/2024 | 4/16/2020 | 105.25995 | 105.2599536 | 105.2599536 | 105.2599536 | 103.7015785 | 99.89343654 | 96.24530356 | 92.74965516 | 89.39935908 |
| 200429A00044 | 5/1/2020 | 1.86 | 4/30/2025 | 5/1/2020 | 107.69939 | 107.699394 | 107.699394 | 107.699394 | 105.141165 | 100.3277115 | 95.7625453 | 91.43161635 | 87.32173926 |
| 200429A00050 | 5/1/2020 | 2.61 | 4/30/2025 | 5/1/2020 | 111.41427 | 111.4142717 | 111.4142717 | 111.4142717 | 108.8238133 | 103.9207602 | 99.26930453 | 94.85524551 | 90.66525482 |
| 200429A00052 | 5/1/2020 | 1.43 | 4/30/2024 | 5/1/2020 | 104.48517 | 104.4851657 | 104.4851657 | 104.4851657 | 102.8976349 | 99.06713935 | 95.39932426 | 91.88646163 | 88.52123046 |
| 200429A00010 | 4/29/2020 | 0.78 | 4/29/2025 | 4/29/2020 | 103.29036 | 103.2903586 | 103.2903586 | 103.2903586 | 100.7533355 | 96.0193144 | 91.53175675 | 87.27664021 | 83.24080882 |
| 200429A00046 | 5/1/2020 | 2.07 | 4/30/2025 | 5/1/2020 | 108.73956 | 108.7395597 | 108.7395597 | 108.7395597 | 106.1723066 | 101.3337651 | 96.74443788 | 92.39023252 | 88.25792362 |
| 200504A00015 | 5/4/2020 | 0.68 | 5/4/2023 | 5/4/2020 | 101.13663 | 101.1366254 | 101.1366254 | 101.1366254 | 100.2791884 | 97.42786451 | 94.67143761 | 92.00625087 | 89.42880883 |
| 200506A00005 | 5/6/2020 | 0.97 | 5/6/2025 | 5/6/2020 | 103.3019 | 103.3019019 | 103.3019019 | 103.3019019 | 100.7640301 | 96.0420057 | 91.56590539 | 87.32172332 | 83.2963201 |
| 200507A00005 | 5/7/2020 | 0.67 | 5/5/2023 | 5/7/2020 | 101.10806 | 101.1080553 | 101.1080553 | 101.1080553 | 100.2489912 | 97.39549138 | 94.63705138 | 91.97000454 | 89.39084624 |
| 200508A00004 | 5/8/2020 | 0.43 | 5/8/2023 | 5/8/2020 | 100.9275 | 100.9275019 | 100.9275019 | 100.9275019 | 100.0595903 | 97.18873021 | 94.41405374 | 91.7318307 | 89.13849673 |
| 200511A00019 | 5/11/2020 | 1.18 | 2/1/2027 | 5/11/2020 | 105.86328 | 105.8632761 | 105.8632761 | 105.8632761 | 100.6814593 | 94.42403973 | 88.59158612 | 83.15314129 | 78.08015631 |
| 200207A00017 | 2/7/2020 | 1.96 | 2/8/2027 | 2/7/2020 | 111.12421 | 111.1242128 | 111.1242128 | 111.1242128 | 105.823075 | 99.38100913 | 93.37416805 | 87.77089152 | 82.54198293 |
| 200214A00020 | 2/18/2020 | 1.78 | 1/15/2025 | 2/18/2020 | 106.88037 | 106.8803712 | 106.8803712 | 106.8803712 | 104.6292084 | 100.0980648 | 95.78858907 | 91.68877282 | 87.78732394 |
| 200218A00004 | 2/18/2020 | 1.73 | 2/21/2023 | 2/18/2020 | 103.95987 | 103.9598711 | 103.9598711 | 103.9598711 | 103.2106854 | 100.5084926 | 97.89046948 | 95.35344556 | 92.89439427 |
| 200218A00024 | 2/20/2020 | 1.73 | 7/17/2023 | 2/20/2020 | 104.53546 | 104.5354627 | 104.5354627 | 104.5354627 | 103.5342956 | 100.4396298 | 97.4532924 | 94.57086458 | 91.78813613 |
| 200224A00007 | 2/24/2020 | 1.59 | 2/24/2025 | 2/24/2020 | 106.18286 | 106.1828598 | 106.1828598 | 106.1828598 | 103.8248345 | 99.20863405 | 94.82311469 | 90.65551509 | 86.69385264 |
| 200224A00046 | 2/24/2020 | 1.59 | 2/24/2025 | 2/24/2020 | 106.18286 | 106.1828598 | 106.1828598 | 106.1828598 | 103.8248345 | 99.20863405 | 94.82311469 | 90.65551509 | 86.69385264 |
| 200225A00050 | 2/25/2020 | 1.57 | 2/25/2025 | 2/25/2020 | 106.09081 | 106.0908082 | 106.0908082 | 106.0908082 | 103.730724 | 99.11416074 | 94.7284446 | 90.56079759 | 86.59922201 |
| 200226A00006 | 2/26/2020 | 1.57 | 2/26/2025 | 2/26/2020 | 106.09429 | 106.094286 | 106.094286 | 106.094286 | 103.7313708 | 99.11221899 | 94.72416027 | 90.55439643 | 86.59091124 |
| 200226A00012 | 2/26/2020 | 1.54 | 2/28/2022 | 2/26/2020 | 102.22423 | 102.2242338 | 102.2242338 | 102.2242338 | 101.8770505 | 100.1427571 | 98.4461451 | 96.78605219 | 95.16136428 |
| 200227A00016 | 2/27/2020 | 1.47 | 2/27/2025 | 2/27/2020 | 105.6193 | 105.6192955 | 105.6192955 | 105.6192955 | 103.2574296 | 98.64685662 | 94.2672218 | 90.10572463 | 86.15034726 |
| 200227A00023 | 2/27/2020 | 1.47 | 2/27/2025 | 2/27/2020 | 105.6193 | 105.6192955 | 105.6192955 | 105.6192955 | 103.2574296 | 98.64685662 | 94.2672218 | 90.10572463 | 86.15034726 |
| 200227A00027 | 2/27/2020 | 1.47 | 2/27/2025 | 2/27/2020 | 105.6193 | 105.6192955 | 105.6192955 | 105.6192955 | 103.2574296 | 98.64685662 | 94.2672218 | 90.10572463 | 86.15034726 |
| 200227A00030 | 2/27/2020 | 1.59 | 2/27/2026 | 2/27/2020 | 107.42576 | 107.4257627 | 107.4257627 | 107.4257627 | 103.7681781 | 98.23339412 | 93.02633758 | 88.1259032 | 83.51245748 |
| 200228A00023 | 2/28/2020 | 1.31 | 2/28/2022 | 2/28/2020 | 101.81643 | 101.8164294 | 101.8164294 | 101.8164294 | 101.4699907 | 99.73940299 | 98.0464284 | 96.38990651 | 94.7687251 |
| 200228A00043 | 2/28/2020 | 1.21 | 2/28/2025 | 2/28/2020 | 105.24858 | 105.2485804 | 105.2485804 | 105.2485804 | 102.869697 | 98.23882938 | 93.84090035 | 89.66295415 | 85.69282983 |
| 200302A00036 | 3/2/2020 | 1.45 | 3/2/2026 | 3/2/2020 | 106.62571 | 106.6257052 | 106.6257052 | 106.6257052 | 102.9648525 | 97.44511785 | 92.25303899 | 87.36748386 | 82.7687949 |
| 200303A00012 | 3/3/2020 | 1.71 | 3/1/2030 | 3/3/2020 | 113.69058 | 113.6905781 | 113.6905781 | 112.4640153 | 102.8540915 | 93.97373122 | 85.9332944 | 78.64893248 | 72.04556726 |
| 200304A00034 | 3/4/2020 | 1.12 | 3/4/2024 | 3/4/2020 | 103.13099 | 103.1309942 | 103.1309942 | 103.1309942 | 101.6763771 | 98.01751737 | 94.5086424 | 91.14276916 | 87.91328303 |
| 200304A00038 | 3/4/2020 | 1.01 | 3/1/2022 | 3/4/2020 | 101.28647 | 101.286472 | 101.286472 | 101.286472 | 100.9403844 | 99.21182154 | 97.52089369 | 95.86644321 | 94.24736033 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200305A00007 | 3/5/2020 | 1.14 | 3/5/2025 | 3/5/2020 | 104.05401 | 104.0540069 | 104.0540069 | 104.0540069 | 101.6878111 | 97.0984538 | 92.74023348 | 88.6003061 | 84.66661255 |
| 200305A00040 | 3/10/2020 | 0.99 | 3/10/2023 | 3/10/2020 | 101.94908 | 101.9490846 | 101.9490846 | 101.9490846 | 101.1793911 | 98.45930017 | 95.82540685 | 93.27446043 | 90.80335536 |
| 200306A00046 | 3/6/2020 | 1.01 | 3/3/2025 | 3/6/2020 | 103.42603 | 103.426032 | 103.426032 | 103.426032 | 101.0706476 | 96.50111242 | 92.16167792 | 88.03955642 | 84.12274247 |
| 200309A00020 | 3/9/2020 | 0.96 | 3/10/2025 | 3/9/2020 | 103.1987 | 103.1986989 | 103.1986989 | 103.1986989 | 100.8252877 | 96.24318361 | 91.89276401 | 87.76113476 | 83.83618864 |
| 200309A00046 | 3/9/2020 | 0.78 | 3/11/2025 | 3/9/2020 | 103.20096 | 103.200955 | 103.200955 | 103.200955 | 100.8071943 | 96.19589354 | 91.81862578 | 87.66232926 | 83.71474109 |
| 200430A00006 | 4/30/2020 | 0.61 | 4/29/2022 | 4/30/2020 | 100.60917 | 100.6091687 | 100.6091687 | 100.6091687 | 100.2254271 | 98.34536248 | 96.50951527 | 94.71658345 | 92.96531188 |
| 200430A00008 | 4/30/2020 | 0.94 | 4/30/2025 | 4/30/2020 | 103.14248 | 103.1424773 | 103.1424773 | 103.1424773 | 100.6237831 | 95.92023846 | 91.46092064 | 87.23196459 | 83.22036017 |
| 200506A00002 | 5/8/2020 | 0.97 | 5/5/2025 | 5/8/2020 | 103.3001 | 103.300097 | 103.300097 | 103.300097 | 100.7652062 | 96.04566376 | 91.57178432 | 87.32958453 | 83.30594566 |
| 200511A00015 | 5/11/2020 | 0.6 | 2/1/2023 | 5/11/2020 | 100.82392 | 100.8239196 | 100.8239196 | 100.8239196 | 100.1148885 | 97.5085079 | 94.98227885 | 92.53323263 | 90.15853219 |
| 200511A00017 | 5/11/2020 | 0.83 | 2/3/2025 | 5/11/2020 | 102.47527 | 102.4752681 | 102.4752681 | 102.4752681 | 100.2063522 | 95.72974532 | 91.4756022 | 87.43171937 | 83.58663017 |
| 200527A00022 | 5/27/2020 | 0.53 | 5/27/2022 | 5/27/2020 | 100.47185 | 100.471855 | 100.471855 | 100.471855 | 100.0651485 | 98.1118863 | 96.20636304 | 94.34711659 | 92.53273981 |
| 200529A00009 | 5/29/2020 | 0.42 | 5/30/2023 | 5/29/2020 | 100.91599 | 100.9159874 | 100.9159874 | 100.9159874 | 100.0098915 | 97.08185035 | 94.25384582 | 91.52191924 | 88.88229182 |
| 190808A00019 | 8/8/2019 | 1.87 | 8/8/2022 | 8/8/2019 | 103.49063 | 103.4906279 | 103.4906279 | 103.4906279 | 103.0044151 | 100.8260698 | 98.70440244 | 96.63752918 | 94.62364484 |
| 190808A00039 | 8/8/2019 | 1.84 | 8/8/2023 | 8/8/2019 | 104.97681 | 104.9768115 | 104.9768115 | 104.9768115 | 103.9332044 | 100.7742841 | 97.72758377 | 94.78845092 | 91.95245717 |
| 190808A00045 | 8/8/2019 | 1.86 | 8/8/2023 | 8/8/2019 | 105.04127 | 105.0412721 | 105.0412721 | 105.0412721 | 103.9974116 | 100.8374585 | 97.7897527 | 94.84964062 | 92.01269302 |
| 190808A00047 | 8/8/2019 | 1.89 | 8/8/2024 | 8/8/2019 | 106.74134 | 106.741339 | 106.741339 | 106.741339 | 104.9052469 | 100.7755881 | 96.83114474 | 93.06259855 | 89.4611548 |
| 190809A00011 | 8/9/2019 | 1.69 | 8/9/2024 | 8/9/2019 | 106.67493 | 106.6749308 | 106.6749308 | 106.6749308 | 104.8247089 | 100.6721435 | 96.70650829 | 92.91836873 | 89.29882187 |
| 190809A00021 | 8/9/2019 | 2.12 | 8/9/2029 | 8/9/2019 | 118.57145 | 118.5714498 | 118.5714498 | 117.9637735 | 108.5863873 | 99.80965578 | 91.81811884 | 84.53727013 | 77.90003709 |
| 190812A00006 | 8/12/2019 | 1.86 | 8/12/2024 | 8/12/2019 | 106.63171 | 106.6317069 | 106.6317069 | 106.6317069 | 104.7865033 | 100.649161 | 96.69781569 | 92.92308777 | 89.31612605 |
| 190813A00021 | 8/13/2019 | 1.89 | 8/14/2023 | 8/13/2019 | 105.16436 | 105.1643646 | 105.1643646 | 105.1643646 | 104.1087641 | 100.9314959 | 97.86754625 | 94.9121964 | 92.06095611 |
| 190813A00030 | 8/13/2019 | 1.71 | 8/15/2022 | 8/13/2019 | 103.56711 | 103.56711 | 103.56711 | 103.56711 | 103.0710703 | 100.8655975 | 98.71803676 | 96.626444 | 94.58895731 |
| 190816A00011 | 8/16/2019 | 1.77 | 8/16/2024 | 8/16/2019 | 106.2664 | 106.266398 | 106.266398 | 106.266398 | 104.4137466 | 100.2740704 | 96.32099997 | 92.54510132 | 88.93747334 |
| 190820A00029 | 8/20/2019 | 1.76 | 8/20/2024 | 8/20/2019 | 106.24002 | 106.2400172 | 106.2400172 | 106.2400172 | 104.3777401 | 100.2286865 | 96.26707851 | 92.48341818 | 88.86874535 |
| 190821A00002 | 8/21/2019 | 1.61 | 8/21/2024 | 8/21/2019 | 106.38467 | 106.3846738 | 106.3846738 | 106.3846738 | 104.506642 | 100.3300392 | 96.34276839 | 92.53520683 | 88.89827826 |
| 190821A00030 | 8/21/2019 | 1.8 | 8/21/2024 | 8/21/2019 | 106.41461 | 106.4146088 | 106.4146088 | 106.4146088 | 104.5487467 | 100.3935594 | 96.42615192 | 92.6370051 | 89.01713919 |
| 190821A00035 | 8/21/2019 | 2.03 | 8/21/2020 | 8/21/2019 | 100.40949 | 100.4094859 | 100.4094859 | 100.4094859 | 100.3703245 | 100.137755 | 99.90627058 | 99.67586353 | 99.44652634 |
| 190826A00018 | 8/26/2019 | 1.9 | 8/27/2029 | 8/26/2019 | 116.61833 | 116.6183295 | 116.6183295 | 115.9589904 | 106.5975081 | 97.8683937 | 89.92614341 | 82.69563723 | 76.10929195 |
| 190826A00065 | 8/26/2019 | 2.09 | 8/28/2029 | 8/26/2019 | 116.50421 | 116.504213 | 116.504213 | 115.8542448 | 106.6109703 | 97.96549203 | 90.09587944 | 82.92829442 | 76.39628755 |
| 190827A00002 | 8/27/2019 | 1.74 | 8/27/2024 | 8/27/2019 | 106.18262 | 106.1826219 | 106.1826219 | 106.1826219 | 104.3035837 | 100.138375 | 96.16207791 | 92.36508216 | 88.73832409 |
| 190829A00012 | 8/29/2019 | 1.54 | 8/29/2024 | 8/29/2019 | 106.11651 | 106.1165101 | 106.1165101 | 106.1165101 | 104.2204726 | 100.0294946 | 96.02940424 | 92.21045427 | 88.56345391 |
| 190830A00010 | 9/3/2019 | 1.75 | 9/1/2023 | 9/3/2019 | 104.7831 | 104.7830996 | 104.7830996 | 104.7830996 | 103.6951711 | 100.478162 | 97.37739914 | 94.38798954 | 91.50527953 |
| 190830A00012 | 8/30/2019 | 1.76 | 8/30/2024 | 8/30/2019 | 106.28032 | 106.2803225 | 106.2803225 | 106.2803225 | 104.3932397 | 100.218541 | 96.23347158 | 92.42837353 | 88.79413865 |
| 190906A00018 | 9/6/2019 | 1.76 | 9/6/2024 | 9/6/2019 | 106.30853 | 106.3085284 | 106.3085284 | 106.3085284 | 104.4037009 | 100.2110454 | 96.2095762 | 92.3895489 | 88.74177166 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190909A00028 | 9/9/2019 | 1.84 | 9/9/2022 | 9/9/2019 | 103.56091 | 103.5609104 | 103.5609104 | 103.5609104 | 103.0382976 | 100.7756766 | 98.57376944 | 96.43054185 | 94.34404354 |
| 190913A00001 | 9/13/2019 | 1.96 | 9/14/2020 | 9/13/2019 | 100.55265 | 100.5526471 | 100.5526471 | 100.5526471 | 100.5003747 | 100.2009108 | 99.90324371 | 99.6073573 | 99.31323547 |
| 190917A00035 | 9/19/2019 | 2.02 | 10/16/2023 | 9/19/2019 | 105.88472 | 105.8847207 | 105.8847207 | 105.8847207 | 104.7050942 | 101.3537663 | 98.12740192 | 95.02070163 | 92.0286185 |
| 190924A00026 | 9/24/2019 | 1.9 | 7/22/2022 | 9/24/2019 | 103.48183 | 103.4818317 | 103.4818317 | 103.4818317 | 103.0139181 | 100.8807138 | 98.80212703 | 96.77637651 | 94.80175354 |
| 190924A00033 | 9/24/2019 | 1.84 | 9/30/2022 | 9/24/2019 | 103.65065 | 103.650647 | 103.650647 | 103.650647 | 103.1029221 | 100.7844905 | 98.52955848 | 96.33604723 | 94.20195783 |
| 190925A00018 | 9/25/2019 | 1.7 | 9/25/2024 | 9/25/2019 | 106.92309 | 106.9230948 | 106.9230948 | 106.9230948 | 104.9532906 | 100.6776037 | 96.59939971 | 92.708568 | 88.99556708 |
| 191001A00006 | 10/1/2019 | 1.83 | 6/18/2024 | 10/1/2019 | 106.27303 | 106.2730293 | 106.2730293 | 106.2730293 | 104.5620805 | 100.571872 | 96.7558349 | 93.10544882 | 89.61265701 |
| 191001A00023 | 10/1/2019 | 1.85 | 9/27/2024 | 10/1/2019 | 106.78604 | 106.7860427 | 106.7860427 | 106.7860427 | 104.8253397 | 100.5704831 | 96.5117979 | 92.63926358 | 88.94342136 |
| 191002A00015 | 10/2/2019 | 1.78 | 10/3/2022 | 10/2/2019 | 103.52107 | 103.5210724 | 103.5210724 | 103.5210724 | 102.9699013 | 100.6449754 | 98.3839438 | 96.18470775 | 94.04524935 |
| 191003A00019 | 10/3/2019 | 1.71 | 9/27/2024 | 10/3/2019 | 106.17488 | 106.1748752 | 106.1748752 | 106.1748752 | 104.2183303 | 99.97654835 | 95.93050227 | 92.07018958 | 88.38616879 |
| 191003A00022 | 10/3/2019 | 1.72 | 2/3/2023 | 10/3/2019 | 103.86185 | 103.8618528 | 103.8618528 | 103.8618528 | 103.1406854 | 100.487793 | 97.91631198 | 95.42322632 | 93.00565411 |
| 191004A00012 | 10/4/2019 | 1.78 | 10/4/2024 | 10/4/2019 | 106.50891 | 106.5089115 | 106.5089115 | 106.5089115 | 104.5322506 | 100.2656357 | 96.19661418 | 92.31505827 | 88.61140929 |
| 191011A00013 | 10/11/2019 | 1.88 | 10/11/2022 | 10/11/2019 | 103.79312 | 103.7931188 | 103.7931188 | 103.7931188 | 103.2312173 | 100.8815836 | 98.59706161 | 96.37549376 | 94.21480659 |
| 191015A00029 | 10/15/2019 | 1.91 | 10/15/2024 | 10/15/2019 | 107.12746 | 107.1274635 | 107.1274635 | 107.1274635 | 105.1182884 | 100.8103049 | 96.70295817 | 92.78590173 | 89.04937437 |
| 191023A00006 | 10/23/2019 | 1.95 | 10/23/2024 | 10/23/2019 | 107.34024 | 107.3402394 | 107.3402394 | 107.3402394 | 105.309025 | 100.976025 | 96.84571688 | 92.90760063 | 89.15177311 |
| 191024A00016 | 10/25/2019 | 1.91 | 2/16/2021 | 10/25/2019 | 101.20769 | 101.2076905 | 101.2076905 | 101.2076905 | 101.0502195 | 100.3247947 | 99.60976043 | 98.90489445 | 98.20998094 |
| 191106A00012 | 11/6/2019 | 2.02 | 10/11/2024 | 11/6/2019 | 107.59424 | 107.5942354 | 107.5942354 | 107.5942354 | 105.5921085 | 101.2842611 | 97.17644149 | 93.25836218 | 89.52031592 |
| 191114A00009 | 11/18/2019 | 1.94 | 8/16/2023 | 11/18/2019 | 105.33542 | 105.3354171 | 105.3354171 | 105.3354171 | 104.275385 | 101.0902467 | 98.01884087 | 95.05642478 | 92.19848598 |
| 191121A00009 | 11/21/2019 | 2.55 | 11/21/2036 | 11/21/2019 | 140.25849 | 140.2584887 | 140.2584887 | 125.5085915 | 109.1375983 | 95.02014606 | 82.98631858 | 72.71298881 | 63.92883071 |
| 191206A00008 | 12/6/2019 | 2.44 | 12/6/2030 | 12/6/2019 | 122.41503 | 122.4150291 | 122.4150291 | 120.0553217 | 109.44093 | 99.63897169 | 90.81798895 | 82.87412084 | 75.71500803 |
| 191209A00009 | 12/9/2019 | 1.91 | 12/9/2021 | 12/9/2019 | 102.51675 | 102.5167497 | 102.5167497 | 102.5167497 | 102.2156532 | 100.6965628 | 99.20766014 | 97.74811877 | 96.31714199 |
| 191223A00043 | 12/23/2019 | 1.77 | 3/23/2021 | 12/23/2019 | 101.36632 | 101.3663205 | 101.3663205 | 101.3663205 | 101.1831216 | 100.3602694 | 99.55075434 | 98.75425422 | 97.97045711 |
| 191223A00056 | 12/23/2019 | 2.46 | 12/14/2029 | 12/23/2019 | 120.5544 | 120.5544027 | 120.5544027 | 119.5768505 | 109.9247815 | 100.8889023 | 92.68277263 | 85.2255207 | 78.44455082 |
| 200108A00021 | 1/13/2020 | 1.97 | 1/13/2025 | 1/13/2020 | 107.75773 | 107.7577334 | 107.7577334 | 107.7577334 | 105.5053032 | 100.9590904 | 96.63479288 | 92.52040784 | 88.6046474 |
| 200109A00012 | 1/14/2020 | 1.94 | 12/15/2022 | 1/14/2020 | 104.23147 | 104.2314738 | 104.2314738 | 104.2314738 | 103.582163 | 101.0555752 | 98.60355893 | 96.22347161 | 93.91278155 |
| 200114A00006 | 1/15/2020 | 1.99 | 1/15/2025 | 1/15/2020 | 107.86019 | 107.8601941 | 107.8601941 | 107.8601941 | 105.6014588 | 101.0479838 | 96.71696208 | 92.59635095 | 88.67482573 |
| 200115A00015 | 1/17/2020 | 1.88 | 1/17/2023 | 1/17/2020 | 104.22128 | 104.2212788 | 104.2212788 | 104.2212788 | 103.5244048 | 100.9110683 | 98.37682733 | 95.9187961 | 93.53421451 |
| 200310A00025 | 3/10/2020 | 0.87 | 3/11/2024 | 3/10/2020 | 102.87852 | 102.8785159 | 102.8785159 | 102.8785159 | 101.4010927 | 97.710138 | 94.17169586 | 90.77864635 | 87.52424379 |
| 200310A00037 | 3/10/2020 | 0.84 | 3/7/2022 | 3/10/2020 | 100.99353 | 100.9935322 | 100.9935322 | 100.9935322 | 100.6442854 | 98.90167253 | 97.19731162 | 95.53004816 | 93.89877375 |
| 200311A00022 | 3/11/2020 | 1.23 | 3/11/2026 | 3/11/2020 | 106.49801 | 106.4980084 | 106.4980084 | 106.4980084 | 102.7662974 | 97.18980974 | 91.94698517 | 87.0161926 | 82.37731323 |
| 200311A00040 | 3/12/2020 | 1.3 | 3/11/2025 | 3/12/2020 | 104.83844 | 104.83844 | 104.83844 | 104.83844 | 102.4487129 | 97.82553407 | 93.43568438 | 89.26619112 | 85.3048724 |
| 200313A00032 | 3/18/2020 | 1.46 | 3/18/2025 | 3/18/2020 | 105.63128 | 105.6312774 | 105.6312774 | 105.6312774 | 103.2150104 | 98.5551225 | 94.13103255 | 89.9296207 | 85.9385648 |
| 200317A00026 | 3/17/2020 | 1.22 | 3/15/2024 | 3/17/2020 | 103.53822 | 103.5382182 | 103.5382182 | 103.5382182 | 102.0575627 | 98.36182467 | 94.8186178 | 91.42084229 | 88.16176908 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200319A00024 | 3/19/2020 | 1.12 | 3/15/2022 | 3/19/2020 | 101.49553 | 101.495529 | 101.495529 | 101.495529 | 101.1404846 | 99.37125327 | 97.6412446 | 95.94930396 | 94.29432048 |
| 200324A00020 | 3/24/2020 | 1.23 | 3/24/2022 | 3/24/2020 | 101.71797 | 101.7179702 | 101.7179702 | 101.7179702 | 101.3569558 | 99.56053414 | 97.8043956 | 96.0873854 | 94.40839003 |
| 200327A00074 | 3/31/2020 | 1.76 | 3/29/2024 | 3/31/2020 | 105.6609 | 105.6609043 | 105.6609043 | 105.6609043 | 104.138338 | 100.364981 | 96.74835288 | 93.28116606 | 89.95650833 |
| 200330A00045 | 3/30/2020 | 1.47 | 3/30/2027 | 3/30/2020 | 107.9866 | 107.9865996 | 107.9865996 | 107.9865996 | 102.5017136 | 96.04557388 | 90.03600152 | 84.43994554 | 79.22695398 |
| 200401A00020 | 4/1/2020 | 0.72 | 3/29/2022 | 4/1/2020 | 100.78564 | 100.7856355 | 100.7856355 | 100.7856355 | 100.4233104 | 98.621769 | 96.86091789 | 95.13960718 | 93.45672656 |
| 200406A00006 | 4/6/2020 | 1.13 | 4/7/2025 | 4/6/2020 | 104.08053 | 104.0805314 | 104.0805314 | 104.0805314 | 101.6196119 | 96.94667455 | 92.51323691 | 88.30586816 | 84.3119555 |
| 200406A00020 | 4/6/2020 | 0.65 | 4/6/2022 | 4/6/2020 | 100.99821 | 100.9982124 | 100.9982124 | 100.9982124 | 100.6286144 | 98.79821386 | 97.00969088 | 95.26184612 | 93.55352223 |
| 200413A00023 | 4/13/2020 | 0.74 | 2/7/2022 | 4/13/2020 | 100.77967 | 100.7796702 | 100.7796702 | 100.7796702 | 100.4470554 | 98.78244545 | 97.15313486 | 95.55806584 | 93.99622313 |
| 200415A00019 | 4/15/2020 | 0.68 | 4/15/2022 | 4/15/2020 | 100.72981 | 100.7298072 | 100.7298072 | 100.7298072 | 100.3556513 | 98.51061247 | 96.70819093 | 94.94715434 | 93.22631386 |
| 200428A00013 | 4/30/2020 | 1.49 | 4/29/2024 | 4/30/2020 | 104.71914 | 104.7191395 | 104.7191395 | 104.7191395 | 103.1325678 | 99.30008033 | 95.63019409 | 92.11519149 | 88.74776096 |
| 200429A00009 | 4/29/2020 | 0.78 | 4/29/2025 | 4/29/2020 | 103.29036 | 103.2903586 | 103.2903586 | 103.2903586 | 100.7533355 | 96.0193144 | 91.53175675 | 87.27664021 | 83.24080881 |
| 200429A00018 | 5/4/2020 | 0.73 | 4/17/2023 | 5/4/2020 | 101.26412 | 101.2641229 | 101.2641229 | 101.2641229 | 100.434784 | 97.62483203 | 94.90700887 | 92.27781766 | 89.73391346 |
| 200505A00005 | 5/5/2020 | 0.77 | 5/5/2025 | 5/5/2020 | 103.25138 | 103.2513839 | 103.2513839 | 103.2513839 | 100.6967098 | 95.94883968 | 91.44897236 | 87.18295085 | 83.13749595 |
| 200505A00006 | 5/5/2020 | 0.39 | 11/4/2021 | 5/5/2020 | 100.39506 | 100.3950564 | 100.3950564 | 100.3950564 | 100.1193996 | 98.70545885 | 97.31824291 | 95.95706144 | 94.62124736 |
| 200511A00018 | 5/11/2020 | 0.98 | 2/2/2026 | 5/11/2020 | 103.85369 | 103.8536941 | 103.8536941 | 103.8536941 | 100.3424071 | 94.96584586 | 89.90591438 | 85.1423859 | 80.65643012 |
| 200511A00021 | 5/11/2020 | 1.53 | 2/1/2029 | 5/11/2020 | 110.63771 | 110.637708 | 110.637708 | 110.5197459 | 101.9851793 | 94.00538946 | 86.70744099 | 80.02962428 | 73.91610803 |
| 190917A00045 | 9/17/2019 | 1.86 | 9/17/2021 | 9/17/2019 | 102.301 | 102.3010025 | 102.3010025 | 102.3010025 | 102.0519482 | 100.7484098 | 99.47128575 | 98.21978401 | 96.99314431 |
| 190918A00003 | 9/18/2019 | 1.95 | 9/19/2022 | 9/18/2019 | 103.86032 | 103.8603173 | 103.8603173 | 103.8603173 | 103.3251534 | 101.0329613 | 98.80286175 | 96.63280035 | 94.52080457 |
| 190923A00078 | 9/23/2019 | 1.96 | 6/28/2024 | 9/23/2019 | 106.85034 | 106.8503441 | 106.8503441 | 106.8503441 | 105.1124639 | 101.085548 | 97.23517725 | 93.55267316 | 90.02983209 |
| 190926A00012 | 9/26/2019 | 1.93 | 9/27/2021 | 9/26/2019 | 102.21576 | 102.2157561 | 102.2157561 | 102.2157561 | 101.9629109 | 100.6410055 | 99.34300155 | 98.06829515 | 96.81630245 |
| 190927A00012 | 10/1/2019 | 1.96 | 10/1/2024 | 10/1/2019 | 107.2845 | 107.2845019 | 107.2845019 | 107.2845019 | 105.3102377 | 101.034633 | 96.95647196 | 93.06565777 | 89.3526597 |
| 190930A00075 | 9/30/2019 | 2.19 | 9/29/2027 | 9/30/2019 | 113.86357 | 113.8635747 | 113.8635747 | 113.8635747 | 107.4181281 | 100.3602208 | 93.81797205 | 87.75106938 | 82.12254163 |
| 191001A00005 | 10/1/2019 | 1.8 | 4/18/2023 | 10/1/2019 | 104.38415 | 104.3841524 | 104.3841524 | 104.3841524 | 103.5427417 | 100.6848567 | 97.92037539 | 95.24575537 | 92.65760808 |
| 191003A00002 | 10/3/2019 | 1.58 | 10/4/2021 | 10/3/2019 | 102.00004 | 102.000039 | 102.000039 | 102.000039 | 101.742599 | 100.400491 | 99.08236215 | 97.78762576 | 96.51571366 |
| 191004A00004 | 10/4/2019 | 1.54 | 10/4/2024 | 10/4/2019 | 106.25808 | 106.2580805 | 106.2580805 | 106.2580805 | 104.2697541 | 99.98550478 | 95.90034797 | 92.00405061 | 88.28695619 |
| 191004A00011 | 10/4/2019 | 1.77 | 10/5/2020 | 10/4/2019 | 100.59202 | 100.5920176 | 100.5920176 | 100.5920176 | 100.5281776 | 100.1707495 | 99.81586547 | 99.46349844 | 99.11362161 |
| 191004A00013 | 10/4/2019 | 1.53 | 10/22/2021 | 10/4/2019 | 102.00199 | 102.0019947 | 102.0019947 | 102.0019947 | 101.7326139 | 100.3413986 | 98.97585885 | 97.63534609 | 96.31923291 |
| 191007A00020 | 10/7/2019 | 1.69 | 10/7/2022 | 10/7/2019 | 103.32293 | 103.3229327 | 103.3229327 | 103.3229327 | 102.7672358 | 100.4339762 | 98.16513216 | 95.95857807 | 93.8122709 |
| 191008A00031 | 10/8/2019 | 1.52 | 10/8/2024 | 10/8/2019 | 106.18551 | 106.1855082 | 106.1855082 | 106.1855082 | 104.1873331 | 99.89438601 | 95.80143007 | 91.89816108 | 88.1748569 |
| 191015A00001 | 10/15/2019 | 1.87 | 10/15/2021 | 10/15/2019 | 102.22754 | 102.227542 | 102.227542 | 102.227542 | 101.9631432 | 100.5929038 | 99.24758702 | 97.92657191 | 96.62925762 |
| 191018A00015 | 10/18/2019 | 1.89 | 10/18/2021 | 10/18/2019 | 102.26885 | 102.2688477 | 102.2688477 | 102.2688477 | 102.0024041 | 100.6237035 | 99.27021364 | 97.94130302 | 96.63636077 |
| 191031A00041 | 10/31/2019 | 1.72 | 10/31/2023 | 10/31/2019 | 105.54913 | 105.5491302 | 105.5491302 | 105.5491302 | 104.3346836 | 100.9341799 | 97.66233756 | 94.51362252 | 91.48276876 |
| 191105A00008 | 11/5/2019 | 1.83 | 11/5/2024 | 11/5/2019 | 107.68595 | 107.6859518 | 107.6859518 | 107.6859518 | 105.6042329 | 101.2072403 | 97.01804241 | 93.02576653 | 89.22016424 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 191107A00011 | 11/8/2019 | 2.02 | 2/24/2023 | 11/8/2019 | 104.77465 | 104.7746468 | 104.7746468 | 104.7746468 | 104.0183295 | 101.2968609 | 98.6602877 | 96.10540512 | 93.62915403 |
| 191113A00016 | 11/15/2019 | 2.02 | 8/15/2024 | 11/15/2019 | 107.32423 | 107.3242327 | 107.3242327 | 107.3242327 | 105.4671952 | 101.3079521 | 97.33581926 | 93.54134938 | 89.91562828 |
| 191113A00017 | 11/15/2019 | 1.93 | 12/6/2021 | 11/15/2019 | 102.53413 | 102.5341295 | 102.5341295 | 102.5341295 | 102.2347966 | 100.7237653 | 99.2426743 | 97.79070815 | 96.36708043 |
| 191115A00028 | 11/15/2019 | 2.34 | 9/28/2029 | 11/15/2019 | 118.9871 | 118.9870997 | 118.9870997 | 118.2456801 | 108.8441917 | 100.0306328 | 92.01169183 | 84.71138335 | 78.06134819 |
| 191120A00005 | 11/20/2019 | 2.63 | 11/20/2034 | 11/20/2019 | 133.38447 | 133.3844681 | 133.3844681 | 122.6291134 | 108.358985 | 95.77366617 | 84.84682376 | 75.34849257 | 67.08176305 |
| 191122A00007 | 11/22/2019 | 1.87 | 11/21/2025 | 11/22/2019 | 109.70816 | 109.7081592 | 109.7081592 | 109.7081592 | 106.3970947 | 100.9984601 | 95.90664877 | 91.10266578 | 86.56878662 |
| 191129A00010 | 11/29/2019 | 1.94 | 8/27/2021 | 11/29/2019 | 102.09944 | 102.0994415 | 102.0994415 | 102.0994415 | 101.8603904 | 100.609635 | 99.38945031 | 98.19872651 | 97.03640697 |
| 200116A00005 | 1/16/2020 | 1.92 | 7/16/2021 | 1/16/2020 | 101.88282 | 101.8828163 | 101.8828163 | 101.8828163 | 101.6521626 | 100.5164306 | 99.40597425 | 98.31995695 | 97.25757874 |
| 200117A00002 | 1/17/2020 | 1.72 | 1/19/2021 | 1/17/2020 | 101.04541 | 101.0454074 | 101.0454074 | 101.0454074 | 100.9094089 | 100.2597695 | 99.61847833 | 98.98537512 | 98.36030366 |
| 200122A00034 | 1/22/2020 | 1.87 | 1/22/2024 | 1/22/2020 | 105.7971 | 105.7971025 | 105.7971025 | 105.7971025 | 104.4182656 | 100.8161517 | 97.35739426 | 94.03549061 | 90.84427234 |
| 200130A00028 | 1/30/2020 | 1.54 | 2/7/2023 | 1/30/2020 | 103.87927 | 103.8792669 | 103.8792669 | 103.8792669 | 103.1485555 | 100.4739954 | 97.88200457 | 95.36950532 | 92.93355777 |
| 200131A00005 | 1/31/2020 | 1.64 | 2/1/2021 | 1/31/2020 | 101.04815 | 101.0481513 | 101.0481513 | 101.0481513 | 100.901778 | 100.2166158 | 99.54072717 | 98.87392472 | 98.21602626 |
| 200131A00038 | 1/31/2020 | 1.73 | 1/30/2025 | 1/31/2020 | 106.70578 | 106.7057781 | 106.7057781 | 106.7057781 | 104.4147102 | 99.85076039 | 95.51177006 | 91.38546209 | 87.46029742 |
| 200203A00006 | 2/3/2020 | 1.76 | 2/3/2025 | 2/3/2020 | 106.86286 | 106.8628591 | 106.8628591 | 106.8628591 | 104.5593047 | 99.98164541 | 95.63003637 | 91.49211627 | 87.55626868 |
| 200203A00011 | 2/3/2020 | 1.7 | 2/15/2023 | 2/3/2020 | 103.85391 | 103.8539139 | 103.8539139 | 103.8539139 | 103.1142894 | 100.4295312 | 97.82799439 | 95.30656141 | 92.86225499 |
| 200204A00001 | 2/4/2020 | 1.79 | 2/4/2025 | 2/4/2020 | 107.00845 | 107.0084451 | 107.0084451 | 107.0084451 | 104.7009276 | 100.1173896 | 95.76026194 | 91.61715842 | 87.67643957 |
| 200204A00012 | 2/4/2020 | 1.98 | 2/4/2027 | 2/4/2020 | 111.24051 | 111.2405135 | 111.2405135 | 111.2405135 | 105.956537 | 99.51993822 | 93.51747939 | 87.91762795 | 82.69130123 |
| 200214A00015 | 2/18/2020 | 1.76 | 8/6/2024 | 2/18/2020 | 106.18359 | 106.1835895 | 106.1835895 | 106.1835895 | 104.3559719 | 100.2428589 | 96.31415899 | 92.56060139 | 88.97343546 |
| 200219A00007 | 2/19/2020 | 1.81 | 8/19/2021 | 2/19/2020 | 101.90136 | 101.9013609 | 101.9013609 | 101.9013609 | 101.6642806 | 100.4364459 | 99.238127 | 98.06826975 | 96.92586959 |
| 200221A00031 | 2/21/2020 | 1.69 | 2/21/2025 | 2/21/2020 | 106.64909 | 106.6490875 | 106.6490875 | 106.6490875 | 104.2957185 | 99.67620046 | 95.28702361 | 91.11546933 | 87.14959373 |
| 200224A00001 | 2/24/2020 | 1.59 | 2/24/2025 | 2/24/2020 | 106.18286 | 106.1828598 | 106.1828598 | 106.1828598 | 103.8248345 | 99.20863405 | 94.82311469 | 90.65551509 | 86.69385264 |
| 200224A00016 | 2/24/2020 | 1.56 | 2/24/2023 | 2/24/2020 | 103.50099 | 103.5009902 | 103.5009902 | 103.5009902 | 102.7486019 | 100.044783 | 97.42544199 | 94.88738732 | 92.42757271 |
| 200224A00021 | 2/24/2020 | 1.58 | 9/24/2024 | 2/24/2020 | 105.59675 | 105.5967543 | 105.5967543 | 105.5967543 | 103.6516393 | 99.42961548 | 95.40225058 | 91.55959712 | 87.89226652 |
| 200225A00045 | 2/25/2020 | 1.54 | 2/24/2023 | 2/25/2020 | 103.44561 | 103.4456139 | 103.4456139 | 103.4456139 | 102.6933963 | 99.99034484 | 97.37175304 | 94.83443002 | 92.37533004 |
| 200226A00014 | 2/26/2020 | 1.53 | 2/27/2023 | 2/26/2020 | 103.42809 | 103.4280911 | 103.4280911 | 103.4280911 | 102.6713172 | 99.96054665 | 97.3346891 | 94.79052781 | 92.32499284 |
| 200226A00019 | 2/26/2020 | 1.38 | 2/26/2025 | 2/26/2020 | 106.05902 | 106.0590216 | 106.0590216 | 106.0590216 | 103.6791935 | 99.03440303 | 94.62274296 | 90.43126768 | 86.44782462 |
| 200227A00004 | 2/27/2020 | 1.65 | 2/27/2030 | 2/27/2020 | 115.06028 | 115.0602753 | 115.0602753 | 113.8157457 | 104.0378676 | 95.0131106 | 86.84404877 | 79.44508581 | 72.73959595 |
| 200228A00012 | 3/3/2020 | 1.4 | 3/3/2025 | 3/3/2020 | 105.29633 | 105.2963296 | 105.2963296 | 105.2963296 | 102.9257105 | 98.31242941 | 93.93082243 | 89.76803179 | 85.81198561 |
| 200228A00030 | 2/28/2020 | 1.32 | 2/28/2023 | 2/28/2020 | 102.84771 | 102.8477144 | 102.8477144 | 102.8477144 | 102.0912059 | 99.38585679 | 96.76538229 | 94.22656308 | 91.766327 |
| 200228A00060 | 2/28/2020 | 1.31 | 2/28/2022 | 2/28/2020 | 101.81643 | 101.8164294 | 101.8164294 | 101.8164294 | 101.4699907 | 99.73940299 | 98.0464284 | 96.38990651 | 94.7687251 |
| 200228A00063 | 2/28/2020 | 1.32 | 2/28/2023 | 2/28/2020 | 102.84771 | 102.8477144 | 102.8477144 | 102.8477144 | 102.0912059 | 99.38585679 | 96.76538229 | 94.22656308 | 91.766327 |
| 190808A00025 | 8/8/2019 | 1.7 | 8/8/2024 | 8/8/2019 | 106.71303 | 106.7130282 | 106.7130282 | 106.7130282 | 104.8650378 | 100.7141921 | 96.75008645 | 92.96330142 | 89.34494807 |
| 190808A00041 | 8/8/2019 | 1.74 | 8/6/2021 | 8/8/2019 | 101.95333 | 101.9533341 | 101.9533341 | 101.9533341 | 101.7183872 | 100.5224433 | 99.35447804 | 98.21351897 | 97.09863801 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190809A00024 | 8/9/2019 | 2.07 | 8/10/2020 | 8/9/2019 | 100.36189 | 100.3618942 | 100.3618942 | 100.3618942 | 100.3286372 | 100.1264946 | 99.9251779 | 99.72468205 | 99.52500198 |
| 190812A00003 | 8/12/2019 | 1.67 | 8/12/2024 | 8/12/2019 | 106.60286 | 106.602864 | 106.602864 | 106.602864 | 104.7456793 | 100.5870813 | 96.61601336 | 92.82299387 | 89.19907677 |
| 190812A00008 | 8/12/2019 | 1.67 | 8/12/2022 | 8/12/2019 | 103.46454 | 103.4645437 | 103.4645437 | 103.4645437 | 102.9720799 | 100.7756437 | 98.63672338 | 96.55339425 | 94.52381283 |
| 190813A00007 | 8/13/2019 | 1.89 | 8/15/2022 | 8/13/2019 | 103.56587 | 103.5658707 | 103.5658707 | 103.5658707 | 103.0717389 | 100.8742663 | 98.73434944 | 96.65006054 | 94.61955308 |
| 190814A00008 | 8/14/2019 | 1.84 | 8/14/2024 | 8/14/2019 | 106.55542 | 106.55542 | 106.55542 | 106.55542 | 104.7058027 | 100.5650723 | 96.6107155 | 92.83332256 | 89.22401456 |
| 190816A00006 | 8/16/2019 | 1.77 | 8/16/2024 | 8/16/2019 | 106.2664 | 106.266398 | 106.266398 | 106.266398 | 104.4137466 | 100.2740704 | 96.32099997 | 92.54510132 | 88.93747334 |
| 190816A00009 | 8/16/2019 | 2.01 | 8/17/2020 | 8/16/2019 | 100.38551 | 100.3855131 | 100.3855131 | 100.3855131 | 100.3484989 | 100.1269943 | 99.90647839 | 99.68694464 | 99.46838641 |
| 190816A00015 | 8/16/2019 | 2.2 | 8/16/2029 | 8/16/2019 | 117.46005 | 117.4600529 | 117.4600529 | 116.8439281 | 107.6005438 | 98.93781677 | 91.04898425 | 83.86067439 | 77.30683134 |
| 190819A00005 | 8/19/2019 | 1.62 | 8/21/2023 | 8/19/2019 | 104.9076 | 104.907602 | 104.907602 | 104.907602 | 103.8341957 | 100.6288693 | 97.53878024 | 94.55909208 | 91.68520466 |
| 190820A00008 | 8/20/2019 | 1.76 | 8/20/2024 | 8/20/2019 | 106.24002 | 106.2400172 | 106.2400172 | 106.2400172 | 104.3777401 | 100.2286865 | 96.26707851 | 92.48341818 | 88.86874535 |
| 190820A00013 | 8/20/2019 | 1.76 | 8/21/2023 | 8/20/2019 | 104.77152 | 104.7715236 | 104.7715236 | 104.7715236 | 103.7043705 | 100.5155772 | 97.4411282 | 94.47623599 | 91.61634627 |
| 190826A00014 | 8/26/2019 | 1.86 | 8/26/2020 | 8/26/2019 | 100.43066 | 100.430663 | 100.430663 | 100.430663 | 100.3887474 | 100.1419429 | 99.89635405 | 99.65197185 | 99.40878744 |
| 190826A00038 | 8/26/2019 | 1.74 | 8/26/2022 | 8/26/2019 | 103.27436 | 103.2743563 | 103.2743563 | 103.2743563 | 102.7687452 | 100.5459121 | 98.38192987 | 96.27480363 | 94.22262374 |
| 190826A00058 | 8/26/2019 | 1.91 | 8/26/2026 | 8/26/2019 | 110.06241 | 110.0624082 | 110.0624082 | 110.0624082 | 105.5639512 | 99.53245671 | 93.88411443 | 88.59258544 | 83.63347906 |
| 190826A00060 | 8/26/2019 | 2.02 | 8/26/2027 | 8/26/2019 | 112.45413 | 112.4541307 | 112.4541307 | 112.4541307 | 106.1938769 | 99.25922142 | 92.82648174 | 86.85670107 | 81.3141433 |
| 190828A00015 | 8/28/2019 | 2.04 | 8/28/2029 | 8/28/2019 | 116.04177 | 116.0417665 | 116.0417665 | 115.3919237 | 106.1633891 | 97.53773485 | 89.6866919 | 82.53651565 | 76.02084243 |
| 190829A00005 | 8/30/2019 | 2.06 | 8/30/2023 | 8/30/2019 | 105.79297 | 105.7929721 | 105.7929721 | 105.7929721 | 104.7047802 | 101.4764023 | 98.36435979 | 95.36375707 | 92.46993844 |
| 190829A00021 | 8/30/2019 | 2.18 | 8/30/2021 | 8/30/2019 | 102.41806 | 102.4180634 | 102.4180634 | 102.4180634 | 102.1776945 | 100.9171579 | 99.68724684 | 98.48685399 | 97.31492494 |
| 190904A00008 | 9/4/2019 | 1.69 | 9/3/2024 | 9/4/2019 | 105.99546 | 105.9954626 | 105.9954626 | 105.9954626 | 104.1002291 | 99.92161416 | 95.9333087 | 92.12561408 | 88.48938261 |
| 190905A00015 | 9/5/2019 | 1.78 | 9/6/2022 | 9/5/2019 | 103.41024 | 103.4102411 | 103.4102411 | 103.4102411 | 102.8915366 | 100.6384834 | 98.44571862 | 96.31121421 | 94.23302674 |
| 190917A00021 | 9/17/2019 | 2.13 | 9/17/2020 | 9/17/2019 | 100.57513 | 100.5751264 | 100.5751264 | 100.5751264 | 100.5213035 | 100.2140262 | 99.90863547 | 99.60511398 | 99.30344452 |
| 190917A00028 | 9/17/2019 | 2.02 | 3/1/2023 | 9/17/2019 | 104.79831 | 104.7983101 | 104.7983101 | 104.7983101 | 104.0341398 | 101.2988979 | 98.64933716 | 96.08221341 | 93.59443048 |
| 191002A00014 | 10/2/2019 | 1.78 | 10/3/2022 | 10/2/2019 | 103.52107 | 103.5210724 | 103.5210724 | 103.5210724 | 102.9699013 | 100.6449754 | 98.3839438 | 96.18470775 | 94.04524935 |
| 191007A00029 | 10/7/2019 | 1.88 | 10/9/2029 | 10/7/2019 | 116.63996 | 116.6399645 | 116.6399645 | 115.8523399 | 106.3795772 | 97.5632253 | 89.55080694 | 82.26481395 | 75.6355709 |
| 191008A00018 | 10/8/2019 | 1.74 | 10/11/2022 | 10/8/2019 | 103.45796 | 103.4579632 | 103.4579632 | 103.4579632 | 102.8969071 | 100.5513186 | 98.27075471 | 96.05306048 | 93.89616497 |
| 191008A00022 | 10/8/2019 | 1.55 | 10/8/2021 | 10/8/2019 | 101.97485 | 101.9748504 | 101.9748504 | 101.9748504 | 101.7147935 | 100.361951 | 99.03345751 | 97.72871288 | 96.44713609 |
| 191009A00006 | 10/9/2019 | 1.53 | 10/7/2022 | 10/9/2019 | 103.37112 | 103.3711219 | 103.3711219 | 103.3711219 | 102.8130402 | 100.4704318 | 98.19266003 | 95.97758028 | 93.82313142 |
| 191010A00011 | 10/10/2019 | 1.6 | 10/10/2023 | 10/10/2019 | 105.04735 | 105.0473524 | 105.0473524 | 105.0473524 | 103.8766784 | 100.5399329 | 97.32752949 | 94.2342031 | 91.25493937 |
| 191017A00003 | 10/17/2019 | 1.9 | 12/10/2021 | 10/17/2019 | 102.50571 | 102.5057097 | 102.5057097 | 102.5057097 | 102.204034 | 100.6823002 | 99.19083615 | 97.72881181 | 96.29542699 |
| 191018A00005 | 10/18/2019 | 1.89 | 5/2/2022 | 10/18/2019 | 103.10379 | 103.1037871 | 103.1037871 | 103.1037871 | 102.7125704 | 100.7997495 | 98.93199678 | 97.10797995 | 95.32641498 |
| 191024A00017 | 10/25/2019 | 1.9 | 7/15/2021 | 10/25/2019 | 101.85543 | 101.8554257 | 101.8554257 | 101.8554257 | 101.6249549 | 100.4920983 | 99.38439508 | 98.30101463 | 97.24116257 |
| 191025A00009 | 10/25/2019 | 2.26 | 5/25/2029 | 10/25/2019 | 117.57472 | 117.5747179 | 117.5747179 | 117.1832047 | 108.1506956 | 99.65175536 | 91.89546656 | 84.81289794 | 78.34184717 |
| 191104A00023 | 11/4/2019 | 2.24 | 8/4/2028 | 11/4/2019 | 115.85713 | 115.8571347 | 115.8571347 | 115.8571347 | 107.9293348 | 100.1186363 | 92.93610091 | 86.32784344 | 80.24486713 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 191105A00018 | 11/5/2019 | 1.78 | 11/6/2023 | 11/5/2019 | 105.78464 | 105.7846365 | 105.7846365 | 105.7846365 | 104.5569957 | 101.1371186 | 97.84718066 | 94.68156775 | 91.63493882 |
| 191114A00008 | 11/18/2019 | 1.93 | 4/17/2023 | 11/18/2019 | 104.75856 | 104.7585595 | 104.7585595 | 104.7585595 | 103.9175753 | 101.0568087 | 98.28941558 | 95.61185839 | 93.02075313 |
| 191114A00020 | 11/18/2019 | 1.91 | 2/15/2022 | 11/18/2019 | 102.82206 | 102.8220645 | 102.8220645 | 102.8220645 | 102.4812419 | 100.7768578 | 99.10891409 | 97.47630692 | 95.87797731 |
| 191120A00006 | 11/20/2019 | 2.67 | 11/20/2035 | 11/20/2019 | 136.24695 | 136.2469465 | 136.2469465 | 123.5948865 | 108.4396651 | 95.20885303 | 83.82124864 | 74.0066202 | 65.53576048 |
| 191120A00010 | 11/20/2019 | 1.88 | 1/20/2022 | 11/20/2019 | 102.65546 | 102.6554623 | 102.6554623 | 102.6554623 | 102.3297676 | 100.6968494 | 99.09780434 | 97.53164384 | 95.99741772 |
| 191122A00006 | 11/22/2019 | 1.74 | 11/22/2023 | 11/22/2019 | 105.71724 | 105.7172355 | 105.7172355 | 105.7172355 | 104.4575296 | 100.9979983 | 97.67150183 | 94.47222135 | 91.39462484 |
| 191126A00015 | 11/27/2019 | 1.88 | 10/14/2022 | 11/27/2019 | 103.80619 | 103.8061899 | 103.8061899 | 103.8061899 | 103.2404866 | 100.8826548 | 98.59037049 | 96.36145483 | 94.19381391 |
| 191202A00005 | 12/2/2019 | 2.03 | 12/2/2024 | 12/2/2019 | 107.88564 | 107.8856435 | 107.8856435 | 107.8856435 | 105.745435 | 101.3010362 | 97.06918458 | 93.0386161 | 89.19872243 |
| 191206A00013 | 12/6/2019 | 3.05 | 12/6/2044 | 12/6/2019 | 165.74412 | 165.7441242 | 160.7188911 | 134.5937986 | 111.8711861 | 93.56743066 | 78.91107104 | 67.12758076 | 57.61260247 |
| 191206A00021 | 12/6/2019 | 2.02 | 12/6/2024 | 12/6/2019 | 107.85903 | 107.8590289 | 107.8590289 | 107.8590289 | 105.7082404 | 101.254181 | 97.01355665 | 92.97503399 | 89.12794069 |
| 191206A00044 | 12/10/2019 | 2.01 | 10/31/2024 | 12/10/2019 | 107.64399 | 107.6439941 | 107.6439941 | 107.6439941 | 105.5899522 | 101.2300929 | 97.07505005 | 93.11416628 | 89.33739261 |
| 191220A00001 | 12/20/2019 | 2.62 | 12/19/2031 | 12/20/2019 | 126.653 | 126.6529978 | 126.6529978 | 122.3163848 | 110.632383 | 99.96570906 | 90.45504604 | 81.96803318 | 74.38811994 |
| 191223A00008 | 12/23/2019 | 1.93 | 12/23/2021 | 12/23/2019 | 102.61122 | 102.6112157 | 102.6112157 | 102.6112157 | 102.3016074 | 100.7435182 | 99.21681366 | 97.72061487 | 96.25407549 |
| 191129A00012 | 11/29/2019 | 1.99 | 11/29/2024 | 11/29/2019 | 107.6899 | 107.6898985 | 107.6898985 | 107.6898985 | 105.5592085 | 101.1268499 | 96.90620904 | 92.88608092 | 89.05591166 |
| 191203A00004 | 12/4/2019 | 1.87 | 12/4/2024 | 12/4/2019 | 107.16683 | 107.1668256 | 107.1668256 | 107.1668256 | 105.0265245 | 100.5929993 | 96.37192367 | 92.35202219 | 88.52267661 |
| 191204A00013 | 12/4/2019 | 1.72 | 12/4/2024 | 12/4/2019 | 107.32042 | 107.3204202 | 107.3204202 | 107.3204202 | 105.1640507 | 100.7025913 | 96.45554424 | 92.41150097 | 88.55971975 |
| 191212A00027 | 12/13/2019 | 1.93 | 10/17/2022 | 12/13/2019 | 103.93979 | 103.9397867 | 103.9397867 | 103.9397867 | 103.3699755 | 101.0024828 | 98.70100666 | 96.46334541 | 94.28738378 |
| 191212A00029 | 12/13/2019 | 1.94 | 5/16/2023 | 12/13/2019 | 104.91894 | 104.9189356 | 104.9189356 | 104.9189356 | 104.0276479 | 101.0887231 | 98.24819253 | 95.50222986 | 92.84717948 |
| 191216A00042 | 12/16/2019 | 1.95 | 12/16/2022 | 12/16/2019 | 104.26175 | 104.2617534 | 104.2617534 | 104.2617534 | 103.6109569 | 101.0812905 | 98.62633979 | 96.24345463 | 93.93009638 |
| 191219A00036 | 12/20/2019 | 2.1 | 12/20/2024 | 12/20/2019 | 108.24554 | 108.2455405 | 108.2455405 | 108.2455405 | 106.055013 | 101.5578178 | 97.27744907 | 93.20231943 | 89.32152233 |
| 191223A00019 | 12/23/2019 | 1.92 | 12/30/2020 | 12/23/2019 | 100.99337 | 100.9933742 | 100.9933742 | 100.9933742 | 100.8738693 | 100.2801498 | 99.69339494 | 99.11348293 | 98.54029466 |
| 191230A00031 | 12/30/2019 | 1.85 | 12/30/2024 | 12/30/2019 | 108.03886 | 108.0388621 | 108.0388621 | 108.0388621 | 105.8064049 | 101.2617798 | 96.93813505 | 92.82356909 | 88.90688561 |
| 191231A00006 | 12/31/2019 | 1.88 | 12/31/2021 | 12/31/2019 | 102.56704 | 102.5670421 | 102.5670421 | 102.5670421 | 102.2527966 | 100.6734167 | 99.1261068 | 97.6099578 | 96.12409468 |
| 200110A00014 | 1/10/2020 | 1.73 | 1/10/2023 | 1/10/2020 | 104.27273 | 104.2727306 | 104.2727306 | 104.2727306 | 103.5829497 | 100.9767624 | 98.44923278 | 95.99750171 | 93.61883402 |
| 200110A00022 | 1/13/2020 | 2 | 1/6/2025 | 1/13/2020 | 107.86496 | 107.8649641 | 107.8649641 | 107.8649641 | 105.6310164 | 101.0996285 | 96.78864868 | 92.68619729 | 88.78109932 |
| 200121A00009 | 1/24/2020 | 1.94 | 1/24/2025 | 1/24/2020 | 107.66731 | 107.6673133 | 107.6673133 | 107.6673133 | 105.3852762 | 100.8140543 | 96.46718742 | 92.33247533 | 88.39844878 |
| 200127A00018 | 1/27/2020 | 1.8 | 1/27/2025 | 1/27/2020 | 107.02297 | 107.0229686 | 107.0229686 | 107.0229686 | 104.7377176 | 100.1739041 | 95.83460996 | 91.70760307 | 87.78138529 |
| 200128A00015 | 1/28/2020 | 1.81 | 1/28/2025 | 1/28/2020 | 107.07409 | 107.0740896 | 107.0740896 | 107.0740896 | 104.7856901 | 100.2182538 | 95.87560729 | 91.74549815 | 87.8164097 |
| 200128A00028 | 1/28/2020 | 1.81 | 1/28/2025 | 1/28/2020 | 107.07409 | 107.0740896 | 107.0740896 | 107.0740896 | 104.7856901 | 100.2182538 | 95.87560729 | 91.74549815 | 87.8164097 |
| 200203A00009 | 2/3/2020 | 1.52 | 2/3/2023 | 2/3/2020 | 103.80919 | 103.8091897 | 103.8091897 | 103.8091897 | 103.0848904 | 100.422017 | 97.84108315 | 95.33904624 | 92.91299893 |
| 200203A00022 | 2/3/2020 | 1.75 | 2/3/2025 | 2/3/2020 | 106.81568 | 106.8156807 | 106.8156807 | 106.8156807 | 104.5124988 | 99.93592606 | 95.58536503 | 91.44845608 | 87.51358439 |
| 200207A00016 | 2/7/2020 | 1.74 | 2/7/2024 | 2/7/2020 | 105.38214 | 105.3821393 | 105.3821393 | 105.3821393 | 103.9714788 | 100.3365494 | 96.84777711 | 93.49846239 | 90.28225453 |
| 200210A00009 | 2/10/2020 | 1.57 | 2/10/2025 | 2/10/2020 | 106.90747 | 106.9074696 | 106.9074696 | 106.9074696 | 104.5661831 | 99.94226508 | 95.54826008 | 91.3715145 | 87.40014238 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200212A00003 | 2/12/2020 | 1.63 | 2/12/2025 | 2/12/2020 | 107.20132 | 107.2013209 | 107.2013209 | 107.2013209 | 104.851999 | 100.2161616 | 95.8109709 | 91.62372226 | 87.64248263 |
| 200214A00013 | 2/18/2020 | 1.78 | 11/10/2021 | 2/18/2020 | 102.20999 | 102.209986 | 102.209986 | 102.209986 | 101.9282036 | 100.4884948 | 99.07621279 | 97.69064243 | 96.33109305 |
| 200218A00015 | 2/18/2020 | 1.77 | 2/18/2021 | 2/18/2020 | 101.11389 | 101.1138911 | 101.1138911 | 101.1138911 | 100.9549948 | 100.224507 | 99.50456084 | 98.79492922 | 98.09539164 |
| 200220A00019 | 2/20/2020 | 1.59 | 2/22/2021 | 2/20/2020 | 101.09938 | 101.0993821 | 101.0993821 | 101.0993821 | 100.9371909 | 100.1945222 | 99.46274548 | 98.74162241 | 98.03092164 |
| 200302A00008 | 3/2/2020 | 1.2 | 3/9/2023 | 3/2/2020 | 102.53618 | 102.5361846 | 102.5361846 | 102.5361846 | 101.7662416 | 99.04063716 | 96.40126433 | 93.84487021 | 91.36834748 |
| 200302A00011 | 3/2/2020 | 1.31 | 2/27/2025 | 3/2/2020 | 104.85375 | 104.8537463 | 104.8537463 | 104.8537463 | 102.4980888 | 97.90538298 | 93.54297392 | 89.39808956 | 85.45873913 |
| 200302A00034 | 3/2/2020 | 1.25 | 3/1/2024 | 3/2/2020 | 103.61693 | 103.616928 | 103.616928 | 103.616928 | 102.1662821 | 98.5063062 | 94.99595687 | 91.62826978 | 88.39664905 |
| 200303A00010 | 3/3/2020 | 1.34 | 3/3/2025 | 3/3/2020 | 105.00859 | 105.0085915 | 105.0085915 | 105.0085915 | 102.6403162 | 98.03376526 | 93.65864636 | 89.5021125 | 85.55210205 |
| 200304A00008 | 3/4/2020 | 1.03 | 11/15/2021 | 3/4/2020 | 101.10402 | 101.1040222 | 101.1040222 | 101.1040222 | 100.8206074 | 99.37652378 | 97.96020571 | 96.57092334 | 95.20797186 |
| 200304A00053 | 3/6/2020 | 2.33 | 3/6/2025 | 3/6/2020 | 109.77286 | 109.7728576 | 109.7728576 | 109.7728576 | 107.357073 | 102.6311664 | 98.14147667 | 93.87492816 | 89.81924201 |
| 200304A00054 | 3/6/2020 | 2.35 | 3/8/2027 | 3/6/2020 | 113.90153 | 113.9015324 | 113.9015324 | 113.9015324 | 108.4203471 | 101.8232828 | 95.67480274 | 89.94203828 | 84.59469534 |
| 200305A00002 | 3/5/2020 | 1.14 | 3/5/2025 | 3/5/2020 | 104.05401 | 104.0540069 | 104.0540069 | 104.0540069 | 101.6878111 | 97.0984538 | 92.74023348 | 88.6003061 | 84.66661255 |
| 200305A00009 | 3/10/2020 | 1.04 | 10/18/2023 | 3/10/2020 | 102.54425 | 102.5442514 | 102.5442514 | 102.5442514 | 101.3752331 | 98.0752605 | 94.89907896 | 91.84142003 | 88.89726716 |
| 200305A00011 | 3/5/2020 | 0.95 | 3/7/2022 | 3/5/2020 | 101.1907 | 101.1906967 | 101.1906967 | 101.1906967 | 100.841086 | 99.09666256 | 97.39052458 | 95.72151662 | 94.08852936 |
| 200305A00036 | 3/5/2020 | 1.36 | 3/5/2027 | 3/5/2020 | 107.16134 | 107.1613353 | 107.1613353 | 107.1613353 | 101.80782 | 95.43649717 | 89.50219677 | 83.97276039 | 78.81855616 |
| 200306A00014 | 3/6/2020 | 1.38 | 3/6/2030 | 3/6/2020 | 110.48806 | 110.4880602 | 110.4880602 | 109.2472632 | 99.73664988 | 90.99032667 | 83.07644638 | 75.9116059 | 69.42114532 |
| 200306A00099 | 3/10/2020 | 1.92 | 3/10/2031 | 3/10/2020 | 117.36149 | 117.3614902 | 117.3614902 | 114.5694404 | 103.9338796 | 94.20922137 | 85.48669763 | 77.65756891 | 70.62540917 |
| 200306A00100 | 3/10/2020 | 1.82 | 3/10/2031 | 3/10/2020 | 116.28608 | 116.2860847 | 116.2860847 | 113.4968552 | 102.9051438 | 93.23302923 | 84.55924964 | 76.77538702 | 69.78530673 |
| 200309A00064 | 3/9/2020 | 0.55 | 3/9/2022 | 3/9/2020 | 100.77717 | 100.7771663 | 100.7771663 | 100.7771663 | 100.4259994 | 98.67441863 | 96.96148368 | 95.28603304 | 93.64695116 |
| 200310A00019 | 3/10/2020 | 0.95 | 3/10/2023 | 3/10/2020 | 101.83679 | 101.8367893 | 101.8367893 | 101.8367893 | 101.0674496 | 98.34893547 | 95.71658134 | 93.16713768 | 90.69750007 |
| 200311A00058 | 3/16/2020 | 1.1 | 10/14/2022 | 3/16/2020 | 101.93244 | 101.932441 | 101.932441 | 101.932441 | 101.3714855 | 99.03634334 | 96.76625928 | 94.559069 | 92.41269281 |
| 200313A00022 | 3/13/2020 | 1.11 | 3/8/2022 | 3/13/2020 | 101.47972 | 101.4797191 | 101.4797191 | 101.4797191 | 101.128958 | 99.37908859 | 97.66766546 | 95.99353203 | 94.35557764 |
| 200325A00029 | 3/25/2020 | 1.15 | 3/24/2023 | 3/25/2020 | 102.94306 | 102.9430588 | 102.9430588 | 102.9430588 | 102.1440235 | 99.36016335 | 96.66574205 | 94.05740708 | 91.53195096 |
| 200325A00030 | 3/25/2020 | 1.5 | 3/25/2025 | 3/25/2020 | 106.73795 | 106.7379462 | 106.7379462 | 106.7379462 | 104.2744098 | 99.54304283 | 95.05238104 | 90.78898811 | 86.74024444 |
| 200326A00026 | 3/26/2020 | 1.32 | 3/26/2024 | 3/26/2020 | 103.95148 | 103.9514844 | 103.9514844 | 103.9514844 | 102.44471 | 98.71190098 | 95.13419514 | 91.70437328 | 88.4155893 |
| 200326A00030 | 3/26/2020 | 1.13 | 3/24/2023 | 3/26/2020 | 102.37372 | 102.3737215 | 102.3737215 | 102.3737215 | 101.5803133 | 98.8160906 | 96.1405021 | 93.55023257 | 91.04210988 |
| 200327A00026 | 3/27/2020 | 0.57 | 3/29/2021 | 3/27/2020 | 100.38094 | 100.3809419 | 100.3809419 | 100.3809419 | 100.1944085 | 99.35975271 | 98.53890495 | 97.73152525 | 96.93728475 |
| 200402A00021 | 4/2/2020 | 0.77 | 10/2/2024 | 4/2/2020 | 102.86483 | 102.8648332 | 102.8648332 | 102.8648332 | 100.9049901 | 96.69890302 | 92.68898826 | 88.86515166 | 85.21786781 |
| 190919A00025 | 9/19/2019 | 1.8 | 9/19/2024 | 9/19/2019 | 107.33291 | 107.3329079 | 107.3329079 | 107.3329079 | 105.3755327 | 101.1061179 | 97.03312863 | 93.14651905 | 89.4368102 |
| 190923A00032 | 9/23/2019 | 1.72 | 9/22/2023 | 9/23/2019 | 105.37643 | 105.3764322 | 105.3764322 | 105.3764322 | 104.2396144 | 100.9443589 | 97.77021565 | 94.71209549 | 91.76515167 |
| 190926A00004 | 9/26/2019 | 1.93 | 9/21/2021 | 9/26/2019 | 102.18837 | 102.1883737 | 102.1883737 | 102.1883737 | 101.9383057 | 100.6300581 | 99.34713399 | 98.08881953 | 96.85442767 |
| 190930A00012 | 9/30/2019 | 1.93 | 9/30/2024 | 9/30/2019 | 107.14874 | 107.1487405 | 107.1487405 | 107.1487405 | 105.1779763 | 100.9078392 | 96.83481341 | 92.94882409 | 89.24036104 |
| 190930A00035 | 9/30/2019 | 1.93 | 9/30/2024 | 9/30/2019 | 107.14874 | 107.1487405 | 107.1487405 | 107.1487405 | 105.1779763 | 100.9078392 | 96.83481341 | 92.94882409 | 89.24036104 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190930A00040 | 9/30/2019 | 1.92 | 2/25/2022 | 9/30/2019 | 102.88448 | 102.8844823 | 102.8844823 | 102.8844823 | 102.5378124 | 100.8056705 | 99.11100909 | 97.4526769 | 95.82957038 |
| 190930A00070 | 9/30/2019 | 1.93 | 9/27/2024 | 9/30/2019 | 107.13528 | 107.1352812 | 107.1352812 | 107.1352812 | 105.1722022 | 100.9098743 | 96.84396682 | 92.96444873 | 89.2618514 |
| 190930A00071 | 9/30/2019 | 2.05 | 9/29/2025 | 9/30/2019 | 109.36601 | 109.3660069 | 109.3660069 | 109.3660069 | 106.2892826 | 101.0630715 | 96.12556948 | 91.45939513 | 87.04829716 |
| 191004A00009 | 10/4/2019 | 1.71 | 10/4/2021 | 10/4/2019 | 101.94691 | 101.9469129 | 101.9469129 | 101.9469129 | 101.6902366 | 100.352151 | 99.03792059 | 97.74696273 | 96.47871338 |
| 191004A00032 | 10/4/2019 | 2.01 | 1/3/2028 | 10/4/2019 | 112.98322 | 112.9832219 | 112.9832219 | 112.9832219 | 106.1138172 | 98.87495381 | 92.18291419 | 85.99355318 | 80.26650446 |
| 191009A00021 | 10/9/2019 | 1.71 | 10/7/2022 | 10/9/2019 | 103.37059 | 103.3705914 | 103.3705914 | 103.3705914 | 102.814775 | 100.4809428 | 98.21153835 | 96.00443581 | 93.85759175 |
| 191018A00007 | 10/18/2019 | 1.89 | 7/1/2022 | 10/18/2019 | 103.36798 | 103.3679814 | 103.3679814 | 103.3679814 | 102.9219643 | 100.8467985 | 98.82374538 | 96.8511453 | 94.92740429 |
| 191031A00033 | 10/31/2019 | 2.2 | 5/31/2028 | 10/31/2019 | 115.19555 | 115.1955538 | 115.1955538 | 115.1955538 | 107.5887084 | 99.94359081 | 92.90226913 | 86.41386397 | 80.43202851 |
| 191104A00022 | 11/4/2019 | 2.17 | 8/4/2027 | 11/4/2019 | 113.43206 | 113.4320622 | 113.4320622 | 113.4320622 | 107.2550494 | 100.3349803 | 93.91141256 | 87.94611415 | 82.40398877 |
| 191105A00014 | 11/5/2019 | 1.96 | 11/6/2023 | 11/5/2019 | 105.776 | 105.7759991 | 105.7759991 | 105.7759991 | 104.5552588 | 101.1513835 | 97.8764739 | 94.72497195 | 91.69158926 |
| 191108A00013 | 11/8/2019 | 2.25 | 11/8/2029 | 11/8/2019 | 120.31067 | 120.3106694 | 120.3106694 | 119.4296329 | 109.757084 | 100.7195063 | 92.50843074 | 85.04374455 | 78.25348333 |
| 191113A00019 | 11/15/2019 | 1.93 | 3/15/2021 | 11/15/2019 | 101.33893 | 101.3389251 | 101.3389251 | 101.3389251 | 101.1617819 | 100.3624507 | 99.57571636 | 98.80128284 | 98.03886324 |
| 191114A00021 | 11/18/2019 | 1.91 | 6/15/2022 | 11/18/2019 | 103.33875 | 103.3387533 | 103.3387533 | 103.3387533 | 102.9082137 | 100.8754956 | 98.89314525 | 96.95958658 | 95.0733046 |
| 191120A00011 | 11/20/2019 | 1.88 | 1/20/2023 | 11/20/2019 | 104.23442 | 104.2344202 | 104.2344202 | 104.2344202 | 103.5330927 | 100.9118067 | 98.37003843 | 95.90487906 | 93.51354703 |
| 191120A00024 | 11/20/2019 | 2.23 | 11/16/2029 | 11/20/2019 | 118.21481 | 118.2148121 | 118.2148121 | 117.326132 | 107.8240254 | 98.94646452 | 90.88092822 | 83.54869299 | 76.87904335 |
| 191122A00005 | 11/22/2019 | 2.03 | 11/22/2027 | 11/22/2019 | 114.44592 | 114.4459181 | 114.4459181 | 114.4459181 | 107.6635875 | 100.4074442 | 93.69330543 | 87.47788379 | 81.72155723 |
| 191126A00022 | 11/26/2019 | 1.72 | 5/26/2023 | 11/26/2019 | 104.84872 | 104.848721 | 104.848721 | 104.848721 | 103.9356993 | 100.9586756 | 98.08249974 | 95.3032038 | 92.61699925 |
| 191206A00020 | 12/9/2019 | 1.91 | 12/15/2021 | 12/9/2019 | 102.54362 | 102.5436247 | 102.5436247 | 102.5436247 | 102.2389024 | 100.7032062 | 99.19820514 | 97.72305058 | 96.27692472 |
| 191212A00032 | 12/12/2019 | 1.99 | 12/12/2023 | 12/12/2019 | 106.04794 | 106.0479401 | 106.0479401 | 106.0479401 | 104.7530638 | 101.2519809 | 97.88682983 | 94.65160095 | 91.54058447 |
| 191223A00055 | 12/23/2019 | 2.46 | 12/7/2029 | 12/23/2019 | 120.51382 | 120.5138219 | 120.5138219 | 119.5582944 | 109.9258956 | 100.9060448 | 92.71305018 | 85.26645533 | 78.49402384 |
| 191230A00012 | 12/30/2019 | 1.77 | 12/1/2023 | 12/30/2019 | 105.86415 | 105.8641543 | 105.8641543 | 105.8641543 | 104.5854747 | 101.100228 | 97.74983317 | 94.52835376 | 91.430148 |
| 200108A00017 | 1/8/2020 | 2.55 | 1/8/2035 | 1/8/2020 | 135.73082 | 135.7308176 | 135.7308176 | 124.40107 | 109.679361 | 96.7359246 | 85.51879275 | 75.78600156 | 67.33072542 |
| 200110A00005 | 1/10/2020 | 1.7 | 1/10/2022 | 1/10/2020 | 102.59396 | 102.5939572 | 102.5939572 | 102.5939572 | 102.2730704 | 100.6623337 | 99.08473081 | 97.53930665 | 96.02514257 |
| 200122A00028 | 1/22/2020 | 1.84 | 1/21/2022 | 1/22/2020 | 102.59316 | 102.5931619 | 102.5931619 | 102.5931619 | 102.2670101 | 100.6319895 | 99.03092331 | 97.46281919 | 95.92672339 |
| 200123A00049 | 1/23/2020 | 1.63 | 1/23/2023 | 1/23/2020 | 104.06209 | 104.0620904 | 104.0620904 | 104.0620904 | 103.3536712 | 100.7164085 | 98.15956112 | 95.68017267 | 93.27541665 |
| 200129A00018 | 2/3/2020 | 1.74 | 12/15/2022 | 2/3/2020 | 103.71684 | 103.7168385 | 103.7168385 | 103.7168385 | 103.0689566 | 100.5490208 | 98.10350656 | 95.72977596 | 93.42530174 |
| 200130A00005 | 1/30/2020 | 1.73 | 1/30/2024 | 1/30/2020 | 105.31325 | 105.3132457 | 105.3132457 | 105.3132457 | 103.9200488 | 100.3065501 | 96.83764302 | 93.50673428 | 90.30757151 |
| 200130A00006 | 1/30/2020 | 1.77 | 1/30/2025 | 1/30/2020 | 106.89405 | 106.8940538 | 106.8940538 | 106.8940538 | 104.6015063 | 100.03323 | 95.69006637 | 91.55973166 | 87.6306804 |
| 200130A00010 | 1/30/2020 | 1.56 | 1/31/2022 | 1/30/2020 | 102.44838 | 102.4483811 | 102.4483811 | 102.4483811 | 102.1158237 | 100.4505719 | 98.82036732 | 97.22416936 | 95.66097859 |
| 200131A00016 | 1/31/2020 | 1.73 | 1/31/2025 | 1/31/2020 | 106.70966 | 106.7096643 | 106.7096643 | 106.7096643 | 104.4157536 | 99.84919033 | 95.50783019 | 91.37937632 | 87.45227155 |
| 200203A00004 | 2/3/2020 | 1.7 | 2/3/2023 | 2/3/2020 | 103.80763 | 103.8076335 | 103.8076335 | 103.8076335 | 103.0866282 | 100.4344722 | 97.86371038 | 95.37132729 | 92.95444153 |
| 200203A00050 | 2/3/2020 | 1.54 | 2/3/2022 | 2/3/2020 | 102.42622 | 102.4262235 | 102.4262235 | 102.4262235 | 102.0919785 | 100.4187279 | 98.7808236 | 97.17721132 | 95.60687879 |
| 200204A00020 | 2/4/2020 | 1.6 | 2/4/2025 | 2/4/2020 | 107.0257 | 107.0257029 | 107.0257029 | 107.0257029 | 104.7005298 | 100.0891732 | 95.70636038 | 91.53955362 | 87.57697313 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200205A00013 | 2/5/2020 | 1.77 | 2/6/2023 | 2/5/2020 | 104.00955 | 104.0095496 | 104.0095496 | 104.0095496 | 103.2833171 | 100.6204149 | 98.03942245 | 95.53729701 | 93.11113153 |
| 200214A00005 | 2/14/2020 | 1.59 | 2/14/2025 | 2/14/2020 | 107.01888 | 107.0188779 | 107.0188779 | 107.0188779 | 104.6653331 | 100.0286354 | 95.62292349 | 91.4354591 | 87.45427858 |
| 200219A00016 | 2/19/2020 | 1.57 | 10/19/2022 | 2/19/2020 | 103.51483 | 103.5148343 | 103.5148343 | 103.5148343 | 102.94124 | 100.5645973 | 98.25457129 | 96.0089298 | 93.82552864 |
| 200220A00001 | 2/20/2020 | 1.74 | 2/22/2022 | 2/20/2020 | 102.5548 | 102.5548019 | 102.5548019 | 102.5548019 | 102.2104493 | 100.4894358 | 98.80553774 | 97.15761967 | 95.54459288 |
| 200221A00009 | 2/21/2020 | 1.69 | 2/22/2022 | 2/21/2020 | 102.46698 | 102.4669779 | 102.4669779 | 102.4669779 | 102.1227844 | 100.4025623 | 98.71944111 | 97.07228582 | 95.46000806 |
| 200221A00013 | 2/21/2020 | 1.69 | 2/21/2025 | 2/21/2020 | 106.64909 | 106.6490875 | 106.6490875 | 106.6490875 | 104.2957185 | 99.67620046 | 95.28702361 | 91.11546933 | 87.14959373 |
| 200224A00019 | 2/24/2020 | 1.59 | 2/18/2025 | 2/24/2020 | 106.16166 | 106.1616649 | 106.1616649 | 106.1616649 | 103.8206367 | 99.21998935 | 94.84855004 | 90.69367804 | 86.7435014 |
| 200224A00024 | 2/24/2020 | 1.59 | 2/24/2025 | 2/24/2020 | 106.18286 | 106.1828598 | 106.1828598 | 106.1828598 | 103.8248345 | 99.20863405 | 94.82311469 | 90.65551509 | 86.69385264 |
| 200225A00018 | 2/25/2020 | 1.94 | 2/25/2030 | 2/25/2020 | 115.91504 | 115.9150392 | 115.9150392 | 114.7001338 | 105.0226413 | 96.05022966 | 87.92274527 | 80.55606667 | 73.87485412 |
| 200226A00002 | 2/26/2020 | 1.53 | 2/27/2023 | 2/26/2020 | 103.42809 | 103.4280911 | 103.4280911 | 103.4280911 | 102.6713172 | 99.96054665 | 97.3346891 | 94.79052781 | 92.32499284 |
| 200220A00029 | 2/20/2020 | 1.72 | 2/21/2023 | 2/20/2020 | 103.93227 | 103.9322655 | 103.9322655 | 103.9322655 | 103.1831646 | 100.4813534 | 97.86370268 | 95.32704251 | 92.86834652 |
| 200221A00004 | 2/21/2020 | 1.69 | 2/21/2025 | 2/21/2020 | 106.64909 | 106.6490875 | 106.6490875 | 106.6490875 | 104.2957185 | 99.67620046 | 95.28702361 | 91.11546933 | 87.14959373 |
| 200221A00006 | 2/21/2020 | 1.5 | 2/21/2025 | 2/21/2020 | 106.61629 | 106.6162928 | 106.6162928 | 106.6162928 | 104.2461159 | 99.60098464 | 95.18822226 | 90.99496389 | 87.00913028 |
| 200221A00016 | 2/21/2020 | 1.69 | 2/21/2025 | 2/21/2020 | 106.64909 | 106.6490875 | 106.6490875 | 106.6490875 | 104.2957185 | 99.67620046 | 95.28702361 | 91.11546933 | 87.14959373 |
| 200225A00015 | 2/25/2020 | 1.54 | 2/26/2024 | 2/25/2020 | 104.70214 | 104.7021379 | 104.7021379 | 104.7021379 | 103.2543952 | 99.58432434 | 96.0636936 | 92.68556561 | 89.44336941 |
| 200225A00042 | 2/25/2020 | 1.39 | 2/25/2022 | 2/25/2020 | 102.24768 | 102.2476794 | 102.2476794 | 102.2476794 | 101.9011065 | 100.1694617 | 98.47539138 | 96.8177391 | 95.19539625 |
| 200225A00044 | 2/25/2020 | 1.57 | 2/25/2022 | 2/25/2020 | 102.26681 | 102.2668125 | 102.2668125 | 102.2668125 | 101.921266 | 100.1947139 | 98.50553953 | 96.85259446 | 95.23477789 |
| 200226A00025 | 2/26/2020 | 1.38 | 2/26/2025 | 2/26/2020 | 106.05902 | 106.0590216 | 106.0590216 | 106.0590216 | 103.6791935 | 99.03440303 | 94.62274296 | 90.43126768 | 86.44782462 |
| 200227A00005 | 2/27/2020 | 1.43 | 2/27/2024 | 2/27/2020 | 104.28966 | 104.2896588 | 104.2896588 | 104.2896588 | 102.8419326 | 99.1770516 | 95.66157529 | 92.28856157 | 89.05143532 |
| 200227A00026 | 2/27/2020 | 1.41 | 2/27/2023 | 2/27/2020 | 103.09484 | 103.0948411 | 103.0948411 | 103.0948411 | 102.3390996 | 99.63295988 | 97.01162337 | 94.47187684 | 92.01065373 |
| 200227A00031 | 2/27/2020 | 1.43 | 2/27/2024 | 2/27/2020 | 104.28966 | 104.2896588 | 104.2896588 | 104.2896588 | 102.8419326 | 99.1770516 | 95.66157529 | 92.28856157 | 89.05143532 |
| 200228A00027 | 2/28/2020 | 1.31 | 2/28/2022 | 2/28/2020 | 101.81643 | 101.8164294 | 101.8164294 | 101.8164294 | 101.4699907 | 99.73940299 | 98.0464284 | 96.38990651 | 94.7687251 |
| 200228A00029 | 2/28/2020 | 1.31 | 2/28/2022 | 2/28/2020 | 101.81643 | 101.8164294 | 101.8164294 | 101.8164294 | 101.4699907 | 99.73940299 | 98.0464284 | 96.38990651 | 94.7687251 |
| 200228A00031 | 2/28/2020 | 1.35 | 2/28/2024 | 2/28/2020 | 103.99009 | 103.9900882 | 103.9900882 | 103.9900882 | 102.5417952 | 98.88000717 | 95.36765056 | 91.99777623 | 88.76380268 |
| 200228A00039 | 2/28/2020 | 1.33 | 4/28/2023 | 2/28/2020 | 103.04283 | 103.0428312 | 103.0428312 | 103.0428312 | 102.189224 | 99.32542275 | 96.55618159 | 93.87788082 | 91.28705945 |
| 200303A00007 | 3/3/2020 | 1.11 | 3/4/2024 | 3/3/2020 | 103.77863 | 103.778635 | 103.778635 | 103.778635 | 102.3117786 | 98.62262822 | 95.08501036 | 91.69185516 | 88.4364666 |
| 200304A00052 | 3/6/2020 | 2.11 | 3/8/2027 | 3/6/2020 | 112.2696 | 112.2696007 | 112.2696007 | 112.2696007 | 106.8159183 | 100.2718224 | 94.1737503 | 88.48898188 | 83.18736187 |
| 200305A00012 | 3/5/2020 | 1.14 | 3/5/2025 | 3/5/2020 | 104.05401 | 104.0540069 | 104.0540069 | 104.0540069 | 101.6878111 | 97.0984538 | 92.74023348 | 88.6003061 | 84.66661255 |
| 200306A00002 | 3/6/2020 | 0.64 | 3/7/2022 | 3/6/2020 | 100.93638 | 100.936377 | 100.936377 | 100.936377 | 100.5861516 | 98.83869598 | 97.12968876 | 95.45796727 | 93.82241533 |
| 200306A00012 | 3/6/2020 | 0.95 | 3/6/2024 | 3/6/2020 | 102.48893 | 102.4889332 | 102.4889332 | 102.4889332 | 101.0333554 | 97.38122987 | 93.87914931 | 90.52012488 | 87.29753592 |
| 200306A00063 | 3/6/2020 | 0.64 | 3/16/2022 | 3/6/2020 | 100.94924 | 100.9492394 | 100.9492394 | 100.9492394 | 100.5934244 | 98.82067868 | 97.08739924 | 95.39242505 | 93.73463901 |
| 200306A00101 | 3/10/2020 | 1.93 | 3/8/2030 | 3/10/2020 | 115.86545 | 115.8654543 | 115.8654543 | 114.6137204 | 104.9097535 | 95.91773003 | 87.77502467 | 80.39686263 | 73.707336 |
| 200309A00005 | 3/9/2020 | 0.77 | 3/7/2025 | 3/9/2020 | 103.14544 | 103.1454367 | 103.1454367 | 103.1454367 | 100.7636074 | 96.16393387 | 91.79721846 | 87.65046835 | 83.71148654 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200311A00006 | 3/13/2020 | 1.12 | 3/10/2025 | 3/13/2020 | 103.96907 | 103.9690669 | 103.9690669 | 103.9690669 | 101.5893311 | 96.98913931 | 92.62128465 | 88.47284389 | 84.53168216 |
| 191220A00002 | 12/20/2019 | 3.02 | 12/20/2038 | 12/20/2019 | 149.66533 | 149.665332 | 149.665332 | 131.6703715 | 113.4709059 | 98.0008877 | 85.01090759 | 74.08026022 | 64.86210947 |
| 191223A00006 | 12/23/2019 | 1.92 | 12/23/2020 | 12/23/2019 | 100.96112 | 100.9611248 | 100.9611248 | 100.9611248 | 100.8468632 | 100.2723796 | 99.70442687 | 99.1428941 | 98.58767288 |
| 191223A00007 | 12/23/2019 | 1.95 | 6/23/2021 | 12/23/2019 | 101.81068 | 101.8106774 | 101.8106774 | 101.8106774 | 101.5839198 | 100.5109627 | 99.4605817 | 98.43207025 | 97.42475085 |
| 191230A00013 | 12/30/2019 | 1.84 | 12/2/2024 | 12/30/2019 | 107.8594 | 107.8594009 | 107.8594009 | 107.8594009 | 105.7044862 | 101.2361677 | 96.98221816 | 92.93124683 | 89.07252775 |
| 200103A00009 | 1/3/2020 | 1.9 | 1/3/2024 | 1/3/2020 | 105.82354 | 105.8235438 | 105.8235438 | 105.8235438 | 104.484363 | 100.9299234 | 97.51534543 | 94.23435946 | 91.08101386 |
| 200106A00015 | 1/6/2020 | 1.87 | 2/15/2024 | 1/6/2020 | 105.90124 | 105.9012395 | 105.9012395 | 105.9012395 | 104.4708082 | 100.8061261 | 97.28942048 | 93.91387565 | 90.67303273 |
| 200110A00004 | 1/10/2020 | 1.7 | 1/10/2022 | 1/10/2020 | 102.59396 | 102.5939572 | 102.5939572 | 102.5939572 | 102.2730704 | 100.6623337 | 99.08473081 | 97.53930665 | 96.02514257 |
| 200123A00048 | 1/23/2020 | 1.7 | 1/23/2025 | 1/23/2020 | 107.44747 | 107.4474717 | 107.4474717 | 107.4474717 | 105.1527229 | 100.5618465 | 96.1970049 | 92.04587649 | 88.09687925 |
| 200127A00023 | 1/27/2020 | 1.8 | 1/27/2025 | 1/27/2020 | 107.02297 | 107.0229686 | 107.0229686 | 107.0229686 | 104.7377176 | 100.1739041 | 95.83460996 | 91.70760307 | 87.78138529 |
| 200130A00011 | 1/30/2020 | 1.54 | 1/30/2023 | 1/30/2020 | 103.84782 | 103.8478206 | 103.8478206 | 103.8478206 | 103.1296084 | 100.4769448 | 97.90562802 | 95.41264896 | 92.99513165 |
| 200131A00014 | 2/5/2020 | 1.7 | 2/22/2022 | 2/5/2020 | 102.48454 | 102.4845427 | 102.4845427 | 102.4845427 | 102.1403174 | 100.419937 | 98.73666044 | 97.08935259 | 95.47692502 |
| 200131A00015 | 2/5/2020 | 1.73 | 2/5/2025 | 2/5/2020 | 106.7291 | 106.729097 | 106.729097 | 106.729097 | 104.4209764 | 99.84135406 | 95.48815448 | 91.34898181 | 87.41218807 |
| 200203A00005 | 2/3/2020 | 1.7 | 5/3/2023 | 2/3/2020 | 104.15079 | 104.1507862 | 104.1507862 | 104.1507862 | 103.2847918 | 100.3916073 | 97.59424741 | 94.8890291 | 92.27243166 |
| 200205A00011 | 2/7/2020 | 2.31 | 2/7/2024 | 2/7/2020 | 107.506 | 107.5060049 | 107.5060049 | 107.5060049 | 106.0845696 | 102.4105652 | 98.88386662 | 95.49773114 | 92.24576681 |
| 200210A00005 | 2/10/2020 | 1.77 | 2/10/2027 | 2/10/2020 | 111.18486 | 111.1848596 | 111.1848596 | 111.1848596 | 105.8181679 | 99.32085256 | 93.26453737 | 87.61702136 | 82.34861807 |
| 200214A00019 | 2/14/2020 | 1.81 | 2/16/2021 | 2/14/2020 | 101.13471 | 101.134711 | 101.134711 | 101.134711 | 100.9772973 | 100.2521681 | 99.53742642 | 98.83285007 | 98.13822329 |
| 200220A00002 | 2/20/2020 | 1.76 | 2/20/2025 | 2/20/2020 | 106.97887 | 106.9788671 | 106.9788671 | 106.9788671 | 104.6256527 | 100.000983 | 95.60668591 | 91.43005069 | 87.45914021 |
| 200220A00015 | 2/20/2020 | 1.57 | 2/20/2025 | 2/20/2020 | 106.94751 | 106.9475119 | 106.9475119 | 106.9475119 | 104.5774963 | 99.92718059 | 95.50926511 | 91.31089296 | 87.31999178 |
| 200221A00014 | 2/21/2020 | 1.49 | 2/21/2023 | 2/21/2020 | 103.79592 | 103.7959212 | 103.7959212 | 103.7959212 | 103.0437679 | 100.3328348 | 97.70658581 | 95.16182335 | 92.69549515 |
| 200224A00005 | 2/24/2020 | 1.59 | 2/24/2022 | 2/24/2020 | 102.29852 | 102.2985153 | 102.2985153 | 102.2985153 | 101.9534829 | 100.2293554 | 98.54250735 | 96.89179506 | 95.27612204 |
| 200224A00025 | 2/24/2020 | 1.59 | 1/23/2025 | 2/24/2020 | 106.02212 | 106.0221189 | 106.0221189 | 106.0221189 | 103.7556646 | 99.22456348 | 94.91625865 | 90.81862663 | 86.92027024 |
| 200224A00029 | 2/24/2020 | 1.56 | 2/24/2023 | 2/24/2020 | 103.50099 | 103.5009902 | 103.5009902 | 103.5009902 | 102.7486019 | 100.044783 | 97.42544199 | 94.88738732 | 92.42757271 |
| 200225A00017 | 2/25/2020 | 1.94 | 2/25/2030 | 2/25/2020 | 115.91504 | 115.9150392 | 115.9150392 | 114.7001338 | 105.0226413 | 96.05022966 | 87.92274527 | 80.55606667 | 73.87485412 |
| 200225A00046 | 2/25/2020 | 1.54 | 2/23/2024 | 2/25/2020 | 104.69184 | 104.6918407 | 104.6918407 | 104.6918407 | 103.2505481 | 99.58818532 | 96.07467775 | 92.70312832 | 89.46700343 |
| 200407A00002 | 4/8/2020 | 1.82 | 4/8/2024 | 4/8/2020 | 105.93486 | 105.9348648 | 105.9348648 | 105.9348648 | 104.3884153 | 100.584782 | 96.94010189 | 93.44693701 | 90.09823519 |
| 200408A00021 | 4/8/2020 | 0.99 | 4/4/2025 | 4/8/2020 | 104.27457 | 104.2745707 | 104.2745707 | 104.2745707 | 101.802506 | 97.10481255 | 92.6482221 | 88.41920058 | 84.4050389 |
| 200415A00035 | 4/17/2020 | 2.16 | 4/16/2025 | 4/17/2020 | 109.11414 | 109.1141357 | 109.1141357 | 109.1141357 | 106.5850342 | 101.7716746 | 97.20433107 | 92.86919446 | 88.75329881 |
| 200420A00047 | 4/20/2020 | 0.77 | 4/20/2023 | 4/20/2020 | 101.38457 | 101.3845662 | 101.3845662 | 101.3845662 | 100.5498471 | 97.73057307 | 95.00395679 | 92.36647245 | 89.8147478 |
| 200424A00006 | 4/24/2020 | 0.6 | 4/24/2023 | 4/24/2020 | 101.4151 | 101.4151032 | 101.4151032 | 101.4151032 | 100.5695108 | 97.72768322 | 94.97982413 | 92.32233662 | 89.75178149 |
| 200428A00011 | 4/30/2020 | 1.95 | 4/29/2025 | 4/30/2020 | 108.14069 | 108.1406944 | 108.1406944 | 108.1406944 | 105.5816503 | 100.7600566 | 96.1868805 | 91.84807645 | 87.73046286 |
| 200429A00003 | 4/29/2020 | 0.74 | 4/28/2023 | 4/29/2020 | 101.30686 | 101.3068625 | 101.3068625 | 101.3068625 | 100.4591326 | 97.6208213 | 94.87644107 | 92.22239288 | 89.65523559 |
| 200429A00047 | 5/1/2020 | 2.7 | 4/30/2025 | 5/1/2020 | 111.86006 | 111.860057 | 111.860057 | 111.860057 | 109.2657311 | 104.351926 | 99.69011564 | 95.26608101 | 91.06647669 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200511A00023 | 5/11/2020 | 1.7 | 2/3/2031 | 5/11/2020 | 114.86519 | 114.8651902 | 114.8651902 | 112.2461487 | 101.7937684 | 92.25189057 | 83.6888357 | 75.99901228 | 69.08871424 |
| 200511A00028 | 5/13/2020 | 1.02 | 5/13/2024 | 5/13/2020 | 102.88972 | 102.8897161 | 102.8897161 | 102.8897161 | 101.2817334 | 97.44932803 | 93.78149306 | 90.27033158 | 86.90836669 |
| 200226A00016 | 2/26/2020 | 1.57 | 2/26/2025 | 2/26/2020 | 106.09429 | 106.094286 | 106.094286 | 106.094286 | 103.7313708 | 99.11221899 | 94.72416027 | 90.55439643 | 86.59091124 |
| 200226A00017 | 2/26/2020 | 1.53 | 2/27/2023 | 2/26/2020 | 103.42809 | 103.4280911 | 103.4280911 | 103.4280911 | 102.6713172 | 99.96054665 | 97.3346891 | 94.79052781 | 92.32499284 |
| 200228A00014 | 2/28/2020 | 1.4 | 2/28/2025 | 2/28/2020 | 105.28738 | 105.2873807 | 105.2873807 | 105.2873807 | 102.9254141 | 98.32009333 | 93.94567493 | 89.78935069 | 85.83909615 |
| 200228A00026 | 2/28/2020 | 2.14 | 2/28/2035 | 2/28/2020 | 126.83374 | 126.8337421 | 126.8337421 | 115.6793006 | 101.610445 | 89.30513169 | 78.66459059 | 69.45301829 | 61.46915814 |
| 200228A00066 | 2/28/2020 | 1.35 | 2/28/2024 | 2/28/2020 | 103.99009 | 103.9900882 | 103.9900882 | 103.9900882 | 102.5417952 | 98.88000717 | 95.36765056 | 91.99777623 | 88.76380268 |
| 200228A00073 | 2/28/2020 | 1.32 | 2/28/2023 | 2/28/2020 | 102.84771 | 102.8477144 | 102.8477144 | 102.8477144 | 102.0912059 | 99.38585679 | 96.76538229 | 94.22656308 | 91.766327 |
| 200302A00033 | 3/2/2020 | 1.31 | 3/3/2025 | 3/2/2020 | 104.86472 | 104.8647225 | 104.8647225 | 104.8647225 | 102.4976191 | 97.89443318 | 93.52255832 | 89.36915286 | 85.42216027 |
| 200303A00001 | 3/3/2020 | 1.15 | 3/3/2025 | 3/3/2020 | 104.96858 | 104.9685835 | 104.9685835 | 104.9685835 | 102.583323 | 97.95119731 | 93.55254663 | 89.37437578 | 85.40448605 |
| 200303A00002 | 3/3/2020 | 1.06 | 3/3/2023 | 3/3/2020 | 102.63186 | 102.6318633 | 102.6318633 | 102.6318633 | 101.8676562 | 99.14596488 | 96.51014182 | 93.95692818 | 91.48321337 |
| 200304A00021 | 3/4/2020 | 0.94 | 3/4/2024 | 3/4/2020 | 103.13083 | 103.1308282 | 103.1308282 | 103.1308282 | 101.6673841 | 97.99040352 | 94.46459156 | 91.08289221 | 87.83862271 |
| 200305A00020 | 3/5/2020 | 0.95 | 3/5/2025 | 3/5/2020 | 104.00984 | 104.0098391 | 104.0098391 | 104.0098391 | 101.6266636 | 97.01184791 | 92.63021006 | 88.46875785 | 84.51529504 |
| 200305A00035 | 3/5/2020 | 1.25 | 3/5/2026 | 3/5/2020 | 105.47549 | 105.4754872 | 105.4754872 | 105.4754872 | 101.8154988 | 96.32058808 | 91.15285842 | 86.29117528 | 81.71587916 |
| 200305A00043 | 3/5/2020 | 0.95 | 3/7/2022 | 3/5/2020 | 101.1907 | 101.1906967 | 101.1906967 | 101.1906967 | 100.841086 | 99.09666256 | 97.39052458 | 95.72151662 | 94.08852936 |
| 200306A00098 | 3/10/2020 | 1.59 | 3/8/2030 | 3/10/2020 | 112.54478 | 112.5447756 | 112.5447756 | 111.295673 | 101.7080207 | 92.86532207 | 84.86202705 | 77.61413439 | 71.04644263 |
| 200309A00027 | 3/9/2020 | 0.97 | 3/10/2025 | 3/9/2020 | 103.24685 | 103.2468469 | 103.2468469 | 103.2468469 | 100.8730404 | 96.28980584 | 91.93829655 | 87.80561658 | 83.87965699 |
| 200311A00021 | 3/11/2020 | 1.09 | 3/11/2024 | 3/11/2020 | 103.72111 | 103.7211123 | 103.7211123 | 103.7211123 | 102.239209 | 98.53234788 | 94.9784768 | 91.57045762 | 88.30152718 |
| 200312A00004 | 3/13/2020 | 1.23 | 1/24/2025 | 3/13/2020 | 104.33708 | 104.3370834 | 104.3370834 | 104.3370834 | 102.0810436 | 97.58609923 | 93.31281544 | 89.24911024 | 85.38362642 |
| 200403A00006 | 4/3/2020 | 1.05 | 4/3/2025 | 4/3/2020 | 103.6809 | 103.6808989 | 103.6808989 | 103.6808989 | 101.234991 | 96.58108787 | 92.1653561 | 87.97446308 | 83.99588658 |
| 200429A00035 | 5/1/2020 | 1.41 | 4/30/2024 | 5/1/2020 | 104.40609 | 104.4060859 | 104.4060859 | 104.4060859 | 102.8190021 | 98.99004608 | 95.32372309 | 91.81230702 | 88.44847861 |
| 200429A00056 | 5/1/2020 | 1.54 | 4/30/2025 | 5/1/2020 | 106.11438 | 106.1143795 | 106.1143795 | 106.1143795 | 103.5699017 | 98.79467739 | 94.26632802 | 89.97086791 | 85.89517262 |
| 200430A00017 | 4/30/2020 | 0.94 | 4/30/2025 | 4/30/2020 | 103.14248 | 103.1424773 | 103.1424773 | 103.1424773 | 100.6237831 | 95.92023846 | 91.46092064 | 87.23196459 | 83.22036017 |
| 200501A00003 | 5/1/2020 | 0.66 | 4/14/2023 | 5/1/2020 | 101.05723 | 101.0572274 | 101.0572274 | 101.0572274 | 100.2335526 | 97.43416912 | 94.72635631 | 92.10664716 | 89.57172489 |
| 200504A00013 | 5/4/2020 | 1.26 | 5/4/2027 | 5/4/2020 | 106.6373 | 106.6373039 | 106.6373039 | 106.6373039 | 101.0126222 | 94.52538233 | 88.49360142 | 82.8831033 | 77.66243574 |
| 200513A00002 | 5/13/2020 | 0.56 | 5/13/2024 | 5/13/2020 | 101.76795 | 101.7679477 | 101.7679477 | 101.7679477 | 100.1562746 | 96.3263381 | 92.6616207 | 89.15416785 | 85.79644947 |
| 200311A00036 | 3/16/2020 | 1.03 | 4/15/2022 | 3/16/2020 | 101.3948 | 101.3947952 | 101.3947952 | 101.3947952 | 101.0193419 | 99.16785197 | 97.35910181 | 95.5918556 | 93.86492118 |
| 200312A00042 | 3/16/2020 | 1.38 | 3/16/2023 | 3/16/2020 | 103.06164 | 103.061639 | 103.061639 | 103.061639 | 102.2788298 | 99.52669711 | 96.86211725 | 94.28180203 | 91.78260799 |
| 200318A00043 | 3/18/2020 | 1.06 | 3/20/2023 | 3/18/2020 | 102.6759 | 102.6758958 | 102.6758958 | 102.6758958 | 101.8841634 | 99.11510326 | 96.43472527 | 93.8396976 | 91.32683397 |
| 200323A00007 | 3/23/2020 | 1.05 | 9/23/2021 | 3/23/2020 | 101.02167 | 101.0216692 | 101.0216692 | 101.0216692 | 100.7723467 | 99.46777718 | 98.18791603 | 96.93208977 | 95.6996494 |
| 200323A00010 | 3/23/2020 | 1.19 | 3/23/2022 | 3/23/2020 | 101.64197 | 101.6419722 | 101.6419722 | 101.6419722 | 101.2817183 | 99.48880121 | 97.73603971 | 96.02227936 | 94.34640724 |
| 200327A00075 | 3/31/2020 | 1.75 | 3/29/2024 | 3/31/2020 | 105.62224 | 105.6222428 | 105.6222428 | 105.6222428 | 104.0998863 | 100.3272659 | 96.71135223 | 93.24485837 | 89.920873 |
| 200331A00029 | 4/2/2020 | 1.77 | 4/3/2023 | 4/2/2020 | 104.2356 | 104.2355955 | 104.2355955 | 104.2355955 | 103.4197941 | 100.6025173 | 97.87615154 | 95.23729343 | 92.68268545 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200331A00030 | 4/2/2020 | 1.17 | 4/1/2022 | 4/2/2020 | 101.62678 | 101.6267797 | 101.6267797 | 101.6267797 | 101.2607389 | 99.44342087 | 97.66728281 | 95.93115621 | 94.23391297 |
| 200403A00014 | 4/3/2020 | 0.63 | 4/17/2023 | 4/3/2020 | 101.49333 | 101.4933254 | 101.4933254 | 101.4933254 | 100.6591693 | 97.83398571 | 95.1016528 | 92.45863805 | 89.90156275 |
| 200416A00005 | 4/16/2020 | 0.49 | 4/15/2022 | 4/16/2020 | 100.70699 | 100.706993 | 100.706993 | 100.706993 | 100.3316071 | 98.48058848 | 96.67243151 | 94.90589385 | 93.17977718 |
| 200417A00009 | 4/17/2020 | 1.35 | 4/16/2027 | 4/17/2020 | 107.21198 | 107.2119824 | 107.2119824 | 107.2119824 | 101.6609843 | 95.19364031 | 89.17695816 | 83.57735843 | 78.36391963 |
| 200429A00015 | 4/29/2020 | 0.66 | 4/29/2024 | 4/29/2020 | 102.14747 | 102.1474733 | 102.1474733 | 102.1474733 | 100.5655507 | 96.76381727 | 93.12444651 | 89.63969914 | 86.3022445 |
| 200429A00053 | 5/1/2020 | 2.18 | 4/30/2025 | 5/1/2020 | 109.28441 | 109.2844085 | 109.2844085 | 109.2844085 | 106.7124283 | 101.8607456 | 97.25876257 | 92.89236479 | 88.7483059 |
| 200430A00009 | 4/30/2020 | 1.16 | 4/30/2026 | 4/30/2020 | 105.0837 | 105.0837017 | 105.0837017 | 105.0837017 | 101.1870459 | 95.57284444 | 90.30142196 | 85.35019686 | 80.69818252 |
| 200430A00016 | 4/30/2020 | 0.82 | 4/30/2024 | 4/30/2020 | 102.07323 | 102.0732308 | 102.0732308 | 102.0732308 | 100.499335 | 96.71579444 | 93.09348856 | 89.62474583 | 86.30229903 |
| 200505A00004 | 5/5/2020 | 0.77 | 5/5/2025 | 5/5/2020 | 103.25138 | 103.2513839 | 103.2513839 | 103.2513839 | 100.6967098 | 95.94883968 | 91.44897236 | 87.18295085 | 83.13749595 |
| 200511A00020 | 5/11/2020 | 1.4 | 2/1/2028 | 5/11/2020 | 108.42319 | 108.4231918 | 108.4231918 | 108.4231918 | 101.5214908 | 94.38606624 | 87.79821137 | 81.71318157 | 76.09010447 |
| 200511A00022 | 5/11/2020 | 1.6 | 2/1/2030 | 5/11/2020 | 112.521 | 112.5210027 | 112.5210027 | 111.3885556 | 101.8882339 | 93.11374593 | 85.16465463 | 77.95906249 | 71.42358326 |
| 200529A00004 | 5/29/2020 | 0.56 | 5/29/2024 | 5/29/2020 | 101.7874 | 101.7873999 | 101.7873999 | 101.7873999 | 100.1391756 | 96.26821605 | 92.56604211 | 89.02443824 | 85.63563233 |
| 200226A00008 | 2/26/2020 | 1.38 | 2/26/2025 | 2/26/2020 | 106.05902 | 106.0590216 | 106.0590216 | 106.0590216 | 103.6791935 | 99.03440303 | 94.62274296 | 90.43126768 | 86.44782462 |
| 200226A00015 | 2/26/2020 | 1.53 | 2/26/2024 | 2/26/2020 | 104.66436 | 104.6643552 | 104.6643552 | 104.6643552 | 103.2168091 | 99.54744257 | 96.02749525 | 92.65003056 | 89.40847827 |
| 200226A00018 | 2/26/2020 | 1.38 | 2/26/2025 | 2/26/2020 | 106.05902 | 106.0590216 | 106.0590216 | 106.0590216 | 103.6791935 | 99.03440303 | 94.62274296 | 90.43126768 | 86.44782462 |
| 200228A00015 | 3/3/2020 | 1.34 | 10/16/2023 | 3/3/2020 | 103.56402 | 103.5640207 | 103.5640207 | 103.5640207 | 102.3944645 | 99.08240297 | 95.89422552 | 92.82467111 | 89.86872967 |
| 200228A00016 | 2/28/2020 | 1.35 | 2/22/2024 | 2/28/2020 | 103.97263 | 103.972625 | 103.972625 | 103.972625 | 102.5371869 | 98.89070144 | 95.39248192 | 92.03565963 | 88.81372764 |
| 200228A00025 | 2/28/2020 | 1.57 | 3/2/2027 | 2/28/2020 | 108.57737 | 108.5773702 | 108.5773702 | 108.5773702 | 103.2141991 | 96.80399352 | 90.83203675 | 85.26613886 | 80.07663699 |
| 200228A00067 | 2/28/2020 | 1.4 | 2/28/2025 | 2/28/2020 | 105.28738 | 105.2873807 | 105.2873807 | 105.2873807 | 102.9254141 | 98.32009333 | 93.94567493 | 89.78935069 | 85.83909615 |
| 200302A00045 | 3/4/2020 | 1.31 | 3/4/2025 | 3/4/2020 | 104.86746 | 104.8674591 | 104.8674591 | 104.8674591 | 102.4974778 | 97.89165028 | 93.51739077 | 89.36184106 | 85.4129288 |
| 200303A00034 | 3/3/2020 | 1.21 | 3/3/2025 | 3/3/2020 | 104.38516 | 104.385159 | 104.385159 | 104.385159 | 102.0219619 | 97.42999293 | 93.06893152 | 88.92595404 | 84.989021 |
| 200304A00017 | 3/4/2020 | 0.83 | 3/16/2022 | 3/4/2020 | 101.29507 | 101.2950714 | 101.2950714 | 101.2950714 | 100.9386084 | 99.16263825 | 97.42619454 | 95.72811454 | 94.06727948 |
| 200306A00009 | 3/6/2020 | 0.82 | 3/7/2022 | 3/6/2020 | 100.95768 | 100.9576842 | 100.9576842 | 100.9576842 | 100.6085035 | 98.8662198 | 97.16218199 | 95.49523572 | 93.86427273 |
| 200306A00030 | 3/6/2020 | 0.88 | 3/6/2023 | 3/6/2020 | 101.634 | 101.6339976 | 101.6339976 | 101.6339976 | 100.8716787 | 98.16688823 | 95.54754092 | 93.01040595 | 90.55239818 |
| 200309A00016 | 3/9/2020 | 0.77 | 9/12/2022 | 3/9/2020 | 101.09777 | 101.0977711 | 101.0977711 | 101.0977711 | 100.5775677 | 98.33591786 | 96.1547645 | 94.03208607 | 91.96594377 |
| 200309A00019 | 3/9/2020 | 0.89 | 3/11/2024 | 3/9/2020 | 102.26871 | 102.2687118 | 102.2687118 | 102.2687118 | 100.8034735 | 97.142265 | 93.63202695 | 90.26572643 | 87.03669932 |
| 200309A00033 | 3/9/2020 | 1.06 | 3/9/2026 | 3/9/2020 | 104.38207 | 104.3820672 | 104.3820672 | 104.3820672 | 100.7180949 | 95.2440837 | 90.09713244 | 85.25607698 | 80.70123051 |
| 200310A00065 | 3/13/2020 | 1.1 | 3/13/2025 | 3/13/2020 | 103.87926 | 103.879256 | 103.879256 | 103.879256 | 101.4917221 | 96.88595239 | 92.51320803 | 88.36051947 | 84.4157076 |
| 200311A00056 | 3/13/2020 | 1.27 | 4/10/2024 | 3/13/2020 | 103.79877 | 103.7987662 | 103.7987662 | 103.7987662 | 102.259611 | 98.49200897 | 94.88252503 | 91.42374057 | 88.10862253 |
| 200327A00036 | 3/27/2020 | 0.77 | 9/27/2023 | 3/27/2020 | 102.1963 | 102.1962971 | 102.1962971 | 102.1962971 | 101.0632888 | 97.80835642 | 94.67398956 | 91.6551164 | 88.74690518 |
| 200330A00027 | 3/30/2020 | 0.62 | 3/30/2022 | 3/30/2020 | 100.93209 | 100.9320905 | 100.9320905 | 100.9320905 | 100.5675645 | 98.75604074 | 96.98558259 | 95.25502518 | 93.56324397 |
| 200402A00011 | 4/2/2020 | 0.8 | 3/31/2023 | 4/2/2020 | 101.44411 | 101.4441099 | 101.4441099 | 101.4441099 | 100.642401 | 97.87278508 | 95.19262747 | 92.59858341 | 90.08745105 |
| 200406A00013 | 4/6/2020 | 0.83 | 4/1/2022 | 4/6/2020 | 100.99394 | 100.9939377 | 100.9939377 | 100.9939377 | 100.6291069 | 98.81780851 | 97.0475769 | 95.3172467 | 93.62569288 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200408A00019 | 4/10/2020 | 1.7 | 4/11/2022 | 4/10/2020 | 102.6522 | 102.6521996 | 102.6521996 | 102.6521996 | 102.2771224 | 100.4238909 | 98.6131688 | 96.84373349 | 95.11440544 |
| 200415A00030 | 4/15/2020 | 0.76 | 3/15/2023 | 4/15/2020 | 101.30958 | 101.3095782 | 101.3095782 | 101.3095782 | 100.5339306 | 97.80925175 | 95.17136942 | 92.61701882 | 90.14307925 |
| 200429A00058 | 5/1/2020 | 1.83 | 4/30/2025 | 5/1/2020 | 107.5508 | 107.5507989 | 107.5507989 | 107.5507989 | 104.9938591 | 100.1839896 | 95.62227493 | 91.29467119 | 87.18799864 |
| 200513A00003 | 5/13/2020 | 0.68 | 5/13/2025 | 5/13/2020 | 102.8146 | 102.8146041 | 102.8146041 | 102.8146041 | 100.2398108 | 95.48287801 | 90.97565664 | 86.70382514 | 82.65395416 |
| 200513A00001 | 5/13/2020 | 0.44 | 5/12/2023 | 5/13/2020 | 100.96082 | 100.9608214 | 100.9608214 | 100.9608214 | 100.085852 | 97.20404726 | 94.41914003 | 91.72735838 | 89.12509878 |
| 150601A00485 | 6/1/2015 | 3.09 | 6/21/2024 | 6/1/2015 | 112.03586 | 112.0358572 | 112.0358572 | 112.0358572 | 110.2719471 | 106.1371496 | 102.18225 | 98.3984447 | 94.77741005 |
| 150601A00490 | 6/1/2015 | 3.19 | 7/2/2024 | 6/1/2015 | 111.75481 | 111.754812 | 111.754812 | 111.754812 | 109.9773715 | 105.8407075 | 101.8845932 | 98.10016244 | 94.47903442 |
| 150601A00532 | 6/1/2015 | 2.48 | 9/24/2020 | 6/1/2015 | 100.71277 | 100.7127686 | 100.7127686 | 100.7127686 | 100.6550959 | 100.3282711 | 100.0035691 | 99.68096933 | 99.36045133 |
| 150601A00547 | 6/1/2015 | 2.29 | 8/13/2020 | 6/1/2015 | 100.4153 | 100.4152965 | 100.4152965 | 100.4152965 | 100.3804205 | 100.1699231 | 99.96032053 | 99.75160715 | 99.5437772 |
| 150601A00601 | 6/1/2015 | 2.2 | 6/30/2020 | 6/1/2015 | 100.1613 | 100.1613015 | 100.1613015 | 100.1613015 | 100.1486757 | 100.0600639 | 99.97160794 | 99.88330754 | 99.79516229 |
| 150601A00604 | 6/1/2015 | 2.33 | 12/31/2020 | 6/1/2015 | 101.22089 | 101.2208875 | 101.2208875 | 101.2208875 | 101.1004294 | 100.5032046 | 99.91301721 | 99.32974352 | 98.75326261 |
| 150601A00642 | 6/1/2015 | 2.6 | 3/31/2022 | 6/1/2015 | 104.21165 | 104.2116461 | 104.2116461 | 104.2116461 | 103.8413703 | 102.0020779 | 100.2043142 | 98.44690236 | 96.72870643 |
| 150601A00650 | 6/1/2015 | 2.75 | 3/31/2023 | 6/1/2015 | 106.91889 | 106.9188895 | 106.9188895 | 106.9188895 | 106.0993858 | 103.2513436 | 100.4946596 | 97.82592738 | 95.24188588 |
| 150601A00664 | 6/1/2015 | 3.78 | 1/16/2032 | 6/1/2015 | 139.6453 | 139.6453041 | 139.6453041 | 135.0818741 | 122.7444214 | 111.3558754 | 101.1874037 | 92.09982988 | 83.97059691 |
| 150601A00688 | 6/1/2015 | 2.61 | 2/21/2025 | 6/1/2015 | 111.7494 | 111.7494038 | 111.7494038 | 111.7494038 | 109.3377511 | 104.5728636 | 100.0446409 | 95.74002715 | 91.64676212 |
| 150601A00825 | 6/1/2015 | 2.87 | 5/29/2025 | 6/1/2015 | 112.69487 | 112.6948705 | 112.6948705 | 112.6948705 | 110.0048151 | 104.9968325 | 100.2493792 | 95.74753073 | 91.47729441 |
| 150601A00833 | 6/1/2015 | 7.14 | 8/28/2020 | 6/1/2015 | 101.74517 | 101.7451664 | 101.7451664 | 101.7451664 | 101.7018197 | 101.4472755 | 101.1940063 | 100.9420026 | 100.6912548 |
| 150610A00008 | 6/10/2015 | 3.58 | 6/10/2030 | 6/10/2015 | 135.01708 | 135.0170848 | 135.0170848 | 133.3716392 | 122.6022008 | 112.4577358 | 103.2742325 | 94.95455592 | 87.41189142 |
| 150720A00012 | 7/20/2015 | 2.99 | 7/21/2025 | 7/20/2015 | 114.9407 | 114.9406967 | 114.9406967 | 114.9406967 | 112.03402 | 106.8039612 | 101.8525937 | 97.16355706 | 92.72154027 |
| 150727A00013 | 7/27/2015 | 3.04 | 7/28/2025 | 7/27/2015 | 114.20934 | 114.2093352 | 114.2093352 | 114.2093352 | 111.3094759 | 106.1124437 | 101.1925301 | 96.53345437 | 92.11998091 |
| 150804A00002 | 8/4/2015 | 2.84 | 8/5/2024 | 8/4/2015 | 110.73732 | 110.7373155 | 110.7373155 | 110.7373155 | 108.883081 | 104.6781198 | 100.6604176 | 96.8205948 | 93.14979693 |
| 150807A00027 | 8/7/2015 | 2.06 | 6/30/2020 | 8/7/2015 | 100.15207 | 100.1520657 | 100.1520657 | 100.1520657 | 100.1394411 | 100.0508374 | 99.96238964 | 99.87409737 | 99.78596023 |
| 150817A00012 | 8/17/2015 | 2.01 | 8/17/2020 | 8/17/2015 | 100.38551 | 100.3855131 | 100.3855131 | 100.3855131 | 100.3484989 | 100.1269943 | 99.90647839 | 99.68694464 | 99.46838641 |
| 150825A00011 | 8/25/2015 | 1.9 | 8/25/2020 | 8/25/2015 | 100.39725 | 100.397253 | 100.397253 | 100.397253 | 100.3559541 | 100.1123818 | 99.86999287 | 99.62877875 | 99.38873094 |
| 150902A00002 | 9/2/2015 | 2.25 | 9/2/2021 | 9/2/2015 | 102.52338 | 102.5233822 | 102.5233822 | 102.5233822 | 102.2814955 | 101.0134906 | 99.77540128 | 98.56617223 | 97.38479753 |
| 150910A00039 | 9/10/2015 | 1.81 | 9/10/2020 | 9/10/2015 | 100.48885 | 100.4888465 | 100.4888465 | 100.4888465 | 100.4387718 | 100.1504646 | 99.86382403 | 99.57883569 | 99.29548519 |
| 150921A00031 | 9/21/2015 | 1.92 | 9/21/2020 | 9/21/2015 | 100.52882 | 100.5288231 | 100.5288231 | 100.5288231 | 100.4728431 | 100.1546511 | 99.83847849 | 99.52430616 | 99.2121151 |
| 150923A00041 | 9/23/2015 | 2.23 | 9/23/2022 | 9/23/2015 | 104.96096 | 104.96096 | 104.96096 | 104.96096 | 104.4161893 | 102.0919496 | 99.8310007 | 97.63125437 | 95.49070469 |
| 150930A00083 | 9/30/2015 | 2.06 | 9/30/2021 | 9/30/2015 | 102.40564 | 102.4056405 | 102.4056405 | 102.4056405 | 102.1509482 | 100.8204862 | 99.51356635 | 98.22961797 | 96.96808813 |
| 151015A00063 | 10/15/2015 | 1.68 | 10/15/2020 | 10/15/2015 | 100.55007 | 100.55007 | 100.55007 | 100.55007 | 100.4807097 | 100.0964596 | 99.71515188 | 99.33675278 | 98.96122903 |
| 151020A00008 | 10/20/2015 | 1.76 | 10/20/2020 | 10/20/2015 | 100.60175 | 100.6017496 | 100.6017496 | 100.6017496 | 100.52955 | 100.1314463 | 99.73649602 | 99.3446618 | 98.95590681 |
| 151120A00017 | 11/20/2015 | 2.11 | 11/20/2020 | 11/20/2015 | 100.90127 | 100.9012739 | 100.9012739 | 100.9012739 | 100.8102683 | 100.3263108 | 99.84699736 | 99.37226139 | 98.90203744 |
| 160114A00007 | 1/14/2016 | 1.92 | 1/14/2021 | 1/14/2016 | 101.06276 | 101.0627649 | 101.0627649 | 101.0627649 | 100.9310549 | 100.2961381 | 99.66919638 | 99.05007997 | 98.43864292 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160119A00030 | 1/19/2016 | 3.44 | 1/18/2033 | 1/19/2016 | 139.41742 | 139.4174246 | 139.4174246 | 132.611016 | 119.4176999 | 107.4309932 | 96.82944713 | 87.44320752 | 79.12415275 |
| 160122A00029 | 1/22/2016 | 2.48 | 1/22/2025 | 1/22/2016 | 111.11381 | 111.1138114 | 111.1138114 | 111.1138114 | 108.7931738 | 104.1206216 | 99.67685073 | 95.44942713 | 91.42666184 |
| 160328A00012 | 3/28/2016 | 1.85 | 3/28/2022 | 3/28/2016 | 103.20904 | 103.2090375 | 103.2090375 | 103.2090375 | 102.8414981 | 101.0137901 | 99.22732444 | 97.48092953 | 95.77347473 |
| 160328A00045 | 3/28/2016 | 2.49 | 3/27/2026 | 3/28/2016 | 113.96842 | 113.9684218 | 113.9684218 | 113.9684218 | 110.0759721 | 104.2480734 | 98.7676691 | 93.61226399 | 88.76092856 |
| 160329A00004 | 3/29/2016 | 1.78 | 3/25/2021 | 3/29/2016 | 101.25982 | 101.2598241 | 101.2598241 | 101.2598241 | 101.0756967 | 100.2495582 | 99.43687312 | 98.63731515 | 97.85056823 |
| 160329A00006 | 3/29/2016 | 2.12 | 3/29/2023 | 3/29/2016 | 105.21612 | 105.2161245 | 105.2161245 | 105.2161245 | 104.4055243 | 101.5870684 | 98.85905515 | 96.21811539 | 93.66102351 |
| 160420A00002 | 4/20/2016 | 1.96 | 11/16/2022 | 4/20/2016 | 104.14989 | 104.1498907 | 104.1498907 | 104.1498907 | 103.5405157 | 101.0916342 | 98.71321979 | 96.40284504 | 94.15818114 |
| 160606A00043 | 6/8/2016 | 2.23 | 12/15/2021 | 6/8/2016 | 103.04466 | 103.044663 | 103.044663 | 103.044663 | 102.7391239 | 101.1993696 | 99.69038206 | 98.21131076 | 96.76133597 |
| 160609A00009 | 6/9/2016 | 1.49 | 6/9/2020 | 6/9/2016 | 100.03487 | 100.0348717 | 100.0348717 | 100.0348717 | 100.0305666 | 100.000107 | 99.96968169 | 99.93929068 | 99.90893388 |
| 160609A00011 | 6/9/2016 | 1.58 | 6/9/2022 | 6/9/2016 | 103.00436 | 103.0043607 | 103.0043607 | 103.0043607 | 102.5787289 | 100.5582466 | 98.58772272 | 96.66560086 | 94.79038453 |
| 160610A00036 | 6/10/2016 | 1.42 | 6/10/2021 | 6/10/2016 | 101.36205 | 101.362046 | 101.362046 | 101.362046 | 101.1380544 | 100.1004593 | 99.08404349 | 98.08816378 | 97.1122028 |
| 160614A00009 | 6/14/2016 | 1.55 | 6/14/2021 | 6/14/2016 | 101.34616 | 101.3461632 | 101.3461632 | 101.3461632 | 101.1218724 | 100.0759457 | 99.05155218 | 98.0480322 | 97.06475286 |
| 160617A00045 | 6/17/2016 | 1.55 | 6/17/2021 | 6/17/2016 | 101.35679 | 101.3567889 | 101.3567889 | 101.3567889 | 101.1318483 | 100.0777416 | 99.04550242 | 98.03445572 | 97.04395417 |
| 160620A00015 | 6/20/2016 | 1.71 | 6/20/2023 | 6/20/2016 | 104.92867 | 104.928674 | 104.928674 | 104.928674 | 103.9703132 | 100.9270898 | 97.98869659 | 95.15093221 | 92.40978957 |
| 160627A00070 | 6/27/2016 | 1.52 | 9/27/2021 | 6/27/2016 | 101.66339 | 101.6633873 | 101.6633873 | 101.6633873 | 101.4113322 | 100.0933213 | 98.79914525 | 97.52820203 | 96.27990956 |
| 160628A00054 | 6/28/2016 | 1.28 | 6/28/2021 | 6/28/2016 | 101.27364 | 101.2736403 | 101.2736403 | 101.2736403 | 101.0459206 | 99.95997898 | 98.89722657 | 97.85692752 | 96.83837681 |
| 160629A00050 | 6/29/2016 | 1.16 | 6/29/2020 | 6/29/2016 | 100.08986 | 100.0898616 | 100.0898616 | 100.0898616 | 100.0777037 | 99.99171278 | 99.90586856 | 99.82017067 | 99.73461873 |
| 160630A00011 | 6/30/2016 | 1.8 | 6/30/2023 | 6/30/2016 | 104.68668 | 104.6866781 | 104.6866781 | 104.6866781 | 103.7161023 | 100.6640355 | 97.71752855 | 94.87233087 | 92.12438945 |
| 160630A00034 | 6/30/2016 | 1.51 | 6/28/2021 | 6/30/2016 | 101.35193 | 101.3519325 | 101.3519325 | 101.3519325 | 101.1246625 | 100.0408281 | 98.98009344 | 97.94172682 | 96.92502703 |
| 160705A00009 | 7/5/2016 | 1.21 | 7/6/2021 | 7/5/2016 | 101.22108 | 101.2210827 | 101.2210827 | 101.2210827 | 100.9921815 | 99.88485299 | 98.80164981 | 97.74179075 | 96.70452803 |
| 160705A00104 | 7/5/2016 | 2.1 | 7/6/2026 | 7/5/2016 | 111.00452 | 111.00452 | 111.00452 | 111.00452 | 106.7294293 | 100.7880622 | 95.21623529 | 89.9890513 | 85.08341639 |
| 160706A00011 | 7/6/2016 | 1.41 | 7/6/2021 | 7/6/2016 | 101.26744 | 101.2674412 | 101.2674412 | 101.2674412 | 101.0390312 | 99.93405978 | 98.8531176 | 97.79542785 | 96.76024687 |
| 160706A00026 | 7/6/2016 | 2.19 | 7/6/2027 | 7/6/2016 | 113.42789 | 113.427888 | 113.427888 | 113.427888 | 107.3862941 | 100.5320623 | 94.16481154 | 88.2473981 | 82.74569495 |
| 160706A00027 | 7/6/2016 | 2.29 | 7/6/2028 | 7/6/2016 | 116.11134 | 116.1113372 | 116.1113372 | 116.1113372 | 108.3137025 | 100.5564603 | 93.4174835 | 86.84418771 | 80.78871833 |
| 160706A00030 | 7/6/2016 | 2.59 | 7/7/2031 | 7/6/2016 | 125.29624 | 125.2962446 | 125.2962446 | 121.8747175 | 110.6310991 | 100.3096013 | 91.0687761 | 82.78898246 | 75.36441608 |
| 160708A00002 | 7/8/2016 | 1.46 | 7/8/2021 | 7/8/2016 | 101.32985 | 101.3298543 | 101.3298543 | 101.3298543 | 101.101073 | 99.99032325 | 98.90384508 | 97.84084993 | 96.80058314 |
| 160712A00016 | 7/12/2016 | 1.32 | 7/12/2021 | 7/12/2016 | 101.3641 | 101.3641022 | 101.3641022 | 101.3641022 | 101.1341378 | 100.0096825 | 98.91008013 | 97.83451435 | 96.78220406 |
| 160727A00018 | 7/27/2016 | 2.27 | 7/27/2026 | 7/27/2016 | 112.15924 | 112.1592438 | 112.1592438 | 112.1592438 | 107.7714455 | 101.7458891 | 96.09757404 | 90.80090193 | 85.83214317 |
| 160808A00012 | 8/8/2016 | 1.6 | 8/9/2021 | 8/8/2016 | 101.6043 | 101.6043007 | 101.6043007 | 101.6043007 | 101.3697407 | 100.1708361 | 99.00013761 | 97.85665919 | 96.73946028 |
| 160811A00014 | 8/11/2016 | 1.18 | 8/11/2020 | 8/11/2016 | 100.21828 | 100.2182792 | 100.2182792 | 100.2182792 | 100.1844598 | 99.97940861 | 99.77521118 | 99.57186206 | 99.36935587 |
| 160815A00006 | 8/15/2016 | 2.23 | 8/17/2026 | 8/15/2016 | 112.02201 | 112.0220146 | 112.0220146 | 112.0220146 | 107.5379563 | 101.4680671 | 95.78136 | 90.45162146 | 85.45456825 |
| 160826A00008 | 8/26/2016 | 1.48 | 8/26/2020 | 8/26/2016 | 100.29799 | 100.2979891 | 100.2979891 | 100.2979891 | 100.2561818 | 100.0100198 | 99.76506553 | 99.52131021 | 99.27874505 |
| 160830A00007 | 8/30/2016 | 1.65 | 8/30/2021 | 8/30/2016 | 101.74504 | 101.745044 | 101.745044 | 101.745044 | 101.5055935 | 100.2495528 | 99.02406096 | 97.82801296 | 96.66035642 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160916A00014 | 9/16/2016 | 1.66 | 9/16/2021 | 9/16/2016 | 101.81002 | 101.8100184 | 101.8100184 | 101.8100184 | 101.5627647 | 100.2683582 | 99.00042233 | 97.75815347 | 96.5407809 |
| 160916A00016 | 9/16/2016 | 1.66 | 9/16/2021 | 9/16/2016 | 101.81002 | 101.8100184 | 101.8100184 | 101.8100184 | 101.5627647 | 100.2683582 | 99.00042233 | 97.75815347 | 96.5407809 |
| 160921A00021 | 9/21/2016 | 1.45 | 9/21/2021 | 9/21/2016 | 101.77414 | 101.7741371 | 101.7741371 | 101.7741371 | 101.5239968 | 100.2151197 | 98.931638 | 97.67283446 | 96.43801891 |
| 160922A00009 | 9/22/2016 | 1.55 | 9/22/2022 | 9/22/2016 | 103.35941 | 103.3594059 | 103.3594059 | 103.3594059 | 102.819767 | 100.5171359 | 98.27725839 | 96.09806039 | 93.97754972 |
| 160922A00050 | 9/22/2016 | 2.24 | 9/22/2025 | 9/22/2016 | 110.34895 | 110.3489526 | 110.3489526 | 110.3489526 | 107.2876095 | 102.0526343 | 97.10553141 | 92.42900777 | 88.00689538 |
| 160930A00010 | 9/30/2016 | 1.47 | 9/30/2022 | 9/30/2016 | 103.20166 | 103.2016625 | 103.2016625 | 103.2016625 | 102.6528403 | 100.3311052 | 98.073156 | 95.87689924 | 93.74032199 |
| 161014A00024 | 10/18/2016 | 2.34 | 10/16/2020 | 10/18/2016 | 100.81052 | 100.8105204 | 100.8105204 | 100.8105204 | 100.7404906 | 100.3528753 | 99.96824782 | 99.58657347 | 99.20781828 |
| 161212A00040 | 12/12/2016 | 2.45 | 12/12/2023 | 12/12/2016 | 108.34949 | 108.3494906 | 108.3494906 | 108.3494906 | 107.0363282 | 103.4779064 | 100.0576145 | 96.7693392 | 93.60727259 |
| 170110A00020 | 1/10/2017 | 2.4 | 1/10/2024 | 1/10/2017 | 108.35342 | 108.3534166 | 108.3534166 | 108.3534166 | 106.979247 | 103.3441323 | 99.85258216 | 96.49812697 | 93.27462737 |
| 170111A00014 | 1/11/2017 | 3.47 | 1/12/2032 | 1/11/2017 | 136.64517 | 136.645175 | 136.645175 | 132.1206482 | 119.9291266 | 108.7036838 | 98.68449312 | 89.7337769 | 81.73021814 |
| 170120A00009 | 1/20/2017 | 3.67 | 1/22/2035 | 1/20/2017 | 148.88412 | 148.8841213 | 148.8841213 | 137.481301 | 122.1579662 | 108.5287685 | 96.67723512 | 86.35715418 | 77.35780629 |
| 170120A00010 | 1/20/2017 | 3.71 | 1/22/2036 | 1/20/2017 | 152.758 | 152.7580021 | 152.7580021 | 139.3868717 | 123.0475654 | 108.6633527 | 96.25877485 | 85.54433127 | 76.27454718 |
| 170130A00008 | 1/30/2017 | 2.58 | 1/30/2023 | 1/30/2017 | 106.16816 | 106.168159 | 106.168159 | 106.168159 | 105.4463021 | 102.7728801 | 100.1809952 | 97.66764226 | 95.22994874 |
| 170130A00010 | 1/30/2017 | 2.92 | 1/30/2025 | 1/30/2017 | 112.30698 | 112.3069788 | 112.3069788 | 112.3069788 | 109.9718944 | 105.2792302 | 100.8160852 | 96.56998192 | 92.52919121 |
| 170207A00013 | 2/7/2017 | 2.05 | 2/7/2022 | 2/7/2017 | 103.31795 | 103.317947 | 103.317947 | 103.317947 | 102.9798174 | 101.2877711 | 99.63162024 | 98.01028795 | 96.42274078 |
| 170207A00023 | 2/7/2017 | 2.26 | 2/7/2022 | 2/7/2017 | 103.38651 | 103.3865074 | 103.3865074 | 103.3865074 | 103.0492745 | 101.3616897 | 99.70982214 | 98.09260259 | 96.50900451 |
| 170215A00034 | 2/15/2017 | 2.69 | 12/18/2020 | 2/15/2017 | 101.37194 | 101.37194 | 101.37194 | 101.37194 | 101.2611151 | 100.698974 | 100.1430726 | 99.59330718 | 99.04957653 |
| 170216A00043 | 2/16/2017 | 3.17 | 2/16/2027 | 2/16/2017 | 119.32195 | 119.3219506 | 119.3219506 | 119.3219506 | 113.8469586 | 107.1224049 | 100.8482859 | 94.99193332 | 89.52321943 |
| 170223A00003 | 2/23/2017 | 2.05 | 2/23/2022 | 2/23/2017 | 103.40353 | 103.4035345 | 103.4035345 | 103.4035345 | 103.0560097 | 101.3193584 | 99.62026606 | 97.95758029 | 96.3301963 |
| 170224A00019 | 2/24/2017 | 2.21 | 2/24/2022 | 2/24/2017 | 103.39096 | 103.3909598 | 103.3909598 | 103.3909598 | 103.0439434 | 101.3099433 | 99.61340411 | 97.95317711 | 96.32816088 |
| 170322A00022 | 3/22/2017 | 3.89 | 9/23/2041 | 3/22/2017 | 175.01734 | 175.0173371 | 173.8535596 | 150.2985302 | 128.3301876 | 109.9791712 | 94.84150259 | 82.31459011 | 71.91324213 |
| 170404A00049 | 4/6/2017 | 2.42 | 4/6/2022 | 4/6/2017 | 103.98281 | 103.9828126 | 103.9828126 | 103.9828126 | 103.60871 | 101.7558071 | 99.9450795 | 98.17532248 | 96.44537332 |
| 170417A00014 | 4/17/2017 | 1.95 | 4/18/2022 | 4/17/2017 | 103.50108 | 103.5010757 | 103.5010757 | 103.5010757 | 103.1180864 | 101.2319871 | 99.38961761 | 97.58970576 | 95.8310248 |
| 170509A00006 | 5/9/2017 | 2.3 | 5/9/2022 | 5/9/2017 | 103.94068 | 103.9406769 | 103.9406769 | 103.9406769 | 103.5419065 | 101.6018025 | 99.70781569 | 97.85856925 | 96.05273691 |
| 170515A00041 | 5/15/2017 | 3.02 | 5/17/2027 | 5/15/2017 | 118.97334 | 118.9733363 | 118.9733363 | 118.9733363 | 113.0675755 | 106.1409775 | 99.6944529 | 93.69212648 | 88.1009812 |
| 170602A00007 | 6/2/2017 | 1.94 | 6/2/2021 | 6/2/2017 | 101.7028 | 101.7028011 | 101.7028011 | 101.7028011 | 101.4806567 | 100.4652744 | 99.47013123 | 98.49462677 | 97.53818423 |
| 170608A00017 | 6/8/2017 | 1.95 | 6/8/2022 | 6/8/2017 | 103.7599 | 103.7598982 | 103.7598982 | 103.7598982 | 103.3336302 | 101.3078952 | 99.33216809 | 97.4048932 | 95.52457448 |
| 170609A00009 | 6/9/2017 | 1.82 | 6/9/2021 | 6/9/2017 | 101.77593 | 101.7759284 | 101.7759284 | 101.7759284 | 101.5516706 | 100.5144792 | 99.49838921 | 98.5027616 | 97.52698304 |
| 170615A00017 | 6/15/2017 | 1.67 | 6/15/2020 | 6/15/2017 | 100.07336 | 100.0733597 | 100.0733597 | 100.0733597 | 100.0666891 | 100.0194982 | 99.97236956 | 99.92530299 | 99.87829837 |
| 170623A00001 | 6/23/2017 | 1.64 | 6/23/2020 | 6/23/2017 | 100.1058 | 100.1057989 | 100.1057989 | 100.1057989 | 100.0959898 | 100.0266049 | 99.95732689 | 99.88815544 | 99.81909033 |
| 170630A00083 | 6/30/2017 | 1.86 | 6/30/2020 | 6/30/2017 | 100.13429 | 100.1342934 | 100.1342934 | 100.1342934 | 100.1216711 | 100.0330831 | 99.94465095 | 99.85637432 | 99.7682528 |
| 170720A00009 | 7/20/2017 | 2.14 | 7/20/2022 | 7/20/2017 | 103.9926 | 103.9925998 | 103.9925998 | 103.9925998 | 103.525605 | 101.3922019 | 99.31329127 | 97.28710027 | 95.31192805 |
| 170721A00007 | 7/21/2017 | 1.8 | 7/21/2021 | 7/21/2017 | 101.95098 | 101.9509777 | 101.9509777 | 101.9509777 | 101.7189378 | 100.5664694 | 99.43999202 | 98.33863448 | 97.26156394 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170726A00033 | 7/26/2017 | 1.89 | 7/27/2020 | 7/26/2017 | 100.26292 | 100.262922 | 100.262922 | 100.262922 | 100.2370886 | 100.0737139 | 99.91087134 | 99.74855839 | 99.58677251 |
| 170822A00018 | 8/22/2017 | 2.25 | 8/22/2023 | 8/22/2017 | 106.37372 | 106.3737226 | 106.3737226 | 106.3737226 | 105.2982683 | 102.0809656 | 98.97886838 | 95.98715424 | 93.10123596 |
| 170824A00037 | 8/24/2017 | 1.98 | 8/24/2021 | 8/24/2017 | 102.13571 | 102.1357116 | 102.1357116 | 102.1357116 | 101.8972508 | 100.6543638 | 99.44166295 | 98.25805924 | 97.10251529 |
| 170830A00029 | 8/30/2017 | 1.87 | 3/30/2021 | 8/30/2017 | 101.35682 | 101.356824 | 101.356824 | 101.356824 | 101.1691268 | 100.3289716 | 99.50271492 | 98.69001414 | 97.89053799 |
| 170831A00004 | 8/31/2017 | 2 | 8/31/2023 | 8/31/2017 | 106.20175 | 106.2017482 | 106.2017482 | 106.2017482 | 105.1041069 | 101.8519212 | 98.71727855 | 95.69522258 | 92.78104016 |
| 170831A00006 | 8/31/2017 | 1.87 | 8/31/2022 | 8/31/2017 | 104.00346 | 104.0034554 | 104.0034554 | 104.0034554 | 103.4884253 | 101.2359353 | 99.04347504 | 96.90900487 | 94.83057237 |
| 170906A00020 | 9/6/2017 | 2.14 | 9/6/2023 | 9/6/2017 | 106.09126 | 106.0912621 | 106.0912621 | 106.0912621 | 104.9883877 | 101.7371887 | 98.60369049 | 95.58294786 | 92.67025577 |
| 170906A00036 | 9/6/2017 | 1.81 | 9/6/2022 | 9/6/2017 | 103.89446 | 103.8944633 | 103.8944633 | 103.8944633 | 103.3725489 | 101.1055578 | 98.8993507 | 96.75187858 | 94.66117824 |
| 170907A00002 | 9/7/2017 | 1.69 | 9/7/2021 | 9/7/2017 | 102.03277 | 102.032769 | 102.032769 | 102.032769 | 101.7886737 | 100.5095277 | 99.25916401 | 98.03661156 | 96.84094273 |
| 170908A00017 | 9/9/2019 | 2.32 | 9/9/2024 | 9/9/2019 | 108.73765 | 108.7376485 | 108.7376485 | 108.7376485 | 106.8091203 | 102.5576183 | 98.49966028 | 94.6253948 | 90.9255274 |
| 170914A00054 | 9/14/2017 | 1.99 | 9/14/2021 | 9/14/2017 | 102.2351 | 102.2351041 | 102.2351041 | 102.2351041 | 101.9881664 | 100.6953161 | 99.42946394 | 98.18976902 | 96.97542552 |
| 170919A00076 | 9/19/2017 | 1.97 | 9/19/2022 | 9/19/2017 | 104.32958 | 104.3295809 | 104.3295809 | 104.3295809 | 103.7911297 | 101.4848877 | 99.24124633 | 97.05812984 | 94.93354545 |
| 170920A00028 | 9/21/2017 | 2.16 | 9/21/2022 | 9/21/2017 | 104.36062 | 104.3606231 | 104.3606231 | 104.3606231 | 103.8218684 | 101.5185569 | 99.27772592 | 97.09731361 | 94.97533965 |
| 171010A00038 | 10/10/2017 | 2.23 | 10/11/2022 | 10/10/2017 | 104.63101 | 104.631008 | 104.631008 | 104.631008 | 104.0669927 | 101.7072461 | 99.41282887 | 97.18157696 | 95.01141063 |
| 171016A00021 | 10/16/2017 | 2.2 | 10/17/2022 | 10/16/2017 | 104.59063 | 104.5906258 | 104.5906258 | 104.5906258 | 104.0191583 | 101.6437588 | 99.33454675 | 97.08931543 | 94.90594459 |
| 171030A00021 | 10/30/2017 | 2.29 | 11/30/2022 | 10/30/2017 | 105.04981 | 105.0498124 | 105.0498124 | 105.0498124 | 104.4193117 | 101.9226506 | 99.49878107 | 97.14515966 | 94.85934776 |
| 171030A00023 | 10/30/2017 | 2.9 | 11/1/2027 | 10/30/2017 | 119.31897 | 119.3189728 | 119.3189728 | 119.3189728 | 112.6088772 | 105.2845986 | 98.4974912 | 92.205247 | 86.36909644 |
| 171103A00017 | 11/3/2017 | 2.09 | 11/3/2022 | 11/3/2017 | 104.85585 | 104.8558499 | 104.8558499 | 104.8558499 | 104.2594467 | 101.8262795 | 99.46229637 | 97.16514259 | 94.93255794 |
| 171127A00016 | 11/27/2017 | 2.28 | 11/27/2023 | 11/27/2017 | 107.65108 | 107.6510783 | 107.6510783 | 107.6510783 | 106.3723408 | 102.8662051 | 99.49504507 | 96.25294204 | 93.13426979 |
| 171205A00013 | 12/5/2017 | 2.4 | 12/6/2021 | 12/5/2017 | 103.25833 | 103.2583333 | 103.2583333 | 103.2583333 | 102.9578369 | 101.4410273 | 99.95425962 | 98.49671558 | 97.0676061 |
| 171206A00048 | 12/6/2017 | 3.04 | 12/6/2032 | 12/6/2017 | 136.83999 | 136.8399921 | 136.8399921 | 130.1807884 | 117.0349227 | 105.1326946 | 94.60761022 | 85.29112792 | 77.03619974 |
| 171208A00021 | 12/8/2017 | 2.24 | 12/8/2020 | 12/8/2017 | 101.06349 | 101.0634868 | 101.0634868 | 101.0634868 | 100.9602058 | 100.4264372 | 99.8983072 | 99.37572668 | 98.85860843 |
| 171215A00004 | 12/15/2017 | 2.29 | 12/15/2020 | 12/15/2017 | 101.12968 | 101.1296813 | 101.1296813 | 101.1296813 | 101.0212076 | 100.4680616 | 99.92096954 | 99.37983228 | 98.84455287 |
| 171219A00025 | 12/19/2017 | 2.33 | 12/19/2022 | 12/19/2017 | 105.72874 | 105.7287372 | 105.7287372 | 105.7287372 | 105.0667665 | 102.4999987 | 100.0092781 | 97.59189558 | 95.24525677 |
| 180103A00019 | 1/3/2018 | 2.51 | 1/3/2023 | 1/3/2018 | 105.81405 | 105.8140458 | 105.8140458 | 105.8140458 | 105.1332374 | 102.5352299 | 100.0148616 | 97.56933666 | 95.19597931 |
| 180103A00027 | 1/3/2018 | 2.51 | 1/3/2023 | 1/3/2018 | 105.81405 | 105.8140458 | 105.8140458 | 105.8140458 | 105.1332374 | 102.5352299 | 100.0148616 | 97.56933666 | 95.19597931 |
| 180108A00006 | 1/8/2018 | 2.18 | 1/8/2021 | 1/8/2018 | 101.28255 | 101.2825487 | 101.2825487 | 101.2825487 | 101.1553288 | 100.5349334 | 99.92214079 | 99.31681155 | 98.71880981 |
| 180109A00006 | 1/9/2018 | 2.18 | 1/8/2021 | 1/9/2018 | 101.28255 | 101.2825487 | 101.2825487 | 101.2825487 | 101.1553288 | 100.5349334 | 99.92214079 | 99.31681155 | 98.71880981 |
| 180110A00048 | 1/10/2018 | 2.37 | 1/7/2021 | 1/10/2018 | 101.30888 | 101.3088817 | 101.3088817 | 101.3088817 | 101.1826857 | 100.5660141 | 99.95685058 | 99.35505844 | 98.76050437 |
| 180116A00008 | 1/16/2018 | 2.37 | 1/15/2021 | 1/16/2018 | 101.35587 | 101.355873 | 101.355873 | 101.355873 | 101.2231539 | 100.5844491 | 99.95379728 | 99.33104658 | 98.71604908 |
| 180116A00015 | 1/16/2018 | 3.06 | 1/18/2028 | 1/16/2018 | 121.09369 | 121.0936856 | 121.0936856 | 121.0936856 | 113.978569 | 106.4138799 | 99.4167389 | 92.94139412 | 86.94601358 |
| 180116A00045 | 1/16/2018 | 2.49 | 1/11/2022 | 1/16/2018 | 103.61631 | 103.6163123 | 103.6163123 | 103.6163123 | 103.2940673 | 101.676772 | 100.0926833 | 98.54084449 | 97.02033557 |
| 180119A00026 | 1/19/2018 | 2.87 | 1/21/2025 | 1/19/2018 | 112.00834 | 112.0083366 | 112.0083366 | 112.0083366 | 109.7007861 | 105.0376759 | 100.6017355 | 96.38066649 | 92.36290445 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180125A00026 | 1/26/2018 | 2.46 | 1/25/2021 | 1/26/2018 | 101.4748 | 101.4748046 | 101.4748046 | 101.4748046 | 101.3338906 | 100.6674333 | 100.0097251 | 99.36059453 | 98.71987463 |
| 180130A00070 | 1/30/2018 | 3.14 | 1/29/2027 | 1/30/2018 | 118.98103 | 118.9810266 | 118.9810266 | 118.9810266 | 113.599561 | 106.9290805 | 100.7026639 | 94.88830765 | 89.4564806 |
| 180201A00033 | 2/1/2018 | 2.53 | 2/1/2022 | 2/1/2018 | 104.10232 | 104.1023218 | 104.1023218 | 104.1023218 | 103.7662797 | 102.0838248 | 100.436781 | 98.82409561 | 97.24475787 |
| 180206A00013 | 2/6/2018 | 2.72 | 2/6/2024 | 2/6/2018 | 109.71944 | 109.719442 | 109.719442 | 109.719442 | 108.280493 | 104.5504329 | 100.9698309 | 97.53184297 | 94.2299811 |
| 180214A00004 | 2/14/2018 | 2.71 | 2/14/2023 | 2/14/2018 | 107.12213 | 107.1221285 | 107.1221285 | 107.1221285 | 106.370681 | 103.63272 | 100.9794473 | 98.40769171 | 95.91442474 |
| 180215A00018 | 2/15/2018 | 2.57 | 9/15/2020 | 2/15/2018 | 100.69791 | 100.6979074 | 100.6979074 | 100.6979074 | 100.6451313 | 100.3431195 | 100.0429296 | 99.74454519 | 99.4479499 |
| 180306A00010 | 3/6/2018 | 2.8 | 2/15/2022 | 3/6/2018 | 104.36811 | 104.3681137 | 104.3681137 | 104.3681137 | 104.0245194 | 102.3063442 | 100.6248615 | 98.97896032 | 97.36757502 |
| 180313A00026 | 3/13/2018 | 3.34 | 3/13/2028 | 3/13/2018 | 123.6906 | 123.6906007 | 123.6906007 | 123.6906007 | 116.257016 | 108.4719704 | 101.2791723 | 94.63020076 | 88.48083911 |
| 180320A00007 | 3/20/2018 | 2.92 | 3/21/2022 | 3/20/2018 | 104.80459 | 104.8045935 | 104.8045935 | 104.8045935 | 104.4396196 | 102.6226554 | 100.8461722 | 99.10899967 | 97.41001046 |
| 180323A00013 | 3/23/2018 | 3.18 | 3/23/2028 | 3/23/2018 | 124.16462 | 124.1646199 | 124.1646199 | 124.1646199 | 116.5871356 | 108.6968004 | 101.410997 | 94.6800326 | 88.45854472 |
| 180329A00033 | 4/2/2018 | 2.79 | 4/1/2021 | 4/2/2018 | 102.14932 | 102.1493198 | 102.1493198 | 102.1493198 | 101.9595627 | 101.1103003 | 100.2751631 | 99.45380089 | 98.64587485 |
| 180403A00006 | 4/3/2018 | 3.07 | 4/3/2028 | 4/3/2018 | 123.38566 | 123.3856552 | 123.3856552 | 123.3856552 | 115.7728567 | 107.8855029 | 100.6052668 | 93.88206303 | 87.67018193 |
| 180406A00009 | 4/6/2018 | 2.58 | 4/6/2021 | 4/6/2018 | 102.13203 | 102.1320335 | 102.1320335 | 102.1320335 | 101.9385651 | 101.0739832 | 100.224045 | 99.38838075 | 98.5666328 |
| 180411A00001 | 4/11/2018 | 2.84 | 1/25/2022 | 4/11/2018 | 104.2895 | 104.2894977 | 104.2894977 | 104.2894977 | 103.9581418 | 102.2979223 | 100.6722869 | 99.08021959 | 97.52074426 |
| 180412A00016 | 4/12/2018 | 2.79 | 4/12/2021 | 4/12/2018 | 102.22639 | 102.2263916 | 102.2263916 | 102.2263916 | 102.0292684 | 101.1496572 | 100.2851991 | 99.43550487 | 98.60019826 |
| 180416A00027 | 4/16/2018 | 2.86 | 4/16/2021 | 4/16/2018 | 102.31695 | 102.3169477 | 102.3169477 | 102.3169477 | 102.1170846 | 101.226139 | 100.3507282 | 99.49044831 | 98.64490924 |
| 180425A00008 | 4/25/2018 | 2.89 | 4/25/2022 | 4/25/2018 | 105.35181 | 105.3518137 | 105.3518137 | 105.3518137 | 104.9601645 | 103.0373744 | 101.1594875 | 99.32518614 | 97.53320017 |
| 180426A00017 | 4/26/2018 | 2.85 | 4/26/2022 | 4/26/2018 | 105.28215 | 105.2821486 | 105.2821486 | 105.2821486 | 104.8899201 | 102.9651583 | 101.0854055 | 99.24933935 | 97.45568494 |
| 180426A00053 | 4/26/2018 | 2.94 | 4/26/2023 | 4/26/2018 | 108.30839 | 108.3083947 | 108.3083947 | 108.3083947 | 107.4361236 | 104.4879132 | 101.6365021 | 98.87819227 | 96.20944791 |
| 180511A00035 | 5/11/2018 | 2.93 | 5/11/2023 | 5/11/2018 | 108.39563 | 108.3956348 | 108.3956348 | 108.3956348 | 107.4966579 | 104.5067231 | 101.6162729 | 98.82145425 | 96.1185855 |
| 180524A00006 | 5/24/2018 | 2.71 | 2/16/2021 | 5/24/2018 | 101.89274 | 101.8927361 | 101.8927361 | 101.8927361 | 101.7344278 | 101.004904 | 100.2858365 | 99.5770017 | 98.87818198 |
| 180524A00050 | 5/24/2018 | 2.9 | 5/24/2021 | 5/24/2018 | 102.61989 | 102.6198916 | 102.6198916 | 102.6198916 | 102.3998299 | 101.4039443 | 100.4274073 | 99.46965905 | 98.53016087 |
| 180529A00042 | 5/29/2018 | 3.42 | 5/30/2028 | 5/29/2018 | 124.97303 | 124.9730293 | 124.9730293 | 124.9730293 | 117.1357843 | 109.1238827 | 101.736023 | 94.92000418 | 88.62825456 |
| 180529A00063 | 5/29/2018 | 2.95 | 5/31/2022 | 5/29/2018 | 105.37976 | 105.3797571 | 105.3797571 | 105.3797571 | 104.9592872 | 102.9449359 | 100.9797803 | 99.06230817 | 97.19106469 |
| 180530A00007 | 5/30/2018 | 2.66 | 11/30/2021 | 5/30/2018 | 103.87953 | 103.8795256 | 103.8795256 | 103.8795256 | 103.58079 | 102.0712591 | 100.5915092 | 99.14073587 | 97.71816303 |
| 180530A00027 | 5/30/2018 | 3.61 | 6/1/2032 | 5/30/2018 | 139.51363 | 139.5136304 | 139.5136304 | 134.1356335 | 121.4720023 | 109.8543756 | 99.51842418 | 90.31379413 | 82.10856787 |
| 180531A00015 | 5/31/2018 | 2.95 | 5/31/2023 | 5/31/2018 | 108.0502 | 108.0502017 | 108.0502017 | 108.0502017 | 107.1215339 | 104.0957677 | 101.1722055 | 98.34682649 | 95.61579195 |
| 180531A00032 | 5/31/2018 | 2.8 | 6/1/2021 | 5/31/2018 | 102.57595 | 102.5759525 | 102.5759525 | 102.5759525 | 102.3530333 | 101.3355947 | 100.3383521 | 99.36070842 | 98.40209009 |
| 180601A00006 | 6/1/2018 | 2.59 | 6/1/2020 | 6/1/2018 | 100.02061 | 100.0206117 | 100.0206117 | 100.0206117 | 100.0194335 | 100.0110967 | 100.0027676 | 99.99444626 | 99.98613266 |
| 180611A00030 | 6/11/2018 | 2.91 | 6/12/2023 | 6/11/2018 | 108.58314 | 108.5831375 | 108.5831375 | 108.5831375 | 107.6259761 | 104.5474961 | 101.5740245 | 98.70138543 | 95.92559465 |
| 180622A00006 | 6/22/2018 | 3.53 | 12/21/2029 | 6/22/2018 | 130.82328 | 130.8232791 | 130.8232791 | 129.8180844 | 119.8008922 | 110.2976192 | 101.6563994 | 93.79369102 | 86.63447665 |
| 180625A00041 | 6/25/2018 | 3.06 | 6/20/2023 | 6/25/2018 | 108.5363 | 108.5363003 | 108.5363003 | 108.5363003 | 107.5695996 | 104.4840652 | 101.5040387 | 98.62531101 | 95.84386674 |
| 180627A00026 | 6/27/2018 | 2.87 | 6/27/2023 | 6/27/2018 | 108.57446 | 108.5744573 | 108.5744573 | 108.5744573 | 107.589922 | 104.4720389 | 101.4615393 | 98.55410759 | 95.74562868 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180706A00013 | 7/6/2018 | 3.01 | 7/6/2023 | 7/6/2018 | 108.50145 | 108.5014492 | 108.5014492 | 108.5014492 | 107.5055706 | 104.3781497 | 101.3588185 | 98.44321422 | 95.62717824 |
| 180713A00011 | 7/13/2018 | 2.95 | 7/13/2021 | 7/13/2018 | 103.04027 | 103.0402748 | 103.0402748 | 103.0402748 | 102.8086207 | 101.6740288 | 100.5644612 | 99.47909636 | 98.41714818 |
| 180713A00013 | 7/13/2018 | 2.88 | 7/13/2023 | 7/13/2018 | 108.72783 | 108.7278341 | 108.7278341 | 108.7278341 | 107.7129015 | 104.5493009 | 101.4958459 | 98.54805696 | 95.7016659 |
| 180713A00030 | 7/13/2018 | 2.8 | 7/13/2021 | 7/13/2018 | 103.05177 | 103.0517665 | 103.0517665 | 103.0517665 | 102.8195419 | 101.6821658 | 100.5699197 | 99.48197704 | 98.41754745 |
| 180716A00054 | 7/16/2018 | 3.59 | 7/16/2040 | 7/16/2018 | 170.05113 | 170.0511278 | 170.0404828 | 147.5748334 | 126.4119265 | 108.612611 | 93.8263813 | 81.50994329 | 71.22160673 |
| 180717A00047 | 7/17/2018 | 3.3 | 9/17/2025 | 7/17/2018 | 115.9785 | 115.9784982 | 115.9784982 | 115.9784982 | 112.8787005 | 107.5100585 | 102.4336994 | 97.63215168 | 93.08907902 |
| 180726A00032 | 7/26/2018 | 2.95 | 10/26/2020 | 7/26/2018 | 101.12224 | 101.122237 | 101.122237 | 101.122237 | 101.0464321 | 100.6305582 | 100.2181028 | 99.80902407 | 99.40328059 |
| 180807A00017 | 8/7/2018 | 2.77 | 8/7/2020 | 8/7/2018 | 100.51558 | 100.5155788 | 100.5155788 | 100.5155788 | 100.4838371 | 100.2894077 | 100.0957429 | 99.90283808 | 99.7106888 |
| 180809A00029 | 8/9/2018 | 2.99 | 9/9/2021 | 8/9/2018 | 103.52188 | 103.5218843 | 103.5218843 | 103.5218843 | 103.2754059 | 101.9848191 | 100.7225838 | 99.48776509 | 98.27946923 |
| 180810A00006 | 8/10/2018 | 2.73 | 8/10/2020 | 8/10/2018 | 100.52958 | 100.5295762 | 100.5295762 | 100.5295762 | 100.4962203 | 100.2934709 | 100.0915538 | 99.89046391 | 99.69019604 |
| 180821A00016 | 8/21/2018 | 2.76 | 8/20/2021 | 8/21/2018 | 103.28472 | 103.2847174 | 103.2847174 | 103.2847174 | 103.0449872 | 101.802324 | 100.5895827 | 99.40569189 | 98.24963089 |
| 180823A00013 | 8/23/2018 | 2.97 | 8/23/2023 | 8/23/2018 | 108.72941 | 108.7294051 | 108.7294051 | 108.7294051 | 107.6426041 | 104.3845328 | 101.2428551 | 98.21270252 | 95.28944392 |
| 180827A00060 | 8/27/2018 | 2.9 | 8/27/2021 | 8/27/2018 | 103.31052 | 103.310524 | 103.310524 | 103.310524 | 103.0698286 | 101.8110306 | 100.5829397 | 99.38444224 | 98.21447799 |
| 180828A00032 | 8/28/2018 | 3.49 | 8/29/2033 | 8/28/2018 | 144.96688 | 144.9668805 | 144.9668805 | 136.5117824 | 122.3297059 | 109.5448618 | 98.30118683 | 88.40164789 | 79.67547035 |
| 180830A00006 | 8/30/2018 | 2.99 | 8/30/2022 | 8/30/2018 | 106.13801 | 106.1380099 | 106.1380099 | 106.1380099 | 105.6211129 | 103.354898 | 101.1487262 | 99.00056131 | 96.90845445 |
| 180831A00016 | 8/31/2018 | 2.99 | 8/31/2023 | 8/31/2018 | 108.8541 | 108.8540968 | 108.8540968 | 108.8540968 | 107.7515419 | 104.4706454 | 101.3075958 | 98.25744448 | 95.31548473 |
| 180905A00015 | 9/5/2018 | 2.85 | 9/1/2022 | 9/5/2018 | 106.25099 | 106.2509907 | 106.2509907 | 106.2509907 | 105.7294106 | 103.4482934 | 101.2278814 | 99.06611709 | 96.96103045 |
| 180910A00013 | 9/10/2018 | 3.08 | 9/11/2023 | 9/10/2018 | 109.23425 | 109.2342534 | 109.2342534 | 109.2342534 | 108.1087808 | 104.7930184 | 101.5972352 | 98.51640478 | 95.54574272 |
| 180912A00028 | 9/12/2018 | 2.93 | 9/14/2020 | 9/12/2018 | 100.79944 | 100.7994446 | 100.7994446 | 100.7994446 | 100.7471794 | 100.447725 | 100.1500609 | 99.85417085 | 99.56003902 |
| 180912A00030 | 9/12/2018 | 3 | 9/13/2021 | 9/12/2018 | 103.56507 | 103.5650681 | 103.5650681 | 103.5650681 | 103.3166893 | 102.0167442 | 100.7441996 | 99.49819186 | 98.2778938 |
| 180914A00013 | 9/14/2018 | 3.48 | 9/14/2028 | 9/14/2018 | 126.37478 | 126.374778 | 126.374778 | 126.374778 | 117.980466 | 109.6736043 | 102.0331631 | 95.00179218 | 88.52736727 |
| 180918A00041 | 9/18/2018 | 3.18 | 9/18/2024 | 9/18/2018 | 113.34221 | 113.3422115 | 113.3422115 | 113.3422115 | 111.3467748 | 106.9516137 | 102.7569177 | 98.75247629 | 94.9286538 |
| 180920A00028 | 9/20/2018 | 3.12 | 9/20/2023 | 9/20/2018 | 110.05965 | 110.0596524 | 110.0596524 | 110.0596524 | 108.9070531 | 105.5390694 | 102.2939503 | 99.16654556 | 96.1519506 |
| 180920A00063 | 9/20/2018 | 3 | 9/20/2021 | 9/20/2018 | 103.83107 | 103.8310739 | 103.8310739 | 103.8310739 | 103.5784752 | 102.2574969 | 100.9623985 | 99.69243736 | 98.44689955 |
| 180926A00004 | 9/26/2018 | 3.04 | 9/26/2022 | 9/26/2018 | 106.88826 | 106.8882588 | 106.8882588 | 106.8882588 | 106.3351424 | 103.9800672 | 101.6891726 | 99.46034981 | 97.29157235 |
| 180926A00031 | 9/26/2018 | 3.24 | 9/26/2023 | 9/26/2018 | 109.88658 | 109.8865799 | 109.8865799 | 109.8865799 | 108.7292429 | 105.3636114 | 102.1209596 | 98.99614942 | 95.98428507 |
| 180928A00029 | 9/28/2018 | 2.87 | 9/28/2020 | 9/28/2018 | 100.93263 | 100.9326282 | 100.9326282 | 100.9326282 | 100.8726025 | 100.533741 | 100.1971528 | 99.86281512 | 99.53070543 |
| 180928A00050 | 9/28/2018 | 2.98 | 9/28/2020 | 9/28/2018 | 100.92007 | 100.9200662 | 100.9200662 | 100.9200662 | 100.8601468 | 100.5218767 | 100.1858691 | 99.85210137 | 99.52055127 |
| 181001A00059 | 10/1/2018 | 3.02 | 11/2/2020 | 10/1/2018 | 101.20508 | 101.2050779 | 101.2050779 | 101.2050779 | 101.125064 | 100.6897196 | 100.2581206 | 99.83021882 | 99.40596692 |
| 181004A00028 | 10/4/2018 | 3.31 | 10/4/2023 | 10/4/2018 | 110.18792 | 110.1879172 | 110.1879172 | 110.1879172 | 109.0135112 | 105.6215905 | 102.3542996 | 99.20641439 | 96.17295718 |
| 181005A00011 | 10/5/2018 | 3.2 | 10/5/2023 | 10/5/2018 | 110.45567 | 110.4556745 | 110.4556745 | 110.4556745 | 109.2717013 | 105.8571683 | 102.5685037 | 99.40041489 | 96.3478597 |
| 181005A00041 | 10/5/2018 | 3.06 | 10/5/2020 | 10/5/2018 | 101.00137 | 101.0013748 | 101.0013748 | 101.0013748 | 100.93749 | 100.5797536 | 100.2245545 | 99.8718657 | 99.5216606 |
| 181012A00012 | 10/12/2018 | 3.05 | 10/9/2020 | 10/12/2018 | 101.02865 | 101.0286465 | 101.0286465 | 101.0286465 | 100.9624905 | 100.5936729 | 100.2275553 | 99.86410794 | 99.50330173 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 181018A00011 | 10/18/2018 | 3.35 | 10/18/2023 | 10/18/2018 | 110.44051 | 110.4405081 | 110.4405081 | 110.4405081 | 109.2371298 | 105.8033477 | 102.4970399 | 99.31280631 | 96.24550477 |
| 181023A00021 | 10/23/2018 | 3.28 | 10/23/2023 | 10/23/2018 | 110.24219 | 110.2421938 | 110.2421938 | 110.2421938 | 109.0297303 | 105.5859049 | 102.2704412 | 99.07788049 | 96.00302566 |
| 181025A00010 | 10/25/2018 | 3.07 | 10/25/2022 | 10/25/2018 | 107.19596 | 107.1959562 | 107.1959562 | 107.1959562 | 106.6052894 | 104.1672963 | 101.7977843 | 99.49444716 | 97.25507057 |
| 181102A00006 | 11/2/2018 | 3.07 | 11/2/2021 | 11/2/2018 | 104.27601 | 104.2760141 | 104.2760141 | 104.2760141 | 103.9958046 | 102.5578164 | 101.146865 | 99.76225349 | 98.4033086 |
| 181114A00014 | 11/14/2018 | 3.17 | 11/14/2023 | 11/14/2018 | 110.69152 | 110.6915183 | 110.6915183 | 110.6915183 | 109.4254445 | 105.9000338 | 102.5085097 | 99.2450692 | 96.10419309 |
| 181114A00024 | 11/14/2018 | 3.27 | 12/14/2021 | 11/14/2018 | 104.6648 | 104.6647978 | 104.6647978 | 104.6647978 | 104.35722 | 102.8071025 | 101.2878987 | 99.79875527 | 98.3388499 |
| 181115A00051 | 11/15/2018 | 2.98 | 5/17/2021 | 11/15/2018 | 102.80408 | 102.8040771 | 102.8040771 | 102.8040771 | 102.5864668 | 101.6064531 | 100.6451526 | 99.70203264 | 98.77658078 |
| 181116A00015 | 11/19/2018 | 3.29 | 2/15/2024 | 11/19/2018 | 111.22348 | 111.2234755 | 111.2234755 | 111.2234755 | 109.7657527 | 106.0025994 | 102.3903306 | 98.92202068 | 95.59110604 |
| 181119A00018 | 11/19/2018 | 3.28 | 11/17/2023 | 11/19/2018 | 110.44749 | 110.4474897 | 110.4474897 | 110.4474897 | 109.1834648 | 105.6707392 | 102.2913767 | 99.03959761 | 95.90990478 |
| 181120A00007 | 11/20/2018 | 3.15 | 11/15/2021 | 11/20/2018 | 104.24752 | 104.2475239 | 104.2475239 | 104.2475239 | 103.9592274 | 102.490929 | 101.0508175 | 99.63815159 | 98.25221517 |
| 181128A00031 | 11/28/2018 | 3.29 | 11/28/2023 | 11/28/2018 | 110.5732 | 110.5731957 | 110.5731957 | 110.5731957 | 109.286203 | 105.7427983 | 102.3349941 | 99.05686521 | 95.90277893 |
| 181130A00037 | 11/30/2018 | 3.05 | 11/30/2023 | 11/30/2018 | 110.40091 | 110.4009068 | 110.4009068 | 110.4009068 | 109.1032802 | 105.5410621 | 102.1157675 | 98.82138944 | 95.65221864 |
| 181207A00018 | 12/7/2018 | 3.21 | 7/15/2024 | 12/7/2018 | 112.13096 | 112.1309595 | 112.1309595 | 112.1309595 | 110.3194624 | 106.1406668 | 102.1454855 | 98.32483752 | 94.67014343 |
| 181210A00015 | 12/10/2018 | 3.12 | 12/11/2023 | 12/10/2018 | 110.0737 | 110.0736957 | 110.0736957 | 110.0736957 | 108.7619917 | 105.1924966 | 101.7607703 | 98.46074097 | 95.28663927 |
| 181212A00027 | 12/12/2018 | 2.99 | 12/12/2023 | 12/12/2018 | 110.28328 | 110.2832807 | 110.2832807 | 110.2832807 | 108.9610073 | 105.3683395 | 101.9147782 | 98.59417421 | 95.40068538 |
| 181226A00045 | 12/26/2018 | 2.87 | 12/28/2020 | 12/26/2018 | 101.54574 | 101.5457434 | 101.5457434 | 101.5457434 | 101.427445 | 100.837336 | 100.2540795 | 99.67755683 | 99.10765188 |
| 181226A00059 | 12/26/2018 | 2.87 | 12/28/2020 | 12/26/2018 | 101.54574 | 101.5457434 | 101.5457434 | 101.5457434 | 101.427445 | 100.837336 | 100.2540795 | 99.67755683 | 99.10765188 |
| 181226A00060 | 12/26/2018 | 2.9 | 12/27/2021 | 12/26/2018 | 104.18031 | 104.1803115 | 104.1803115 | 104.1803115 | 103.8657103 | 102.2837534 | 100.7337547 | 99.21481399 | 97.72606442 |
| 181226A00062 | 12/26/2018 | 3.02 | 12/26/2023 | 12/26/2018 | 109.82914 | 109.8291426 | 109.8291426 | 109.8291426 | 108.4874209 | 104.8820815 | 101.4171828 | 98.08647627 | 94.88402836 |
| 181227A00022 | 12/27/2019 | 2.91 | 12/27/2022 | 12/27/2019 | 106.81378 | 106.8137822 | 106.8137822 | 106.8137822 | 106.1403641 | 103.5477764 | 101.0321603 | 98.59076249 | 96.22094701 |
| 190102A00003 | 1/2/2019 | 2.8 | 1/27/2021 | 1/2/2019 | 101.71633 | 101.7163295 | 101.7163295 | 101.7163295 | 101.5736207 | 100.9007926 | 100.2368623 | 99.58165421 | 98.93499733 |
| 190102A00043 | 1/2/2019 | 2.79 | 1/4/2021 | 1/2/2019 | 101.5477 | 101.5476988 | 101.5476988 | 101.5476988 | 101.423785 | 100.8144915 | 100.2125116 | 99.61771412 | 99.02997112 |
| 190104A00003 | 1/4/2019 | 2.81 | 1/4/2022 | 1/4/2019 | 104.09229 | 104.0922947 | 104.0922947 | 104.0922947 | 103.7732233 | 102.1705245 | 100.600477 | 99.06214991 | 97.55464731 |
| 190104A00021 | 1/4/2019 | 2.58 | 1/4/2021 | 1/4/2019 | 101.50398 | 101.5039816 | 101.5039816 | 101.5039816 | 101.3798731 | 100.7696705 | 100.1668074 | 99.57115197 | 98.9825753 |
| 190110A00016 | 1/10/2019 | 2.88 | 1/25/2022 | 1/10/2019 | 104.35666 | 104.3566615 | 104.3566615 | 104.3566615 | 104.0251889 | 102.3643892 | 100.738184 | 99.14555712 | 97.58553213 |
| 190115A00025 | 1/15/2019 | 2.96 | 1/12/2024 | 1/15/2019 | 109.73728 | 109.7372769 | 109.7372769 | 109.7372769 | 108.3600687 | 104.7121132 | 101.2077236 | 97.84044422 | 94.60414834 |
| 190122A00041 | 1/22/2019 | 2.71 | 1/22/2021 | 1/22/2019 | 101.71297 | 101.7129725 | 101.7129725 | 101.7129725 | 101.5740703 | 100.9137551 | 100.2620194 | 99.61869653 | 98.98362437 |
| 190128A00035 | 1/28/2019 | 3.04 | 1/26/2024 | 1/28/2019 | 110.13541 | 110.1354096 | 110.1354096 | 110.1354096 | 108.7265492 | 105.0351759 | 101.490214 | 98.08502459 | 94.81331037 |
| 190131A00007 | 1/31/2019 | 2.67 | 1/31/2023 | 1/31/2019 | 106.91337 | 106.9133717 | 106.9133717 | 106.9133717 | 106.1844611 | 103.4874964 | 100.8730011 | 98.33792651 | 95.8793594 |
| 190131A00014 | 1/31/2019 | 2.79 | 1/29/2021 | 1/31/2019 | 101.72366 | 101.7236634 | 101.7236634 | 101.7236634 | 101.5793258 | 100.9010046 | 100.2317223 | 99.57129917 | 98.91956039 |
| 190208A00005 | 2/8/2019 | 2.63 | 2/8/2023 | 2/8/2019 | 106.86058 | 106.8605843 | 106.8605843 | 106.8605843 | 106.1193162 | 103.4012802 | 100.7669226 | 98.21312687 | 95.73691584 |
| 190211A00017 | 2/11/2019 | 3.12 | 2/11/2026 | 2/11/2019 | 116.1479 | 116.1479032 | 116.1479032 | 116.1479032 | 112.4557385 | 106.717419 | 101.3124439 | 96.21962497 | 91.41923517 |
| 190215A00005 | 2/15/2019 | 2.89 | 2/15/2024 | 2/15/2019 | 109.72425 | 109.7242541 | 109.7242541 | 109.7242541 | 108.274219 | 104.5388041 | 100.9534545 | 97.5112756 | 94.20573328 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190215A00046 | 2/15/2019 | 2.7 | 2/15/2024 | 2/15/2019 | 109.70902 | 109.7090236 | 109.7090236 | 109.7090236 | 108.2504531 | 104.4972267 | 100.8952245 | 97.43748085 | 94.11739539 |
| 190222A00021 | 2/22/2019 | 2.95 | 8/21/2024 | 2/22/2019 | 111.31824 | 111.318239 | 111.318239 | 111.318239 | 109.42046 | 105.1626845 | 101.0960429 | 97.21087831 | 93.49807995 |
| 190314A00018 | 3/14/2019 | 2.53 | 3/14/2022 | 3/14/2019 | 104.37602 | 104.3760219 | 104.3760219 | 104.3760219 | 104.0150412 | 102.2160291 | 100.4568499 | 98.7363256 | 97.05332319 |
| 190315A00014 | 3/15/2019 | 2.74 | 3/15/2024 | 3/15/2019 | 109.35632 | 109.3563185 | 109.3563185 | 109.3563185 | 107.844667 | 104.0391059 | 100.3893722 | 96.8882401 | 93.52886011 |
| 190315A00026 | 3/15/2019 | 2.66 | 1/19/2021 | 3/15/2019 | 101.5685 | 101.568496 | 101.568496 | 101.568496 | 101.4323852 | 100.781974 | 100.139898 | 99.50599745 | 98.88011691 |
| 190320A00005 | 3/20/2019 | 2.75 | 3/20/2024 | 3/20/2019 | 109.42809 | 109.4280914 | 109.4280914 | 109.4280914 | 107.9049943 | 104.0844173 | 100.4207883 | 96.90682907 | 93.53563867 |
| 190326A00003 | 3/26/2019 | 2.57 | 3/27/2023 | 3/26/2019 | 106.49055 | 106.4905478 | 106.4905478 | 106.4905478 | 105.6790534 | 102.8479384 | 100.1073712 | 97.45397746 | 94.88452718 |
| 190327A00013 | 3/27/2019 | 2.53 | 3/27/2024 | 3/27/2019 | 108.62564 | 108.6256431 | 108.6256431 | 108.6256431 | 107.0914066 | 103.266992 | 99.60058173 | 96.08484295 | 92.71282106 |
| 190328A00023 | 3/28/2019 | 2.51 | 2/24/2021 | 3/28/2019 | 101.69547 | 101.6954674 | 101.6954674 | 101.6954674 | 101.5316033 | 100.7823775 | 100.0441867 | 99.3167885 | 98.59994748 |
| 190402A00014 | 4/2/2019 | 2.64 | 4/2/2024 | 4/2/2019 | 109.08891 | 109.0889103 | 109.0889103 | 109.0889103 | 107.5386978 | 103.689828 | 100.0004975 | 96.46328452 | 93.07115045 |
| 190404A00024 | 4/5/2019 | 2.61 | 2/15/2022 | 4/5/2019 | 104.03806 | 104.0380583 | 104.0380583 | 104.0380583 | 103.6950556 | 101.9798246 | 100.3012322 | 98.65816915 | 97.04957102 |
| 190409A00020 | 4/9/2019 | 2.41 | 4/8/2022 | 4/9/2019 | 104.31686 | 104.3168582 | 104.3168582 | 104.3168582 | 103.9394219 | 102.0718518 | 100.2469941 | 98.46362259 | 96.72055421 |
| 190409A00033 | 4/9/2019 | 2.62 | 6/9/2023 | 4/9/2019 | 107.10696 | 107.1069611 | 107.1069611 | 107.1069611 | 106.1653715 | 103.1304253 | 100.1987131 | 97.36614513 | 94.62881807 |
| 190409A00041 | 4/9/2019 | 2.57 | 4/5/2021 | 4/9/2019 | 101.98753 | 101.9875293 | 101.9875293 | 101.9875293 | 101.7952732 | 100.935864 | 100.0909412 | 99.26014086 | 98.44311081 |
| 190411A00019 | 5/1/2019 | 2.63 | 5/2/2022 | 5/1/2019 | 104.5445 | 104.5445043 | 104.5445043 | 104.5445043 | 104.1504097 | 102.2232917 | 100.3415165 | 98.50374413 | 96.70868304 |
| 190412A00014 | 4/12/2019 | 2.63 | 4/12/2021 | 4/12/2019 | 102.08524 | 102.0852398 | 102.0852398 | 102.0852398 | 101.8882537 | 101.0093191 | 100.1455295 | 99.29649564 | 98.46184157 |
| 190424A00019 | 4/24/2019 | 2.67 | 4/24/2024 | 4/24/2019 | 109.34895 | 109.3489463 | 109.3489463 | 109.3489463 | 107.7475372 | 103.8376822 | 100.0921416 | 96.50316424 | 93.0634048 |
| 190424A00023 | 4/24/2019 | 2.43 | 4/24/2023 | 4/24/2019 | 106.79379 | 106.7937855 | 106.7937855 | 106.7937855 | 105.9300357 | 103.0093018 | 100.1844828 | 97.45191796 | 94.80810655 |
| 190426A00009 | 4/26/2019 | 2.63 | 4/26/2024 | 4/26/2019 | 109.20429 | 109.2042917 | 109.2042917 | 109.2042917 | 107.5991753 | 103.6870463 | 99.93956852 | 96.3489644 | 92.90786412 |
| 190430A00001 | 4/30/2019 | 2.47 | 5/2/2024 | 4/30/2019 | 109.34444 | 109.3444435 | 109.3444435 | 109.3444435 | 107.7147461 | 103.7646605 | 99.98194509 | 96.35864252 | 92.88721551 |
| 190507A00006 | 5/7/2019 | 2.57 | 5/8/2023 | 5/7/2019 | 106.75382 | 106.7538243 | 106.7538243 | 106.7538243 | 105.8701798 | 102.9252368 | 100.0779521 | 97.32455988 | 94.66146095 |
| 190507A00027 | 5/7/2019 | 2.59 | 5/7/2024 | 5/7/2019 | 109.11579 | 109.1157908 | 109.1157908 | 109.1157908 | 107.4858873 | 103.5469148 | 99.77496041 | 96.16207535 | 92.70073092 |
| 190514A00073 | 5/14/2019 | 2.53 | 5/14/2024 | 5/14/2019 | 108.92024 | 108.9202411 | 108.9202411 | 108.9202411 | 107.2752771 | 103.3218383 | 99.53686629 | 95.91230358 | 92.44052081 |
| 190517A00005 | 5/17/2019 | 2.31 | 5/17/2024 | 5/17/2019 | 108.79945 | 108.7994461 | 108.7994461 | 108.7994461 | 107.1378938 | 103.1589524 | 99.35044106 | 95.70417008 | 92.21238682 |
| 190520A00025 | 5/20/2019 | 2.32 | 5/20/2021 | 5/20/2019 | 102.17563 | 102.1756273 | 102.1756273 | 102.1756273 | 101.9573456 | 100.9724679 | 100.00657 | 99.05910701 | 98.12955487 |
| 190523A00009 | 5/23/2019 | 2.43 | 5/21/2021 | 5/23/2019 | 102.13273 | 102.1327266 | 102.1327266 | 102.1327266 | 101.9145552 | 100.9294288 | 99.9633043 | 99.01563594 | 98.08589847 |
| 190523A00015 | 5/23/2019 | 2.51 | 4/1/2024 | 5/23/2019 | 108.57879 | 108.5787908 | 108.5787908 | 108.5787908 | 107.0336192 | 103.1970373 | 99.5194907 | 95.99358376 | 92.6123021 |
| 190524A00005 | 5/24/2019 | 2.34 | 11/24/2020 | 5/24/2019 | 101.10463 | 101.1046263 | 101.1046263 | 101.1046263 | 101.0108859 | 100.5145486 | 100.0230856 | 99.53642541 | 99.05449775 |
| 190524A00014 | 5/24/2019 | 2.24 | 5/24/2022 | 5/24/2019 | 104.26704 | 104.2670414 | 104.2670414 | 104.2670414 | 103.8535517 | 101.8626827 | 99.92020924 | 98.02465329 | 96.17459222 |
| 190524A00044 | 5/24/2019 | 2.27 | 5/24/2021 | 5/24/2019 | 102.15007 | 102.150072 | 102.150072 | 102.150072 | 101.9300118 | 100.9343692 | 99.95812081 | 99.00070427 | 98.06157862 |
| 190529A00006 | 5/29/2019 | 2.32 | 5/28/2021 | 5/29/2019 | 102.06336 | 102.0633593 | 102.0633593 | 102.0633593 | 101.8421153 | 100.8383533 | 99.85431616 | 98.88942691 | 97.94313096 |
| 190529A00011 | 5/29/2019 | 2.36 | 5/30/2023 | 5/29/2019 | 106.25494 | 106.2549391 | 106.2549391 | 106.2549391 | 105.3344577 | 102.3384255 | 99.44375917 | 96.64646999 | 93.94274943 |
| 190529A00089 | 5/29/2019 | 2.38 | 5/29/2024 | 5/29/2019 | 108.40701 | 108.4070099 | 108.4070099 | 108.4070099 | 106.7304233 | 102.7480398 | 98.9371817 | 95.28955866 | 91.79732541 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190530A00025 | 5/30/2019 | 2.36 | 6/1/2021 | 5/30/2019 | 102.12686 | 102.1268592 | 102.1268592 | 102.1268592 | 101.9044485 | 100.8894639 | 99.89464118 | 98.91938416 | 97.96311996 |
| 190530A00042 | 5/30/2019 | 2.3 | 11/30/2020 | 5/30/2019 | 101.12111 | 101.1211054 | 101.1211054 | 101.1211054 | 101.0235206 | 100.5106453 | 100.0029657 | 99.50040309 | 99.0028804 |
| 190531A00013 | 5/31/2019 | 2.31 | 12/6/2022 | 5/31/2019 | 105.13369 | 105.1336889 | 105.1336889 | 105.1336889 | 104.4945231 | 101.9805768 | 99.54024976 | 97.17095553 | 94.87021494 |
| 190531A00038 | 5/31/2019 | 2.82 | 5/31/2034 | 5/31/2019 | 138.06063 | 138.0606346 | 138.0606346 | 127.978435 | 113.5754148 | 100.7913698 | 89.64319813 | 79.91026259 | 71.40281939 |
| 190603A00018 | 6/3/2019 | 2.44 | 6/3/2020 | 6/3/2019 | 100.02877 | 100.0287723 | 100.0287723 | 100.0287723 | 100.026814 | 100.012958 | 99.99911516 | 99.98528564 | 99.97146937 |
| 190603A00031 | 6/3/2019 | 1.98 | 6/3/2022 | 6/3/2019 | 103.79567 | 103.7956675 | 103.7956675 | 103.7956675 | 103.3741289 | 101.3612574 | 99.39786939 | 97.48243437 | 95.61348005 |
| 190603A00040 | 6/3/2019 | 2.11 | 6/3/2022 | 6/3/2019 | 103.69216 | 103.6921565 | 103.6921565 | 103.6921565 | 103.2723306 | 101.2674739 | 99.31178667 | 97.40375141 | 95.54190841 |
| 190604A00030 | 6/4/2019 | 2.2 | 6/3/2022 | 6/4/2019 | 103.87533 | 103.8753307 | 103.8753307 | 103.8753307 | 103.4551219 | 101.4483696 | 99.49082397 | 97.58096653 | 95.71733654 |
| 190605A00005 | 6/5/2019 | 2.01 | 6/5/2024 | 6/5/2019 | 107.69421 | 107.6942113 | 107.6942113 | 107.6942113 | 105.9945914 | 101.9882418 | 98.15577036 | 94.4887156 | 90.97907376 |
| 190605A00017 | 6/5/2019 | 2.12 | 6/4/2021 | 6/5/2019 | 101.89726 | 101.8972603 | 101.8972603 | 101.8972603 | 101.6744663 | 100.6525841 | 99.65117516 | 98.66962885 | 97.70735867 |
| 190605A00058 | 6/5/2019 | 2.14 | 12/5/2022 | 6/5/2019 | 104.69539 | 104.6953946 | 104.6953946 | 104.6953946 | 104.0588337 | 101.5531965 | 99.12091879 | 96.75942493 | 94.46624616 |
| 190620A00056 | 6/25/2019 | 2.07 | 1/17/2023 | 6/25/2019 | 104.72746 | 104.7274621 | 104.7274621 | 104.7274621 | 104.0291121 | 101.4090131 | 98.86816575 | 96.40367912 | 94.01278848 |
| 190621A00003 | 6/21/2019 | 2.08 | 6/22/2020 | 6/21/2019 | 100.1309 | 100.1308974 | 100.1308974 | 100.1308974 | 100.121477 | 100.0548409 | 99.98830558 | 99.92187078 | 99.85553628 |
| 190621A00061 | 6/21/2019 | 2.12 | 6/21/2021 | 6/21/2019 | 101.98431 | 101.9843072 | 101.9843072 | 101.9843072 | 101.75777 | 100.6892386 | 99.64307348 | 98.61857807 | 97.61508433 |
| 190624A00026 | 6/24/2019 | 2.08 | 6/24/2022 | 6/24/2019 | 103.73484 | 103.7348424 | 103.7348424 | 103.7348424 | 103.2948653 | 101.2343259 | 99.22520325 | 97.26587269 | 95.35477327 |
| 190625A00012 | 6/25/2019 | 2.12 | 6/25/2024 | 6/25/2019 | 107.49383 | 107.4938274 | 107.4938274 | 107.4938274 | 105.7590782 | 101.7266983 | 97.87067263 | 94.18234931 | 90.65354902 |
| 190626A00004 | 6/26/2019 | 2.15 | 6/26/2024 | 6/26/2019 | 107.62216 | 107.6221604 | 107.6221604 | 107.6221604 | 105.8842813 | 101.8467914 | 97.98593935 | 94.29305578 | 90.75994482 |
| 190626A00010 | 6/26/2019 | 2.1 | 6/26/2023 | 6/26/2019 | 105.6015 | 105.6015031 | 105.6015031 | 105.6015031 | 104.6347614 | 101.5788971 | 98.62832249 | 95.77881226 | 93.02633674 |
| 190626A00033 | 6/26/2019 | 2.08 | 6/22/2021 | 6/26/2019 | 101.94627 | 101.9462747 | 101.9462747 | 101.9462747 | 101.7195689 | 100.6485427 | 99.59999193 | 98.5732147 | 97.56753822 |
| 190628A00027 | 6/28/2019 | 2.09 | 6/29/2020 | 6/28/2019 | 100.16994 | 100.1699369 | 100.1699369 | 100.1699369 | 100.1577693 | 100.0717096 | 99.98579667 | 99.90003022 | 99.81440983 |
| 190703A00015 | 7/3/2019 | 2.02 | 1/6/2021 | 7/3/2019 | 101.17247 | 101.1724673 | 101.1724673 | 101.1724673 | 101.0469453 | 100.4324139 | 99.82534675 | 99.22560825 | 98.6330662 |
| 190708A00011 | 7/8/2019 | 2.2 | 7/8/2024 | 7/8/2019 | 107.89031 | 107.8903088 | 107.8903088 | 107.8903088 | 106.1220534 | 102.04816 | 98.15360089 | 94.42951698 | 90.86753674 |
| 190710A00022 | 7/10/2019 | 2.22 | 7/10/2024 | 7/10/2019 | 107.98371 | 107.9837093 | 107.9837093 | 107.9837093 | 106.2100586 | 102.1290612 | 98.22788668 | 94.49764229 | 90.92992538 |
| 190711A00027 | 7/11/2019 | 2.19 | 7/11/2023 | 7/11/2019 | 105.95901 | 105.9590141 | 105.9590141 | 105.9590141 | 104.9634631 | 101.8623633 | 98.86916643 | 95.97949424 | 93.18917434 |
| 190717A00008 | 7/17/2019 | 2.22 | 7/17/2024 | 7/17/2019 | 108.02058 | 108.0205777 | 108.0205777 | 108.0205777 | 106.2298354 | 102.1298861 | 98.21128509 | 94.46502909 | 90.88261319 |
| 190719A00002 | 7/19/2019 | 2.12 | 4/21/2022 | 7/19/2019 | 103.49608 | 103.4960768 | 103.4960768 | 103.4960768 | 103.1122673 | 101.2246491 | 99.38085637 | 97.57961236 | 95.81968574 |
| 190724A00022 | 7/24/2019 | 1.94 | 7/23/2021 | 7/24/2019 | 102.12351 | 102.1235092 | 102.1235092 | 102.1235092 | 101.8909511 | 100.7319806 | 99.59926026 | 98.49190639 | 97.40907441 |
| 190724A00046 | 7/24/2019 | 2.12 | 7/23/2021 | 7/24/2019 | 102.14753 | 102.1475314 | 102.1475314 | 102.1475314 | 101.9155015 | 100.7591778 | 99.6289971 | 98.52408062 | 97.44358849 |
| 190805A00021 | 8/5/2019 | 1.89 | 1/16/2024 | 8/5/2019 | 105.84438 | 105.8443762 | 105.8443762 | 105.8443762 | 104.4778645 | 100.890086 | 97.44457625 | 94.13490592 | 90.95497484 |
| 190805A00049 | 8/5/2019 | 1.88 | 8/4/2023 | 8/5/2019 | 105.08824 | 105.0882419 | 105.0882419 | 105.0882419 | 104.0517012 | 100.9012269 | 97.86234276 | 94.93043658 | 92.10111773 |
| 190807A00017 | 8/7/2019 | 1.76 | 3/12/2024 | 8/7/2019 | 105.59323 | 105.5932331 | 105.5932331 | 105.5932331 | 104.1081893 | 100.3817138 | 96.80829533 | 93.38081961 | 90.0925444 |
| 190807A00021 | 8/7/2019 | 2 | 8/7/2026 | 8/7/2019 | 110.53886 | 110.5388586 | 110.5388586 | 110.5388586 | 106.1221292 | 100.1195167 | 94.49518705 | 89.22333254 | 84.28003939 |
| 190807A00039 | 8/7/2019 | 2.02 | 8/7/2020 | 8/7/2019 | 100.33728 | 100.3372762 | 100.3372762 | 100.3372762 | 100.3056312 | 100.1118002 | 99.91872772 | 99.72640923 | 99.53484032 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190808A00009 | 8/8/2019 | 1.89 | 8/8/2024 | 8/8/2019 | 106.74134 | 106.741339 | 106.741339 | 106.741339 | 104.9052469 | 100.7755881 | 96.83114474 | 93.06259855 | 89.4611548 |
| 190808A00015 | 8/8/2019 | 1.92 | 8/9/2021 | 8/8/2019 | 101.99205 | 101.9920508 | 101.9920508 | 101.9920508 | 101.7569804 | 100.5555933 | 99.38245281 | 98.23657183 | 97.11700875 |
| 190808A00049 | 8/8/2019 | 1.89 | 8/8/2024 | 8/8/2019 | 106.74134 | 106.741339 | 106.741339 | 106.741339 | 104.9052469 | 100.7755881 | 96.83114474 | 93.06259855 | 89.4611548 |
| 190809A00008 | 8/9/2019 | 1.87 | 8/3/2023 | 8/9/2019 | 105.05178 | 105.0517765 | 105.0517765 | 105.0517765 | 104.0172545 | 100.8699207 | 97.83399271 | 94.90486953 | 92.07817076 |
| 190809A00015 | 8/9/2019 | 1.88 | 8/9/2022 | 8/9/2019 | 103.51719 | 103.517188 | 103.517188 | 103.517188 | 103.0298075 | 100.8485521 | 98.72410323 | 96.65457074 | 94.63814349 |
| 190815A00007 | 8/15/2019 | 1.81 | 7/6/2023 | 8/15/2019 | 104.74276 | 104.7427626 | 104.7427626 | 104.7427626 | 103.7609727 | 100.692146 | 97.72989648 | 94.86991291 | 92.1080858 |
| 190815A00032 | 8/15/2019 | 1.83 | 8/13/2021 | 8/15/2019 | 101.90026 | 101.9002572 | 101.9002572 | 101.9002572 | 101.6644556 | 100.452842 | 99.26997533 | 98.11484195 | 96.98647538 |
| 190816A00021 | 8/16/2019 | 1.77 | 8/16/2023 | 8/16/2019 | 104.78376 | 104.7837605 | 104.7837605 | 104.7837605 | 103.7259232 | 100.5496807 | 97.48693503 | 94.5329517 | 91.68322604 |
| 190816A00036 | 8/16/2019 | 1.77 | 8/16/2024 | 8/16/2019 | 106.2664 | 106.266398 | 106.266398 | 106.266398 | 104.4137466 | 100.2740704 | 96.32099997 | 92.54510132 | 88.93747334 |
| 190819A00030 | 8/19/2019 | 2.01 | 8/20/2029 | 8/19/2019 | 117.60801 | 117.6080132 | 117.6080132 | 116.968685 | 107.5935105 | 98.83587821 | 90.86509659 | 83.60623718 | 76.99187206 |
| 190821A00016 | 8/21/2019 | 1.79 | 8/22/2022 | 8/21/2019 | 103.37116 | 103.3711601 | 103.3711601 | 103.3711601 | 102.8697416 | 100.6562219 | 98.50107849 | 96.40234101 | 94.358123 |
| 190823A00005 | 8/23/2019 | 1.62 | 8/23/2024 | 8/23/2019 | 106.43579 | 106.4357905 | 106.4357905 | 106.4357905 | 104.5524797 | 100.3697936 | 96.3769096 | 92.56417036 | 88.92246793 |
| 190826A00025 | 8/26/2019 | 1.76 | 11/26/2024 | 8/26/2019 | 106.63404 | 106.634039 | 106.634039 | 106.634039 | 104.5189443 | 100.1173631 | 95.9259818 | 91.93368693 | 88.13000996 |
| 190826A00056 | 8/26/2019 | 1.72 | 8/26/2024 | 8/26/2019 | 106.09309 | 106.0930913 | 106.0930913 | 106.0930913 | 104.2170866 | 100.0562349 | 96.08401783 | 92.29084404 | 88.66766728 |
| 190828A00008 | 8/28/2019 | 1.75 | 8/29/2022 | 8/28/2019 | 103.30911 | 103.3091092 | 103.3091092 | 103.3091092 | 102.8001019 | 100.569059 | 98.39725007 | 96.28266063 | 94.22336297 |
| 190828A00031 | 8/28/2019 | 1.71 | 8/28/2024 | 8/28/2019 | 106.0581 | 106.058101 | 106.058101 | 106.058101 | 104.1774329 | 100.0123623 | 96.03633301 | 92.23972187 | 88.61345354 |
| 190829A00024 | 8/29/2019 | 1.54 | 8/29/2024 | 8/29/2019 | 106.11651 | 106.1165101 | 106.1165101 | 106.1165101 | 104.2204726 | 100.0294946 | 96.02940424 | 92.21045427 | 88.56345391 |
| 190830A00021 | 8/30/2019 | 1.76 | 8/30/2024 | 8/30/2019 | 106.28032 | 106.2803225 | 106.2803225 | 106.2803225 | 104.3932397 | 100.218541 | 96.23347158 | 92.42837353 | 88.79413865 |
| 190906A00005 | 9/6/2019 | 1.77 | 9/6/2023 | 9/6/2019 | 104.86923 | 104.869226 | 104.869226 | 104.869226 | 103.7713617 | 100.5402028 | 97.42620699 | 94.4244479 | 91.53023851 |
| 190906A00014 | 9/6/2019 | 1.57 | 9/6/2024 | 9/6/2019 | 106.27773 | 106.2777258 | 106.2777258 | 106.2777258 | 104.3603747 | 100.145979 | 96.12435856 | 92.2856622 | 88.62059884 |
| 190912A00027 | 9/12/2019 | 1.95 | 9/12/2023 | 9/12/2019 | 105.49111 | 105.491115 | 105.491115 | 105.491115 | 104.3791802 | 101.122493 | 97.98430369 | 94.95963743 | 92.04375892 |
| 190912A00034 | 9/12/2019 | 1.76 | 9/12/2022 | 9/12/2019 | 103.80667 | 103.806666 | 103.806666 | 103.806666 | 103.2778227 | 100.9961098 | 98.77594463 | 96.61526806 | 94.51210557 |
| 190918A00016 | 9/18/2019 | 1.78 | 9/18/2024 | 9/18/2019 | 107.2411 | 107.2410965 | 107.2410965 | 107.2410965 | 105.286879 | 101.0219341 | 96.9531249 | 93.07042107 | 89.36435851 |
| 190925A00024 | 9/25/2019 | 1.88 | 4/14/2022 | 9/25/2019 | 103.00538 | 103.0053758 | 103.0053758 | 103.0053758 | 102.6274884 | 100.7629926 | 98.9414173 | 97.16152336 | 95.4221153 |
| 190926A00010 | 9/26/2019 | 2.11 | 9/30/2020 | 9/26/2019 | 100.63563 | 100.6356336 | 100.6356336 | 100.6356336 | 100.5747077 | 100.2315363 | 99.8906985 | 99.55217064 | 99.21592934 |
| 190926A00016 | 9/26/2019 | 2.28 | 5/24/2030 | 9/26/2019 | 119.69262 | 119.6926196 | 119.6926196 | 118.1615397 | 108.1286208 | 98.81551785 | 90.39484791 | 82.77609678 | 75.87836533 |
| 190926A00034 | 9/26/2019 | 1.88 | 9/26/2022 | 9/26/2019 | 103.72768 | 103.7276809 | 103.7276809 | 103.7276809 | 103.1845668 | 100.8757082 | 98.62982977 | 96.44486505 | 94.31882761 |
| 190927A00019 | 9/30/2019 | 1.91 | 9/30/2022 | 9/30/2019 | 103.8161 | 103.8161014 | 103.8161014 | 103.8161014 | 103.267966 | 100.947562 | 98.69069959 | 96.4952989 | 94.35935972 |
| 191001A00009 | 10/1/2019 | 1.84 | 10/1/2020 | 10/1/2019 | 100.598 | 100.5979953 | 100.5979953 | 100.5979953 | 100.5364139 | 100.1899928 | 99.84595562 | 99.50427777 | 99.16493503 |
| 191002A00016 | 10/2/2019 | 1.79 | 10/2/2023 | 10/2/2019 | 105.04243 | 105.0424274 | 105.0424274 | 105.0424274 | 103.893892 | 100.5934643 | 97.41493128 | 94.3531763 | 91.40332392 |
| 191003A00013 | 10/3/2019 | 1.66 | 10/3/2022 | 10/3/2019 | 103.23644 | 103.2364435 | 103.2364435 | 103.2364435 | 102.6859818 | 100.3644607 | 98.10676108 | 95.91078624 | 93.77452043 |
| 191004A00002 | 10/4/2019 | 2.08 | 10/4/2029 | 10/4/2019 | 116.58931 | 116.5893053 | 116.5893053 | 115.831049 | 106.4918371 | 97.76989923 | 89.8383524 | 82.62136024 | 76.05071734 |
| 191007A00024 | 10/7/2019 | 1.7 | 7/14/2022 | 10/7/2019 | 103.01682 | 103.0168201 | 103.0168201 | 103.0168201 | 102.5581816 | 100.4516725 | 98.39872631 | 96.39761128 | 94.4466655 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 191008A00033 | 10/8/2019 | 1.71 | 10/8/2024 | 10/8/2019 | 106.21744 | 106.217444 | 106.217444 | 106.217444 | 104.2325302 | 99.96200768 | 95.88980977 | 92.00574514 | 88.3001966 |
| 191009A00018 | 10/9/2019 | 1.74 | 10/12/2021 | 10/9/2019 | 102.02 | 102.0199993 | 102.0199993 | 102.0199993 | 101.7579306 | 100.3975763 | 99.06183005 | 97.75008216 | 96.46174247 |
| 191009A00027 | 10/9/2019 | 1.74 | 10/6/2023 | 10/9/2019 | 104.88955 | 104.8895482 | 104.8895482 | 104.8895482 | 103.7338255 | 100.4254868 | 97.23973511 | 94.17140818 | 91.21558815 |
| 191017A00025 | 10/17/2019 | 1.74 | 10/19/2020 | 10/17/2019 | 100.64423 | 100.6442303 | 100.6442303 | 100.6442303 | 100.5724603 | 100.1763684 | 99.78340109 | 99.3935214 | 99.00669294 |
| 191021A00034 | 10/22/2019 | 1.9 | 10/17/2022 | 10/22/2019 | 103.86747 | 103.8674712 | 103.8674712 | 103.8674712 | 103.297844 | 100.9312299 | 98.63061332 | 96.39379319 | 94.2186548 |
| 191022A00018 | 10/22/2019 | 1.9 | 10/22/2020 | 10/22/2019 | 100.66682 | 100.6668155 | 100.6668155 | 100.6668155 | 100.5934614 | 100.1897073 | 99.78919275 | 99.3918789 | 98.99772744 |
| 191108A00011 | 11/8/2019 | 2.08 | 10/18/2024 | 11/8/2019 | 107.89262 | 107.8926214 | 107.8926214 | 107.8926214 | 105.8704024 | 101.5381933 | 97.40789032 | 93.46906858 | 89.71189379 |
| 191115A00011 | 11/15/2019 | 1.89 | 11/16/2020 | 11/15/2019 | 100.77623 | 100.776228 | 100.776228 | 100.776228 | 100.6877559 | 100.2151183 | 99.74691748 | 99.28309122 | 98.82357825 |
| 191115A00014 | 11/18/2019 | 2.45 | 11/18/2024 | 11/18/2019 | 109.71235 | 109.712347 | 109.712347 | 109.712347 | 107.5959588 | 103.1460726 | 98.90681427 | 94.86712259 | 91.01657453 |
| 191115A00016 | 11/18/2019 | 2.48 | 11/18/2024 | 11/18/2019 | 109.84759 | 109.8475874 | 109.8475874 | 109.8475874 | 107.7302209 | 103.2773517 | 99.03521226 | 94.99273717 | 91.13949923 |
| 191119A00027 | 11/19/2019 | 1.8 | 11/19/2024 | 11/19/2019 | 107.61636 | 107.6163571 | 107.6163571 | 107.6163571 | 105.4979398 | 101.0676397 | 96.84843002 | 92.82917367 | 88.99937876 |
| 191120A00027 | 11/20/2019 | 1.73 | 11/20/2020 | 11/20/2019 | 100.78351 | 100.7835061 | 100.7835061 | 100.7835061 | 100.692406 | 100.2079831 | 99.72822009 | 99.25304988 | 98.78240663 |
| 191120A00032 | 11/20/2019 | 1.73 | 5/20/2021 | 11/20/2019 | 101.59255 | 101.5925529 | 101.5925529 | 101.5925529 | 101.3749115 | 100.3931331 | 99.43029266 | 98.48584634 | 97.55927094 |
| 191121A00034 | 11/21/2019 | 2.28 | 11/2/2029 | 11/21/2019 | 118.61329 | 118.6132874 | 118.6132874 | 117.7681615 | 108.2880285 | 99.42019693 | 91.35999963 | 84.02945485 | 77.35848201 |
| 191122A00021 | 11/26/2019 | 3.4 | 11/22/2038 | 11/26/2019 | 156.39103 | 156.3910275 | 156.3910275 | 138.2271796 | 119.5680401 | 103.6382243 | 90.2312743 | 78.92276451 | 69.3623083 |
| 191125A00036 | 11/25/2019 | 2.29 | 11/23/2029 | 11/25/2019 | 118.82027 | 118.8202693 | 118.8202693 | 117.9094552 | 108.3696553 | 99.45204648 | 91.35093681 | 83.98705713 | 77.28921483 |
| 191206A00009 | 12/6/2019 | 2.87 | 12/4/2037 | 12/6/2019 | 144.35514 | 144.3551377 | 144.3551377 | 128.2284348 | 111.1145574 | 96.44355948 | 84.02538723 | 73.49489075 | 64.54816478 |
| 191210A00010 | 12/10/2019 | 1.91 | 12/10/2020 | 12/10/2019 | 100.89586 | 100.8958627 | 100.8958627 | 100.8958627 | 100.7912031 | 100.2524805 | 99.71950991 | 99.19219952 | 98.67045939 |
| 191217A00012 | 12/20/2019 | 2.03 | 12/20/2024 | 12/20/2019 | 107.92392 | 107.9239163 | 107.9239163 | 107.9239163 | 105.735802 | 101.2458306 | 96.97243487 | 92.90403816 | 89.02974422 |
| 191223A00022 | 12/23/2019 | 1.93 | 12/30/2021 | 12/23/2019 | 102.64298 | 102.6429823 | 102.6429823 | 102.6429823 | 102.3291754 | 100.7518079 | 99.20643344 | 97.69214662 | 96.20807573 |
| 200115A00017 | 1/15/2020 | 1.88 | 1/17/2023 | 1/15/2020 | 104.22128 | 104.2212788 | 104.2212788 | 104.2212788 | 103.5244048 | 100.9110683 | 98.37682733 | 95.9187961 | 93.53421451 |
| 200122A00035 | 1/22/2020 | 1.94 | 1/22/2025 | 1/22/2020 | 107.65833 | 107.6583332 | 107.6583332 | 107.6583332 | 105.381874 | 100.8157757 | 96.47356728 | 92.34308567 | 88.41289551 |
| 200124A00008 | 1/24/2020 | 1.92 | 1/22/2027 | 1/24/2020 | 112.10641 | 112.1064131 | 112.1064131 | 112.1064131 | 106.8165901 | 100.3335616 | 94.28695079 | 88.64512792 | 83.37891456 |
| 200127A00016 | 1/27/2020 | 1.81 | 1/27/2025 | 1/27/2020 | 107.06996 | 107.0699554 | 107.0699554 | 107.0699554 | 104.7843364 | 100.2194449 | 95.87911092 | 91.75110064 | 87.82391435 |
| 200130A00015 | 1/30/2020 | 1.63 | 7/30/2021 | 1/30/2020 | 101.79144 | 101.7914362 | 101.7914362 | 101.7914362 | 101.5581973 | 100.3822769 | 99.23343044 | 98.11073208 | 97.01329762 |
| 200130A00025 | 1/30/2020 | 1.54 | 1/30/2023 | 1/30/2020 | 103.84782 | 103.8478206 | 103.8478206 | 103.8478206 | 103.1296084 | 100.4769448 | 97.90562802 | 95.41264896 | 92.99513165 |
| 200131A00047 | 1/31/2020 | 1.68 | 1/31/2023 | 1/31/2020 | 103.74201 | 103.7420095 | 103.7420095 | 103.7420095 | 103.025821 | 100.3825522 | 97.82020674 | 95.33579505 | 92.92645997 |
| 200203A00012 | 2/3/2020 | 1.57 | 2/3/2025 | 2/3/2020 | 106.87944 | 106.8794401 | 106.8794401 | 106.8794401 | 104.55827 | 99.95284485 | 95.57559918 | 91.41402047 | 87.45635227 |
| 200204A00016 | 2/4/2020 | 1.72 | 2/6/2023 | 2/4/2020 | 103.87359 | 103.8735881 | 103.8735881 | 103.8735881 | 103.1477639 | 100.4867138 | 97.90753014 | 95.40717152 | 92.98273226 |
| 200207A00018 | 2/7/2020 | 2.14 | 2/7/2030 | 2/7/2020 | 117.77368 | 117.7736783 | 117.7736783 | 116.6175908 | 106.9210019 | 97.90051045 | 89.72323848 | 82.30573149 | 75.57319993 |
| 200211A00022 | 2/11/2020 | 1.73 | 2/10/2023 | 2/11/2020 | 103.91654 | 103.9165377 | 103.9165377 | 103.9165377 | 103.1844229 | 100.5121252 | 97.92231151 | 95.41190605 | 92.97797093 |
| 200214A00002 | 2/14/2020 | 1.58 | 11/15/2024 | 2/14/2020 | 106.60375 | 106.6037477 | 106.6037477 | 106.6037477 | 104.5032802 | 100.1052911 | 95.91666809 | 91.92638337 | 88.12404656 |
| 200214A00004 | 2/14/2020 | 1.81 | 2/16/2021 | 2/14/2020 | 101.13471 | 101.134711 | 101.134711 | 101.134711 | 100.9772973 | 100.2521681 | 99.53742642 | 98.83285007 | 98.13822329 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200214A00017 | 2/14/2020 | 1.59 | 2/14/2025 | 2/14/2020 | 107.01888 | 107.0188779 | 107.0188779 | 107.0188779 | 104.6653331 | 100.0286354 | 95.62292349 | 91.4354591 | 87.45427858 |
| 200218A00008 | 2/18/2020 | 1.77 | 2/18/2021 | 2/18/2020 | 101.11389 | 101.1138911 | 101.1138911 | 101.1138911 | 100.9549948 | 100.224507 | 99.50456084 | 98.79492922 | 98.09539164 |
| 200218A00028 | 2/18/2020 | 1.73 | 2/21/2023 | 2/18/2020 | 103.95987 | 103.9598711 | 103.9598711 | 103.9598711 | 103.2106854 | 100.5084926 | 97.89046948 | 95.35344556 | 92.89439427 |
| 200220A00008 | 2/20/2020 | 1.74 | 2/20/2024 | 2/20/2020 | 105.4339 | 105.433901 | 105.433901 | 105.433901 | 103.9951757 | 100.3265548 | 96.80661889 | 93.42849547 | 90.18567325 |
| 200220A00025 | 2/20/2020 | 1.72 | 2/21/2023 | 2/20/2020 | 103.93227 | 103.9322655 | 103.9322655 | 103.9322655 | 103.1831646 | 100.4813534 | 97.86370268 | 95.32704251 | 92.86834652 |
| 200224A00018 | 2/24/2020 | 1.58 | 8/19/2024 | 2/24/2020 | 105.46945 | 105.4694492 | 105.4694492 | 105.4694492 | 103.6146244 | 99.48415363 | 95.54038795 | 91.77386718 | 88.17566667 |
| 200225A00003 | 2/25/2020 | 1.54 | 2/27/2023 | 2/25/2020 | 103.45586 | 103.455862 | 103.455862 | 103.455862 | 102.699002 | 99.98784555 | 97.36161125 | 94.81708205 | 92.35118776 |
| 200225A00005 | 2/25/2020 | 1.57 | 2/25/2025 | 2/25/2020 | 106.09081 | 106.0908082 | 106.0908082 | 106.0908082 | 103.730724 | 99.11416074 | 94.7284446 | 90.56079759 | 86.59922201 |
| 200227A00006 | 2/27/2020 | 1.47 | 2/27/2025 | 2/27/2020 | 105.6193 | 105.6192955 | 105.6192955 | 105.6192955 | 103.2574296 | 98.64685662 | 94.2672218 | 90.10572463 | 86.15034726 |
| 200227A00011 | 2/27/2020 | 1.42 | 2/28/2022 | 2/27/2020 | 102.01147 | 102.0114663 | 102.0114663 | 102.0114663 | 101.6646715 | 99.93231146 | 98.23759726 | 96.57936749 | 94.95650906 |
| 200227A00013 | 2/27/2020 | 1.43 | 2/27/2024 | 2/27/2020 | 104.28966 | 104.2896588 | 104.2896588 | 104.2896588 | 102.8419326 | 99.1770516 | 95.66157529 | 92.28856157 | 89.05143532 |
| 200227A00022 | 2/27/2020 | 1.41 | 2/27/2023 | 2/27/2020 | 103.09484 | 103.0948411 | 103.0948411 | 103.0948411 | 102.3390996 | 99.63295988 | 97.01162337 | 94.47187684 | 92.01065373 |
| 200228A00005 | 2/28/2020 | 1.35 | 2/28/2024 | 2/28/2020 | 103.99009 | 103.9900882 | 103.9900882 | 103.9900882 | 102.5417952 | 98.88000717 | 95.36765056 | 91.99777623 | 88.76380268 |
| 200228A00019 | 2/28/2020 | 1.21 | 2/20/2025 | 2/28/2020 | 105.2245 | 105.2245006 | 105.2245006 | 105.2245006 | 102.8684041 | 98.25827536 | 93.87910524 | 89.71810088 | 85.76325066 |
| 200228A00040 | 2/28/2020 | 1.14 | 2/28/2023 | 2/28/2020 | 102.84705 | 102.8470465 | 102.8470465 | 102.8470465 | 102.0870045 | 99.37056926 | 96.73958407 | 94.19080009 | 91.72111733 |
| 200228A00042 | 2/28/2020 | 1.17 | 2/28/2024 | 2/28/2020 | 103.99279 | 103.9927943 | 103.9927943 | 103.9927943 | 102.5357363 | 98.85583762 | 95.32654772 | 91.94084505 | 88.69208043 |
| 200228A00058 | 2/28/2020 | 1.31 | 2/28/2022 | 2/28/2020 | 101.81643 | 101.8164294 | 101.8164294 | 101.8164294 | 101.4699907 | 99.73940299 | 98.0464284 | 96.38990651 | 94.7687251 |
| 200228A00065 | 2/28/2020 | 1.4 | 2/28/2025 | 2/28/2020 | 105.28738 | 105.2873807 | 105.2873807 | 105.2873807 | 102.9254141 | 98.32009333 | 93.94567493 | 89.78935069 | 85.83909615 |
| 200302A00028 | 3/2/2020 | 1.25 | 2/26/2024 | 3/2/2020 | 103.60644 | 103.6064404 | 103.6064404 | 103.6064404 | 102.1643975 | 98.51475298 | 95.01394163 | 91.6550491 | 88.43152638 |
| 200302A00051 | 3/2/2020 | 1.22 | 8/8/2023 | 3/2/2020 | 102.97853 | 102.9785317 | 102.9785317 | 102.9785317 | 101.9427831 | 98.81587693 | 95.80034708 | 92.89157015 | 90.08514568 |
| 200302A00053 | 3/2/2020 | 1.31 | 3/3/2025 | 3/2/2020 | 104.86472 | 104.8647225 | 104.8647225 | 104.8647225 | 102.4976191 | 97.89443318 | 93.52255832 | 89.36915286 | 85.42216027 |
| 200306A00065 | 3/6/2020 | 1.38 | 3/6/2030 | 3/6/2020 | 110.48806 | 110.4880602 | 110.4880602 | 109.2472632 | 99.73664988 | 90.99032667 | 83.07644638 | 75.9116059 | 69.42114532 |
| 200309A00003 | 3/9/2020 | 0.72 | 3/9/2022 | 3/9/2020 | 100.78076 | 100.7807642 | 100.7807642 | 100.7807642 | 100.4306797 | 98.68445608 | 96.97667135 | 95.30617251 | 93.67185206 |
| 200309A00056 | 3/9/2020 | 0.97 | 3/7/2025 | 3/9/2020 | 103.24143 | 103.2414296 | 103.2414296 | 103.2414296 | 100.8761871 | 96.30074496 | 91.9562619 | 87.82989161 | 83.90957255 |
| 200310A00022 | 3/10/2020 | 1.12 | 3/10/2027 | 3/10/2020 | 106.85985 | 106.8598486 | 106.8598486 | 106.8598486 | 101.4313868 | 95.0091746 | 89.03030449 | 83.46200428 | 78.27408446 |
| 200326A00029 | 3/26/2020 | 1.82 | 3/26/2027 | 3/26/2020 | 110.37108 | 110.3710755 | 110.3710755 | 110.3710755 | 104.8641422 | 98.33923111 | 92.26336792 | 86.60341429 | 81.32883373 |
| 200330A00041 | 4/1/2020 | 1.09 | 4/1/2025 | 4/1/2020 | 103.87174 | 103.8717419 | 103.8717419 | 103.8717419 | 101.4300445 | 96.77636409 | 92.36053088 | 88.16924596 | 84.19001777 |
| 200403A00016 | 4/3/2020 | 0.63 | 4/17/2023 | 4/3/2020 | 101.49333 | 101.4933254 | 101.4933254 | 101.4933254 | 100.6591693 | 97.83398571 | 95.1016528 | 92.45863805 | 89.90156275 |
| 200413A00031 | 4/13/2020 | 0.73 | 4/13/2022 | 4/13/2020 | 100.82238 | 100.8223771 | 100.8223771 | 100.8223771 | 100.4494452 | 98.60868762 | 96.81033454 | 95.05316298 | 93.33599307 |
| 200417A00016 | 4/21/2020 | 2.18 | 4/21/2025 | 4/21/2020 | 109.23815 | 109.2381489 | 109.2381489 | 109.2381489 | 106.6932159 | 101.8646786 | 97.28352185 | 92.93582568 | 88.80852245 |
| 200429A00017 | 5/4/2020 | 0.66 | 8/15/2022 | 5/4/2020 | 100.81468 | 100.8146819 | 100.8146819 | 100.8146819 | 100.3269369 | 98.16060065 | 96.05117601 | 93.99675417 | 91.99550687 |
| 200429A00043 | 5/1/2020 | 1.56 | 4/30/2025 | 5/1/2020 | 106.21344 | 106.2134429 | 106.2134429 | 106.2134429 | 103.6681057 | 98.89049203 | 94.3598416 | 90.06216469 | 85.98433304 |
| 200429A00045 | 5/1/2020 | 1.54 | 4/30/2025 | 5/1/2020 | 106.11438 | 106.1143795 | 106.1143795 | 106.1143795 | 103.5699017 | 98.79467739 | 94.26632802 | 89.97086791 | 85.89517262 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200429A00051 | 5/1/2020 | 2.54 | 4/30/2025 | 5/1/2020 | 111.06755 | 111.0675498 | 111.0675498 | 111.0675498 | 108.4800995 | 103.585409 | 98.942007 | 94.53570679 | 90.35319337 |
| 200430A00007 | 4/30/2020 | 0.72 | 4/28/2023 | 4/30/2020 | 101.24802 | 101.2480161 | 101.2480161 | 101.2480161 | 100.4004855 | 97.5630382 | 94.81950071 | 92.16627465 | 89.59991952 |
| 200504A00004 | 5/4/2020 | 0.75 | 5/5/2025 | 5/4/2020 | 103.15157 | 103.151574 | 103.151574 | 103.151574 | 100.5977741 | 95.85232575 | 91.35479028 | 87.09101483 | 83.04772408 |
| 200506A00010 | 5/6/2020 | 0.94 | 5/6/2026 | 5/6/2020 | 104.9294 | 104.9294031 | 104.9294031 | 104.9294031 | 100.9712968 | 95.30793066 | 89.99265491 | 85.00240509 | 80.31575493 |
| 200511A00014 | 5/11/2020 | 0.52 | 2/1/2022 | 5/11/2020 | 100.39855 | 100.3985525 | 100.3985525 | 100.3985525 | 100.070017 | 98.42490915 | 96.81444012 | 95.23758114 | 93.69334427 |
| 200511A00016 | 5/11/2020 | 0.71 | 2/1/2024 | 5/11/2020 | 101.53736 | 101.5373619 | 101.5373619 | 101.5373619 | 100.1588846 | 96.60951438 | 93.20309046 | 89.93306939 | 86.79324723 |
| 200515A00001 | 5/15/2020 | 0.59 | 5/15/2023 | 5/15/2020 | 100.87911 | 100.8791095 | 100.8791095 | 100.8791095 | 100.0035967 | 97.12754602 | 94.3482097 | 91.66182159 | 89.06478364 |
| 200527A00021 | 5/27/2020 | 0.53 | 11/26/2021 | 5/27/2020 | 100.37021 | 100.3702146 | 100.3702146 | 100.3702146 | 100.0805217 | 98.61348472 | 97.17520978 | 95.76492686 | 94.38189287 |
| 200529A00008 | 5/29/2020 | 0.33 | 5/31/2022 | 5/29/2020 | 100.42938 | 100.4293765 | 100.4293765 | 100.4293765 | 100.0177428 | 98.04759685 | 96.12593312 | 94.25125567 | 92.42212535 |
| 120330A00019 | 3/30/2012 | 2.71 | 3/30/2027 | 3/30/2017 | 100.21869 | 100.2186914 | 100.2186914 | 100.2186914 | 100.2060793 | 100.1162988 | 99.40316344 | 97.03278314 | 94.13940739 |
| 121121A00026 | 11/21/2012 | 1.63 | 11/21/2022 | 11/21/2017 | 100.09288 | 100.0928794 | 100.0928794 | 100.0928794 | 100.0805769 | 99.84869878 | 98.91986394 | 97.75958338 | 96.59150641 |
| 130322A00001 | 3/22/2013 | 2.06 | 3/22/2023 | 3/22/2018 | 100.16169 | 100.1616944 | 100.1616944 | 100.1616944 | 100.1490742 | 100.0324793 | 99.0572035 | 97.17867092 | 95.1214823 |
| 150409A00033 | 4/9/2015 | 2.03 | 4/9/2025 | 4/9/2020 | 100.15819 | 100.1581908 | 100.1581908 | 100.1581908 | 100.1456449 | 99.99215378 | 98.75631524 | 96.68172067 | 94.48327903 |
| 160128A00029 | 1/29/2016 | 3.45 | 1/29/2036 | 1/29/2021 | 102.22628 | 102.2262798 | 102.2262798 | 102.2262798 | 102.0834243 | 101.1856425 | 98.53582249 | 93.58929435 | 87.92417521 |
| 170411A00031 | 4/11/2017 | 3.39 | 4/12/2032 | 4/11/2022 | 105.56614 | 105.5661362 | 105.5661362 | 105.5661362 | 105.1574063 | 102.8630007 | 99.6076063 | 95.39656921 | 90.80372173 |
| 180315A00030 | 3/15/2018 | 3.76 | 3/15/2033 | 3/17/2025 | 116.72865 | 116.7286513 | 116.7286513 | 116.7286252 | 113.617377 | 107.3803833 | 100.557749 | 93.44317458 | 86.45740484 |
| 180703A00033 | 7/3/2018 | 3.4 | 7/3/2028 | 7/3/2023 | 108.13476 | 108.1347554 | 108.1347554 | 108.1347554 | 107.2824438 | 104.416282 | 101.3267612 | 97.99826337 | 94.56352804 |
| 190409A00016 | 4/9/2019 | 2.91 | 4/9/2029 | 4/9/2024 | 109.73604 | 109.7360445 | 109.7360445 | 109.7360445 | 108.0374004 | 103.7155863 | 99.02864523 | 94.15305942 | 89.32838788 |
| 190409A00017 | 4/9/2019 | 3.01 | 4/9/2029 | 4/9/2024 | 110.53328 | 110.5332818 | 110.5332818 | 110.5332818 | 108.7075907 | 104.0951161 | 99.01497453 | 93.66773492 | 88.33456433 |
| 190520A00018 | 5/20/2019 | 3.7 | 5/20/2044 | 5/20/2024 | 112.861 | 112.8609996 | 112.8609996 | 112.8602025 | 109.820842 | 103.1023441 | 95.40323149 | 87.49316878 | 80.02670169 |
| 200423A00008 | 4/23/2020 | 1.59 | 4/23/2030 | 4/23/2025 | 106.81431 | 106.8143052 | 106.8143052 | 106.8141385 | 101.9376847 | 95.03247487 | 88.29635099 | 81.94553126 | 76.0734944 |
| 200423A00009 | 4/23/2020 | 1.59 | 4/23/2030 | 4/23/2025 | 106.81431 | 106.8143052 | 106.8143052 | 106.8141385 | 101.9376847 | 95.03247487 | 88.29635099 | 81.94553126 | 76.0734944 |
| 111215A00019 | 12/15/2011 | 2.53 | 12/15/2026 | 12/15/2021 | 103.4279 | 103.4279008 | 103.4279008 | 103.4279008 | 103.1362907 | 101.4989643 | 99.35482618 | 96.70418435 | 93.86644599 |
| 120924A00030 | 9/24/2012 | 2.2 | 9/24/2027 | 9/25/2017 | 100.17392 | 100.1739235 | 100.1739235 | 100.1739235 | 100.1613097 | 99.93310731 | 98.0361214 | 95.04629822 | 91.91664623 |
| 130416A00025 | 4/16/2013 | 2.27 | 4/18/2028 | 4/16/2018 | 100.18022 | 100.18022 | 100.18022 | 100.18022 | 100.1675952 | 99.93563688 | 97.93286064 | 94.74438429 | 91.40364466 |
| 140328A00011 | 3/28/2014 | 3.32 | 3/30/2026 | 3/29/2021 | 102.63917 | 102.6391713 | 102.6391713 | 102.6391713 | 102.4546809 | 101.5989068 | 100.3439303 | 97.85516155 | 94.3173523 |
| 140416A00025 | 4/14/2014 | 3.56 | 4/16/2029 | 4/14/2021 | 103.11124 | 103.1112352 | 103.1112352 | 103.1112352 | 102.9071882 | 101.9339239 | 100.2964903 | 97.02753726 | 92.58371083 |
| 141119A00005 | 11/19/2014 | 2.53 | 11/19/2024 | 11/19/2019 | 100.17249 | 100.1724854 | 100.1724854 | 100.1724854 | 100.1600005 | 100.0699074 | 99.42429855 | 97.69606823 | 95.69165173 |
| 141224A00038 | 12/24/2014 | 2.93 | 12/24/2024 | 12/24/2019 | 100.20748 | 100.2074762 | 100.2074762 | 100.2074762 | 100.1948737 | 100.1067159 | 99.51187771 | 97.23193244 | 94.30036066 |
| 151005A00020 | 10/5/2015 | 2.27 | 10/6/2025 | 10/5/2020 | 100.93743 | 100.9374288 | 100.9374288 | 100.9374288 | 100.8447946 | 100.1864868 | 98.66883324 | 96.42051303 | 94.03140445 |
| 160105A00024 | 1/5/2016 | 3.78 | 1/4/2036 | 1/5/2021 | 102.32202 | 102.3220215 | 102.3220215 | 102.3220215 | 102.1798256 | 101.3708126 | 99.13409144 | 94.51207166 | 88.93271356 |
| 160825A00032 | 8/25/2016 | 3.14 | 8/25/2036 | 8/25/2021 | 103.46971 | 103.4697146 | 103.4697146 | 103.4697146 | 103.1343167 | 100.5487406 | 95.91222058 | 90.13212692 | 84.32670522 |
| 161012A00009 | 10/12/2016 | 2.56 | 10/14/2031 | 10/12/2021 | 103.31091 | 103.3109084 | 103.3109084 | 103.3109084 | 102.9758821 | 100.6994913 | 97.08889808 | 92.67471764 | 88.17345895 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 161118A00013 | 11/18/2016 | 2.96 | 11/18/2026 | 11/18/2021 | 104.24178 | 104.2417775 | 104.2417775 | 104.2417775 | 103.9349899 | 102.0925041 | 99.25796939 | 95.28094071 | 90.76942795 |
| 170809A00042 | 8/9/2017 | 2.35 | 8/9/2027 | 8/9/2022 | 104.33523 | 104.3352338 | 104.3352338 | 104.3352338 | 103.8349931 | 101.4754923 | 98.69284064 | 95.62646119 | 92.51649758 |
| 181212A00026 | 12/12/2018 | 3.22 | 12/12/2028 | 12/12/2023 | 109.10701 | 109.1070119 | 109.1070119 | 109.1070119 | 108.0178451 | 104.7943159 | 101.3824387 | 97.79690643 | 94.16582962 |
| 190111A00040 | 1/11/2019 | 3.74 | 1/11/2034 | 1/11/2024 | 112.61993 | 112.6199273 | 112.6199273 | 112.619927 | 110.8785423 | 106.0044524 | 100.1876391 | 93.72240235 | 87.17869519 |
| 190930A00079 | 9/30/2019 | 2.04 | 10/1/2029 | 9/30/2024 | 106.67289 | 106.6728907 | 106.6728907 | 106.6728907 | 104.750191 | 100.6364179 | 96.51307263 | 92.49136306 | 88.65074503 |
| 200430A00021 | 4/30/2020 | 1.2 | 4/30/2030 | 4/30/2025 | 103.43256 | 103.4325626 | 103.4325626 | 103.4325571 | 100.4667916 | 95.90699022 | 91.56426211 | 87.4711559 | 83.63287079 |
| 111005A00009 | 10/5/2011 | 2.72 | 10/5/2026 | 10/5/2016 | 100.21942 | 100.2194195 | 100.2194195 | 100.2194195 | 100.2068165 | 100.1183876 | 99.51756207 | 97.33693446 | 94.6097218 |
| 130409A00013 | 4/9/2013 | 1.76 | 4/11/2023 | 4/9/2018 | 100.10443 | 100.1044258 | 100.1044258 | 100.1044258 | 100.0920677 | 99.88677404 | 98.88705075 | 97.55665791 | 96.20369992 |
| 130614A00011 | 6/14/2013 | 2.95 | 6/14/2028 | 6/14/2018 | 100.24022 | 100.2402218 | 100.2402218 | 100.2402218 | 100.2275837 | 100.1396196 | 99.50980137 | 96.9425992 | 93.6314312 |
| 140714A00012 | 7/14/2014 | 3.04 | 7/16/2029 | 7/15/2019 | 100.24843 | 100.2484277 | 100.2484277 | 100.2484277 | 100.2357739 | 100.1472759 | 99.42604319 | 96.54738197 | 92.86590296 |
| 150116A00005 | 1/16/2015 | 1.92 | 1/16/2025 | 1/16/2020 | 100.14844 | 100.1484387 | 100.1484387 | 100.1484387 | 100.1359051 | 99.95339556 | 98.65138105 | 96.64238543 | 94.54418882 |
| 160627A00034 | 6/27/2016 | 1.7 | 6/26/2026 | 6/28/2021 | 101.57725 | 101.5772496 | 101.5772496 | 101.5772496 | 101.3408721 | 99.74441427 | 97.41039467 | 94.75131348 | 92.09600284 |
| 160711A00011 | 7/11/2016 | 1.66 | 7/13/2026 | 7/11/2021 | 101.75563 | 101.7556325 | 101.7556325 | 101.7556325 | 101.4858027 | 99.69588508 | 97.25898744 | 94.55679275 | 91.87261882 |
| 171012A00039 | 10/12/2017 | 3.73 | 10/12/2032 | 10/13/2020 | 101.84459 | 101.8445888 | 101.8445888 | 101.8445888 | 101.7438706 | 101.1002043 | 98.58774826 | 92.76116752 | 85.90249806 |
| 180105A00006 | 1/5/2018 | 3.07 | 1/5/2028 | 1/5/2023 | 106.69596 | 106.6959561 | 106.6959561 | 106.6959561 | 106.0769801 | 103.5901022 | 100.81439 | 97.72207434 | 94.47663191 |
| 190827A00044 | 8/27/2019 | 1.9 | 8/27/2029 | 8/27/2024 | 106.07663 | 106.0766323 | 106.0766323 | 106.0766323 | 104.1623842 | 100.0725537 | 95.98139257 | 92.00181961 | 88.2079514 |
| 190930A00083 | 9/30/2019 | 2.04 | 10/1/2029 | 9/30/2024 | 106.67289 | 106.6728907 | 106.6728907 | 106.6728907 | 104.7501907 | 100.6364174 | 96.51307171 | 92.49136181 | 88.65074351 |
| 200309A00013 | 3/9/2020 | 1.1 | 3/8/2030 | 3/9/2025 | 102.93401 | 102.934011 | 102.934011 | 102.9340065 | 100.0266687 | 95.51360987 | 91.2168428 | 87.16833612 | 83.37170005 |
| 200316A00030 | 3/16/2020 | 1.35 | 3/15/2030 | 3/16/2025 | 104.59386 | 104.5938604 | 104.5938604 | 104.5938593 | 101.954538 | 97.45282952 | 93.10256134 | 88.96957504 | 85.08034102 |
| 200423A00010 | 4/23/2020 | 1.59 | 4/23/2030 | 4/23/2025 | 106.8143 | 106.8143011 | 106.8143011 | 106.8141343 | 101.9376852 | 95.03248056 | 88.29636175 | 81.94554672 | 76.07351412 |
| 100707A00014 | 7/7/2010 | 3.19 | 7/7/2025 | 7/7/2015 | 100.26005 | 100.2600547 | 100.2600547 | 100.2600547 | 100.247481 | 100.1599788 | 100.0431486 | 99.01460015 | 96.95640251 |
| 141010A00012 | 10/10/2014 | 2.44 | 10/10/2024 | 10/10/2019 | 100.16457 | 100.1645676 | 100.1645676 | 100.1645676 | 100.1520881 | 100.0603401 | 99.31622933 | 97.56854109 | 95.59140635 |
| 150115A00030 | 1/15/2015 | 1.98 | 1/15/2025 | 1/15/2020 | 100.15369 | 100.1536909 | 100.1536909 | 100.1536909 | 100.1411564 | 99.98226382 | 98.76313509 | 96.77344158 | 94.67586838 |
| 150202A00006 | 2/2/2015 | 1.92 | 2/3/2025 | 2/3/2020 | 100.14848 | 100.1484782 | 100.1484782 | 100.1484782 | 100.135941 | 99.94817867 | 98.61542651 | 96.5719151 | 94.43970633 |
| 150327A00011 | 3/27/2015 | 2.88 | 3/27/2030 | 3/27/2020 | 102.33576 | 102.3357631 | 102.3357631 | 102.3357631 | 102.1415562 | 101.0507382 | 98.66756414 | 94.75350101 | 90.41395505 |
| 150526A00019 | 5/28/2015 | 2.27 | 5/28/2025 | 5/28/2020 | 100.17926 | 100.1792639 | 100.1792639 | 100.1792639 | 100.166711 | 100.0659259 | 99.15605243 | 97.16578727 | 94.94371803 |
| 150817A00038 | 8/17/2015 | 4.01 | 8/31/2040 | 8/17/2020 | 101.00226 | 101.0022555 | 101.0022555 | 101.0022555 | 100.9577155 | 100.6571641 | 98.65450857 | 92.85380584 | 85.83374019 |
| 151124A00024 | 11/24/2015 | 2.6 | 11/24/2025 | 11/24/2020 | 101.15523 | 101.1552333 | 101.1552333 | 101.1552333 | 101.0560492 | 100.4710563 | 99.1355357 | 96.73565957 | 94.08065724 |
| 151224A00017 | 12/24/2015 | 3.06 | 12/24/2030 | 12/24/2020 | 101.70912 | 101.7091195 | 101.7091195 | 101.7091195 | 101.5914747 | 100.9017562 | 99.14531008 | 95.64920456 | 91.47671376 |
| 161012A00020 | 10/11/2016 | 2.96 | 10/14/2031 | 10/11/2023 | 109.39328 | 109.3932812 | 109.3932812 | 109.3932807 | 107.4571504 | 102.1795236 | 95.97590277 | 89.36097093 | 82.87537898 |
| 180627A00005 | 6/27/2018 | 3.63 | 6/30/2033 | 6/30/2023 | 110.13555 | 110.1355501 | 110.1355501 | 110.1355501 | 109.0949118 | 105.5970183 | 101.4608256 | 96.71355223 | 91.70698904 |
| 191028A00015 | 10/28/2019 | 2.49 | 10/27/2034 | 10/28/2024 | 109.1884 | 109.1883955 | 109.1883955 | 109.1883533 | 106.2229032 | 100.6142601 | 94.80932463 | 89.12339824 | 83.76980394 |
| 191031A00036 | 10/31/2019 | 2.9 | 10/31/2039 | 10/31/2024 | 110.69779 | 110.6977914 | 110.6977914 | 110.690255 | 106.5540705 | 99.6127235 | 92.42080673 | 85.47357749 | 79.06529783 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200108A00009 | 1/8/2020 | 2.4 | 1/8/2035 | 1/8/2025 | 109.45444 | 109.4544413 | 109.4544413 | 109.4537975 | 105.8441646 | 99.66284136 | 93.3824571 | 87.33368742 | 81.70536813 |
| 200316A00032 | 3/16/2020 | 1.35 | 3/15/2030 | 3/16/2025 | 104.59386 | 104.5938607 | 104.5938607 | 104.5938596 | 101.9545371 | 97.45282748 | 93.10255819 | 88.96957085 | 85.08033591 |
| 200512A00023 | 5/12/2020 | 1.78 | 5/11/2035 | 5/12/2025 | 108.24891 | 108.2489084 | 108.2489084 | 107.8176421 | 100.8726565 | 92.92109106 | 85.43672889 | 78.6032104 | 72.4576179 |
| 130104A00013 | 1/4/2013 | 1.79 | 1/4/2023 | 1/4/2018 | 100.10683 | 100.1068315 | 100.1068315 | 100.1068315 | 100.0945031 | 99.91975751 | 99.01980276 | 97.80792967 | 96.56999295 |
| 130416A00010 | 4/17/2013 | 2.39 | 12/29/2028 | 1/31/2019 | 100.19093 | 100.1909344 | 100.1909344 | 100.1909344 | 100.1782981 | 99.96933552 | 97.95430464 | 94.57448782 | 91.00035726 |
| 130521A00009 | 5/21/2013 | 2.55 | 5/22/2028 | 5/21/2018 | 100.20492 | 100.2049239 | 100.2049239 | 100.2049239 | 100.1922934 | 100.0762069 | 98.66946628 | 95.64611828 | 92.28858761 |
| 140617A00012 | 6/17/2014 | 3.14 | 6/18/2029 | 6/17/2019 | 100.25724 | 100.2572403 | 100.2572403 | 100.2572403 | 100.2445859 | 100.1565282 | 99.61539228 | 96.96215736 | 93.34845824 |
| 140822A00012 | 8/22/2014 | 3.7 | 8/22/2034 | 8/23/2021 | 104.14174 | 104.1417393 | 104.1417393 | 104.1417393 | 103.8990648 | 102.3620936 | 99.5836499 | 95.14062991 | 89.93789077 |
| 150223A00011 | 2/23/2015 | 3.54 | 2/22/2030 | 2/23/2022 | 105.27721 | 105.2772102 | 105.2772102 | 105.2772102 | 104.9442398 | 103.1351039 | 100.7327633 | 97.45813362 | 93.64141436 |
| 150325A00018 | 3/25/2015 | 2.02 | 3/25/2025 | 3/25/2020 | 100.15728 | 100.1572752 | 100.1572752 | 100.1572752 | 100.1447329 | 99.99176897 | 98.77090377 | 96.72683033 | 94.56208234 |
| 150709A00018 | 7/9/2015 | 2.36 | 7/9/2025 | 7/6/2020 | 100.37478 | 100.374777 | 100.374777 | 100.374777 | 100.3474777 | 100.1553879 | 99.25631667 | 97.25669746 | 94.97398287 |
| 170515A00052 | 5/15/2017 | 3.78 | 5/15/2042 | 5/15/2024 | 114.15934 | 114.159342 | 114.159342 | 114.1592687 | 111.63211 | 105.6536584 | 98.69340352 | 91.28402745 | 84.05755322 |
| 170802A00074 | 8/2/2017 | 2.92 | 8/2/2027 | 8/2/2022 | 105.49042 | 105.4904241 | 105.4904241 | 105.4904241 | 104.9318103 | 102.2272164 | 98.77072901 | 94.7168277 | 90.49649852 |
| 171016A00037 | 10/16/2017 | 3.39 | 10/18/2032 | 10/16/2022 | 107.71532 | 107.7153227 | 107.7153227 | 107.7153227 | 106.8958731 | 103.2092227 | 98.06549552 | 91.86561456 | 85.43600201 |
| 180212A00090 | 2/12/2018 | 2.92 | 2/13/2023 | 2/12/2021 | 104.34686 | 104.3468642 | 104.3468642 | 104.3468642 | 104.0103162 | 102.3136738 | 100.516745 | 98.51053334 | 96.36464873 |
| 180504A00024 | 5/4/2018 | 3.62 | 5/4/2028 | 5/4/2023 | 110.05112 | 110.0511155 | 110.0511155 | 110.0511155 | 109.0919285 | 105.7251148 | 101.7435655 | 97.03150862 | 91.89237961 |
| 180712A00016 | 7/12/2018 | 3.66 | 7/12/2033 | 7/12/2028 | 124.03842 | 124.0384243 | 124.0384243 | 123.866164 | 116.9221595 | 109.2020487 | 101.821164 | 94.86181158 | 88.40189203 |
| 190301A00015 | 3/1/2019 | 3.86 | 3/1/2034 | 3/2/2026 | 119.58563 | 119.5856274 | 119.5856274 | 119.5801553 | 114.6819666 | 107.2408087 | 99.48715825 | 91.74611267 | 84.36726464 |
| 190430A00020 | 4/30/2019 | 3.41 | 4/28/2034 | 4/28/2026 | 118.41881 | 118.4188079 | 118.4188079 | 118.3945569 | 112.7912127 | 104.8691327 | 96.75777036 | 88.83563591 | 81.42342861 |
| 200110A00012 | 1/10/2020 | 2.57 | 1/10/2035 | 1/10/2025 | 109.17783 | 109.1778285 | 109.1778285 | 109.1775798 | 105.8038193 | 99.97003235 | 94.0448279 | 88.31406099 | 82.95463445 |
| 200318A00015 | 3/18/2020 | 1.69 | 3/18/2030 | 3/18/2023 | 103.95097 | 103.9509679 | 103.9509679 | 103.9509678 | 102.5571431 | 98.55401548 | 94.26051187 | 89.99678485 | 85.93139668 |
| 120702A00016 | 7/2/2012 | 2.42 | 7/6/2027 | 7/3/2013 | 100.19326 | 100.1932574 | 100.1932574 | 100.1932574 | 100.1806432 | 100.0575894 | 98.6871631 | 95.9025606 | 92.84391873 |
| 130823A00025 | 8/23/2013 | 3.43 | 8/23/2023 | 8/24/2020 | 100.84716 | 100.8471553 | 100.8471553 | 100.8471553 | 100.8029016 | 100.5442132 | 100.2667628 | 99.43536296 | 97.43560347 |
| 140723A00038 | 7/23/2014 | 2.3 | 7/23/2024 | 7/23/2019 | 100.18137 | 100.1813708 | 100.1813708 | 100.1813708 | 100.1688561 | 100.0782089 | 99.42863396 | 97.7856724 | 95.90542344 |
| 150319A00020 | 3/19/2015 | 2.98 | 3/19/2030 | 3/19/2020 | 100.21193 | 100.2119291 | 100.2119291 | 100.2119291 | 100.1993232 | 100.0928583 | 98.63613787 | 95.15481634 | 91.20322327 |
| 150421A00009 | 4/21/2015 | 2.17 | 4/21/2025 | 4/21/2020 | 100.13953 | 100.1395303 | 100.1395303 | 100.1395303 | 100.1270357 | 99.96018673 | 98.67301193 | 96.59238787 | 94.40076009 |
| 150501A00019 | 5/1/2015 | 3.69 | 5/1/2035 | 5/1/2020 | 103.25645 | 103.2564506 | 103.2564506 | 103.2564506 | 103.0359651 | 101.7400105 | 98.83834433 | 93.90238306 | 88.31453582 |
| 150526A00018 | 5/28/2015 | 2.27 | 5/28/2025 | 5/28/2020 | 100.17926 | 100.1792639 | 100.1792639 | 100.1792639 | 100.166711 | 100.0659259 | 99.15605206 | 97.16578646 | 94.94371682 |
| 160311A00019 | 3/11/2016 | 3.02 | 3/11/2031 | 3/11/2021 | 102.19848 | 102.1984812 | 102.1984812 | 102.1984812 | 102.0136228 | 100.8844239 | 98.4055838 | 94.5244356 | 90.24626151 |
| 161006A00023 | 10/6/2016 | 2.49 | 10/6/2031 | 10/6/2021 | 103.21524 | 103.2152415 | 103.2152415 | 103.2152415 | 102.8657454 | 100.494929 | 96.78709371 | 92.3372842 | 87.83864434 |
| 161011A00037 | 10/11/2016 | 2.17 | 10/13/2026 | 10/11/2019 | 101.83064 | 101.8306362 | 101.8306362 | 101.8306362 | 101.6258431 | 100.4174866 | 98.28006326 | 95.43009313 | 92.45993973 |
| 170519A00006 | 5/19/2017 | 3 | 5/19/2032 | 5/19/2022 | 105.41541 | 105.4154106 | 105.4154106 | 105.4154106 | 104.9409016 | 102.3504309 | 98.73419649 | 94.29049906 | 89.6136646 |
| 171214A00010 | 12/14/2017 | 2.57 | 12/14/2022 | 12/14/2020 | 101.34026 | 101.3402592 | 101.3402592 | 101.3402592 | 101.2176981 | 100.5906895 | 99.63444788 | 97.92701116 | 95.92154397 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190116A00015 | 1/16/2019 | 3.61 | 1/17/2034 | 1/16/2024 | 110.879 | 110.8789956 | 110.8789956 | 110.8789956 | 109.3899647 | 105.2148722 | 100.4599049 | 95.29741736 | 90.0782235 |
| 190329A00023 | 3/29/2019 | 3 | 3/29/2034 | 3/29/2024 | 109.86115 | 109.8611495 | 109.8611495 | 109.8611492 | 108.0043015 | 103.3162231 | 98.11352135 | 92.70202222 | 87.41697457 |
| 190329A00025 | 3/29/2019 | 3 | 3/29/2034 | 3/29/2024 | 109.86113 | 109.8611339 | 109.8611339 | 109.8611336 | 108.0042935 | 103.3162299 | 98.11354632 | 92.70206651 | 87.41703732 |
| 190329A00026 | 3/29/2019 | 3 | 3/29/2034 | 3/29/2024 | 109.86115 | 109.8611495 | 109.8611495 | 109.8611492 | 108.004303 | 103.3162271 | 98.11352868 | 92.70203301 | 87.41698855 |
| 190530A00044 | 5/30/2019 | 2.85 | 5/30/2034 | 5/30/2024 | 109.70825 | 109.7082541 | 109.7082541 | 109.7082528 | 107.5671921 | 102.5951915 | 97.1906999 | 91.67953057 | 86.36500015 |
| 190807A00044 | 8/7/2019 | 2.27 | 8/7/2034 | 8/7/2024 | 108.16616 | 108.1661646 | 108.1661646 | 108.1660952 | 105.0740577 | 99.41848455 | 93.63101042 | 88.01804713 | 82.76291458 |
| 191007A00012 | 10/7/2019 | 2 | 10/5/2029 | 10/7/2024 | 105.8673 | 105.8673017 | 105.8673017 | 105.8673017 | 103.8404301 | 99.67056183 | 95.52343834 | 91.50680444 | 87.68731579 |
| 191031A00037 | 10/31/2019 | 2.59 | 10/30/2034 | 10/31/2024 | 108.96306 | 108.9630618 | 108.9630618 | 108.9629873 | 105.8499995 | 100.1807659 | 94.37148077 | 88.71908778 | 83.41448283 |
| 200108A00040 | 1/8/2020 | 2.52 | 1/8/2030 | 1/8/2025 | 109.40396 | 109.4039637 | 109.4039637 | 109.4039627 | 106.2984203 | 100.5658673 | 94.6748241 | 88.88070558 | 83.37633336 |
| 200505A00010 | 5/5/2020 | 0.89 | 5/6/2030 | 5/5/2025 | 103.00145 | 103.0014517 | 103.0014517 | 103.0014401 | 99.86239435 | 95.20834308 | 90.79414043 | 86.64478623 | 82.75980642 |
| 100517A00013 | 5/17/2010 | 3.71 | 5/19/2025 | 5/18/2015 | 100.30555 | 100.3055502 | 100.3055502 | 100.3055502 | 100.2929746 | 100.2054585 | 100.1179963 | 99.78209665 | 98.21616999 |
| 140508A00011 | 5/8/2014 | 2.32 | 5/8/2024 | 5/8/2019 | 100.18299 | 100.1829872 | 100.1829872 | 100.1829872 | 100.1704818 | 100.0808101 | 99.49857812 | 97.93633545 | 96.13013364 |
| 150108A00029 | 1/8/2015 | 3.16 | 1/9/2035 | 1/10/2022 | 104.99032 | 104.9903156 | 104.9903156 | 104.9903156 | 104.5673343 | 101.8742065 | 97.48974501 | 91.91274268 | 86.16389052 |
| 150420A00051 | 4/20/2015 | 2.66 | 9/20/2030 | 4/20/2020 | 100.21507 | 100.2150666 | 100.2150666 | 100.2150666 | 100.2024066 | 100.0319903 | 97.98265251 | 94.13194019 | 89.97905458 |
| 150526A00044 | 5/26/2015 | 3.19 | 5/28/2030 | 5/26/2020 | 100.23051 | 100.2305055 | 100.2305055 | 100.2305055 | 100.2178947 | 100.1265338 | 99.13988149 | 95.88143331 | 91.91648147 |
| 150709A00019 | 7/9/2015 | 2.36 | 7/9/2025 | 7/9/2020 | 100.37478 | 100.3747769 | 100.3747769 | 100.3747769 | 100.3474775 | 100.1553878 | 99.25631682 | 97.25669803 | 94.97398385 |
| 151209A00031 | 12/9/2015 | 3.18 | 12/9/2030 | 12/9/2020 | 101.65569 | 101.6556914 | 101.6556914 | 101.6556914 | 101.5383144 | 100.8296686 | 98.97228477 | 95.41573521 | 91.24968605 |
| 160209A00028 | 2/9/2016 | 2.04 | 2/9/2026 | 2/9/2021 | 101.22421 | 101.2242085 | 101.2242085 | 101.2242085 | 101.065314 | 99.97315839 | 98.00250803 | 95.53297687 | 93.01223758 |
| 170705A00037 | 7/5/2017 | 2.85 | 7/6/2032 | 7/6/2027 | 114.58385 | 114.5838504 | 114.5838504 | 114.5801628 | 110.1187881 | 104.3515294 | 98.84532565 | 93.63766042 | 88.75846917 |
| 171004A00022 | 10/4/2017 | 2.74 | 10/4/2027 | 10/4/2022 | 105.87425 | 105.8742464 | 105.8742464 | 105.8742464 | 105.2297865 | 102.3567051 | 98.79489929 | 94.70711574 | 90.47833285 |
| 180105A00005 | 1/5/2018 | 3.07 | 1/5/2028 | 1/5/2023 | 106.69596 | 106.6959568 | 106.6959568 | 106.6959568 | 106.0769806 | 103.5901021 | 100.8143887 | 97.72207117 | 94.47662658 |
| 180130A00087 | 1/30/2018 | 2.92 | 1/31/2028 | 1/30/2023 | 106.34963 | 106.3496287 | 106.3496287 | 106.3496287 | 105.7221148 | 103.1957867 | 100.3576049 | 97.21775108 | 93.95909015 |
| 180302A00003 | 3/2/2018 | 3.89 | 3/2/2033 | 3/2/2023 | 110.38125 | 110.3812498 | 110.3812498 | 110.3812498 | 109.4256679 | 105.734321 | 100.8560935 | 94.84348025 | 88.35050806 |
| 190204A00054 | 2/4/2019 | 3.98 | 2/6/2034 | 2/2/2024 | 113.20543 | 113.205427 | 113.205427 | 113.2054259 | 111.3356644 | 106.2728532 | 100.2127504 | 93.46821061 | 86.62815314 |
| 190807A00041 | 8/7/2019 | 2.27 | 8/7/2034 | 7/7/2024 | 107.89985 | 107.8998494 | 107.8998494 | 107.899808 | 104.9610102 | 99.37797907 | 93.62041945 | 88.01613224 | 82.76268923 |
| 191007A00013 | 10/7/2019 | 2 | 10/5/2029 | 10/7/2024 | 105.8673 | 105.8673003 | 105.8673003 | 105.8673003 | 103.8404312 | 99.67056585 | 95.52344548 | 91.50681459 | 87.6873287 |
| 200115A00025 | 1/15/2020 | 2.1 | 1/15/2025 | 1/15/2023 | 104.32805 | 104.3280507 | 104.3280507 | 104.3280507 | 103.5903848 | 100.7292373 | 97.60746433 | 94.36715281 | 91.16488312 |
| 200306A00021 | 3/6/2020 | 1.16 | 3/6/2030 | 3/6/2025 | 103.15854 | 103.1585439 | 103.1585439 | 103.1585402 | 100.2940009 | 95.78403991 | 91.48151539 | 87.42335633 | 83.61605522 |
| 200326A00035 | 3/26/2020 | 1.68 | 3/26/2030 | 3/26/2025 | 105.11632 | 105.1163237 | 105.1163237 | 105.116323 | 102.5816305 | 98.11993487 | 93.78425308 | 89.65008102 | 85.75242128 |
| 090429A00044 | 4/29/2009 | 4.1 | 4/29/2024 | 4/29/2014 | 100.30921 | 100.3092114 | 100.3092114 | 100.3092114 | 100.2967336 | 100.2098622 | 100.1230411 | 99.99207438 | 99.05642024 |
| 141110A00008 | 11/10/2014 | 2.31 | 11/12/2024 | 11/12/2019 | 100.18248 | 100.1824778 | 100.1824778 | 100.1824778 | 100.1699457 | 100.0784152 | 99.36092063 | 97.59546907 | 95.58019511 |
| 150417A00033 | 4/17/2015 | 1.78 | 4/18/2022 | 4/17/2020 | 100.13629 | 100.1362892 | 100.1362892 | 100.1362892 | 100.1237472 | 99.99024864 | 99.15108519 | 97.81948473 | 96.42664997 |
| 150715A00020 | 7/15/2015 | 3.45 | 7/15/2030 | 7/15/2020 | 100.5211 | 100.5210968 | 100.5210968 | 100.5210968 | 100.4935086 | 100.3194673 | 99.63231535 | 96.79000014 | 92.86359757 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150721A00044 | 7/23/2015 | 2.68 | 7/23/2025 | 7/23/2020 | 100.38346 | 100.383458 | 100.383458 | 100.383458 | 100.356235 | 100.1772051 | 99.46765578 | 97.57882992 | 95.32009097 |
| 150901A00019 | 9/1/2015 | 3.26 | 9/3/2030 | 9/1/2020 | 100.97705 | 100.9770457 | 100.9770457 | 100.9770457 | 100.9171382 | 100.5427249 | 99.23208194 | 95.9305224 | 91.87166151 |
| 151027A00015 | 10/27/2015 | 2.89 | 10/28/2030 | 10/27/2020 | 101.38135 | 101.381355 | 101.381355 | 101.381355 | 101.2858999 | 100.6406688 | 98.69770254 | 95.05576587 | 90.9028595 |
| 151223A00007 | 12/23/2015 | 3.76 | 12/23/2030 | 12/23/2022 | 108.93085 | 108.9308483 | 108.9308483 | 108.9308483 | 108.1205962 | 104.6994164 | 100.1489118 | 94.53358151 | 88.45813776 |
| 160506A00054 | 5/10/2016 | 3.31 | 5/12/2036 | 5/10/2021 | 102.8949 | 102.8948981 | 102.8948981 | 102.8948981 | 102.652828 | 100.7663362 | 96.55428057 | 90.79799681 | 84.93950362 |
| 160506A00056 | 5/10/2016 | 3.77 | 5/10/2041 | 5/10/2021 | 103.39258 | 103.392579 | 103.392579 | 103.392579 | 103.1496419 | 101.2446976 | 96.56626762 | 89.77811074 | 82.78799346 |
| 170113A00025 | 1/13/2017 | 3.59 | 1/13/2032 | 1/13/2022 | 105.52643 | 105.5264306 | 105.5264306 | 105.5264306 | 105.2023254 | 103.4115949 | 100.8968486 | 97.24845717 | 92.8639388 |
| 170721A00021 | 7/21/2017 | 2.95 | 7/21/2032 | 7/21/2022 | 105.72898 | 105.7289829 | 105.7289829 | 105.7289829 | 105.1657649 | 102.3218164 | 98.47840112 | 93.90447577 | 89.16618068 |
| 171005A00047 | 10/5/2017 | 3.29 | 10/5/2032 | 10/5/2022 | 107.3532 | 107.3532046 | 107.3532046 | 107.3532046 | 106.5785958 | 103.0983431 | 98.3501742 | 92.68447538 | 86.82150386 |
| 190222A00023 | 2/22/2019 | 3.66 | 2/22/2034 | 2/22/2026 | 121.82284 | 121.8228443 | 121.8228443 | 121.8002649 | 115.9380553 | 107.6053348 | 99.11490239 | 90.86012996 | 83.15079382 |
| 190530A00037 | 5/30/2019 | 2.85 | 5/30/2034 | 5/30/2024 | 109.70825 | 109.7082459 | 109.7082459 | 109.7082446 | 107.5671879 | 102.5951948 | 97.19071256 | 91.67955323 | 86.36503251 |
| 191220A00029 | 12/20/2019 | 2.57 | 12/19/2031 | 12/20/2024 | 108.58916 | 108.5891617 | 108.5891617 | 108.589161 | 106.1981534 | 101.4167401 | 96.54492323 | 91.76042515 | 87.20100033 |
| 200102A00020 | 1/2/2020 | 2.78 | 1/3/2040 | 1/2/2025 | 111.39499 | 111.394991 | 111.394991 | 111.383719 | 107.0442177 | 99.94895553 | 92.62169895 | 85.55017328 | 79.03067671 |
| 200115A00023 | 1/15/2020 | 2.16 | 1/15/2030 | 1/15/2025 | 106.74443 | 106.7444253 | 106.7444253 | 106.7444253 | 104.5852553 | 100.2929602 | 96.03321001 | 91.90800794 | 87.98530757 |
| 020129A00031 | 12/31/2001 | 6.03 | 6/30/2021 | 12/31/2001 | 103.32215 | 103.3221512 | 103.3221512 | 103.3221512 | 103.2039916 | 102.6346812 | 102.0738834 | 101.521386 | 100.9769844 |
| 110304A00006 | 3/4/2011 | 3.6 | 3/4/2021 | 3/4/2011 | 102.52479 | 102.5247851 | 102.5247851 | 102.5247851 | 102.3660356 | 101.6389766 | 100.9227117 | 100.2169992 | 99.52160466 |
| 120807A00026 | 8/7/2012 | 2.42 | 8/9/2027 | 8/7/2012 | 107.95645 | 107.9564513 | 107.9564513 | 107.9564513 | 105.8671706 | 102.1731274 | 98.66840619 | 95.34141527 | 92.1813643 |
| 130321A00009 | 3/21/2013 | 2.17 | 3/23/2026 | 3/21/2013 | 107.77537 | 107.7753743 | 107.7753743 | 107.7753743 | 105.796606 | 102.0671617 | 98.52332537 | 95.1542782 | 91.9499059 |
| 140313A00025 | 3/13/2014 | 2.43 | 3/15/2021 | 3/13/2014 | 101.82739 | 101.8273934 | 101.8273934 | 101.8273934 | 101.6530039 | 100.8643699 | 100.0881066 | 99.32392354 | 98.57153953 |
| 140821A00030 | 8/21/2014 | 2.27 | 8/21/2024 | 8/21/2014 | 104.71777 | 104.7177735 | 104.7177735 | 104.7177735 | 104.0384137 | 101.866171 | 99.76541913 | 97.73320551 | 95.76672172 |
| 141015A00027 | 10/15/2014 | 2.01 | 10/15/2021 | 10/15/2014 | 102.53081 | 102.5308051 | 102.5308051 | 102.5308051 | 102.2760072 | 100.9585826 | 99.66510278 | 98.39496699 | 97.14759417 |
| 150114A00029 | 1/14/2015 | 1.99 | 1/14/2022 | 1/14/2015 | 101.45397 | 101.4539707 | 101.4539707 | 101.4539707 | 101.2845118 | 100.4416719 | 99.61405653 | 98.8012438 | 98.00282769 |
| 150115A00031 | 1/15/2015 | 1.42 | 1/18/2022 | 1/15/2015 | 101.11025 | 101.1102493 | 101.1102493 | 101.1102493 | 100.9409516 | 100.098966 | 99.27222948 | 98.46031837 | 97.66282503 |
| 150203A00012 | 2/3/2015 | 1.61 | 2/3/2022 | 2/3/2015 | 101.18347 | 101.1834658 | 101.1834658 | 101.1834658 | 101.0065856 | 100.1264667 | 99.26251221 | 98.4142695 | 97.5813033 |
| 150203A00027 | 2/3/2015 | 2.26 | 2/4/2030 | 2/3/2015 | 110.9529 | 110.9528962 | 110.9528962 | 110.8681424 | 106.9976647 | 102.0284161 | 97.38951799 | 93.05517333 | 89.00182456 |
| 150603A00032 | 6/3/2015 | 2.21 | 6/3/2025 | 6/3/2015 | 105.49452 | 105.4945219 | 105.4945219 | 105.4945219 | 104.5283039 | 101.9305738 | 99.43171102 | 97.02709054 | 94.71233806 |
| 150630A00077 | 6/30/2015 | 2.02 | 6/30/2020 | 6/30/2015 | 100.14804 | 100.1480447 | 100.1480447 | 100.1480447 | 100.1354602 | 100.047138 | 99.95897118 | 99.87095936 | 99.78310216 |
| 150722A00035 | 7/22/2015 | 2.92 | 7/22/2025 | 7/22/2015 | 111.61132 | 111.6113162 | 111.6113162 | 111.6113162 | 109.2886242 | 104.861117 | 100.657644 | 96.66541754 | 92.8724553 |
| 150803A00037 | 8/3/2015 | 3.41 | 8/2/2030 | 8/3/2015 | 125.37025 | 125.3702461 | 125.3702461 | 124.2436635 | 116.2372707 | 108.1634561 | 100.8023621 | 94.08450469 | 87.94763622 |
| 150911A00007 | 9/10/2015 | 2.51 | 9/9/2022 | 9/10/2015 | 104.93361 | 104.9336127 | 104.9336127 | 104.9336127 | 104.4269382 | 102.2231694 | 100.07798 | 97.98941468 | 95.95559872 |
| 151102A00024 | 11/2/2015 | 2.37 | 11/2/2022 | 11/2/2015 | 104.90744 | 104.9074442 | 104.9074442 | 104.9074442 | 104.3387716 | 102.002237 | 99.73129458 | 97.52372712 | 95.37740592 |
| 160212A00006 | 2/12/2016 | 1.57 | 2/13/2023 | 2/12/2016 | 101.79181 | 101.7918114 | 101.7918114 | 101.7918114 | 101.4844704 | 100.105632 | 98.75948486 | 97.4449821 | 96.16111914 |
| 160328A00038 | 3/28/2016 | 2.54 | 3/30/2026 | 3/28/2016 | 111.03643 | 111.0364268 | 111.0364268 | 111.0364268 | 108.0128 | 103.1480921 | 98.55662078 | 94.22125817 | 90.12604414 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160405A00011 | 4/5/2016 | 1.31 | 4/5/2021 | 4/5/2016 | 100.48678 | 100.4867767 | 100.4867767 | 100.4867767 | 100.3921556 | 99.9298286 | 99.4732792 | 99.0223879 | 98.57703863 |
| 160511A00015 | 5/11/2016 | 2.42 | 5/11/2026 | 5/11/2016 | 111.19483 | 111.1948345 | 111.1948345 | 111.1948345 | 107.7908063 | 102.6001138 | 97.71196733 | 93.10686094 | 88.7666515 |
| 160603A00014 | 6/3/2016 | 1.74 | 6/3/2026 | 6/3/2016 | 105.08877 | 105.088771 | 105.088771 | 105.088771 | 103.694909 | 100.628062 | 97.69690725 | 94.89418318 | 92.21307216 |
| 160606A00018 | 6/6/2016 | 1.74 | 6/5/2026 | 6/6/2016 | 105.0889 | 105.0888971 | 105.0888971 | 105.0888971 | 103.6949032 | 100.627987 | 97.69677101 | 94.89399303 | 92.21283469 |
| 160608A00025 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.99611 | 110.9961093 | 110.9961093 | 110.9961093 | 107.4976084 | 102.2618192 | 97.33464909 | 92.69597492 | 88.32709598 |
| 160608A00027 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.99611 | 110.9961093 | 110.9961093 | 110.9961093 | 107.4976084 | 102.2618192 | 97.33464909 | 92.69597492 | 88.32709598 |
| 160705A00010 | 7/5/2016 | 1.68 | 7/5/2023 | 7/5/2016 | 104.12013 | 104.1201334 | 104.1201334 | 104.1201334 | 103.2016091 | 100.290839 | 97.47976603 | 94.76438517 | 92.14087783 |
| 110505A00036 | 5/5/2011 | 3.23 | 5/5/2021 | 5/5/2011 | 102.72298 | 102.7229829 | 102.7229829 | 102.7229829 | 102.5280788 | 101.6518562 | 100.791394 | 99.94626456 | 99.11605541 |
| 111115A00005 | 11/15/2011 | 2.26 | 11/15/2021 | 11/15/2011 | 101.51676 | 101.5167626 | 101.5167626 | 101.5167626 | 101.3634805 | 100.6021552 | 99.8541293 | 99.11903839 | 98.39653181 |
| 120807A00025 | 8/7/2012 | 1.82 | 8/8/2022 | 8/7/2012 | 101.75351 | 101.7535142 | 101.7535142 | 101.7535142 | 101.5206813 | 100.3881786 | 99.27929607 | 98.19333504 | 97.12962378 |
| 120820A00011 | 8/20/2012 | 2.4 | 8/22/2022 | 8/20/2012 | 104.35968 | 104.35968 | 104.35968 | 104.35968 | 103.9001308 | 101.8527815 | 99.85830576 | 97.91493645 | 96.02098128 |
| 121114A00020 | 11/14/2012 | 1.74 | 11/14/2022 | 11/14/2012 | 103.67389 | 103.6738907 | 103.6738907 | 103.6738907 | 103.1287664 | 100.9003099 | 98.73448146 | 96.62914309 | 94.58224338 |
| 130614A00018 | 6/14/2013 | 2.83 | 6/14/2023 | 6/14/2013 | 104.02187 | 104.0218732 | 104.0218732 | 104.0218732 | 103.6446516 | 102.0680984 | 100.532055 | 99.03515048 | 97.57607096 |
| 140717A00027 | 7/17/2014 | 3.14 | 7/17/2026 | 7/17/2014 | 114.25684 | 114.2568354 | 114.2568354 | 114.2568354 | 110.9686729 | 105.9407038 | 101.2026482 | 96.73572086 | 92.52246646 |
| 140908A00080 | 9/8/2014 | 2.51 | 3/8/2024 | 9/8/2014 | 107.07774 | 107.0777446 | 107.0777446 | 107.0777446 | 106.015469 | 103.0726852 | 100.2404943 | 97.51397542 | 94.88845947 |
| 141107A00027 | 11/7/2014 | 1.98 | 11/8/2021 | 11/7/2014 | 101.30659 | 101.3065859 | 101.3065859 | 101.3065859 | 101.1538819 | 100.3951502 | 99.64965461 | 98.91703269 | 98.19693586 |
| 150205A00031 | 2/5/2015 | 1.96 | 10/6/2025 | 2/5/2015 | 105.14871 | 105.1487138 | 105.1487138 | 105.1487138 | 104.0551348 | 101.3047145 | 98.66464737 | 96.12952451 | 93.69424277 |
| 150529A00055 | 5/29/2015 | 1.78 | 5/31/2022 | 5/29/2015 | 101.52105 | 101.5210517 | 101.5210517 | 101.5210517 | 101.317282 | 100.3080454 | 99.31860331 | 98.34839092 | 97.39686488 |
| 150617A00018 | 6/17/2015 | 2.45 | 6/17/2025 | 6/17/2015 | 105.62778 | 105.6277821 | 105.6277821 | 105.6277821 | 104.6635298 | 102.0704971 | 99.57591851 | 97.17519772 | 94.86398727 |
| 150630A00081 | 6/30/2015 | 2.02 | 6/30/2020 | 6/30/2015 | 100.14804 | 100.1480447 | 100.1480447 | 100.1480447 | 100.1354602 | 100.047138 | 99.95897118 | 99.87095936 | 99.78310216 |
| 150630A00088 | 6/30/2015 | 2.02 | 6/30/2020 | 6/30/2015 | 100.14804 | 100.1480447 | 100.1480447 | 100.1480447 | 100.1354602 | 100.047138 | 99.95897118 | 99.87095936 | 99.78310216 |
| 150717A00032 | 7/17/2015 | 1.88 | 7/17/2020 | 7/17/2015 | 100.23835 | 100.2383507 | 100.2383507 | 100.2383507 | 100.2175056 | 100.0824016 | 99.94767808 | 99.81333355 | 99.67936633 |
| 150729A00041 | 7/29/2015 | 2.44 | 7/29/2025 | 7/29/2015 | 105.69518 | 105.6951826 | 105.6951826 | 105.6951826 | 104.6982168 | 102.0625716 | 99.52838181 | 97.09085236 | 94.74545066 |
| 150915A00072 | 9/15/2015 | 1.91 | 9/15/2020 | 9/15/2015 | 100.49297 | 100.4929681 | 100.4929681 | 100.4929681 | 100.4408454 | 100.1424121 | 99.84577472 | 99.55091687 | 99.25782252 |
| 150929A00087 | 9/29/2015 | 2.09 | 9/29/2025 | 9/29/2015 | 105.43459 | 105.4345906 | 105.4345906 | 105.4345906 | 104.3704593 | 101.651747 | 99.04077951 | 96.5323315 | 94.12147013 |
| 151113A00035 | 11/13/2015 | 1.8 | 11/14/2022 | 11/13/2015 | 102.15423 | 102.1542333 | 102.1542333 | 102.1542333 | 101.8849812 | 100.6208114 | 99.38485532 | 98.17624719 | 96.99415531 |
| 151118A00025 | 11/18/2015 | 2.4 | 11/18/2022 | 11/18/2015 | 104.8976 | 104.897595 | 104.897595 | 104.897595 | 104.3312434 | 102.032464 | 99.79871622 | 97.62777178 | 95.51749278 |
| 151209A00024 | 12/9/2015 | 2.22 | 12/9/2025 | 12/9/2015 | 106.07411 | 106.0741112 | 106.0741112 | 106.0741112 | 104.8997603 | 102.0436784 | 99.30515384 | 96.67829125 | 94.15753529 |
| 151228A00013 | 12/28/2015 | 2.27 | 12/29/2025 | 12/28/2015 | 106.22337 | 106.2233722 | 106.2233722 | 106.2233722 | 105.0460605 | 102.1850975 | 99.44194627 | 96.81069514 | 94.28577364 |
| 160113A00002 | 1/13/2016 | 2.12 | 1/13/2026 | 1/13/2016 | 105.86779 | 105.8677861 | 105.8677861 | 105.8677861 | 104.6588212 | 101.7680152 | 98.99769635 | 96.34175374 | 93.79443238 |
| 160203A00017 | 2/3/2016 | 2.07 | 2/3/2023 | 2/3/2016 | 104.61316 | 104.6131623 | 104.6131623 | 104.6131623 | 103.9246198 | 101.3680404 | 98.88899973 | 96.4846412 | 94.15223451 |
| 160211A00038 | 2/11/2016 | 1.83 | 2/11/2026 | 2/11/2016 | 104.50649 | 104.5064922 | 104.5064922 | 104.5064922 | 103.2818648 | 100.399593 | 97.63859111 | 94.99265588 | 92.45594838 |
| 160421A00016 | 4/21/2016 | 2.26 | 4/21/2026 | 4/21/2016 | 110.69699 | 110.6969855 | 110.6969855 | 110.6969855 | 107.5928214 | 102.680345 | 98.04711619 | 93.67542665 | 89.54878959 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 110701A00011 | 7/1/2011 | 3.87 | 7/1/2026 | 7/1/2011 | 111.54248 | 111.5424844 | 111.5424844 | 111.5424844 | 110.0249542 | 106.7366736 | 103.5951181 | 100.5923751 | 97.72101918 |
| 110909A00006 | 9/9/2011 | 2.26 | 9/9/2026 | 9/9/2011 | 106.3983 | 106.3982996 | 106.3982996 | 106.3982996 | 104.8649864 | 101.6516839 | 98.58508038 | 95.65709743 | 92.86016338 |
| 140219A00005 | 2/19/2014 | 3.13 | 2/20/2029 | 2/19/2014 | 113.95207 | 113.9520709 | 113.9520709 | 113.9485324 | 110.6710338 | 106.0289797 | 101.6677738 | 97.5673475 | 93.70923423 |
| 140703A00026 | 7/3/2014 | 3.11 | 7/3/2024 | 7/3/2014 | 110.21386 | 110.2138584 | 110.2138584 | 110.2138584 | 108.7184614 | 105.0848372 | 101.6037132 | 98.26774595 | 95.06998967 |
| 150414A00037 | 4/14/2015 | 2.34 | 4/14/2025 | 4/14/2015 | 105.15695 | 105.1569507 | 105.1569507 | 105.1569507 | 104.2578672 | 101.7574939 | 99.3494649 | 97.02957303 | 94.793834 |
| 150420A00012 | 4/20/2015 | 2.07 | 4/20/2022 | 4/20/2015 | 103.29223 | 103.2922333 | 103.2922333 | 103.2922333 | 102.9210549 | 101.0941196 | 99.30930681 | 97.56539191 | 95.86119393 |
| 150427A00014 | 4/27/2015 | 2.98 | 4/27/2035 | 4/27/2015 | 121.41363 | 121.4136278 | 121.4136278 | 118.8165104 | 111.413969 | 103.8043218 | 96.92437697 | 90.69311543 | 85.03937333 |
| 150624A00076 | 6/24/2015 | 2.04 | 6/24/2020 | 6/24/2015 | 100.1223 | 100.1223028 | 100.1223028 | 100.1223028 | 100.112167 | 100.0404713 | 99.96888615 | 99.89741133 | 99.82604662 |
| 150701A00056 | 7/1/2015 | 2.34 | 7/1/2025 | 7/1/2015 | 105.93956 | 105.9395558 | 105.9395558 | 105.9395558 | 104.9376555 | 102.2880969 | 99.74073293 | 97.29072625 | 94.93350448 |
| 150729A00028 | 7/29/2015 | 2.25 | 7/29/2025 | 7/29/2015 | 105.69725 | 105.6972532 | 105.6972532 | 105.6972532 | 104.6961099 | 102.0515512 | 99.5090715 | 97.06383409 | 94.71126755 |
| 150803A00041 | 8/3/2015 | 3.01 | 8/2/2030 | 8/3/2015 | 114.6454 | 114.6453971 | 114.6453971 | 114.4733453 | 110.166411 | 104.8290227 | 99.8609903 | 95.23234083 | 90.91579989 |
| 150928A00016 | 9/28/2015 | 1.73 | 9/28/2020 | 9/28/2015 | 100.47891 | 100.4789071 | 100.4789071 | 100.4789071 | 100.4213925 | 100.096091 | 99.77294551 | 99.45193479 | 99.13303767 |
| 151002A00003 | 10/2/2015 | 1.94 | 10/2/2025 | 10/2/2015 | 105.09155 | 105.0915479 | 105.0915479 | 105.0915479 | 103.9988186 | 101.2500862 | 98.61162781 | 96.07803918 | 93.64422146 |
| 151007A00010 | 10/7/2015 | 1.7 | 10/7/2020 | 10/7/2015 | 100.51765 | 100.5176526 | 100.5176526 | 100.5176526 | 100.4534289 | 100.094479 | 99.73811195 | 99.38429979 | 99.03301505 |
| 151124A00006 | 11/24/2015 | 1.66 | 11/24/2020 | 11/24/2015 | 100.36242 | 100.3624209 | 100.3624209 | 100.3624209 | 100.3168213 | 100.0600402 | 99.80511128 | 99.55201224 | 99.30072129 |
| 151124A00007 | 11/24/2015 | 1.98 | 11/23/2022 | 11/24/2015 | 102.15761 | 102.157608 | 102.157608 | 102.157608 | 101.8886281 | 100.6267038 | 99.39290492 | 98.18636939 | 97.00626895 |
| 151215A00039 | 12/15/2015 | 2.46 | 12/15/2025 | 12/15/2015 | 106.21886 | 106.2188636 | 106.2188636 | 106.2188636 | 105.047647 | 102.1972693 | 99.46390124 | 96.84168912 | 94.32511589 |
| 151216A00006 | 12/16/2015 | 2.3 | 12/16/2021 | 12/16/2015 | 103.06183 | 103.061834 | 103.061834 | 103.061834 | 102.7648084 | 101.2689435 | 99.80288012 | 98.3657933 | 96.95688802 |
| 160104A00020 | 1/4/2016 | 2.47 | 1/4/2023 | 1/4/2016 | 105.4983 | 105.4982983 | 105.4982983 | 105.4982983 | 104.8467857 | 102.3460089 | 99.919315 | 97.56404501 | 95.27765401 |
| 160106A00042 | 1/6/2016 | 2.43 | 1/6/2026 | 1/6/2016 | 106.22274 | 106.2227384 | 106.2227384 | 106.2227384 | 105.0154666 | 102.125157 | 99.35495616 | 96.69878923 | 94.15093433 |
| 160210A00051 | 2/10/2016 | 2.28 | 2/10/2031 | 2/10/2016 | 112.23148 | 112.2314793 | 112.2314793 | 111.9433386 | 107.3813082 | 101.9155187 | 96.84544485 | 92.13757784 | 87.76155025 |
| 160307A00024 | 3/7/2016 | 2.17 | 3/6/2026 | 3/7/2016 | 105.61006 | 105.610062 | 105.610062 | 105.610062 | 104.3347866 | 101.3820537 | 98.55504124 | 95.84724928 | 93.25256314 |
| 160328A00030 | 3/28/2016 | 1.79 | 3/29/2021 | 3/28/2016 | 101.26194 | 101.2619399 | 101.2619399 | 101.2619399 | 101.0786528 | 100.2564859 | 99.44780056 | 98.65226655 | 97.86956446 |
| 160329A00017 | 3/29/2016 | 2.48 | 3/30/2026 | 3/29/2016 | 110.73224 | 110.7322445 | 110.7322445 | 110.7322445 | 107.7149907 | 102.8616702 | 98.28099718 | 93.95587904 | 89.87038847 |
| 160413A00018 | 4/13/2016 | 1.78 | 4/13/2026 | 4/13/2016 | 105.0723 | 105.072304 | 105.072304 | 105.072304 | 103.7584659 | 100.7707072 | 97.91208488 | 95.17583276 | 92.5555903 |
| 160526A00018 | 5/26/2016 | 1.68 | 5/26/2021 | 5/26/2016 | 101.29197 | 101.2919672 | 101.2919672 | 101.2919672 | 101.0917896 | 100.1797892 | 99.28513387 | 98.40732598 | 97.54588682 |
| 160711A00004 | 7/11/2016 | 1.51 | 7/13/2026 | 7/11/2016 | 104.4176 | 104.4175961 | 104.4175961 | 104.4175961 | 102.990918 | 99.90465793 | 96.95655606 | 94.13913938 | 91.44539625 |
| 160810A00027 | 8/10/2016 | 2.13 | 8/10/2026 | 8/10/2016 | 109.46105 | 109.4610517 | 109.4610517 | 109.4610517 | 106.0463015 | 101.0104875 | 96.2724245 | 91.81246867 | 87.61238838 |
| 160810A00029 | 8/10/2016 | 2.17 | 8/10/2026 | 8/10/2016 | 110.21119 | 110.2111926 | 110.2111926 | 110.2111926 | 106.5067652 | 101.1858653 | 96.18602914 | 91.48583562 | 87.06541496 |
| 160908A00016 | 9/8/2016 | 1.87 | 9/8/2023 | 9/8/2016 | 104.87052 | 104.8705204 | 104.8705204 | 104.8705204 | 103.8582791 | 100.8260315 | 97.90179488 | 95.08107102 | 92.3595784 |
| 160908A00023 | 9/8/2016 | 2.21 | 9/8/2026 | 9/8/2016 | 110.55639 | 110.5563895 | 110.5563895 | 110.5563895 | 106.7386711 | 101.3517712 | 96.29329779 | 91.54113734 | 87.07478942 |
| 160908A00025 | 9/8/2016 | 2.21 | 9/8/2026 | 9/8/2016 | 110.55639 | 110.5563895 | 110.5563895 | 110.5563895 | 106.7386711 | 101.3517712 | 96.29329779 | 91.54113734 | 87.07478942 |
| 160908A00028 | 9/8/2016 | 2.21 | 9/8/2026 | 9/8/2016 | 110.55639 | 110.5563919 | 110.5563919 | 110.5563919 | 106.7386717 | 101.3517706 | 96.29329616 | 91.54113477 | 87.07478602 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160908A00034 | 9/8/2016 | 2.17 | 9/8/2026 | 9/8/2016 | 109.7826 | 109.7826049 | 109.7826049 | 109.7826049 | 106.2656 | 101.1687105 | 96.37627072 | 91.86801169 | 87.62513244 |
| 160916A00015 | 9/16/2016 | 2.2 | 9/17/2029 | 9/16/2016 | 109.199 | 109.1990013 | 109.1990013 | 109.1624469 | 105.6491044 | 100.9629689 | 96.57576062 | 92.46502207 | 88.61017553 |
| 161007A00012 | 10/7/2016 | 2.27 | 10/9/2029 | 10/7/2016 | 109.63583 | 109.6358314 | 109.6358314 | 109.59161 | 106.009233 | 101.2676164 | 96.8307904 | 92.67569255 | 88.78120335 |
| 161222A00013 | 12/22/2016 | 2.93 | 12/22/2026 | 12/22/2016 | 115.58026 | 115.5802644 | 115.5802644 | 115.5802644 | 111.5410448 | 106.0083921 | 100.8187182 | 95.94835183 | 91.37539387 |
| 170105A00010 | 1/5/2017 | 2.61 | 1/5/2027 | 1/5/2017 | 107.97791 | 107.9779073 | 107.9779073 | 107.9779073 | 106.2371378 | 102.8165421 | 99.55908143 | 96.45540788 | 93.49678152 |
| 170105A00012 | 1/5/2017 | 2.68 | 1/5/2024 | 1/5/2017 | 108.24761 | 108.2476133 | 108.2476133 | 108.2476133 | 106.9756477 | 103.5403377 | 100.2379554 | 97.06258637 | 94.00861491 |
| 170127A00008 | 1/27/2017 | 3.05 | 1/28/2030 | 1/27/2017 | 113.99772 | 113.997718 | 113.997718 | 113.9220932 | 110.0255495 | 104.9792154 | 100.2647804 | 95.85657745 | 91.7311472 |
| 170309A00042 | 3/9/2017 | 2.18 | 3/11/2024 | 3/9/2017 | 104.06878 | 104.0687757 | 104.0687757 | 104.0687757 | 103.5126104 | 101.5594476 | 99.66550271 | 97.82849062 | 96.04623199 |
| 170317A00041 | 3/17/2017 | 2.73 | 3/18/2024 | 3/17/2017 | 108.7141 | 108.7140994 | 108.7140994 | 108.7140994 | 107.3281647 | 103.769894 | 100.3547046 | 97.07602579 | 93.92762614 |
| 170504A00012 | 5/4/2017 | 2.28 | 5/4/2026 | 5/4/2017 | 106.72554 | 106.7255372 | 106.7255372 | 106.7255372 | 105.3509122 | 102.2754589 | 99.3344847 | 96.52086977 | 93.82792527 |
| 170518A00027 | 5/18/2017 | 2.11 | 5/18/2022 | 5/18/2017 | 103.4793 | 103.4792958 | 103.4792958 | 103.4792958 | 103.0889152 | 101.1997167 | 99.35564748 | 97.55534596 | 95.79750112 |
| 170524A00037 | 5/24/2017 | 2.46 | 5/24/2024 | 5/24/2017 | 107.84182 | 107.8418166 | 107.8418166 | 107.8418166 | 106.3903392 | 102.8071401 | 99.3729092 | 96.08058304 | 92.92347275 |
| 170619A00096 | 6/16/2017 | 2.79 | 6/16/2027 | 6/16/2017 | 115.39615 | 115.3961514 | 115.3961514 | 115.3961514 | 110.4105062 | 104.3129979 | 98.62449009 | 93.31481128 | 88.3561841 |
| 170727A00003 | 7/27/2017 | 1.97 | 7/29/2024 | 7/27/2017 | 103.97173 | 103.971725 | 103.971725 | 103.971725 | 103.3217274 | 101.2057764 | 99.15839787 | 97.17679691 | 95.25831357 |
| 170731A00041 | 7/31/2017 | 2.74 | 7/31/2030 | 7/31/2017 | 113.01691 | 113.0169129 | 113.0169129 | 112.862476 | 108.6703558 | 103.445525 | 98.57978067 | 94.044171 | 89.812335 |
| 170829A00066 | 8/29/2017 | 2.11 | 8/29/2024 | 8/29/2017 | 108.05274 | 108.0527386 | 108.0527386 | 108.0527386 | 106.2920973 | 102.3044256 | 98.49445283 | 94.85320493 | 91.37221682 |
| 171204A00024 | 12/4/2017 | 2.71 | 12/4/2024 | 12/4/2017 | 110.35329 | 110.3532937 | 110.3532937 | 110.3532937 | 108.351506 | 104.0947588 | 100.0372785 | 96.168612 | 92.47891116 |
| 171207A00024 | 12/7/2017 | 2.93 | 12/7/2027 | 12/7/2017 | 117.90429 | 117.9042895 | 117.9042895 | 117.9042895 | 111.9298071 | 105.2105381 | 98.97311456 | 93.17982843 | 87.796128 |
| 180125A00027 | 1/25/2018 | 2.69 | 1/24/2025 | 1/25/2018 | 106.12993 | 106.1299274 | 106.1299274 | 106.1299274 | 105.2079724 | 102.6572408 | 100.2011766 | 97.8354576 | 95.55599059 |
| 000929A00001 | 9/29/2000 | 6.82 | 9/29/2020 | 9/29/2000 | 102.25845 | 102.2584522 | 102.2584522 | 102.2584522 | 102.1982713 | 101.8584491 | 101.5209099 | 101.1856309 | 100.8525892 |
| 001127A00007 | 11/27/2000 | 6.74 | 11/27/2020 | 11/27/2000 | 101.72542 | 101.7254181 | 101.7254181 | 101.7254181 | 101.6786809 | 101.4158191 | 101.1548724 | 100.8958176 | 100.6386319 |
| 110504A00014 | 5/4/2011 | 3.46 | 5/4/2021 | 5/4/2011 | 103.03565 | 103.0356524 | 103.0356524 | 103.0356524 | 102.8322284 | 101.9215687 | 101.0274552 | 100.149437 | 99.28707943 |
| 110719A00017 | 7/19/2011 | 3.68 | 7/20/2026 | 7/19/2011 | 110.90902 | 110.909017 | 110.909017 | 110.909017 | 109.3988863 | 106.1288864 | 103.0048518 | 100.0189071 | 97.16366178 |
| 130312A00007 | 3/12/2013 | 1.76 | 3/12/2021 | 3/12/2013 | 101.26927 | 101.2692662 | 101.2692662 | 101.2692662 | 101.0996705 | 100.3305849 | 99.5734072 | 98.82786108 | 98.09367879 |
| 140313A00028 | 3/13/2014 | 2.86 | 3/13/2024 | 3/13/2014 | 108.44216 | 108.4421633 | 108.4421633 | 108.4421633 | 107.310919 | 104.2296958 | 101.2660624 | 98.41474919 | 95.67075615 |
| 140618A00019 | 6/18/2014 | 3.08 | 6/18/2024 | 6/18/2014 | 105.88044 | 105.8804364 | 105.8804364 | 105.8804364 | 105.2454833 | 103.1377254 | 101.0969959 | 99.12060751 | 97.20600061 |
| 140730A00035 | 7/30/2014 | 2.67 | 1/30/2023 | 7/30/2014 | 103.50541 | 103.5054066 | 103.5054066 | 103.5054066 | 103.2052342 | 101.838822 | 100.504264 | 99.20055226 | 97.92671905 |
| 140730A00037 | 7/30/2014 | 2.83 | 1/30/2024 | 7/30/2014 | 105.1408 | 105.1407997 | 105.1407997 | 105.1407997 | 104.6216992 | 102.7296095 | 100.8930114 | 99.10982146 | 97.37805017 |
| 150213A00014 | 2/13/2015 | 2.41 | 2/13/2025 | 2/13/2015 | 105.63021 | 105.6302098 | 105.6302098 | 105.6302098 | 104.782114 | 102.3437121 | 99.99309551 | 97.72635031 | 95.53976651 |
| 150223A00017 | 2/23/2015 | 1.77 | 2/23/2022 | 2/23/2015 | 102.09155 | 102.0915456 | 102.0915456 | 102.0915456 | 101.8314214 | 100.5695102 | 99.33237936 | 98.11931625 | 96.9296362 |
| 150318A00003 | 3/18/2015 | 2.04 | 3/18/2022 | 3/18/2015 | 102.1141 | 102.1140956 | 102.1140956 | 102.1140956 | 101.8949463 | 100.8018106 | 99.72896384 | 98.67586992 | 97.64201132 |
| 150803A00036 | 8/3/2015 | 3.41 | 8/2/2030 | 8/3/2015 | 125.37026 | 125.3702626 | 125.3702626 | 124.2436778 | 116.2372766 | 108.163457 | 100.8023587 | 94.08449764 | 87.94762613 |
| 150922A00014 | 9/22/2015 | 1.84 | 9/22/2020 | 9/22/2015 | 100.50364 | 100.5036405 | 100.5036405 | 100.5036405 | 100.4476016 | 100.1292672 | 99.81296499 | 99.49867547 | 99.18637944 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 151023A00018 | 10/23/2015 | 1.74 | 10/23/2020 | 10/23/2015 | 100.59795 | 100.5979495 | 100.5979495 | 100.5979495 | 100.5251073 | 100.1242228 | 99.72656338 | 99.33209017 | 98.94076489 |
| 151030A00004 | 10/30/2015 | 2.48 | 10/30/2025 | 10/30/2015 | 109.84555 | 109.845551 | 109.845551 | 109.845551 | 107.6422806 | 103.5079247 | 99.58332869 | 95.85633564 | 92.31556626 |
| 151201A00004 | 12/1/2015 | 2.44 | 12/1/2022 | 12/1/2015 | 105.23501 | 105.23501 | 105.23501 | 105.23501 | 104.6291189 | 102.2170923 | 99.87475888 | 97.59969057 | 95.38955958 |
| 151223A00036 | 12/23/2015 | 2.64 | 12/23/2025 | 12/23/2015 | 108.29763 | 108.2976272 | 108.2976272 | 108.2976272 | 106.5528583 | 102.9863516 | 99.5866398 | 96.34443882 | 93.25104733 |
| 160115A00011 | 1/15/2016 | 2.18 | 1/15/2026 | 1/15/2016 | 105.47828 | 105.4782818 | 105.4782818 | 105.4782818 | 104.2790454 | 101.4090688 | 98.65838109 | 96.02094741 | 93.49108344 |
| 160119A00072 | 1/19/2016 | 2.77 | 1/21/2031 | 1/19/2016 | 114.66613 | 114.6661348 | 114.6661348 | 114.2660239 | 109.2740162 | 103.4077854 | 97.97644136 | 92.9422574 | 88.27112652 |
| 160303A00035 | 3/3/2016 | 2.14 | 3/3/2026 | 3/3/2016 | 105.59106 | 105.5910591 | 105.5910591 | 105.5910591 | 104.2794522 | 101.284748 | 98.41870422 | 95.67462739 | 93.0462221 |
| 160413A00033 | 4/13/2016 | 2.32 | 4/13/2026 | 4/13/2016 | 108.94653 | 108.9465266 | 108.9465266 | 108.9465266 | 106.3677836 | 102.0166777 | 97.90055662 | 94.00498109 | 90.31648614 |
| 160511A00016 | 5/11/2016 | 2.48 | 5/12/2031 | 5/11/2016 | 112.55454 | 112.5545363 | 112.5545363 | 112.1980362 | 107.4985249 | 101.9371236 | 96.78506772 | 92.0071294 | 87.57143468 |
| 160608A00015 | 6/8/2016 | 1.63 | 6/8/2021 | 6/8/2016 | 101.38429 | 101.384294 | 101.384294 | 101.384294 | 101.1651357 | 100.1525288 | 99.16033396 | 98.18793712 | 97.23474883 |
| 160608A00024 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.99611 | 110.9961093 | 110.9961093 | 110.9961093 | 107.4976084 | 102.2618192 | 97.33464909 | 92.69597492 | 88.32709598 |
| 160713A00015 | 7/13/2016 | 1.57 | 7/13/2026 | 7/13/2016 | 104.61093 | 104.6109349 | 104.6109349 | 104.6109349 | 103.1815694 | 100.0894839 | 97.13581679 | 94.31308121 | 91.61425225 |
| 160608A00019 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.99611 | 110.9961093 | 110.9961093 | 110.9961093 | 107.4976084 | 102.2618192 | 97.33464909 | 92.69597492 | 88.32709598 |
| 160608A00028 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.99611 | 110.9961093 | 110.9961093 | 110.9961093 | 107.4976084 | 102.2618192 | 97.33464909 | 92.69597492 | 88.32709598 |
| 160608A00033 | 6/8/2016 | 2.44 | 6/9/2031 | 6/8/2016 | 112.41089 | 112.4108886 | 112.4108886 | 112.0295213 | 107.2850519 | 101.6958007 | 96.52065951 | 91.72376568 | 87.27269157 |
| 160629A00066 | 6/29/2016 | 2.61 | 6/30/2036 | 6/29/2016 | 130.7878 | 130.7878042 | 130.7878042 | 122.067957 | 110.048245 | 99.0857284 | 89.53529325 | 81.19652943 | 73.89913624 |
| 160810A00022 | 8/10/2016 | 1.53 | 8/10/2021 | 8/10/2016 | 101.48437 | 101.4843652 | 101.4843652 | 101.4843652 | 101.2553136 | 100.0846336 | 98.94133586 | 97.82446496 | 96.73310953 |
| 160810A00024 | 8/10/2016 | 1.52 | 8/10/2021 | 8/10/2016 | 101.45872 | 101.4587186 | 101.4587186 | 101.4587186 | 101.2317059 | 100.072055 | 98.93944569 | 97.83293586 | 96.75162684 |
| 160812A00016 | 8/12/2016 | 2.06 | 8/13/2029 | 8/12/2016 | 108.42349 | 108.4234944 | 108.4234944 | 108.3942774 | 104.960966 | 100.3449588 | 96.02110986 | 91.96763217 | 88.16454951 |
| 160906A00027 | 9/6/2016 | 2.03 | 9/8/2031 | 9/6/2016 | 111.37229 | 111.3722867 | 111.3722867 | 110.9080979 | 106.0241827 | 100.3557016 | 95.11699851 | 90.27004262 | 85.78052119 |
| 160908A00017 | 9/8/2016 | 1.87 | 9/8/2023 | 9/8/2016 | 104.87052 | 104.8705204 | 104.8705204 | 104.8705204 | 103.8582791 | 100.8260315 | 97.90179488 | 95.08107102 | 92.3595784 |
| 160908A00019 | 9/8/2016 | 1.87 | 9/8/2023 | 9/8/2016 | 104.87052 | 104.8705204 | 104.8705204 | 104.8705204 | 103.8582791 | 100.8260315 | 97.90179488 | 95.08107102 | 92.3595784 |
| 160908A00027 | 9/8/2016 | 2.21 | 9/8/2026 | 9/8/2016 | 110.55639 | 110.5563919 | 110.5563919 | 110.5563919 | 106.7386717 | 101.3517706 | 96.29329616 | 91.54113477 | 87.07478602 |
| 160908A00033 | 9/8/2016 | 2.17 | 9/8/2026 | 9/8/2016 | 109.7826 | 109.7826049 | 109.7826049 | 109.7826049 | 106.2656 | 101.1687105 | 96.37627072 | 91.86801169 | 87.62513244 |
| 161004A00070 | 10/4/2016 | 1.92 | 10/4/2023 | 10/4/2016 | 105.21255 | 105.2125454 | 105.2125454 | 105.2125454 | 104.1326059 | 100.9863682 | 97.95476523 | 95.03300996 | 92.21654072 |
| 161116A00006 | 11/16/2016 | 2.39 | 11/16/2026 | 11/16/2016 | 107.01663 | 107.0166343 | 107.0166343 | 107.0166343 | 105.3838708 | 102.0724087 | 98.91553027 | 95.90454934 | 93.03133462 |
| 170207A00055 | 2/7/2017 | 2.36 | 2/8/2027 | 2/7/2017 | 107.87224 | 107.872242 | 107.872242 | 107.872242 | 106.0758935 | 102.605989 | 99.30384079 | 96.15971518 | 93.1645192 |
| 170303A00011 | 3/3/2017 | 3.09 | 3/4/2030 | 3/3/2017 | 114.46248 | 114.4624789 | 114.4624789 | 114.3639541 | 110.3397769 | 105.197653 | 100.3987256 | 95.91608429 | 91.7251642 |
| 170307A00013 | 3/7/2017 | 2.33 | 3/7/2024 | 3/7/2017 | 104.00894 | 104.0089441 | 104.0089441 | 104.0089441 | 103.4551007 | 101.5088033 | 99.62135921 | 97.7905029 | 96.01407332 |
| 170313A00045 | 3/13/2017 | 3.22 | 3/15/2032 | 3/13/2017 | 118.39589 | 118.3958865 | 118.3958865 | 117.7082354 | 112.2374482 | 106.0231741 | 100.2963208 | 95.0123092 | 90.13105917 |
| 170317A00040 | 3/17/2017 | 2.74 | 3/18/2024 | 3/17/2017 | 108.90411 | 108.9041103 | 108.9041103 | 108.9041103 | 107.4854377 | 103.8636918 | 100.3883415 | 97.05264634 | 93.85021498 |
| 170406A00021 | 4/6/2017 | 2.24 | 4/6/2022 | 4/6/2017 | 103.52023 | 103.5202252 | 103.5202252 | 103.5202252 | 103.1596211 | 101.3733059 | 99.62740788 | 97.92077287 | 96.25228725 |
| 170406A00023 | 4/6/2017 | 2.24 | 4/6/2022 | 4/6/2017 | 103.52023 | 103.5202252 | 103.5202252 | 103.5202252 | 103.1596211 | 101.3733059 | 99.62740788 | 97.92077287 | 96.25228725 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170421A00011 | 4/21/2017 | 2.83 | 4/22/2030 | 4/21/2017 | 113.17419 | 113.1741943 | 113.1741943 | 113.0633773 | 109.029198 | 103.9079108 | 99.13101366 | 94.67130875 | 90.50398444 |
| 170512A00024 | 5/12/2017 | 2.88 | 5/13/2030 | 5/12/2017 | 113.56192 | 113.5619245 | 113.5619245 | 113.437385 | 109.3345045 | 104.1585212 | 99.33312835 | 94.83044883 | 90.62506732 |
| 171013A00024 | 10/13/2017 | 2.47 | 10/15/2024 | 10/13/2017 | 108.58872 | 108.5887246 | 108.5887246 | 108.5887246 | 106.8443571 | 102.9415947 | 99.21382193 | 95.65218294 | 92.2483174 |
| 171030A00039 | 10/30/2017 | 2.86 | 10/30/2030 | 10/30/2017 | 114.03338 | 114.0333762 | 114.0333762 | 113.8255169 | 109.4330819 | 104.0504741 | 99.04570456 | 94.38769121 | 90.04818713 |
| 171207A00021 | 12/7/2017 | 2.25 | 12/7/2020 | 12/7/2017 | 101.04861 | 101.0486127 | 101.0486127 | 101.0486127 | 100.9475995 | 100.4239428 | 99.90576614 | 99.39298363 | 98.88551109 |
| 180322A00044 | 3/22/2018 | 3.18 | 3/22/2033 | 3/22/2018 | 121.20011 | 121.2001113 | 121.2001113 | 119.9732585 | 113.7142431 | 106.8923809 | 100.6469443 | 94.92133729 | 89.6650765 |
| 120330A00013 | 3/30/2012 | 2.98 | 4/2/2024 | 3/30/2012 | 108.92859 | 108.9285874 | 108.9285874 | 108.9285874 | 107.6602189 | 104.3382759 | 101.1474273 | 98.08171782 | 95.13549577 |
| 120806A00015 | 8/6/2012 | 2.38 | 8/6/2027 | 8/6/2012 | 107.80203 | 107.8020335 | 107.8020335 | 107.8020335 | 105.7159421 | 102.0273335 | 98.52776132 | 95.20565191 | 92.05023177 |
| 120808A00006 | 8/8/2012 | 2.06 | 8/9/2027 | 8/8/2012 | 107.30891 | 107.3089072 | 107.3089072 | 107.3089072 | 105.2212254 | 101.5352 | 98.03865971 | 94.71997155 | 91.56830893 |
| 131018A00006 | 10/18/2013 | 3.28 | 10/20/2025 | 10/18/2013 | 114.29882 | 114.298823 | 114.298823 | 114.298823 | 111.7901059 | 107.2169195 | 102.8816342 | 98.7702917 | 94.869832 |
| 140317A00056 | 3/17/2014 | 1.82 | 3/17/2021 | 3/17/2014 | 100.66308 | 100.6630849 | 100.6630849 | 100.6630849 | 100.5779851 | 100.1539383 | 99.73477838 | 99.32041184 | 98.91074769 |
| 150224A00010 | 2/24/2015 | 2.34 | 2/24/2025 | 2/24/2015 | 105.76032 | 105.7603197 | 105.7603197 | 105.7603197 | 104.6943111 | 101.8807466 | 99.17506315 | 96.57213455 | 94.06711949 |
| 150615A00024 | 6/15/2015 | 2.26 | 6/16/2025 | 6/15/2015 | 105.62958 | 105.629584 | 105.629584 | 105.629584 | 104.6613952 | 102.0597114 | 99.55707875 | 97.14886148 | 94.83067541 |
| 150617A00017 | 6/17/2015 | 2.27 | 6/17/2025 | 6/17/2015 | 105.65645 | 105.6564517 | 105.6564517 | 105.6564517 | 104.6879577 | 102.0855558 | 99.58223488 | 97.17335771 | 94.85453861 |
| 150619A00011 | 6/19/2015 | 1.93 | 6/19/2020 | 6/19/2015 | 100.05085 | 100.0508466 | 100.0508466 | 100.0508466 | 100.0463391 | 100.0144516 | 99.98260749 | 99.95080662 | 99.91904891 |
| 150714A00003 | 7/14/2015 | 3.76 | 7/12/2030 | 7/14/2015 | 119.98162 | 119.9816218 | 119.9816218 | 119.8154925 | 115.3177457 | 109.7292049 | 104.5264456 | 99.67825848 | 95.15623514 |
| 150803A00038 | 8/3/2015 | 3.41 | 8/2/2030 | 8/3/2015 | 125.37026 | 125.3702626 | 125.3702626 | 124.2436778 | 116.2372766 | 108.163457 | 100.8023587 | 94.08449764 | 87.94762613 |
| 150805A00015 | 8/5/2015 | 2.29 | 8/5/2022 | 8/5/2015 | 104.64617 | 104.6461717 | 104.6461717 | 104.6461717 | 104.176068 | 102.0562544 | 99.99109352 | 97.978778 | 96.01757552 |
| 150825A00008 | 8/25/2015 | 2.82 | 8/25/2025 | 8/25/2015 | 111.33306 | 111.3330591 | 111.3330591 | 111.3330591 | 108.928909 | 104.4480926 | 100.1973279 | 96.16328858 | 92.33350121 |
| 151001A00023 | 10/1/2015 | 2.02 | 10/1/2025 | 10/1/2015 | 105.31893 | 105.3189313 | 105.3189313 | 105.3189313 | 104.2238551 | 101.4690911 | 98.82483959 | 96.28568502 | 93.8465176 |
| 151006A00050 | 10/6/2015 | 2.21 | 10/6/2022 | 10/6/2015 | 102.36937 | 102.3693689 | 102.3693689 | 102.3693689 | 102.112684 | 100.8907217 | 99.6953543 | 98.52577893 | 97.38122402 |
| 151120A00019 | 11/20/2015 | 2.72 | 11/20/2030 | 11/20/2015 | 114.47527 | 114.4752669 | 114.4752669 | 114.2452395 | 109.752402 | 104.2863002 | 99.20789457 | 94.48498992 | 90.08835361 |
| 151210A00011 | 12/10/2015 | 2.16 | 12/12/2022 | 12/10/2015 | 102.7069 | 102.7068991 | 102.7068991 | 102.7068991 | 102.4234431 | 101.1109818 | 99.82844379 | 98.57489808 | 97.34945026 |
| 160210A00054 | 2/10/2016 | 1.78 | 2/10/2026 | 2/10/2016 | 104.92761 | 104.9276104 | 104.9276104 | 104.9276104 | 103.6925022 | 100.7882122 | 98.00646035 | 95.34096256 | 92.78580473 |
| 160212A00047 | 2/12/2016 | 1.94 | 2/12/2026 | 2/12/2016 | 104.83682 | 104.83682 | 104.83682 | 104.83682 | 103.6081917 | 100.7165907 | 97.94665391 | 95.29215775 | 92.7472442 |
| 160225A00011 | 2/25/2016 | 1.5 | 2/27/2023 | 2/25/2016 | 102.19547 | 102.1954719 | 102.1954719 | 102.1954719 | 101.8269488 | 100.2656002 | 98.7441138 | 97.26114303 | 95.81539822 |
| 160404A00019 | 4/4/2016 | 2.48 | 4/4/2031 | 4/4/2016 | 112.45621 | 112.4562093 | 112.4562093 | 112.1248353 | 107.4808977 | 101.9596852 | 96.84215543 | 92.09378936 | 87.68333437 |
| 160427A00004 | 4/27/2016 | 2.09 | 4/27/2026 | 4/27/2016 | 105.44429 | 105.444287 | 105.444287 | 105.444287 | 104.1308255 | 101.142482 | 98.28297099 | 95.54555698 | 92.92390748 |
| 160504A00022 | 5/4/2016 | 2 | 5/4/2023 | 5/4/2016 | 104.81713 | 104.8171259 | 104.8171259 | 104.8171259 | 103.9942749 | 101.2150159 | 98.5266704 | 95.92576062 | 93.40896201 |
| 160524A00101 | 5/24/2016 | 2.98 | 5/23/2031 | 5/24/2016 | 124.72451 | 124.7245116 | 124.7245116 | 122.4696454 | 113.3218327 | 104.4549036 | 96.44602618 | 89.20463568 | 82.65029475 |
| 160601A00023 | 6/1/2016 | 2.37 | 6/1/2029 | 6/1/2016 | 109.77377 | 109.7737671 | 109.7737671 | 109.7562676 | 106.3919971 | 101.7922222 | 97.47897568 | 93.43121005 | 89.62960232 |
| 160608A00020 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.99611 | 110.9961093 | 110.9961093 | 110.9961093 | 107.4976084 | 102.2618192 | 97.33464909 | 92.69597492 | 88.32709598 |
| 110504A00017 | 5/4/2011 | 3.46 | 5/4/2021 | 5/4/2011 | 103.03565 | 103.0356524 | 103.0356524 | 103.0356524 | 102.8322284 | 101.9215687 | 101.0274552 | 100.149437 | 99.28707943 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 111220A00025 | 12/20/2011 | 2.17 | 12/20/2021 | 12/20/2011 | 101.52908 | 101.5290837 | 101.5290837 | 101.5290837 | 101.3674956 | 100.5643905 | 99.77556142 | 99.00061561 | 98.23917502 |
| 120517A00021 | 5/17/2012 | 1.85 | 5/17/2024 | 5/17/2012 | 103.5603 | 103.5603042 | 103.5603042 | 103.5603042 | 102.9611901 | 100.9358713 | 98.97406859 | 97.07326462 | 95.23106059 |
| 121016A00013 | 10/16/2012 | 1.64 | 10/14/2022 | 10/16/2012 | 101.66098 | 101.6609751 | 101.6609751 | 101.6609751 | 101.405821 | 100.1920507 | 99.00472061 | 97.8430318 | 96.70621647 |
| 140508A00008 | 5/8/2014 | 1.66 | 5/10/2021 | 5/8/2014 | 100.78657 | 100.786567 | 100.786567 | 100.786567 | 100.6811112 | 100.173511 | 99.67284637 | 99.17896032 | 98.69170067 |
| 140821A00040 | 8/21/2014 | 3.41 | 8/21/2031 | 8/21/2014 | 130.91869 | 130.9186855 | 130.9186855 | 128.3437891 | 118.809769 | 109.5380383 | 101.1715851 | 93.61358647 | 86.77821658 |
| 140917A00030 | 9/17/2014 | 3.23 | 9/17/2029 | 9/17/2014 | 122.72292 | 122.7229181 | 122.7229181 | 122.320492 | 115.3620017 | 108.088179 | 101.4034967 | 95.25492186 | 89.59454578 |
| 140929A00028 | 9/29/2014 | 2.62 | 3/29/2023 | 9/29/2014 | 106.61017 | 106.6101706 | 106.6101706 | 106.6101706 | 105.8677706 | 103.2340888 | 100.6831317 | 98.21183967 | 95.81728352 |
| 141017A00022 | 10/17/2014 | 2.78 | 10/17/2024 | 10/17/2014 | 109.55568 | 109.5556831 | 109.5556831 | 109.5556831 | 107.8652302 | 104.0401212 | 100.3847963 | 96.89070258 | 93.54976507 |
| 150227A00011 | 2/27/2015 | 2.33 | 2/27/2025 | 2/27/2015 | 108.22213 | 108.222134 | 108.222134 | 108.222134 | 106.5303781 | 102.8501497 | 99.33791184 | 95.98479845 | 92.78246933 |
| 150409A00009 | 4/9/2015 | 1.89 | 4/9/2025 | 4/9/2015 | 104.48776 | 104.4877586 | 104.4877586 | 104.4877586 | 103.5911855 | 101.0991651 | 98.69941828 | 96.3877312 | 94.16011385 |
| 150603A00012 | 6/3/2015 | 2.77 | 6/3/2030 | 6/3/2015 | 114.15586 | 114.1558573 | 114.1558573 | 114.0149145 | 109.8083593 | 104.5435377 | 99.63911921 | 95.06616793 | 90.79832669 |
| 150604A00039 | 6/4/2015 | 2.82 | 6/4/2030 | 6/4/2015 | 114.43452 | 114.4345168 | 114.4345168 | 114.2931923 | 110.0762736 | 104.7984709 | 99.88196099 | 95.29773649 | 91.01937495 |
| 150617A00026 | 6/17/2015 | 2 | 6/15/2020 | 6/17/2015 | 100.0781 | 100.0781003 | 100.0781003 | 100.0781003 | 100.0714714 | 100.0245751 | 99.97773951 | 99.93096446 | 99.88424985 |
| 150617A00036 | 6/17/2015 | 2.44 | 6/15/2022 | 6/17/2015 | 104.17499 | 104.1749901 | 104.1749901 | 104.1749901 | 103.7686428 | 101.844134 | 99.96664977 | 98.13472564 | 96.34695381 |
| 150713A00011 | 7/13/2015 | 1.89 | 7/13/2020 | 7/13/2015 | 100.22023 | 100.22023 | 100.22023 | 100.22023 | 100.201326 | 100.0772075 | 99.95341323 | 99.82994193 | 99.70679226 |
| 150722A00033 | 7/22/2015 | 2.47 | 7/22/2025 | 7/22/2015 | 105.77604 | 105.7760352 | 105.7760352 | 105.7760352 | 104.7786825 | 102.1412686 | 99.6053588 | 97.16615698 | 94.81912945 |
| 150804A00022 | 8/4/2015 | 2.37 | 8/4/2022 | 8/4/2015 | 104.4253 | 104.4253022 | 104.4253022 | 104.4253022 | 103.9583263 | 101.8502302 | 99.79631322 | 97.79478915 | 95.84394599 |
| 150812A00052 | 8/14/2015 | 2.13 | 8/14/2025 | 8/14/2015 | 105.45746 | 105.4574643 | 105.4574643 | 105.4574643 | 104.4271431 | 101.7488355 | 99.17524955 | 96.70136666 | 94.32244631 |
| 150824A00033 | 8/24/2015 | 2.22 | 8/25/2025 | 8/24/2015 | 105.18138 | 105.1813771 | 105.1813771 | 105.1813771 | 104.1574891 | 101.494926 | 98.93621193 | 96.47638067 | 94.11074088 |
| 150824A00050 | 8/24/2015 | 2.03 | 8/25/2025 | 8/24/2015 | 105.18253 | 105.1825316 | 105.1825316 | 105.1825316 | 104.1543183 | 101.4827162 | 98.91560395 | 96.44797189 | 94.0750884 |
| 151002A00042 | 10/2/2015 | 1.26 | 10/2/2020 | 10/2/2015 | 100.2035 | 100.2035043 | 100.2035043 | 100.2035043 | 100.1687067 | 99.96531865 | 99.76307444 | 99.56196361 | 99.36197586 |
| 151005A00084 | 10/5/2015 | 2.25 | 10/5/2022 | 10/5/2015 | 104.48025 | 104.4802545 | 104.4802545 | 104.4802545 | 103.9461531 | 101.6861421 | 99.48777175 | 97.34901913 | 95.26793936 |
| 151013A00033 | 10/13/2015 | 2.23 | 10/14/2025 | 10/13/2015 | 105.37541 | 105.3754137 | 105.3754137 | 105.3754137 | 104.2836436 | 101.5362765 | 98.89885627 | 96.36600638 | 93.93265334 |
| 151030A00026 | 10/30/2015 | 3.29 | 10/30/2030 | 10/30/2015 | 124.81555 | 124.8155464 | 124.8155464 | 123.4635962 | 115.3345322 | 107.1799328 | 99.75906189 | 92.99904195 | 86.83471756 |
| 151125A00037 | 11/25/2015 | 2.41 | 11/25/2025 | 11/25/2015 | 105.98075 | 105.9807474 | 105.9807474 | 105.9807474 | 104.8471176 | 102.0429592 | 99.35250001 | 96.77011385 | 94.29049512 |
| 130422A00020 | 4/22/2013 | 1.98 | 4/22/2025 | 4/22/2013 | 104.2325 | 104.2325044 | 104.2325044 | 104.2325044 | 103.34109 | 100.8628958 | 98.47625065 | 96.17698226 | 93.9611394 |
| 140428A00015 | 4/28/2014 | 2.35 | 4/29/2024 | 4/28/2014 | 104.50868 | 104.5086787 | 104.5086787 | 104.5086787 | 103.9264973 | 101.9224801 | 99.98030937 | 98.09756544 | 96.27194149 |
| 141015A00029 | 10/15/2014 | 2.32 | 10/15/2024 | 10/15/2014 | 107.64391 | 107.6439083 | 107.6439083 | 107.6439083 | 106.1866803 | 102.74801 | 99.45667629 | 96.30539185 | 93.2872721 |
| 141203A00039 | 12/3/2014 | 3.6 | 12/4/2034 | 12/3/2014 | 126.25524 | 126.2552377 | 126.2552377 | 123.7407712 | 116.16533 | 108.3289082 | 101.2326649 | 94.79563031 | 88.94654008 |
| 150219A00016 | 2/19/2015 | 2.68 | 2/19/2025 | 2/19/2015 | 109.99967 | 109.9996652 | 109.9996652 | 109.9996652 | 107.9732614 | 103.7563867 | 99.73901414 | 95.91040656 | 92.26047145 |
| 150320A00019 | 3/20/2015 | 2.25 | 3/20/2025 | 3/20/2015 | 108.00673 | 108.0067334 | 108.0067334 | 108.0067334 | 106.2783061 | 102.5654517 | 99.02387619 | 95.64449474 | 92.41875933 |
| 150410A00021 | 4/10/2015 | 2.27 | 4/10/2025 | 4/10/2015 | 105.00203 | 105.0020271 | 105.0020271 | 105.0020271 | 104.1043197 | 101.6074689 | 99.20283437 | 96.88621486 | 94.65363173 |
| 150617A00030 | 6/17/2015 | 2.91 | 6/16/2025 | 6/17/2015 | 111.37081 | 111.3708061 | 111.3708061 | 111.3708061 | 109.1382507 | 104.7864644 | 100.6516113 | 96.72149434 | 92.98467232 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150803A00033 | 8/3/2015 | 3.41 | 8/2/2030 | 8/3/2015 | 125.37026 | 125.3702626 | 125.3702626 | 124.2436778 | 116.2372766 | 108.163457 | 100.8023587 | 94.08449764 | 87.94762613 |
| 150803A00039 | 8/3/2015 | 3.01 | 8/2/2030 | 8/3/2015 | 114.6454 | 114.6454036 | 114.6454036 | 114.4733518 | 110.1664143 | 104.8290236 | 99.86098913 | 95.23233778 | 90.91579515 |
| 150828A00018 | 8/28/2015 | 1.7 | 8/29/2022 | 8/28/2015 | 101.75696 | 101.7569595 | 101.7569595 | 101.7569595 | 101.5330197 | 100.436742 | 99.36295351 | 98.31099536 | 97.28023413 |
| 151022A00020 | 10/22/2015 | 1.71 | 10/22/2020 | 10/22/2015 | 100.58845 | 100.5884485 | 100.5884485 | 100.5884485 | 100.5141496 | 100.1052973 | 99.69972958 | 99.29740691 | 98.89829048 |
| 151023A00019 | 10/23/2015 | 1.74 | 10/23/2020 | 10/23/2015 | 100.59795 | 100.5979495 | 100.5979495 | 100.5979495 | 100.5251073 | 100.1242228 | 99.72656338 | 99.33209017 | 98.94076489 |
| 151029A00008 | 10/29/2015 | 2.28 | 10/29/2025 | 10/29/2015 | 105.51886 | 105.5188588 | 105.5188588 | 105.5188588 | 104.4246624 | 101.6728805 | 99.03126561 | 96.49442752 | 94.05728008 |
| 151118A00037 | 11/18/2015 | 2.75 | 11/18/2025 | 11/18/2015 | 110.26932 | 110.269319 | 110.269319 | 110.269319 | 108.0229519 | 103.856821 | 99.90319461 | 96.14968512 | 92.58470218 |
| 151204A00011 | 12/4/2015 | 2.28 | 12/4/2025 | 12/4/2015 | 106.25055 | 106.2505495 | 106.2505495 | 106.2505495 | 105.0745308 | 102.2138 | 99.47080411 | 96.83963983 | 94.31474415 |
| 151229A00026 | 12/29/2015 | 2.28 | 12/29/2025 | 12/29/2015 | 106.25288 | 106.2528817 | 106.2528817 | 106.2528817 | 105.0752365 | 102.2134616 | 99.46953174 | 96.83753372 | 94.31189546 |
| 160126A00004 | 1/26/2016 | 2.52 | 1/26/2026 | 1/26/2016 | 112.64673 | 112.6467268 | 112.6467268 | 112.6467268 | 109.4152425 | 104.1977471 | 99.27546643 | 94.62993182 | 90.24393298 |
| 160210A00049 | 2/10/2016 | 1.78 | 2/10/2026 | 2/10/2016 | 104.92761 | 104.9276082 | 104.9276082 | 104.9276082 | 103.6925011 | 100.7882125 | 98.00646175 | 95.34096504 | 92.7858082 |
| 160401A00005 | 4/1/2016 | 2.02 | 4/3/2023 | 4/1/2016 | 104.73882 | 104.7388246 | 104.7388246 | 104.7388246 | 103.9640311 | 101.2591527 | 98.64047147 | 96.10477688 | 93.64899555 |
| 160413A00014 | 4/13/2016 | 2.55 | 4/14/2031 | 4/13/2016 | 112.87342 | 112.8734225 | 112.8734225 | 112.540377 | 107.8789053 | 102.3368974 | 97.20011506 | 92.43390439 | 88.00689107 |
| 160413A00016 | 4/13/2016 | 2.55 | 4/14/2031 | 4/13/2016 | 112.87342 | 112.8734226 | 112.8734226 | 112.540377 | 107.8789053 | 102.3368973 | 97.20011497 | 92.43390428 | 88.00689094 |
| 160413A00021 | 4/13/2016 | 2.48 | 4/13/2026 | 4/13/2016 | 111.38587 | 111.385865 | 111.385865 | 111.385865 | 108.0754978 | 102.9302289 | 98.08139208 | 93.51009864 | 89.19876367 |
| 160428A00028 | 4/28/2016 | 2 | 4/28/2026 | 4/28/2016 | 105.75757 | 105.757572 | 105.757572 | 105.757572 | 104.4340306 | 101.4258861 | 98.54779945 | 95.79295319 | 93.15493891 |
| 160608A00016 | 6/8/2016 | 1.63 | 6/8/2021 | 6/8/2016 | 101.37736 | 101.377362 | 101.377362 | 101.377362 | 101.1593461 | 100.151801 | 99.16453329 | 98.19693363 | 97.24841691 |
| 160608A00021 | 6/8/2016 | 1.91 | 6/8/2023 | 6/8/2016 | 104.63316 | 104.633159 | 104.633159 | 104.633159 | 103.7713834 | 100.9532093 | 98.22946991 | 95.59645104 | 93.05060721 |
| 180206A00040 | 2/6/2018 | 2.47 | 2/8/2021 | 2/6/2018 | 101.5476 | 101.5475999 | 101.5475999 | 101.5475999 | 101.3979888 | 100.701858 | 100.015356 | 99.33828362 | 98.67044703 |
| 180206A00046 | 2/6/2018 | 2.72 | 2/6/2023 | 2/6/2018 | 106.29802 | 106.2980174 | 106.2980174 | 106.2980174 | 105.6033059 | 103.0259405 | 100.5266964 | 98.10269163 | 95.75117226 |
| 180305A00030 | 3/5/2018 | 3.12 | 3/5/2025 | 3/5/2018 | 112.78431 | 112.7843142 | 112.7843142 | 112.7843142 | 110.5271135 | 105.9913213 | 101.6769671 | 97.57193866 | 93.66485681 |
| 180403A00014 | 4/3/2018 | 3.11 | 4/3/2025 | 4/3/2018 | 112.94007 | 112.940065 | 112.940065 | 112.940065 | 110.6051095 | 105.9961643 | 101.6155994 | 97.45083275 | 93.49004032 |
| 180410A00002 | 4/10/2018 | 3.14 | 4/11/2033 | 4/10/2018 | 121.04916 | 121.0491644 | 121.0491644 | 119.7760252 | 113.4750346 | 106.6273237 | 100.3614705 | 94.62003839 | 89.35182643 |
| 180605A00031 | 6/5/2018 | 3.37 | 6/5/2030 | 6/5/2018 | 116.40973 | 116.4097275 | 116.4097275 | 116.2674385 | 112.0050884 | 106.6603568 | 101.6802409 | 97.03555107 | 92.69969182 |
| 180702A00040 | 7/2/2018 | 2.9 | 7/2/2021 | 7/2/2018 | 102.85217 | 102.8521722 | 102.8521722 | 102.8521722 | 102.6264417 | 101.5422318 | 100.4811729 | 99.44252716 | 98.42558792 |
| 180713A00031 | 7/13/2018 | 3.06 | 7/14/2025 | 7/13/2018 | 107.38681 | 107.386813 | 107.386813 | 107.386813 | 106.3744214 | 103.696287 | 101.1211987 | 98.64428908 | 96.26095674 |
| 180809A00032 | 8/9/2018 | 3.08 | 8/9/2023 | 8/9/2018 | 108.53712 | 108.5371191 | 108.5371191 | 108.5371191 | 107.5423761 | 104.4767819 | 101.5181173 | 98.66198658 | 95.904205 |
| 181003A00032 | 10/3/2018 | 3.23 | 10/3/2025 | 10/3/2018 | 108.2409 | 108.2409032 | 108.2409032 | 108.2409032 | 107.1195664 | 104.2963457 | 101.5860689 | 98.98321517 | 96.48257484 |
| 181214A00030 | 12/14/2018 | 3.47 | 12/14/2033 | 12/14/2018 | 138.46144 | 138.4614437 | 138.4614437 | 131.7775237 | 119.7631348 | 108.5739349 | 98.67185143 | 89.89540319 | 82.10449127 |
| 190103A00020 | 1/3/2019 | 3.12 | 1/5/2026 | 1/3/2019 | 114.83914 | 114.8391424 | 114.8391424 | 114.8391424 | 111.6184484 | 106.3431827 | 101.3635452 | 96.66122397 | 92.21914151 |
| 190131A00013 | 1/31/2019 | 3.48 | 1/31/2034 | 1/31/2019 | 136.32679 | 136.3267852 | 136.3267852 | 129.5889998 | 117.7454325 | 106.7187695 | 96.96575206 | 88.32578329 | 80.65964615 |
| 190205A00017 | 2/5/2019 | 3.36 | 2/5/2029 | 2/5/2019 | 123.06015 | 123.06015 | 123.06015 | 122.9676717 | 115.5858853 | 108.0797033 | 101.1708236 | 94.80719913 | 88.94162621 |
| 190326A00029 | 3/26/2019 | 2.38 | 3/26/2026 | 3/26/2019 | 106.84653 | 106.8465341 | 106.8465341 | 106.8465341 | 105.5488881 | 102.5495329 | 99.67830204 | 96.92855136 | 94.29403163 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190327A00035 | 3/27/2019 | 2.68 | 3/27/2034 | 3/27/2019 | 118.99916 | 118.9991646 | 118.9991646 | 117.177409 | 110.4574037 | 103.3632768 | 96.90905484 | 91.02782457 | 85.66035146 |
| 190403A00014 | 4/3/2019 | 3.05 | 4/3/2029 | 4/3/2019 | 120.94999 | 120.9499876 | 120.9499876 | 120.7632365 | 113.3528025 | 105.8589828 | 98.97157759 | 92.63695669 | 86.80654136 |
| 190430A00026 | 4/30/2019 | 3.03 | 4/28/2034 | 4/30/2019 | 120.30369 | 120.3036913 | 120.3036913 | 118.4286765 | 111.6381533 | 104.4728047 | 97.95455613 | 92.01561746 | 86.59599397 |
| 190515A00035 | 5/15/2019 | 2.82 | 2/15/2029 | 5/15/2019 | 119.62156 | 119.6215559 | 119.6215559 | 119.5037012 | 111.8808397 | 104.2909789 | 97.31739713 | 90.90571592 | 85.0066634 |
| 190708A00030 | 7/8/2019 | 2.57 | 7/2/2029 | 7/8/2019 | 118.26162 | 118.2616182 | 118.2616182 | 117.8809999 | 110.0392865 | 102.2987873 | 95.21036093 | 88.7144131 | 82.75713151 |
| 190813A00064 | 8/13/2019 | 1.9 | 8/13/2024 | 8/13/2019 | 106.42519 | 106.4251897 | 106.4251897 | 106.4251897 | 104.7122349 | 100.7993723 | 97.05947811 | 93.48390069 | 90.06447358 |
| 190826A00032 | 8/26/2019 | 1.72 | 8/24/2029 | 8/26/2019 | 107.69643 | 107.6964328 | 107.6964328 | 107.6668049 | 104.2350942 | 99.62970357 | 95.31679439 | 91.27449093 | 87.48274072 |
| 190905A00025 | 9/5/2019 | 2.08 | 9/5/2029 | 9/5/2019 | 114.43705 | 114.4370515 | 114.4370515 | 113.9272064 | 106.1447417 | 98.51137353 | 91.53329611 | 85.14957603 | 79.30529003 |
| 190920A00014 | 9/20/2019 | 2.28 | 9/20/2034 | 9/20/2019 | 114.92488 | 114.9248797 | 114.9248797 | 112.8626442 | 106.1572109 | 99.16251528 | 92.81588184 | 87.04771915 | 81.79663168 |
| 190930A00026 | 9/30/2019 | 1.95 | 9/30/2024 | 9/30/2019 | 106.54159 | 106.5415856 | 106.5415856 | 106.5415856 | 104.8195191 | 100.9554297 | 97.26422111 | 93.73719086 | 90.36612004 |
| 190930A00028 | 9/30/2019 | 1.95 | 9/30/2024 | 9/30/2019 | 106.54158 | 106.5415827 | 106.5415827 | 106.5415827 | 104.8195174 | 100.9554297 | 97.2642227 | 93.7371939 | 90.36612442 |
| 160722A00011 | 7/22/2016 | 2.17 | 7/23/2029 | 7/22/2016 | 108.88443 | 108.8844296 | 108.8844296 | 108.8610359 | 105.4680872 | 100.8687517 | 96.55825835 | 92.51522474 | 88.72003329 |
| 160810A00028 | 8/10/2016 | 2.19 | 8/10/2026 | 8/10/2016 | 110.65765 | 110.6576517 | 110.6576517 | 110.6576517 | 106.7753426 | 101.2796287 | 96.11929052 | 91.27181571 | 86.71632828 |
| 160810A00030 | 8/10/2016 | 2.24 | 8/11/2031 | 8/10/2016 | 111.3813 | 111.3812975 | 111.3812975 | 110.9501254 | 106.148925 | 100.5422325 | 95.35639329 | 90.55450384 | 86.10323774 |
| 160810A00035 | 8/10/2016 | 2.1 | 8/10/2026 | 8/10/2016 | 109.30182 | 109.3018207 | 109.3018207 | 109.3018207 | 105.8909186 | 100.8614093 | 96.12930699 | 91.67498927 | 87.48024473 |
| 160907A00049 | 9/7/2016 | 1.41 | 9/9/2024 | 9/7/2016 | 102.86931 | 102.8693062 | 102.8693062 | 102.8693062 | 102.1777617 | 100.00528 | 97.90538549 | 95.87504199 | 93.91136321 |
| 160908A00022 | 9/8/2016 | 2.21 | 9/8/2026 | 9/8/2016 | 110.55639 | 110.5563919 | 110.5563919 | 110.5563919 | 106.7386717 | 101.3517706 | 96.29329616 | 91.54113477 | 87.07478602 |
| 160908A00024 | 9/8/2016 | 2.21 | 9/8/2026 | 9/8/2016 | 110.55639 | 110.5563895 | 110.5563895 | 110.5563895 | 106.7386711 | 101.3517712 | 96.29329779 | 91.54113734 | 87.07478942 |
| 160908A00031 | 9/8/2016 | 2.21 | 9/8/2026 | 9/8/2016 | 110.55639 | 110.5563895 | 110.5563895 | 110.5563895 | 106.7386711 | 101.3517712 | 96.29329779 | 91.54113734 | 87.07478942 |
| 160908A00035 | 9/8/2016 | 2.3 | 9/8/2031 | 9/8/2016 | 111.83637 | 111.8363715 | 111.8363715 | 111.3753835 | 106.5044794 | 100.8403202 | 95.60406105 | 90.75795014 | 86.2679164 |
| 160930A00025 | 9/30/2016 | 1.66 | 9/30/2027 | 9/30/2016 | 105.84383 | 105.8438324 | 105.8438324 | 105.8438324 | 103.7324098 | 100.0586636 | 96.57570012 | 93.27169544 | 90.13565253 |
| 161104A00002 | 11/4/2016 | 2.26 | 11/5/2029 | 11/4/2016 | 109.672 | 109.6720038 | 109.6720038 | 109.6193463 | 105.9810282 | 101.2012662 | 96.73110826 | 92.54695762 | 88.6272192 |
| 161118A00012 | 11/18/2016 | 2.72 | 11/19/2029 | 11/18/2016 | 112.03378 | 112.0337776 | 112.0337776 | 111.9795536 | 108.2619358 | 103.3779483 | 98.8103403 | 94.53499529 | 90.52984286 |
| 161202A00001 | 12/2/2016 | 2.65 | 12/1/2023 | 12/2/2016 | 107.93614 | 107.9361444 | 107.9361444 | 107.9361444 | 106.7319959 | 103.3871217 | 100.1691022 | 97.07241218 | 94.09179868 |
| 161202A00003 | 12/2/2016 | 2.94 | 12/3/2029 | 12/2/2016 | 113.29259 | 113.2925945 | 113.2925945 | 113.2286705 | 109.4130945 | 104.4363537 | 99.7844132 | 95.43234042 | 91.35733209 |
| 161214A00034 | 12/14/2016 | 2.65 | 12/14/2026 | 12/14/2016 | 108.01711 | 108.0171069 | 108.0171069 | 108.0171069 | 106.3224718 | 102.9399421 | 99.71703158 | 96.64468175 | 93.71441808 |
| 170106A00021 | 1/6/2017 | 2.99 | 1/7/2030 | 1/6/2017 | 113.67753 | 113.6775269 | 113.6775269 | 113.6028057 | 109.7178291 | 104.6862179 | 99.98548416 | 95.59004562 | 91.47651977 |
| 170203A00022 | 2/3/2017 | 2.99 | 2/4/2030 | 2/3/2017 | 113.79946 | 113.7994602 | 113.7994602 | 113.7134363 | 109.7683313 | 104.6936907 | 99.95525404 | 95.52684303 | 91.38454568 |
| 170221A00028 | 2/21/2017 | 2.31 | 2/18/2022 | 2/21/2017 | 103.42041 | 103.4204101 | 103.4204101 | 103.4204101 | 103.0875002 | 101.4234289 | 99.79486762 | 98.20073909 | 96.6400098 |
| 170221A00033 | 2/21/2017 | 2.31 | 2/18/2022 | 2/21/2017 | 103.42041 | 103.4204101 | 103.4204101 | 103.4204101 | 103.0875002 | 101.4234289 | 99.79486762 | 98.20073909 | 96.6400098 |
| 170309A00016 | 3/9/2017 | 2.39 | 3/8/2024 | 3/9/2017 | 104.48897 | 104.4889672 | 104.4889672 | 104.4889672 | 103.9306354 | 101.9695104 | 100.0678353 | 98.22331634 | 96.43376563 |
| 170317A00039 | 3/17/2017 | 2.73 | 3/18/2024 | 3/17/2017 | 108.7141 | 108.7140994 | 108.7140994 | 108.7140994 | 107.3281647 | 103.769894 | 100.3547046 | 97.07602579 | 93.92762614 |
| 170317A00044 | 3/17/2017 | 3.11 | 3/17/2027 | 3/17/2017 | 115.97398 | 115.9739764 | 115.9739764 | 115.9739764 | 111.6575706 | 105.9857174 | 100.6745376 | 95.6985303 | 91.03414606 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170504A00049 | 5/4/2017 | 2.63 | 5/6/2024 | 5/4/2017 | 108.78169 | 108.7816867 | 108.7816867 | 108.7816867 | 107.2651126 | 103.5327495 | 99.95602751 | 96.52760142 | 93.24051214 |
| 170526A00017 | 5/26/2017 | 2.16 | 5/28/2024 | 5/26/2017 | 103.75295 | 103.7529528 | 103.7529528 | 103.7529528 | 103.1769568 | 101.1934612 | 99.27103169 | 97.40728446 | 95.59994674 |
| 170619A00089 | 6/16/2017 | 2.79 | 6/16/2027 | 6/16/2017 | 115.39615 | 115.3961514 | 115.3961514 | 115.3961514 | 110.4105062 | 104.3129979 | 98.62449009 | 93.31481128 | 88.3561841 |
| 170619A00095 | 6/16/2017 | 2.79 | 6/16/2027 | 6/16/2017 | 115.39615 | 115.3961514 | 115.3961514 | 115.3961514 | 110.4105062 | 104.3129979 | 98.62449009 | 93.31481128 | 88.3561841 |
| 170619A00097 | 6/16/2017 | 2.74 | 6/16/2027 | 6/16/2017 | 114.23923 | 114.2392268 | 114.2392268 | 114.2392268 | 109.6712441 | 103.9216497 | 98.54935802 | 93.52687641 | 88.82887696 |
| 180615A00021 | 6/15/2018 | 3.02 | 6/15/2023 | 6/15/2018 | 107.54325 | 107.5432494 | 107.5432494 | 107.5432494 | 106.7051722 | 103.941215 | 101.2687568 | 98.6842092 | 96.18414715 |
| 181010A00025 | 10/10/2018 | 3.48 | 10/10/2030 | 10/10/2018 | 118.7834 | 118.7833957 | 118.7833957 | 118.5653983 | 113.9590433 | 108.3241149 | 103.086024 | 98.21203916 | 93.67242128 |
| 181105A00015 | 11/5/2018 | 3.57 | 11/5/2025 | 11/5/2018 | 116.80072 | 116.8007199 | 116.8007199 | 116.8007199 | 113.7601614 | 108.5481497 | 103.6203927 | 98.95974164 | 94.55017268 |
| 181115A00044 | 11/15/2018 | 3.26 | 11/15/2023 | 11/15/2018 | 109.54221 | 109.5422139 | 109.5422139 | 109.5422139 | 108.3987784 | 105.1480069 | 102.0180235 | 99.00365434 | 96.09997627 |
| 190118A00006 | 1/18/2019 | 3.14 | 1/18/2034 | 1/18/2019 | 122.34494 | 122.3449433 | 122.3449433 | 120.5846559 | 113.7714795 | 106.5433606 | 99.96035224 | 93.9556839 | 88.47017225 |
| 190129A00073 | 1/29/2019 | 3.11 | 1/29/2029 | 1/29/2019 | 112.78828 | 112.788277 | 112.788277 | 112.786587 | 109.6214728 | 105.0856569 | 100.8211408 | 96.80874024 | 93.03078746 |
| 190131A00023 | 1/31/2019 | 3.02 | 1/30/2034 | 1/31/2019 | 121.40374 | 121.4037443 | 121.4037443 | 119.6564212 | 112.8956331 | 105.7232542 | 99.1910502 | 93.23275661 | 87.78963914 |
| 190315A00019 | 3/15/2019 | 2.88 | 3/15/2034 | 3/15/2019 | 120.57073 | 120.5707326 | 120.5707326 | 118.7254501 | 111.9165531 | 104.7283799 | 98.18854857 | 92.22926905 | 86.79052997 |
| 190315A00023 | 3/15/2019 | 2.88 | 3/15/2034 | 3/15/2019 | 120.57075 | 120.5707534 | 120.5707534 | 118.7254686 | 111.9165646 | 104.7283841 | 98.18854624 | 92.22926078 | 86.79051631 |
| 190412A00011 | 4/12/2019 | 3.07 | 4/12/2034 | 4/12/2019 | 120.62311 | 120.6231068 | 120.6231068 | 118.7429638 | 111.9328885 | 104.7473492 | 98.21075465 | 92.25512339 | 86.82029091 |
| 190501A00015 | 5/1/2019 | 2.78 | 5/1/2029 | 5/1/2019 | 111.67412 | 111.6741172 | 111.6741172 | 111.6611665 | 108.2956146 | 103.6532612 | 99.29776022 | 95.20820067 | 91.36537259 |
| 190605A00027 | 6/5/2019 | 2.64 | 6/5/2029 | 6/5/2019 | 118.70795 | 118.7079476 | 118.7079476 | 118.382312 | 110.5758215 | 102.8556252 | 95.78129494 | 89.29419277 | 83.34133287 |
| 190607A00013 | 6/7/2019 | 2.59 | 6/7/2034 | 6/7/2019 | 117.07266 | 117.0726597 | 117.0726597 | 115.1396873 | 108.4423654 | 101.4084971 | 95.01642403 | 89.19824198 | 83.89393022 |
| 190708A00026 | 7/8/2019 | 2.21 | 7/1/2024 | 7/8/2019 | 107.48365 | 107.483653 | 107.483653 | 107.483653 | 105.8519356 | 102.0069757 | 98.3279709 | 94.80681911 | 91.43586009 |
| 190708A00028 | 7/8/2019 | 2.57 | 7/2/2029 | 7/8/2019 | 118.26159 | 118.2615887 | 118.2615887 | 117.8809712 | 110.0392728 | 102.298786 | 95.2103708 | 88.71443301 | 82.75716045 |
| 190726A00012 | 7/26/2019 | 2.58 | 7/26/2034 | 7/26/2019 | 117.09959 | 117.0995931 | 117.0995931 | 115.1101332 | 108.3662378 | 101.2997221 | 94.88132127 | 89.04211678 | 83.72123018 |
| 190802A00011 | 8/2/2019 | 2.01 | 8/2/2029 | 8/2/2019 | 109.12899 | 109.1289934 | 109.1289934 | 109.0995948 | 105.6224171 | 100.9555434 | 96.58499209 | 92.48860627 | 88.64607522 |
| 190905A00024 | 9/5/2019 | 2.08 | 9/5/2029 | 9/5/2019 | 114.43705 | 114.4370515 | 114.4370515 | 113.9272064 | 106.1447417 | 98.51137354 | 91.53329613 | 85.14957605 | 79.30529005 |
| 190906A00009 | 9/6/2019 | 2.08 | 9/6/2034 | 9/6/2019 | 113.35215 | 113.3521454 | 113.3521454 | 111.3186205 | 104.7054482 | 97.80706874 | 91.54781526 | 85.85905916 | 80.68025387 |
| 191004A00025 | 10/4/2019 | 1.74 | 10/4/2024 | 10/4/2019 | 105.96146 | 105.9614634 | 105.9614634 | 105.9614634 | 104.138819 | 100.1247081 | 96.29318363 | 92.63496818 | 89.14130309 |
| 191009A00009 | 10/9/2019 | 1.8 | 10/9/2026 | 10/9/2019 | 104.93357 | 104.9335661 | 104.9335661 | 104.9335661 | 103.3780204 | 100.1710073 | 97.1120454 | 94.19290021 | 91.40585851 |
| 191203A00010 | 12/3/2019 | 2.21 | 12/3/2029 | 12/3/2019 | 115.89851 | 115.898507 | 115.898507 | 115.1830604 | 107.147084 | 99.29460455 | 92.13079629 | 85.59025727 | 79.61416445 |
| 200103A00002 | 1/3/2020 | 2.07 | 1/3/2030 | 1/3/2020 | 114.89584 | 114.8958442 | 114.8958442 | 114.2728552 | 107.1559896 | 99.92981184 | 93.31712554 | 87.26053848 | 81.70839386 |
| 200110A00038 | 1/10/2020 | 2.32 | 1/10/2030 | 1/10/2020 | 117.01386 | 117.0138577 | 117.0138577 | 116.2031911 | 108.0334123 | 100.0595124 | 92.79065597 | 86.15932693 | 80.10485868 |
| 200206A00033 | 2/6/2020 | 2.15 | 2/6/2030 | 2/6/2020 | 115.63748 | 115.6374755 | 115.6374755 | 114.7649281 | 106.6147076 | 98.67835273 | 91.44888032 | 84.85813409 | 78.84491877 |
| 200206A00035 | 2/6/2020 | 1.78 | 2/6/2023 | 2/6/2020 | 103.89288 | 103.8928755 | 103.8928755 | 103.8928755 | 103.1974619 | 100.6287771 | 98.13838032 | 95.72337588 | 93.38099688 |
| 160616A00029 | 6/16/2016 | 1.58 | 6/16/2026 | 6/16/2016 | 104.57993 | 104.5799266 | 104.5799266 | 104.5799266 | 103.1920801 | 100.139941 | 97.22287726 | 94.43365812 | 91.7654949 |
| 160624A00051 | 6/24/2016 | 2.11 | 6/26/2029 | 6/24/2016 | 108.51136 | 108.5113566 | 108.5113566 | 108.4933897 | 105.1675005 | 100.6206927 | 96.35718112 | 92.35614931 | 88.598487 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160705A00008 | 7/5/2016 | 1.7 | 7/6/2026 | 7/5/2016 | 107.26901 | 107.2690147 | 107.2690147 | 107.2690147 | 104.4611197 | 99.99361208 | 95.77678777 | 91.79465726 | 88.03235177 |
| 160801A00002 | 8/1/2016 | 1.58 | 8/3/2026 | 8/1/2016 | 104.70615 | 104.7061519 | 104.7061519 | 104.7061519 | 103.2338377 | 100.1000781 | 97.10818412 | 94.25040396 | 91.51946868 |
| 160902A00004 | 9/2/2016 | 2.15 | 9/4/2029 | 9/2/2016 | 108.86848 | 108.8684762 | 108.8684762 | 108.8386337 | 105.3906687 | 100.75517 | 96.41310631 | 92.34259083 | 88.52355635 |
| 160909A00018 | 9/9/2016 | 2.22 | 9/10/2029 | 9/9/2016 | 109.29856 | 109.2985635 | 109.2985635 | 109.2621767 | 105.7457845 | 101.0554734 | 96.66433723 | 92.5499018 | 88.69157365 |
| 161005A00016 | 10/5/2016 | 2.32 | 10/6/2031 | 10/5/2016 | 112.04979 | 112.0497885 | 112.0497885 | 111.5588974 | 106.6288027 | 100.9194428 | 95.64415248 | 90.76440273 | 86.24544271 |
| 161014A00019 | 10/14/2016 | 2.39 | 10/15/2031 | 10/14/2016 | 112.48485 | 112.4848476 | 112.4848476 | 111.9916422 | 107.0421321 | 101.3103137 | 96.01429128 | 91.11538001 | 86.57868876 |
| 161110A00010 | 11/10/2016 | 2.53 | 11/9/2029 | 11/10/2016 | 111.05409 | 111.0540872 | 111.0540872 | 111.0006436 | 107.3160228 | 102.475348 | 97.9482258 | 93.7107578 | 89.74107288 |
| 161125A00010 | 11/25/2016 | 2.86 | 11/26/2029 | 11/25/2016 | 112.7592 | 112.7591952 | 112.7591952 | 112.7044017 | 108.9623552 | 104.046303 | 99.44872272 | 95.14533632 | 91.11392598 |
| 161216A00008 | 12/16/2016 | 3.16 | 12/17/2029 | 12/16/2016 | 114.45218 | 114.4521806 | 114.4521806 | 114.387161 | 110.5318879 | 105.5034508 | 100.8032188 | 96.40599446 | 92.28873253 |
| 170112A00015 | 1/12/2017 | 2.32 | 1/12/2027 | 1/12/2017 | 107.63105 | 107.6310539 | 107.6310539 | 107.6310539 | 105.8867886 | 102.464244 | 99.20542813 | 96.10093271 | 93.14196315 |
| 170120A00028 | 1/20/2017 | 2.34 | 1/20/2022 | 1/20/2017 | 103.27639 | 103.2763925 | 103.2763925 | 103.2763925 | 102.9630479 | 101.3926916 | 99.85469763 | 98.34812369 | 96.87206389 |
| 170126A00003 | 1/26/2017 | 2.86 | 1/26/2027 | 1/26/2017 | 115.37151 | 115.3715094 | 115.3715094 | 115.3715094 | 111.2187856 | 105.6356615 | 100.4026632 | 95.49534948 | 90.89113029 |
| 170126A00004 | 1/26/2017 | 2.13 | 1/26/2022 | 1/26/2017 | 103.24079 | 103.2407884 | 103.2407884 | 103.2407884 | 102.9236851 | 101.3355878 | 99.78049426 | 98.2574337 | 96.76547368 |
| 170201A00016 | 2/1/2017 | 2.49 | 2/1/2024 | 2/1/2017 | 108.38031 | 108.3803058 | 108.3803058 | 108.3803058 | 107.0502862 | 103.5371306 | 100.162408 | 96.91984221 | 93.80348115 |
| 170224A00007 | 2/24/2017 | 2.02 | 2/24/2021 | 2/24/2017 | 101.30727 | 101.3072663 | 101.3072663 | 101.3072663 | 101.1464047 | 100.4098366 | 99.68407411 | 98.96888039 | 98.26402535 |
| 170301A00031 | 3/1/2017 | 2.11 | 3/1/2024 | 3/1/2017 | 103.84506 | 103.8450585 | 103.8450585 | 103.8450585 | 103.3111171 | 101.4021133 | 99.55006959 | 97.75281605 | 96.00828203 |
| 170303A00004 | 3/3/2017 | 2.8 | 3/4/2024 | 3/3/2017 | 109.04059 | 109.0405882 | 109.0405882 | 109.0405882 | 107.6482876 | 104.0569479 | 100.6094502 | 97.29917386 | 94.11984523 |
| 170406A00026 | 4/6/2017 | 2.61 | 4/8/2024 | 4/6/2017 | 108.39479 | 108.3947941 | 108.3947941 | 108.3947941 | 106.9709802 | 103.3726222 | 99.92093051 | 96.60912296 | 93.43076687 |
| 170406A00033 | 4/6/2017 | 3.01 | 4/6/2027 | 4/6/2017 | 116.39402 | 116.3940159 | 116.3940159 | 116.3940159 | 111.638017 | 105.6233757 | 100.0023746 | 94.74667902 | 89.83014732 |
| 170406A00036 | 4/6/2017 | 3.07 | 4/6/2032 | 4/6/2017 | 117.528 | 117.5279971 | 117.5279971 | 116.809565 | 111.3283844 | 105.1249842 | 99.41112286 | 94.14176703 | 89.27645326 |
| 170706A00029 | 7/6/2017 | 2.42 | 7/6/2027 | 7/6/2017 | 108.81119 | 108.8111904 | 108.8111904 | 108.8111904 | 106.5276621 | 102.7045909 | 99.08619663 | 95.65946516 | 92.41231378 |
| 170713A00021 | 7/13/2017 | 3.25 | 7/13/2037 | 7/13/2017 | 141.78793 | 141.7879334 | 141.7879334 | 131.3175419 | 117.8019276 | 105.6051275 | 95.05187609 | 85.89761494 | 77.93632253 |
| 170901A00030 | 9/1/2017 | 1.82 | 9/1/2022 | 9/1/2017 | 103.56367 | 103.5636687 | 103.5636687 | 103.5636687 | 103.0958108 | 101.0325734 | 99.02326708 | 97.06607882 | 95.15927263 |
| 170921A00052 | 9/21/2017 | 2.21 | 9/21/2022 | 9/21/2017 | 104.22193 | 104.2219297 | 104.2219297 | 104.2219297 | 103.7171891 | 101.5438119 | 99.42858415 | 97.3695958 | 95.36501249 |
| 160608A00023 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.99611 | 110.9961137 | 110.9961137 | 110.9961137 | 107.4976104 | 102.2618191 | 97.33464716 | 92.6959713 | 88.32709084 |
| 160729A00015 | 7/29/2016 | 2.06 | 7/30/2029 | 7/29/2016 | 108.34688 | 108.3468798 | 108.3468798 | 108.3234147 | 104.9471799 | 100.3706569 | 96.08156408 | 92.05862147 | 88.28230584 |
| 160819A00012 | 8/19/2016 | 2.14 | 8/20/2029 | 8/19/2016 | 108.81856 | 108.8185566 | 108.8185566 | 108.7890372 | 105.3429295 | 100.7097801 | 96.36988957 | 92.30138713 | 88.48421987 |
| 160908A00015 | 9/8/2016 | 1.87 | 9/8/2023 | 9/8/2016 | 104.87052 | 104.8705204 | 104.8705204 | 104.8705204 | 103.8582791 | 100.8260315 | 97.90179488 | 95.08107102 | 92.3595784 |
| 160908A00030 | 9/8/2016 | 2.21 | 9/8/2026 | 9/8/2016 | 110.55639 | 110.5563895 | 110.5563895 | 110.5563895 | 106.7386711 | 101.3517712 | 96.29329779 | 91.54113734 | 87.07478942 |
| 160908A00037 | 9/8/2016 | 1.4 | 9/8/2023 | 9/8/2016 | 102.45647 | 102.456474 | 102.456474 | 102.456474 | 101.9433086 | 100.0648969 | 98.2415691 | 96.47126845 | 94.75203065 |
| 161012A00011 | 10/12/2016 | 1.53 | 10/12/2023 | 10/12/2016 | 102.75794 | 102.7579428 | 102.7579428 | 102.7579428 | 102.2393915 | 100.3146332 | 98.44509708 | 96.62877891 | 94.86376094 |
| 161021A00004 | 10/21/2016 | 2.23 | 10/22/2029 | 10/21/2016 | 109.43452 | 109.4345225 | 109.4345225 | 109.3900102 | 105.8139357 | 101.0808597 | 96.65206084 | 92.50451171 | 88.61712541 |
| 170103A00025 | 1/3/2017 | 3.09 | 1/3/2030 | 1/3/2017 | 114.20861 | 114.2086143 | 114.2086143 | 114.1336762 | 110.2305269 | 105.1752717 | 100.4524355 | 96.03631789 | 91.90342861 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 170106A00030 | 1/6/2017 | 2.39 | 1/6/2027 | 1/6/2017 | 107.87926 | 107.8792594 | 107.8792594 | 107.8792594 | 106.1313089 | 102.7009305 | 99.43463887 | 96.32300657 | 93.35722075 |
| 170124A00017 | 1/24/2017 | 2.82 | 1/23/2032 | 1/24/2017 | 116.80691 | 116.8069087 | 116.8069087 | 116.1905289 | 110.8582921 | 104.7674935 | 99.15033124 | 93.96386419 | 89.1694479 |
| 170210A00007 | 2/10/2017 | 2.96 | 2/11/2030 | 2/10/2017 | 113.63941 | 113.6394104 | 113.6394104 | 113.5532771 | 109.6135605 | 104.5459686 | 99.81413399 | 95.39191086 | 91.25541735 |
| 170330A00060 | 3/30/2017 | 2.06 | 3/30/2022 | 3/30/2017 | 103.4365 | 103.4365003 | 103.4365003 | 103.4365003 | 103.0845077 | 101.335153 | 99.62502004 | 97.95299662 | 96.31800922 |
| 170406A00037 | 4/6/2017 | 3.07 | 4/6/2032 | 4/6/2017 | 117.52799 | 117.5279936 | 117.5279936 | 116.8095626 | 111.3283837 | 105.1249847 | 99.41112425 | 94.14176919 | 89.27645606 |
| 170511A00011 | 5/11/2017 | 2.41 | 5/11/2027 | 5/11/2017 | 108.35726 | 108.3572599 | 108.3572599 | 108.3572599 | 106.4034419 | 102.7988033 | 99.3739569 | 96.11816851 | 93.02142905 |
| 170602A00019 | 6/2/2017 | 2.42 | 6/3/2024 | 6/2/2017 | 108.12584 | 108.1258427 | 108.1258427 | 108.1258427 | 106.5577758 | 102.778157 | 99.15901214 | 95.6926286 | 92.37170705 |
| 170710A00079 | 7/10/2017 | 2.76 | 7/12/2032 | 7/10/2017 | 117.15114 | 117.151136 | 117.151136 | 116.3113635 | 110.6574623 | 104.3376556 | 98.52759231 | 93.17941165 | 88.25020479 |
| 170711A00010 | 7/11/2017 | 2.38 | 7/12/2027 | 7/11/2017 | 108.44588 | 108.4458778 | 108.4458778 | 108.4458778 | 106.3877796 | 102.7013178 | 99.20249123 | 95.87988574 | 92.72287172 |
| 170921A00055 | 9/21/2017 | 2.82 | 9/21/2027 | 9/21/2017 | 116.11468 | 116.1146841 | 116.1146841 | 116.1146841 | 110.7564902 | 104.4563012 | 98.59156994 | 93.12925791 | 88.03901636 |
| 170921A00057 | 9/21/2017 | 2.79 | 9/21/2027 | 9/21/2017 | 115.01825 | 115.0182505 | 115.0182505 | 115.0182505 | 110.1114916 | 104.1706313 | 98.6312467 | 93.46326129 | 88.63902772 |
| 171207A00020 | 12/7/2017 | 2.25 | 12/7/2020 | 12/7/2017 | 101.05253 | 101.0525324 | 101.0525324 | 101.0525324 | 100.9511133 | 100.4255004 | 99.90539401 | 99.39070785 | 98.88135726 |
| 180104A00024 | 1/4/2018 | 2.98 | 1/4/2028 | 1/4/2018 | 117.78013 | 117.7801311 | 117.7801311 | 117.7801311 | 111.9904284 | 105.4308817 | 99.33927587 | 93.67896801 | 88.41639336 |
| 180202A00027 | 2/2/2018 | 3.02 | 2/3/2025 | 2/2/2018 | 112.07613 | 112.0761346 | 112.0761346 | 112.0761346 | 109.9043776 | 105.4594737 | 101.2284385 | 97.19972984 | 93.36249583 |
| 180223A00012 | 2/23/2018 | 3.33 | 2/24/2031 | 2/23/2018 | 117.30343 | 117.3034301 | 117.3034301 | 117.0048888 | 112.2669754 | 106.5794311 | 101.3022146 | 96.40067888 | 91.84341653 |
| 180517A00018 | 5/17/2018 | 3.46 | 5/17/2033 | 5/17/2018 | 123.58919 | 123.5891899 | 123.5891899 | 122.2389222 | 115.7542913 | 108.726964 | 102.3001046 | 96.4141181 | 91.01591327 |
| 180517A00024 | 5/17/2018 | 3.46 | 5/17/2033 | 5/17/2018 | 123.58919 | 123.5891859 | 123.5891859 | 122.2389197 | 115.7542903 | 108.7269641 | 102.3001055 | 96.41411977 | 91.01591553 |
| 160608A00029 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.99611 | 110.9961093 | 110.9961093 | 110.9961093 | 107.4976084 | 102.2618192 | 97.33464909 | 92.69597492 | 88.32709598 |
| 160608A00030 | 6/8/2016 | 2.36 | 6/8/2026 | 6/8/2016 | 110.99611 | 110.9961093 | 110.9961093 | 110.9961093 | 107.4976084 | 102.2618192 | 97.33464909 | 92.69597492 | 88.32709598 |
| 160719A00026 | 7/19/2016 | 1.87 | 7/20/2026 | 7/19/2016 | 104.96552 | 104.9655234 | 104.9655234 | 104.9655234 | 103.5375317 | 100.445799 | 97.49208875 | 94.66895366 | 91.96940486 |
| 160812A00006 | 8/12/2016 | 2.16 | 8/12/2026 | 8/12/2016 | 110.65735 | 110.657355 | 110.657355 | 110.657355 | 107.1873823 | 102.0786843 | 97.272943 | 92.75011305 | 88.49159462 |
| 160824A00019 | 8/24/2016 | 1.98 | 8/25/2031 | 8/24/2016 | 110.98154 | 110.9815371 | 110.9815371 | 110.5465084 | 105.729616 | 100.1153958 | 94.92414822 | 90.11866927 | 85.6653714 |
| 160826A00005 | 8/26/2016 | 2.12 | 8/27/2029 | 8/26/2016 | 108.72012 | 108.7201243 | 108.7201243 | 108.6904361 | 105.2473013 | 100.6182535 | 96.28222284 | 92.21735477 | 88.40361137 |
| 160908A00036 | 9/8/2016 | 2.3 | 9/8/2031 | 9/8/2016 | 111.83638 | 111.8363775 | 111.8363775 | 111.3753891 | 106.5044812 | 100.8403192 | 95.60405755 | 90.75794444 | 86.26790876 |
| 161116A00005 | 11/16/2016 | 2.01 | 11/16/2021 | 11/16/2016 | 102.27901 | 102.2790098 | 102.2790098 | 102.2790098 | 102.0231383 | 100.7247708 | 99.45108433 | 98.20142546 | 96.97516366 |
| 170113A00028 | 1/13/2017 | 2.92 | 1/14/2030 | 1/13/2017 | 113.30699 | 113.3069896 | 113.3069896 | 113.2322825 | 109.3598771 | 104.3446755 | 99.65929241 | 95.2782253 | 91.17816493 |
| 170309A00014 | 3/9/2017 | 2.58 | 3/9/2027 | 3/9/2017 | 108.77543 | 108.7754333 | 108.7754333 | 108.7754333 | 106.9146606 | 103.3754286 | 100.0091011 | 96.80554902 | 93.75531583 |
| 170310A00008 | 3/10/2017 | 3.17 | 3/11/2030 | 3/10/2017 | 114.89719 | 114.8971902 | 114.8971902 | 114.7980587 | 110.7582866 | 105.5962978 | 100.7788492 | 96.27892352 | 92.07185797 |
| 170322A00033 | 3/22/2017 | 3.61 | 3/24/2042 | 3/22/2017 | 143.38489 | 143.3848942 | 143.2565063 | 133.2595134 | 119.9313325 | 107.7694632 | 97.23958471 | 88.09086251 | 80.11433823 |
| 170524A00027 | 5/24/2017 | 2.32 | 5/24/2027 | 5/24/2017 | 108.02169 | 108.0216859 | 108.0216859 | 108.0216859 | 106.0731986 | 102.4795105 | 99.06510719 | 95.81928177 | 92.73205062 |
| 170602A00030 | 6/2/2017 | 1.88 | 6/2/2022 | 6/2/2017 | 103.40029 | 103.4002889 | 103.4002889 | 103.4002889 | 103.0027292 | 101.098869 | 99.24126126 | 97.42848166 | 95.65916017 |
| 170707A00007 | 7/7/2017 | 2.65 | 7/8/2024 | 7/7/2017 | 109.22587 | 109.2258687 | 109.2258687 | 109.2258687 | 107.5729712 | 103.6842142 | 99.96342156 | 96.40237375 | 92.99330122 |
| 170707A00013 | 7/7/2017 | 2.88 | 7/8/2030 | 7/7/2017 | 113.79533 | 113.7953294 | 113.7953294 | 113.6406896 | 109.4200425 | 104.1593198 | 99.2600857 | 94.69320168 | 90.43213594 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 171201A00016 | 12/1/2017 | 2.91 | 12/2/2030 | 12/1/2017 | 114.55554 | 114.5555426 | 114.5555426 | 114.3083587 | 109.7889531 | 104.3087489 | 99.21852052 | 94.48577039 | 90.0810013 |
| 180117A00004 | 1/17/2018 | 2.44 | 1/17/2025 | 1/17/2018 | 105.50385 | 105.5038519 | 105.5038519 | 105.5038519 | 104.7125173 | 102.3582981 | 100.0864524 | 97.89339762 | 95.77573335 |
| 180717A00021 | 7/17/2018 | 3.34 | 7/17/2028 | 7/17/2018 | 120.28686 | 120.2868608 | 120.2868608 | 120.2868608 | 114.2199918 | 107.5537738 | 101.377863 | 95.65230773 | 90.34065762 |
| 180905A00017 | 9/5/2018 | 3.43 | 9/6/2033 | 9/5/2018 | 137.06908 | 137.0690801 | 137.0690801 | 131.0278013 | 119.5073814 | 108.7239929 | 99.15834851 | 90.66041938 | 83.09970107 |
| 180913A00033 | 9/13/2018 | 3.31 | 9/13/2033 | 9/13/2018 | 123.07351 | 123.0735121 | 123.0735121 | 121.5216382 | 114.8642543 | 107.7284098 | 101.2158874 | 95.26349726 | 89.81508748 |
| 180924A00033 | 9/24/2018 | 3.08 | 9/22/2023 | 9/24/2018 | 108.89261 | 108.8926082 | 108.8926082 | 108.8926082 | 107.8924799 | 104.8785142 | 101.9712055 | 99.16614967 | 96.45915051 |
| 180925A00013 | 9/25/2018 | 3.41 | 9/25/2028 | 9/25/2018 | 113.64893 | 113.6489256 | 113.6489256 | 113.6489256 | 110.7010433 | 106.287242 | 102.1285927 | 98.20762085 | 94.50819241 |
| 181003A00019 | 10/3/2018 | 3.44 | 10/3/2025 | 10/3/2018 | 115.85988 | 115.8598756 | 115.8598756 | 115.8598756 | 112.9468833 | 107.8397257 | 103.0070978 | 98.4326831 | 94.10121895 |
| 181218A00086 | 12/18/2018 | 3.06 | 10/18/2023 | 12/18/2018 | 108.45267 | 108.4526692 | 108.4526692 | 108.4526692 | 107.4158446 | 104.3604221 | 101.4149507 | 98.57483944 | 95.83571491 |
| 190111A00038 | 1/11/2019 | 2.63 | 1/11/2022 | 1/11/2019 | 103.76595 | 103.7659494 | 103.7659494 | 103.7659494 | 103.4697584 | 101.9846744 | 100.5297573 | 99.10413969 | 97.70698717 |
| 160209A00006 | 2/9/2016 | 1.91 | 2/9/2026 | 2/9/2016 | 104.74649 | 104.7464855 | 104.7464855 | 104.7464855 | 103.519124 | 100.6301712 | 97.8627633 | 95.21068343 | 92.66807974 |
| 160330A00003 | 3/30/2016 | 1.68 | 3/30/2021 | 3/30/2016 | 101.17437 | 101.1743686 | 101.1743686 | 101.1743686 | 100.9905679 | 100.1663558 | 99.35570528 | 98.55828314 | 97.77376693 |
| 160412A00029 | 4/12/2016 | 2.48 | 4/14/2031 | 4/12/2016 | 112.45672 | 112.4567173 | 112.4567173 | 112.1249024 | 107.4807413 | 101.9593555 | 96.84169021 | 92.09322012 | 87.6826873 |
| 160413A00020 | 4/13/2016 | 2.48 | 4/13/2026 | 4/13/2016 | 111.38587 | 111.385865 | 111.385865 | 111.385865 | 108.0754978 | 102.9302289 | 98.08139208 | 93.51009864 | 89.19876367 |
| 160414A00042 | 4/13/2016 | 2.48 | 4/13/2026 | 4/13/2016 | 111.38587 | 111.385865 | 111.385865 | 111.385865 | 108.0754978 | 102.9302289 | 98.08139208 | 93.51009864 | 89.19876367 |
| 160428A00020 | 4/28/2016 | 1.69 | 4/28/2021 | 4/28/2016 | 101.2653 | 101.2652986 | 101.2652986 | 101.2652986 | 101.0677439 | 100.1866732 | 99.3213288 | 98.4712901 | 97.63615149 |
| 160608A00022 | 6/8/2016 | 1.91 | 6/8/2023 | 6/8/2016 | 104.63316 | 104.633159 | 104.633159 | 104.633159 | 103.7713834 | 100.9532093 | 98.22946991 | 95.59645104 | 93.05060721 |
| 160617A00012 | 6/17/2016 | 2.13 | 6/18/2029 | 6/17/2016 | 108.60785 | 108.607846 | 108.607846 | 108.5900773 | 105.2614038 | 100.710668 | 96.44345319 | 92.43892858 | 88.67797028 |
| 160810A00025 | 8/10/2016 | 2.17 | 8/10/2026 | 8/10/2016 | 110.21119 | 110.2111926 | 110.2111926 | 110.2111926 | 106.5067652 | 101.1858653 | 96.18602914 | 91.48583562 | 87.06541496 |
| 160908A00026 | 9/8/2016 | 2.21 | 9/8/2026 | 9/8/2016 | 110.55639 | 110.5563895 | 110.5563895 | 110.5563895 | 106.7386711 | 101.3517712 | 96.29329779 | 91.54113734 | 87.07478942 |
| 160908A00032 | 9/8/2016 | 2.17 | 9/8/2026 | 9/8/2016 | 109.7826 | 109.7826049 | 109.7826049 | 109.7826049 | 106.2656 | 101.1687105 | 96.37627072 | 91.86801169 | 87.62513244 |
| 160930A00047 | 9/30/2016 | 2.08 | 10/1/2029 | 9/30/2016 | 108.60126 | 108.6012622 | 108.6012622 | 108.5645372 | 105.0702575 | 100.40979 | 96.0466488 | 91.9584935 | 88.12485384 |
| 161014A00026 | 10/14/2016 | 2.16 | 10/14/2031 | 10/14/2016 | 112.26737 | 112.267372 | 112.267372 | 111.7696655 | 106.7957533 | 101.0466143 | 95.73617308 | 90.82537086 | 86.27898979 |
| 161103A00013 | 11/3/2016 | 1.69 | 11/3/2021 | 11/3/2016 | 101.99066 | 101.990657 | 101.990657 | 101.990657 | 101.7215565 | 100.3423691 | 98.98906509 | 97.66097668 | 96.35745861 |
| 161229A00018 | 12/29/2016 | 2.46 | 12/29/2026 | 12/29/2016 | 108.02637 | 108.0263732 | 108.0263732 | 108.0263732 | 106.3221734 | 102.9261419 | 99.69087783 | 96.60723058 | 93.66664096 |
| 170224A00012 | 2/24/2017 | 2.92 | 2/25/2030 | 2/24/2017 | 113.42645 | 113.4264543 | 113.4264543 | 113.3400233 | 109.4073913 | 104.3491121 | 99.62601151 | 95.21198488 | 91.08318809 |
| 170406A00024 | 4/6/2017 | 2.61 | 4/8/2024 | 4/6/2017 | 108.3948 | 108.3948003 | 108.3948003 | 108.3948003 | 106.9709853 | 103.3726246 | 99.92093032 | 96.60912034 | 93.43076192 |
| 170406A00029 | 4/6/2017 | 3.01 | 4/6/2027 | 4/6/2017 | 116.39402 | 116.3940184 | 116.3940184 | 116.3940184 | 111.6380179 | 105.6233757 | 100.0023738 | 94.74667755 | 89.83014525 |
| 170406A00032 | 4/6/2017 | 3.01 | 4/6/2027 | 4/6/2017 | 116.39402 | 116.3940184 | 116.3940184 | 116.3940184 | 111.6380179 | 105.6233757 | 100.0023738 | 94.74667755 | 89.83014525 |
| 170615A00006 | 6/15/2017 | 2.15 | 6/17/2024 | 6/15/2017 | 103.81258 | 103.8125843 | 103.8125843 | 103.8125843 | 103.2132775 | 101.187886 | 99.22589723 | 97.324802 | 95.48220918 |
| 170619A00092 | 6/16/2017 | 2.79 | 6/16/2027 | 6/16/2017 | 115.39614 | 115.3961391 | 115.3961391 | 115.3961391 | 110.4104986 | 104.3129951 | 98.62449188 | 93.31481721 | 88.35619384 |
| 170921A00048 | 9/21/2017 | 1.95 | 9/21/2020 | 9/21/2017 | 100.53467 | 100.5346651 | 100.5346651 | 100.5346651 | 100.4790971 | 100.1631208 | 99.84914618 | 99.53715407 | 99.22712573 |
| 171109A00016 | 11/9/2017 | 2.94 | 11/9/2032 | 11/9/2017 | 129.60811 | 129.6081089 | 129.6081089 | 124.9795545 | 114.311025 | 104.2403357 | 95.25531777 | 87.22854979 | 80.04840084 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 171207A00022 | 12/7/2017 | 2.45 | 12/7/2022 | 12/7/2017 | 105.25612 | 105.2561246 | 105.2561246 | 105.2561246 | 104.6471895 | 102.2360147 | 99.89469038 | 97.6207719 | 95.41191596 |
| 180104A00023 | 1/4/2018 | 2.91 | 1/4/2028 | 1/4/2018 | 114.97246 | 114.9724578 | 114.9724578 | 114.9724578 | 110.3404332 | 104.6710719 | 99.38257065 | 94.44613759 | 89.83534391 |
| 180206A00045 | 2/6/2018 | 2.71 | 2/6/2023 | 2/6/2018 | 106.16043 | 106.1604305 | 106.1604305 | 106.1604305 | 105.4807197 | 102.9495781 | 100.4947975 | 98.11356725 | 95.80320111 |
| 180206A00048 | 2/6/2018 | 2.72 | 2/6/2023 | 2/6/2018 | 106.29802 | 106.2980178 | 106.2980178 | 106.2980178 | 105.6033063 | 103.0259406 | 100.5266964 | 98.10269146 | 95.75117194 |
| 191008A00014 | 10/8/2019 | 1.85 | 10/8/2026 | 10/8/2019 | 109.02828 | 109.0282757 | 109.0282757 | 109.0282757 | 104.883626 | 99.27288174 | 94.01429639 | 89.08372982 | 84.45881975 |
| 191112A00023 | 11/12/2019 | 2.36 | 11/13/2029 | 11/12/2019 | 117.10497 | 117.1049671 | 117.1049671 | 116.432912 | 108.3756764 | 100.4869187 | 93.28596743 | 86.70786309 | 80.69414531 |
| 191209A00005 | 12/9/2019 | 2.22 | 12/10/2029 | 12/9/2019 | 114.44372 | 114.4437247 | 114.4437247 | 113.8743001 | 106.8794768 | 99.75290094 | 93.22593859 | 87.24295552 | 81.753833 |
| 200110A00037 | 1/10/2020 | 2.32 | 1/10/2030 | 1/10/2020 | 117.01386 | 117.0138577 | 117.0138577 | 116.2031911 | 108.0334123 | 100.0595124 | 92.79065597 | 86.15932693 | 80.10485868 |
| 200130A00046 | 1/30/2020 | 1.81 | 1/29/2027 | 1/30/2020 | 105.16402 | 105.1640212 | 105.1640212 | 105.1640212 | 103.4677314 | 100.1370147 | 96.96521626 | 93.94322472 | 91.06252174 |
| 200206A00034 | 2/6/2020 | 1.84 | 2/6/2025 | 2/6/2020 | 106.80617 | 106.8061664 | 106.8061664 | 106.8061664 | 104.6801245 | 100.3668251 | 96.26262654 | 92.35619155 | 88.63686318 |
| 200220A00026 | 2/20/2020 | 2.22 | 2/21/2040 | 2/20/2020 | 120.83332 | 120.8333186 | 120.8333186 | 114.1196043 | 104.0497821 | 94.60905912 | 86.34011663 | 79.07542718 | 72.67353087 |
| 200306A00058 | 3/6/2020 | 1.06 | 3/6/2030 | 3/6/2020 | 103.79397 | 103.7939701 | 103.7939701 | 103.7045684 | 100.0579983 | 95.39948623 | 91.05196053 | 86.99103293 | 83.19444089 |
| 200317A00043 | 3/17/2020 | 1.29 | 3/15/2030 | 3/17/2020 | 105.95121 | 105.9512133 | 105.9512133 | 105.8587179 | 102.1115449 | 97.33315177 | 92.87483823 | 88.71142947 | 84.81995092 |
| 200318A00012 | 3/18/2020 | 1.68 | 3/18/2033 | 3/18/2020 | 112.46051 | 112.460515 | 112.460515 | 110.1966957 | 103.077795 | 95.78178719 | 89.1770878 | 83.18885788 | 77.75105639 |
| 200406A00037 | 4/6/2020 | 0.9 | 4/6/2023 | 4/6/2020 | 101.66628 | 101.6662838 | 101.6662838 | 101.6662838 | 100.8959664 | 98.22549278 | 95.64069977 | 93.1383822 | 90.71547243 |
| 200512A00011 | 5/12/2020 | 1.48 | 5/10/2030 | 5/12/2020 | 110.07825 | 110.0782549 | 110.0782549 | 108.9935794 | 100.9546631 | 93.19128836 | 86.13793548 | 79.72449458 | 73.88816976 |
| 200514A00008 | 5/14/2020 | 1.23 | 5/14/2030 | 5/14/2020 | 107.12234 | 107.122341 | 107.122341 | 106.2808688 | 99.3821762 | 92.44826305 | 86.12142148 | 80.34317082 | 75.0610364 |
| 170619A00101 | 6/16/2017 | 2.74 | 6/16/2027 | 6/16/2017 | 114.23923 | 114.2392268 | 114.2392268 | 114.2392268 | 109.6712441 | 103.9216497 | 98.54935802 | 93.52687641 | 88.82887696 |
| 170802A00013 | 8/2/2017 | 2.5 | 8/2/2024 | 8/2/2017 | 108.76387 | 108.763875 | 108.763875 | 108.763875 | 107.0618564 | 103.1280671 | 99.36654347 | 95.76873709 | 92.3265749 |
| 171207A00023 | 12/7/2017 | 2.45 | 12/7/2022 | 12/7/2017 | 105.25612 | 105.2561246 | 105.2561246 | 105.2561246 | 104.6471895 | 102.2360147 | 99.89469038 | 97.6207719 | 95.41191596 |
| 180126A00011 | 1/26/2018 | 2.72 | 1/26/2028 | 1/26/2018 | 110.4563 | 110.4562979 | 110.4562979 | 110.4562979 | 108.0328691 | 104.0383433 | 100.2593432 | 96.68202971 | 93.29356359 |
| 180228A00055 | 2/28/2018 | 3.33 | 2/28/2028 | 2/28/2018 | 119.80387 | 119.8038728 | 119.8038728 | 119.8038728 | 113.9879376 | 107.3500797 | 101.183474 | 95.45108795 | 90.11902565 |
| 180601A00037 | 6/1/2018 | 2.86 | 6/1/2021 | 6/1/2018 | 102.59327 | 102.5932716 | 102.5932716 | 102.5932716 | 102.3742012 | 101.3733835 | 100.3923259 | 99.43044592 | 98.48718376 |
| 180628A00078 | 6/28/2018 | 2.73 | 6/28/2023 | 6/28/2018 | 104.15299 | 104.1529881 | 104.1529881 | 104.1529881 | 103.7735014 | 102.1897699 | 100.6468644 | 99.1433984 | 97.67804379 |
| 180712A00044 | 7/12/2018 | 3.44 | 7/12/2033 | 7/12/2018 | 122.2253 | 122.2252957 | 122.2252957 | 120.8055567 | 114.3402261 | 107.3594458 | 100.9794653 | 95.14020548 | 89.78819301 |
| 180717A00026 | 7/17/2018 | 3.24 | 7/16/2025 | 7/17/2018 | 113.46995 | 113.4699493 | 113.4699493 | 113.4699493 | 111.0299273 | 106.4183552 | 102.0420097 | 97.88742178 | 93.94197156 |
| 180809A00031 | 8/9/2018 | 2.98 | 8/9/2021 | 8/9/2018 | 103.21404 | 103.2140448 | 103.2140448 | 103.2140448 | 102.9815616 | 101.7950495 | 100.636207 | 99.50407094 | 98.39772279 |
| 180925A00116 | 9/25/2018 | 3.28 | 9/25/2028 | 9/25/2018 | 113.95191 | 113.951911 | 113.951911 | 113.951911 | 110.9787228 | 106.5343049 | 102.3476235 | 98.40097851 | 94.67803112 |
| 181129A00005 | 11/29/2018 | 3.21 | 11/29/2023 | 11/29/2018 | 109.75704 | 109.7570424 | 109.7570424 | 109.7570424 | 108.5566927 | 105.2024449 | 101.9747384 | 98.86807935 | 95.877244 |
| 181207A00026 | 12/7/2018 | 2.94 | 12/6/2023 | 12/7/2018 | 108.94493 | 108.9449344 | 108.9449344 | 108.9449344 | 107.8231515 | 104.6471829 | 101.5896052 | 98.64529081 | 95.80936481 |
| 181214A00010 | 12/14/2018 | 3.41 | 12/14/2028 | 12/14/2018 | 121.73232 | 121.7323177 | 121.7323177 | 121.7204214 | 115.0865651 | 108.1032995 | 101.6548925 | 95.69601347 | 90.18545441 |
| 190305A00017 | 3/5/2019 | 3.12 | 3/5/2026 | 3/5/2019 | 114.3574 | 114.3574011 | 114.3574011 | 114.3574011 | 111.1929531 | 106.0910718 | 101.2760363 | 96.72986543 | 92.4358101 |
| 190403A00015 | 4/3/2019 | 3.05 | 4/3/2029 | 4/3/2019 | 120.94999 | 120.9499924 | 120.9499924 | 120.7632412 | 113.352804 | 105.8589828 | 98.97157611 | 92.63695402 | 86.80653768 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190411A00022 | 4/11/2019 | 2.68 | 4/11/2022 | 4/11/2019 | 102.94843 | 102.9484314 | 102.9484314 | 102.9484314 | 102.7012596 | 101.4756434 | 100.2754502 | 99.09995646 | 97.94846494 |
| 190531A00036 | 5/31/2019 | 2.71 | 5/31/2034 | 5/31/2019 | 117.90675 | 117.9067522 | 117.9067522 | 116.0142754 | 109.3140284 | 102.2607895 | 95.84785842 | 90.00781744 | 84.68103915 |
| 190619A00010 | 6/19/2019 | 2.04 | 6/17/2022 | 6/19/2019 | 102.05249 | 102.0524869 | 102.0524869 | 102.0524869 | 101.8382311 | 100.781192 | 99.74535143 | 98.73009756 | 97.73484197 |
| 190620A00033 | 6/20/2019 | 2.1 | 6/20/2029 | 6/20/2019 | 109.40033 | 109.4003319 | 109.4003319 | 109.3821953 | 106.008198 | 101.403589 | 97.08679984 | 93.03662398 | 89.23359745 |
| 190702A00068 | 7/2/2019 | 2.69 | 7/1/2039 | 7/2/2019 | 137.51324 | 137.5132442 | 137.5132442 | 125.1627739 | 110.9909857 | 98.47862815 | 87.80268168 | 78.66509525 | 70.81901951 |
| 190813A00057 | 8/13/2019 | 1.9 | 8/13/2024 | 8/13/2019 | 106.42519 | 106.4251897 | 106.4251897 | 106.4251897 | 104.7122349 | 100.7993723 | 97.05947811 | 93.48390069 | 90.06447358 |
| 190830A00013 | 8/30/2019 | 2.06 | 8/30/2034 | 8/30/2019 | 113.11728 | 113.1172816 | 113.1172816 | 111.141421 | 104.5846361 | 97.73000033 | 91.50729498 | 85.84898698 | 80.69545996 |
| 190925A00009 | 9/25/2019 | 2 | 9/25/2026 | 9/25/2019 | 109.2556 | 109.2555974 | 109.2555974 | 109.2555974 | 105.5089897 | 100.2348386 | 95.28226541 | 90.62960397 | 86.25676553 |
| 191011A00027 | 10/11/2019 | 1.84 | 10/11/2029 | 10/11/2019 | 108.44043 | 108.4404271 | 108.4404271 | 108.3961764 | 104.8307263 | 100.1201712 | 95.71343054 | 91.58744953 | 87.72112112 |
| 191031A00025 | 10/31/2019 | 1.91 | 10/31/2024 | 10/31/2019 | 103.66146 | 103.6614553 | 103.6614553 | 103.6614553 | 102.9401426 | 100.7155148 | 98.56623466 | 96.4891158 | 94.48113034 |
| 200206A00038 | 2/6/2020 | 1.78 | 2/6/2023 | 2/6/2020 | 103.89288 | 103.8928755 | 103.8928755 | 103.8928755 | 103.1974619 | 100.6287771 | 98.13838032 | 95.72337588 | 93.38099688 |
| 200306A00057 | 3/6/2020 | 0.92 | 3/8/2027 | 3/6/2020 | 104.60945 | 104.6094482 | 104.6094482 | 104.6094482 | 100.4025706 | 95.02011808 | 89.98759111 | 85.27992908 | 80.8740085 |
| 200309A00083 | 3/9/2020 | 0.82 | 3/9/2023 | 3/9/2020 | 101.40829 | 101.408288 | 101.408288 | 101.408288 | 100.6807553 | 98.08388149 | 95.56836131 | 93.13113957 | 90.76929744 |
| 200330A00047 | 3/30/2020 | 1.5 | 3/30/2035 | 3/30/2020 | 109.18523 | 109.1852301 | 109.1852301 | 106.9040494 | 100.2898174 | 93.47780495 | 87.31599299 | 81.73251759 | 76.66421767 |
| 200406A00029 | 4/6/2020 | 1.61 | 4/5/2030 | 4/6/2020 | 111.10381 | 111.1038113 | 111.1038113 | 110.1080457 | 102.0912527 | 94.33101756 | 87.27411813 | 80.85171854 | 75.00210086 |
| 200512A00010 | 5/12/2020 | 1.48 | 5/10/2030 | 5/12/2020 | 110.07825 | 110.078246 | 110.078246 | 108.9935715 | 100.9546631 | 93.19129515 | 86.13794837 | 79.72451294 | 73.88819303 |
| 170921A00053 | 9/21/2017 | 2.22 | 9/21/2022 | 9/21/2017 | 104.31299 | 104.3129909 | 104.3129909 | 104.3129909 | 103.7989886 | 101.5900945 | 99.44052601 | 97.34833199 | 95.31163848 |
| 171204A00009 | 12/4/2017 | 2.23 | 12/4/2024 | 12/4/2017 | 104.90578 | 104.90578 | 104.90578 | 104.90578 | 104.146309 | 101.846649 | 99.62626526 | 97.48175371 | 95.40988175 |
| 171207A00026 | 12/7/2017 | 2.93 | 12/7/2027 | 12/7/2017 | 117.90429 | 117.9042895 | 117.9042895 | 117.9042895 | 111.9298071 | 105.2105381 | 98.97311456 | 93.17982843 | 87.796128 |
| 180104A00041 | 1/4/2018 | 3.08 | 1/4/2033 | 1/4/2018 | 131.64153 | 131.6415332 | 131.6415332 | 126.6962181 | 115.7524763 | 105.4396423 | 96.24858286 | 88.0463768 | 80.71673816 |
| 180309A00015 | 3/9/2018 | 3.37 | 3/10/2031 | 3/9/2018 | 117.68485 | 117.6848518 | 117.6848518 | 117.3624407 | 112.5552054 | 106.8121934 | 101.4862591 | 96.54196446 | 91.94720488 |
| 180420A00011 | 4/20/2018 | 2.74 | 4/20/2023 | 4/20/2018 | 103.94047 | 103.9404663 | 103.9404663 | 103.9404663 | 103.5950277 | 102.0983688 | 100.6387629 | 99.21498891 | 97.82587566 |
| 180718A00008 | 7/18/2018 | 3.37 | 7/18/2028 | 7/18/2018 | 122.47595 | 122.4759493 | 122.4759493 | 122.4759493 | 115.378316 | 107.9493087 | 101.0889364 | 94.74978906 | 88.88867563 |
| 180809A00034 | 8/9/2018 | 3.08 | 8/9/2023 | 8/9/2018 | 108.53712 | 108.5371191 | 108.5371191 | 108.5371191 | 107.5423761 | 104.4767819 | 101.5181173 | 98.66198658 | 95.904205 |
| 180913A00012 | 9/13/2018 | 3.31 | 9/13/2033 | 9/13/2018 | 123.07351 | 123.0735098 | 123.0735098 | 121.5216372 | 114.8642541 | 107.7284102 | 101.2158883 | 95.2634985 | 89.815089 |
| 181226A00030 | 12/26/2018 | 2.91 | 12/26/2028 | 12/26/2018 | 112.63874 | 112.6387376 | 112.6387376 | 112.6383399 | 109.5186009 | 105.008397 | 100.7665587 | 96.77420669 | 93.01394691 |
| 190104A00034 | 1/4/2019 | 3.18 | 1/4/2029 | 1/4/2019 | 117.94641 | 117.9464109 | 117.9464109 | 117.9239725 | 112.3916612 | 106.2068342 | 100.4739273 | 95.15566353 | 90.21810018 |
| 190205A00020 | 2/5/2019 | 3.32 | 2/5/2029 | 2/5/2019 | 122.74368 | 122.7436786 | 122.7436786 | 122.6513303 | 115.2839283 | 107.7941145 | 100.9004191 | 94.55089212 | 88.69841854 |
| 190205A00022 | 2/5/2019 | 3.32 | 2/5/2029 | 2/5/2019 | 122.74368 | 122.7436786 | 122.7436786 | 122.6513303 | 115.2839283 | 107.7941145 | 100.9004191 | 94.55089212 | 88.69841854 |
| 190402A00005 | 4/2/2019 | 2.77 | 4/2/2032 | 4/2/2019 | 120.29546 | 120.2954556 | 120.2954556 | 118.6338853 | 111.5246195 | 104.0559178 | 97.25288796 | 91.04772998 | 85.38015129 |
| 190404A00015 | 4/4/2019 | 2.88 | 4/3/2026 | 4/4/2019 | 114.08468 | 114.0846845 | 114.0846845 | 114.0846845 | 110.5522136 | 105.115954 | 99.99584551 | 95.17168207 | 90.62465252 |
| 190517A00012 | 5/17/2019 | 2.88 | 5/17/2034 | 5/17/2019 | 119.24319 | 119.2431868 | 119.2431868 | 117.3298451 | 110.5535581 | 103.420088 | 96.93416317 | 91.0276098 | 85.64013102 |
| 190529A00061 | 5/29/2019 | 2.46 | 5/29/2026 | 5/29/2019 | 106.69148 | 106.6914751 | 106.6914751 | 106.6914751 | 105.3219698 | 102.2576478 | 99.32700977 | 96.522991 | 93.83895375 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190605A00023 | 6/5/2019 | 2.64 | 6/5/2029 | 6/5/2019 | 118.70796 | 118.7079563 | 118.7079563 | 118.3823204 | 110.575824 | 102.8556243 | 95.781291 | 89.2941862 | 83.34132403 |
| 190605A00024 | 6/5/2019 | 2.64 | 6/5/2029 | 6/5/2019 | 118.70795 | 118.7079476 | 118.7079476 | 118.382312 | 110.5758215 | 102.8556252 | 95.78129494 | 89.29419277 | 83.34133287 |
| 190705A00007 | 7/5/2019 | 2.56 | 7/5/2034 | 7/5/2019 | 116.94086 | 116.9408569 | 116.9408569 | 114.9549188 | 108.2204929 | 101.1638003 | 94.75427536 | 88.92310732 | 83.609512 |
| 190809A00017 | 8/9/2019 | 2.27 | 8/9/2034 | 8/9/2019 | 114.75624 | 114.7562417 | 114.7562417 | 112.7525598 | 106.1006468 | 99.14631809 | 92.8330478 | 87.09233561 | 81.86371008 |
| 190829A00032 | 8/29/2019 | 1.69 | 8/28/2026 | 8/29/2019 | 105.06769 | 105.0676903 | 105.0676903 | 105.0676903 | 103.5885758 | 100.4429931 | 97.43987627 | 94.57143561 | 91.83036733 |
| 190926A00002 | 9/30/2019 | 2.01 | 9/29/2034 | 9/30/2019 | 114.34462 | 114.3446232 | 114.3446232 | 112.2671861 | 105.5454355 | 98.54735597 | 92.20032879 | 86.43421153 | 81.18714639 |
| 191004A00022 | 10/4/2019 | 2.02 | 10/4/2029 | 10/4/2019 | 114.04118 | 114.0411842 | 114.0411842 | 113.4687077 | 105.6489976 | 97.99314009 | 90.99948038 | 84.60604525 | 78.75700206 |
| 191004A00023 | 10/4/2019 | 2.02 | 10/4/2029 | 10/4/2019 | 114.04118 | 114.0411761 | 114.0411761 | 113.4687007 | 105.6489978 | 97.99314447 | 90.99948826 | 84.60605611 | 78.75701542 |
| 191015A00025 | 10/15/2019 | 2.01 | 10/15/2029 | 10/15/2019 | 108.32762 | 108.3276225 | 108.3276225 | 108.283759 | 104.7443103 | 100.0597276 | 95.67629214 | 91.5712151 | 87.72362782 |
| 190205A00023 | 2/5/2019 | 3.32 | 2/5/2029 | 2/5/2019 | 122.7437 | 122.7437004 | 122.7437004 | 122.6513519 | 115.2839427 | 107.7941217 | 100.9004197 | 94.5508867 | 88.6984076 |
| 190205A00027 | 2/5/2019 | 2.87 | 2/7/2022 | 2/5/2019 | 104.31635 | 104.3163496 | 104.3163496 | 104.3163496 | 103.9860762 | 102.333649 | 100.7160324 | 99.13218614 | 97.58111175 |
| 190308A00008 | 3/8/2019 | 3.19 | 3/8/2034 | 3/8/2019 | 121.43298 | 121.4329797 | 121.4329797 | 119.5971039 | 112.7899774 | 105.5896971 | 99.03623305 | 93.06217306 | 87.60781845 |
| 190308A00016 | 3/8/2019 | 3.18 | 3/8/2034 | 3/8/2019 | 133.45845 | 133.45845 | 133.45845 | 127.370365 | 116.240092 | 105.7517883 | 96.4531348 | 88.1954841 | 80.84989779 |
| 190308A00026 | 3/8/2019 | 3.18 | 3/8/2034 | 3/8/2019 | 133.45845 | 133.45845 | 133.45845 | 127.370365 | 116.240092 | 105.7517883 | 96.4531348 | 88.1954841 | 80.84989779 |
| 190315A00021 | 3/15/2019 | 3.11 | 3/15/2034 | 3/15/2019 | 120.8035 | 120.8034978 | 120.8034978 | 118.9768182 | 112.204972 | 105.0421086 | 98.52272466 | 92.57975296 | 87.15380045 |
| 190322A00008 | 3/22/2019 | 2.64 | 3/20/2026 | 3/22/2019 | 107.05757 | 107.0575676 | 107.0575676 | 107.0575676 | 105.7635948 | 102.7690743 | 99.90209111 | 97.15604939 | 94.52474444 |
| 190322A00011 | 3/22/2019 | 2.99 | 3/22/2034 | 3/22/2019 | 119.86268 | 119.8626804 | 119.8626804 | 118.0499262 | 111.3309122 | 104.2240471 | 97.75565698 | 91.85919316 | 86.47572214 |
| 190403A00013 | 4/3/2019 | 3.05 | 4/3/2029 | 4/3/2019 | 120.94998 | 120.9499829 | 120.9499829 | 120.7632318 | 113.3528002 | 105.8589823 | 98.97157853 | 92.63695899 | 86.80654487 |
| 190605A00025 | 6/5/2019 | 2.64 | 6/5/2029 | 6/5/2019 | 118.70795 | 118.7079476 | 118.7079476 | 118.382312 | 110.5758215 | 102.8556252 | 95.78129494 | 89.29419277 | 83.34133287 |
| 190621A00020 | 6/21/2019 | 2.58 | 6/21/2034 | 6/21/2019 | 116.99477 | 116.99477 | 116.99477 | 115.0625158 | 108.369481 | 101.3401929 | 94.9523136 | 89.13797536 | 83.83718999 |
| 190708A00025 | 7/8/2019 | 2.21 | 7/1/2024 | 7/8/2019 | 107.48365 | 107.483653 | 107.483653 | 107.483653 | 105.8519356 | 102.0069757 | 98.3279709 | 94.80681911 | 91.43586009 |
| 190708A00029 | 7/8/2019 | 2.57 | 7/2/2029 | 7/8/2019 | 118.26162 | 118.2616182 | 118.2616182 | 117.8809999 | 110.0392865 | 102.2987873 | 95.21036093 | 88.7144131 | 82.75713151 |
| 190708A00032 | 7/8/2019 | 2.58 | 7/2/2029 | 7/8/2019 | 118.34535 | 118.3453524 | 118.3453524 | 117.9645902 | 110.118771 | 102.373733 | 95.28111176 | 88.78128357 | 82.82040941 |
| 190719A00017 | 7/19/2019 | 2.55 | 7/19/2034 | 7/19/2019 | 116.86255 | 116.8625532 | 116.8625532 | 114.8773914 | 108.1472956 | 101.0952251 | 94.68993142 | 88.86264046 | 83.55260111 |
| 190913A00006 | 9/13/2019 | 2.33 | 9/13/2034 | 9/13/2019 | 115.31991 | 115.3199056 | 115.3199056 | 113.2508324 | 106.5223186 | 99.50348517 | 93.13493158 | 87.34683073 | 82.07757892 |
| 191008A00007 | 10/8/2019 | 1.67 | 10/9/2029 | 10/8/2019 | 107.58694 | 107.58694 | 107.58694 | 107.5430944 | 104.0059645 | 99.33289373 | 94.96121966 | 90.86807131 | 87.03250984 |
| 191101A00005 | 11/1/2019 | 1.83 | 11/2/2026 | 11/1/2019 | 110.16228 | 110.1622757 | 110.1622757 | 110.1622757 | 105.8612781 | 100.1276659 | 94.75825165 | 89.72777009 | 85.0128393 |
| 191112A00022 | 11/12/2019 | 2.36 | 11/13/2029 | 11/12/2019 | 117.10496 | 117.1049648 | 117.1049648 | 116.4329104 | 108.3756763 | 100.4869195 | 93.28596904 | 86.70786535 | 80.6941481 |
| 191203A00011 | 12/3/2019 | 2.21 | 12/3/2029 | 12/3/2019 | 115.89851 | 115.898507 | 115.898507 | 115.1830604 | 107.147084 | 99.29460455 | 92.13079629 | 85.59025727 | 79.61416445 |
| 200109A00008 | 1/9/2020 | 1.95 | 1/9/2030 | 1/9/2020 | 109.23991 | 109.2399057 | 109.2399057 | 109.1672859 | 105.4110815 | 100.5555932 | 96.02050571 | 91.78097418 | 87.81429616 |
| 200206A00008 | 2/6/2020 | 1.64 | 2/6/2025 | 2/6/2020 | 106.47069 | 106.4706876 | 106.4706876 | 106.4706876 | 104.4602919 | 100.3175011 | 96.37319941 | 92.61667906 | 89.03787328 |
| 200323A00090 | 3/23/2020 | 1.55 | 3/23/2027 | 3/23/2020 | 104.81477 | 104.8147734 | 104.8147734 | 104.8147734 | 102.7290506 | 99.00937499 | 95.4793736 | 92.12753066 | 88.94311858 |
| 200406A00036 | 4/6/2020 | 1.09 | 4/4/2025 | 4/6/2020 | 103.60524 | 103.6052434 | 103.6052434 | 103.6052434 | 101.3834929 | 97.0465784 | 92.92665891 | 89.01171819 | 85.29046602 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200413A00009 | 4/13/2020 | 0.77 | 4/13/2027 | 4/13/2020 | 102.30337 | 102.3033653 | 102.3033653 | 102.3033653 | 100.5075184 | 97.14461909 | 93.94776295 | 90.90712896 | 88.01355368 |
| 200414A00024 | 4/14/2020 | 1.37 | 4/14/2027 | 4/14/2020 | 106.63701 | 106.6370141 | 106.6370141 | 106.6370141 | 101.8319427 | 95.972169 | 90.5066163 | 85.40644704 | 80.64508044 |
| 191112A00024 | 11/12/2019 | 2.09 | 11/12/2024 | 11/12/2019 | 107.60057 | 107.6005672 | 107.6005672 | 107.6005672 | 105.6692349 | 101.5201849 | 97.5638418 | 93.79019783 | 90.18981803 |
| 191203A00013 | 12/3/2019 | 1.93 | 12/3/2024 | 12/3/2019 | 106.99766 | 106.9976624 | 106.9976624 | 106.9976624 | 105.0246077 | 100.8473558 | 96.8664378 | 93.07153575 | 89.45292959 |
| 200309A00081 | 3/9/2020 | 1.18 | 3/8/2030 | 3/9/2020 | 107.32803 | 107.3280292 | 107.3280292 | 106.4210866 | 98.66840716 | 91.17182991 | 84.35179357 | 78.14239483 | 72.4845195 |
| 200311A00015 | 3/11/2020 | 1.26 | 3/11/2027 | 3/11/2020 | 105.86894 | 105.8689355 | 105.8689355 | 105.8689355 | 101.2171358 | 95.45355975 | 90.07325232 | 85.04845017 | 80.35354885 |
| 200327A00094 | 3/27/2020 | 1.6 | 3/27/2030 | 3/27/2020 | 109.89427 | 109.8942667 | 109.8942667 | 109.1406577 | 102.2008152 | 95.19330917 | 88.79148718 | 82.93771684 | 77.580214 |
| 200330A00058 | 3/30/2020 | 1.49 | 3/29/2030 | 3/30/2020 | 109.03667 | 109.0366665 | 109.0366665 | 108.2834721 | 101.3866792 | 94.42625062 | 88.06798118 | 82.25453535 | 76.93439837 |
| 200406A00027 | 4/6/2020 | 1.31 | 4/5/2030 | 4/6/2020 | 109.1594 | 109.1594036 | 109.1594036 | 108.3807037 | 101.4045912 | 94.38329504 | 87.97287015 | 82.11487403 | 76.75682355 |
| 200428A00009 | 4/28/2020 | 1.08 | 4/29/2030 | 4/28/2020 | 103.92944 | 103.92944 | 103.92944 | 103.8274624 | 100.12499 | 95.42579213 | 91.0426704 | 86.95065837 | 83.12698059 |
| 200520A00009 | 5/20/2020 | 1.63 | 5/20/2038 | 5/20/2020 | 120.33111 | 120.3311088 | 120.3311088 | 110.1721749 | 98.0129979 | 87.21046472 | 77.94332948 | 69.97170637 | 63.09527182 |
| 191113A00013 | 11/13/2019 | 2.17 | 11/13/2026 | 11/13/2019 | 111.09916 | 111.0991609 | 111.0991609 | 111.0991609 | 106.7576162 | 100.9928662 | 95.59441445 | 90.53681823 | 85.79653475 |
| 191122A00003 | 11/22/2019 | 2.32 | 11/22/2039 | 11/22/2019 | 128.58487 | 128.5848689 | 128.5848689 | 118.5852774 | 106.2574274 | 95.16639691 | 85.62703645 | 77.39460966 | 70.26571281 |
| 191224A00002 | 12/24/2019 | 2.17 | 12/24/2029 | 12/24/2019 | 109.29739 | 109.2973898 | 109.2973898 | 109.2350904 | 105.5545124 | 100.7545287 | 96.26788436 | 92.07051999 | 88.14043155 |
| 200109A00006 | 1/9/2020 | 1.95 | 1/9/2030 | 1/9/2020 | 109.23991 | 109.2399104 | 109.2399104 | 109.1672903 | 105.4110823 | 100.5555917 | 96.02050216 | 91.78096889 | 87.81428936 |
| 200110A00043 | 1/10/2020 | 2.32 | 1/10/2030 | 1/10/2020 | 117.01386 | 117.0138577 | 117.0138577 | 116.2031911 | 108.0334123 | 100.0595124 | 92.79065597 | 86.15932693 | 80.10485868 |
| 200206A00031 | 2/6/2020 | 2.15 | 2/6/2030 | 2/6/2020 | 115.63748 | 115.6374755 | 115.6374755 | 114.7649281 | 106.6147076 | 98.67835273 | 91.44888032 | 84.85813409 | 78.84491877 |
| 200221A00012 | 2/21/2020 | 2.14 | 2/21/2040 | 2/21/2020 | 119.91619 | 119.9161936 | 119.9161936 | 113.253995 | 103.2616608 | 93.89364994 | 85.68841051 | 78.47970164 | 72.1271499 |
| 200311A00026 | 3/11/2020 | 1.34 | 3/11/2030 | 3/11/2020 | 108.35955 | 108.3595495 | 108.3595495 | 107.5206078 | 100.0948831 | 92.79564143 | 86.14401638 | 80.07750868 | 74.54001919 |
| 200326A00032 | 3/26/2020 | 1.49 | 3/26/2030 | 3/26/2020 | 105.99843 | 105.9984314 | 105.9984314 | 105.906527 | 102.1814473 | 97.4226167 | 92.98150592 | 88.83319439 | 84.95493402 |
| 200330A00079 | 3/30/2020 | 1.51 | 3/30/2035 | 3/30/2020 | 109.26434 | 109.264344 | 109.264344 | 106.9815027 | 100.3624467 | 93.54546654 | 87.37916091 | 81.79161352 | 76.71961723 |
| 200406A00030 | 4/6/2020 | 1.61 | 4/5/2030 | 4/6/2020 | 111.10382 | 111.1038214 | 111.1038214 | 110.1080549 | 102.091254 | 94.33101181 | 87.27410604 | 80.85170074 | 75.00207792 |
| 200512A00018 | 5/12/2020 | 0.85 | 5/12/2025 | 5/12/2020 | 102.40853 | 102.4085321 | 102.4085321 | 102.4085321 | 100.2425363 | 96.04387087 | 92.05612077 | 88.26747056 | 84.66682981 |
| 180601A00038 | 6/1/2018 | 2.86 | 6/1/2021 | 6/1/2018 | 102.57656 | 102.5765561 | 102.5765561 | 102.5765561 | 102.3589767 | 101.3646094 | 100.3898347 | 99.4340755 | 98.49677746 |
| 180813A00045 | 8/13/2018 | 2.89 | 8/13/2025 | 8/13/2018 | 107.56952 | 107.5695219 | 107.5695219 | 107.5695219 | 106.5182166 | 103.7851244 | 101.1588889 | 98.63438958 | 96.20678947 |
| 181218A00089 | 12/18/2018 | 3.05 | 6/19/2023 | 12/18/2018 | 107.68968 | 107.6896752 | 107.6896752 | 107.6896752 | 106.8398661 | 104.0517167 | 101.3562205 | 98.74973183 | 96.2287714 |
| 190104A00006 | 1/4/2019 | 2.83 | 1/5/2026 | 1/4/2019 | 107.42206 | 107.422055 | 107.422055 | 107.422055 | 106.2009798 | 103.2774275 | 100.47536 | 97.7886332 | 95.21145982 |
| 190104A00038 | 1/4/2019 | 3.25 | 1/4/2029 | 1/4/2019 | 121.99005 | 121.9900509 | 121.9900509 | 121.9520334 | 114.6868533 | 107.2888982 | 100.4751919 | 94.19522028 | 88.40313214 |
| 190212A00029 | 2/12/2019 | 2.6 | 2/12/2024 | 2/12/2019 | 104.80343 | 104.8034338 | 104.8034338 | 104.8034338 | 104.2652524 | 102.3390388 | 100.4702512 | 98.65670436 | 96.89631272 |
| 190313A00044 | 3/13/2019 | 2.7 | 6/13/2022 | 3/13/2019 | 104.8008 | 104.8007978 | 104.8007978 | 104.8007978 | 104.3831757 | 102.404146 | 100.473661 | 98.59020944 | 96.75233825 |
| 190315A00029 | 3/15/2019 | 2.88 | 3/15/2034 | 3/15/2019 | 120.57076 | 120.5707622 | 120.5707622 | 118.7254787 | 111.9165692 | 104.7283855 | 98.18854476 | 92.22925672 | 86.79050994 |
| 190403A00010 | 4/3/2019 | 3.08 | 4/3/2029 | 4/3/2019 | 122.00321 | 122.0032092 | 122.0032092 | 121.7985245 | 113.9710949 | 106.1811724 | 99.03063844 | 92.46249394 | 86.42513573 |
| 190510A00022 | 5/10/2019 | 2.95 | 5/10/2034 | 5/10/2019 | 119.79603 | 119.7960274 | 119.7960274 | 117.8741303 | 111.0664357 | 103.8998104 | 97.38371648 | 91.44966889 | 86.03709499 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190524A00041 | 5/24/2019 | 2.83 | 5/24/2034 | 5/24/2019 | 118.84924 | 118.849245 | 118.849245 | 116.9419514 | 110.1880564 | 103.078223 | 96.61380863 | 90.72686056 | 85.35727788 |
| 190702A00071 | 7/2/2019 | 2.69 | 7/1/2039 | 7/2/2019 | 137.51317 | 137.5131669 | 137.5131669 | 125.1627358 | 110.9909802 | 98.47864614 | 87.80271836 | 78.66514669 | 70.81908251 |
| 190712A00016 | 7/12/2019 | 2.39 | 7/12/2029 | 7/12/2019 | 109.96466 | 109.9646648 | 109.9646648 | 109.9413345 | 106.5147507 | 101.8695395 | 97.51601717 | 93.43259361 | 89.59946056 |
| 190718A00012 | 7/18/2019 | 2.55 | 7/18/2029 | 7/18/2019 | 116.41487 | 116.4148739 | 116.4148739 | 116.0939247 | 109.2700801 | 102.2385945 | 95.77772226 | 89.83633896 | 84.36822389 |
| 190802A00020 | 8/2/2019 | 2.42 | 8/2/2034 | 8/2/2019 | 115.93615 | 115.9361516 | 115.9361516 | 113.9121511 | 107.1916775 | 100.1655322 | 93.78703742 | 87.9869917 | 82.70430417 |
| 190829A00039 | 8/29/2019 | 1.85 | 8/29/2034 | 8/29/2019 | 113.00448 | 113.0044776 | 113.0044776 | 111.0063685 | 104.4069903 | 97.52115276 | 91.27270805 | 85.59331933 | 80.42268335 |
| 190910A00044 | 9/10/2019 | 2.02 | 9/10/2026 | 9/10/2019 | 109.93161 | 109.9316088 | 109.9316088 | 109.9316088 | 105.8735882 | 100.2796617 | 95.03289588 | 90.10969073 | 85.4881776 |
| 190911A00016 | 9/11/2019 | 1.9 | 9/11/2029 | 9/11/2019 | 108.66349 | 108.6634915 | 108.6634915 | 108.6269126 | 105.1090897 | 100.4253723 | 96.04140693 | 91.93461186 | 88.08430024 |
| 190913A00018 | 9/13/2019 | 2.11 | 9/11/2026 | 9/13/2019 | 105.89811 | 105.8981128 | 105.8981128 | 105.8981128 | 104.371981 | 101.1739817 | 98.12198981 | 95.20796445 | 92.4243694 |
| 191101A00004 | 11/1/2019 | 1.91 | 11/1/2029 | 11/1/2019 | 113.42088 | 113.4208752 | 113.4208752 | 112.9198942 | 105.9920248 | 98.93384934 | 92.46658653 | 86.53574672 | 81.09220581 |
| 191203A00009 | 12/3/2019 | 2.21 | 12/3/2029 | 12/3/2019 | 115.89851 | 115.898507 | 115.898507 | 115.1830604 | 107.147084 | 99.29460455 | 92.13079629 | 85.59025727 | 79.61416445 |
| 200110A00053 | 1/10/2020 | 1.99 | 1/10/2025 | 1/10/2020 | 107.37075 | 107.370747 | 107.370747 | 107.370747 | 105.3029528 | 101.0309846 | 96.96336264 | 93.08915456 | 89.39807422 |
| 200212A00013 | 2/12/2020 | 1.98 | 2/12/2027 | 2/12/2020 | 110.29675 | 110.2967477 | 110.2967477 | 110.2967477 | 105.61641 | 99.71196118 | 94.19505825 | 89.03791166 | 84.21487657 |
| 200227A00046 | 2/27/2020 | 1.52 | 3/1/2027 | 2/27/2020 | 104.20763 | 104.2076314 | 104.2076314 | 104.2076314 | 102.4806657 | 99.14265783 | 95.96561713 | 92.94022403 | 90.05777102 |
| 200303A00028 | 3/3/2020 | 1.54 | 3/4/2030 | 3/3/2020 | 109.38302 | 109.3830245 | 109.3830245 | 108.6735097 | 101.7917362 | 94.83753785 | 88.48155691 | 82.66711987 | 77.34328664 |
| 200306A00050 | 3/6/2020 | 0.87 | 3/6/2030 | 3/6/2020 | 103.79148 | 103.7914829 | 103.7914829 | 103.7011424 | 100.031141 | 95.35129809 | 90.98492472 | 86.90736749 | 83.09612751 |
| 180220A00107 | 2/20/2018 | 3.13 | 2/20/2025 | 2/20/2018 | 112.08181 | 112.0818098 | 112.0818098 | 112.0818098 | 110.0147235 | 105.7438811 | 101.6766391 | 97.80201665 | 94.10969169 |
| 180702A00022 | 7/2/2018 | 2.84 | 6/30/2023 | 7/2/2018 | 107.63746 | 107.6374614 | 107.6374614 | 107.6374614 | 106.7741853 | 103.9686678 | 101.2571002 | 98.63575228 | 96.10106593 |
| 180716A00062 | 7/16/2018 | 2.91 | 7/16/2025 | 7/16/2018 | 107.50225 | 107.5022498 | 107.5022498 | 107.5022498 | 106.484408 | 103.7942322 | 101.2078565 | 98.72036495 | 96.32711111 |
| 180906A00032 | 9/6/2018 | 3.24 | 9/5/2025 | 9/6/2018 | 114.61912 | 114.6191186 | 114.6191186 | 114.6191186 | 111.8174523 | 106.8130822 | 102.0746384 | 97.58641827 | 93.33373542 |
| 180913A00062 | 9/13/2018 | 3.05 | 9/13/2023 | 9/13/2018 | 108.50629 | 108.5062892 | 108.5062892 | 108.5062892 | 107.4786154 | 104.3933274 | 101.4175909 | 98.5468617 | 95.77681279 |
| 181116A00006 | 11/16/2018 | 3.18 | 11/17/2025 | 11/16/2018 | 108.22551 | 108.2255097 | 108.2255097 | 108.2255097 | 107.0679346 | 104.2034593 | 101.4551005 | 98.81711421 | 96.28408355 |
| 181128A00011 | 11/28/2018 | 3.27 | 11/28/2023 | 11/28/2018 | 109.95455 | 109.9545485 | 109.9545485 | 109.9545485 | 108.7545362 | 105.3979464 | 102.1678777 | 99.05884154 | 96.06561899 |
| 190104A00035 | 1/4/2019 | 3.1 | 1/5/2026 | 1/4/2019 | 114.40274 | 114.4027426 | 114.4027426 | 114.4027426 | 111.2844974 | 106.1305392 | 101.2632789 | 96.6650272 | 92.31928429 |
| 190205A00019 | 2/5/2019 | 2.94 | 2/5/2024 | 2/5/2019 | 109.28372 | 109.2837167 | 109.2837167 | 109.2837167 | 107.9595697 | 104.4577144 | 101.0933498 | 97.86025199 | 94.75251846 |
| 190205A00025 | 2/5/2019 | 2.88 | 2/7/2022 | 2/5/2019 | 104.33321 | 104.3332055 | 104.3332055 | 104.3332055 | 104.0028911 | 102.3502589 | 100.7324413 | 99.14839807 | 97.59713052 |
| 190207A00003 | 2/7/2019 | 2.68 | 2/7/2024 | 2/7/2019 | 108.46382 | 108.463815 | 108.463815 | 108.463815 | 107.2408292 | 103.9451143 | 100.776772 | 97.73007306 | 94.79958337 |
| 190305A00015 | 3/5/2019 | 3.32 | 3/5/2029 | 3/5/2019 | 122.92542 | 122.9254184 | 122.9254184 | 122.7859857 | 115.3481822 | 107.8007844 | 100.8585482 | 94.46835386 | 88.58205959 |
| 190313A00039 | 3/13/2019 | 2.7 | 6/13/2022 | 3/13/2019 | 104.8008 | 104.8007978 | 104.8007978 | 104.8007978 | 104.3831757 | 102.404146 | 100.473661 | 98.59020944 | 96.75233825 |
| 190329A00067 | 3/29/2019 | 2.61 | 3/29/2024 | 3/29/2019 | 107.87175 | 107.8717476 | 107.8717476 | 107.8717476 | 106.5728229 | 103.1983261 | 99.95803576 | 96.84583931 | 93.8559358 |
| 190401A00017 | 4/1/2019 | 2.55 | 4/1/2022 | 4/1/2019 | 104.02887 | 104.0288703 | 104.0288703 | 104.0288703 | 103.6726546 | 101.9039237 | 100.1748955 | 98.4844438 | 96.83148146 |
| 190422A00037 | 4/22/2019 | 3.07 | 4/21/2034 | 4/22/2019 | 120.61912 | 120.6191218 | 120.6191218 | 118.7395055 | 111.9312097 | 104.7470476 | 98.21166479 | 92.25709804 | 86.82319895 |
| 190506A00025 | 5/6/2019 | 3.03 | 5/4/2029 | 5/6/2019 | 121.77893 | 121.7789253 | 121.7789253 | 121.5129078 | 113.6285455 | 105.7981125 | 98.61581159 | 92.02337583 | 85.96810107 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190510A00049 | 5/10/2019 | 2.58 | 5/8/2026 | 5/10/2019 | 106.97296 | 106.9729585 | 106.9729585 | 106.9729585 | 105.6399279 | 102.607314 | 99.70544641 | 96.927489 | 94.26701477 |
| 190605A00007 | 6/5/2019 | 2.47 | 6/5/2026 | 6/5/2019 | 112.11188 | 112.1118832 | 112.1118832 | 112.1118832 | 108.3801814 | 102.8905149 | 97.72900381 | 92.87410071 | 88.30578712 |
| 190614A00022 | 6/14/2019 | 2.62 | 6/14/2034 | 6/14/2019 | 117.30855 | 117.3085474 | 117.3085474 | 115.3714065 | 108.6604569 | 101.6122895 | 95.20723451 | 89.37724645 | 84.06217975 |
| 190628A00026 | 6/28/2019 | 2.54 | 6/28/2034 | 6/28/2019 | 116.68147 | 116.6814728 | 116.6814728 | 114.7541072 | 108.0789731 | 101.0685463 | 94.6978259 | 88.89912163 | 83.61260272 |
| 190813A00067 | 8/13/2019 | 1.9 | 8/13/2024 | 8/13/2019 | 106.42519 | 106.4251897 | 106.4251897 | 106.4251897 | 104.7122349 | 100.7993723 | 97.05947811 | 93.48390069 | 90.06447358 |
| 190816A00023 | 8/16/2019 | 2.14 | 8/16/2034 | 8/16/2019 | 113.73975 | 113.7397506 | 113.7397506 | 111.7535352 | 105.1606798 | 98.26821818 | 92.01113832 | 86.32154336 | 81.13949503 |
| 190823A00018 | 8/23/2019 | 2.12 | 8/23/2034 | 8/23/2019 | 113.58409 | 113.584095 | 113.584095 | 111.6003311 | 105.0164306 | 98.13337856 | 91.88485735 | 86.2030586 | 81.02812255 |
| 190905A00021 | 9/5/2019 | 2.08 | 9/5/2029 | 9/5/2019 | 114.43705 | 114.4370515 | 114.4370515 | 113.9272064 | 106.1447417 | 98.51137354 | 91.53329612 | 85.14957605 | 79.30529005 |
| 190905A00023 | 9/5/2019 | 2.08 | 9/5/2029 | 9/5/2019 | 114.43705 | 114.4370515 | 114.4370515 | 113.9272064 | 106.1447417 | 98.51137354 | 91.53329612 | 85.14957605 | 79.30529005 |
| 191004A00019 | 10/4/2019 | 2.02 | 10/4/2029 | 10/4/2019 | 114.04118 | 114.0411818 | 114.0411818 | 113.4687059 | 105.6489977 | 97.99314146 | 90.99948274 | 84.60604844 | 78.75700592 |
| 200421A00026 | 4/21/2020 | 1.34 | 4/19/2030 | 4/21/2020 | 107.91058 | 107.9105825 | 107.9105825 | 107.1193199 | 100.2448217 | 93.32104785 | 86.99962072 | 81.22287875 | 75.9390451 |
| 200429A00030 | 4/29/2020 | 1.41 | 4/29/2030 | 4/29/2020 | 109.03943 | 109.0394325 | 109.0394325 | 108.0845811 | 100.5399808 | 93.13874273 | 86.40142267 | 80.26325463 | 74.6661699 |
| 200501A00002 | 5/1/2020 | 1.3 | 5/1/2035 | 5/1/2020 | 107.7358 | 107.7357981 | 107.7357981 | 105.366807 | 98.73094147 | 91.92401603 | 85.77306506 | 80.20491255 | 75.15532351 |
| 200501A00009 | 5/4/2020 | 0.67 | 5/1/2025 | 5/4/2020 | 100.94163 | 100.9416303 | 100.9416303 | 100.9416303 | 100.0368442 | 97.56150447 | 95.17883542 | 92.88456563 | 90.67465218 |
| 200512A00001 | 5/12/2020 | 1.17 | 5/12/2027 | 5/12/2020 | 105.44117 | 105.4411716 | 105.4411716 | 105.4411716 | 100.5579387 | 94.68874728 | 89.21872003 | 84.11834818 | 79.36045679 |
| 200512A00013 | 5/12/2020 | 1.17 | 5/12/2027 | 5/12/2020 | 105.44117 | 105.4411716 | 105.4411716 | 105.4411716 | 100.5579387 | 94.68874728 | 89.21872003 | 84.11834818 | 79.36045679 |
| 200512A00021 | 5/12/2020 | 0.86 | 5/12/2025 | 5/12/2020 | 102.56582 | 102.5658185 | 102.5658185 | 102.5658185 | 100.259904 | 95.8700876 | 91.70430455 | 87.7499025 | 83.99500922 |
| 200522A00009 | 5/22/2020 | 0.96 | 5/22/2030 | 5/22/2020 | 103.50011 | 103.5001065 | 103.5001065 | 103.3515249 | 99.37966095 | 94.4477479 | 89.85625386 | 85.57765384 | 81.58689095 |
| 191004A00026 | 10/4/2019 | 1.74 | 10/4/2024 | 10/4/2019 | 105.96146 | 105.9614634 | 105.9614634 | 105.9614634 | 104.138819 | 100.1247081 | 96.29318363 | 92.63496818 | 89.14130309 |
| 191105A00012 | 11/5/2019 | 2.07 | 11/3/2034 | 11/5/2019 | 114.99831 | 114.9983087 | 114.9983087 | 112.7968831 | 105.9493545 | 98.85109032 | 92.41978869 | 86.58290175 | 81.27652963 |
| 200110A00039 | 1/10/2020 | 2.32 | 1/10/2030 | 1/10/2020 | 117.01386 | 117.0138577 | 117.0138577 | 116.2031911 | 108.0334123 | 100.0595124 | 92.79065597 | 86.15932693 | 80.10485868 |
| 200115A00013 | 1/15/2020 | 2.18 | 1/15/2030 | 1/15/2020 | 112.666 | 112.666003 | 112.666003 | 112.215494 | 106.2573825 | 99.85841248 | 93.97187571 | 88.55153985 | 83.55568039 |
| 200116A00012 | 1/16/2020 | 2.16 | 1/19/2027 | 1/16/2020 | 111.32665 | 111.326654 | 111.326654 | 111.326654 | 106.7122013 | 100.8099355 | 95.29155027 | 90.12975788 | 85.29935784 |
| 200206A00032 | 2/6/2020 | 2.15 | 2/6/2030 | 2/6/2020 | 115.63748 | 115.6374798 | 115.6374798 | 114.7649316 | 106.6147076 | 98.67835067 | 91.44887657 | 84.85812892 | 78.84491243 |
| 200309A00082 | 3/9/2020 | 1.18 | 3/8/2030 | 3/9/2020 | 107.32802 | 107.3280243 | 107.3280243 | 106.4210835 | 98.66841197 | 91.17183921 | 84.35180667 | 78.1424111 | 72.4845384 |
| 200319A00035 | 3/19/2020 | 1.72 | 3/18/2033 | 3/19/2020 | 112.79058 | 112.7905796 | 112.7905796 | 110.5205018 | 103.3809035 | 96.06349283 | 89.43938743 | 83.43353467 | 77.97970477 |
| 200406A00014 | 4/6/2020 | 1.33 | 4/6/2035 | 4/6/2020 | 109.42171 | 109.4217053 | 109.4217053 | 107.0523296 | 100.332748 | 93.43944731 | 87.21001269 | 81.57048959 | 76.45594483 |
| 200413A00013 | 4/13/2020 | 1.19 | 4/12/2030 | 4/13/2020 | 104.49526 | 104.4952629 | 104.4952629 | 104.3932717 | 100.6708296 | 95.94605124 | 91.53902605 | 87.4246598 | 83.58005995 |
| 200309A00084 | 3/9/2020 | 1.06 | 3/9/2027 | 3/9/2020 | 104.62228 | 104.6222831 | 104.6222831 | 104.6222831 | 100.0166722 | 94.31176849 | 88.9863099 | 84.01280988 | 79.36591977 |
| 200406A00033 | 4/6/2020 | 1.09 | 4/4/2025 | 4/6/2020 | 103.60524 | 103.6052434 | 103.6052434 | 103.6052434 | 101.3834929 | 97.0465784 | 92.92665891 | 89.01171819 | 85.29046602 |
| 200406A00035 | 4/6/2020 | 1.05 | 4/4/2025 | 4/6/2020 | 103.11695 | 103.1169534 | 103.1169534 | 103.1169534 | 101.1669689 | 97.21706072 | 93.45847983 | 89.88080582 | 86.47424194 |
| 200414A00009 | 4/14/2020 | 0.82 | 4/14/2025 | 4/14/2020 | 101.28787 | 101.2878749 | 101.2878749 | 101.2878749 | 100.4226156 | 98.01650363 | 95.69926107 | 93.46683893 | 91.31540268 |
| 200424A00022 | 4/24/2020 | 1.39 | 4/24/2030 | 4/24/2020 | 108.3094 | 108.3094012 | 108.3094012 | 107.5064073 | 100.6043517 | 93.65288579 | 87.30666484 | 81.50769394 | 76.20390312 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200512A00014 | 5/12/2020 | 1.17 | 5/12/2027 | 5/12/2020 | 105.44117 | 105.4411716 | 105.4411716 | 105.4411716 | 100.5579387 | 94.68874728 | 89.21872003 | 84.11834818 | 79.36045679 |
| 110810A00009 | 8/10/2011 | 2.36 | 8/10/2021 | 8/10/2011 | 101.33186 | 101.3318642 | 101.3318642 | 101.3318642 | 101.2015291 | 100.5656725 | 99.9405698 | 99.32591903 | 98.72143027 |
| 120806A00014 | 8/6/2012 | 1.77 | 8/8/2022 | 8/6/2012 | 101.69567 | 101.6956709 | 101.6956709 | 101.6956709 | 101.4629782 | 100.3311575 | 99.22294286 | 98.13763593 | 97.0745654 |
| 120820A00009 | 8/20/2012 | 2.4 | 8/22/2022 | 8/20/2012 | 104.35968 | 104.3596834 | 104.3596834 | 104.3596834 | 103.9001338 | 101.852783 | 99.85830564 | 97.91493482 | 96.0209782 |
| 130206A00009 | 2/6/2013 | 2.83 | 2/7/2028 | 2/6/2013 | 114.22745 | 114.2274482 | 114.2274482 | 114.2274482 | 109.7260438 | 104.1833109 | 99.01137336 | 94.18217404 | 89.66996765 |
| 130522A00027 | 5/22/2013 | 2.08 | 5/22/2023 | 5/22/2013 | 103.0232 | 103.023201 | 103.023201 | 103.023201 | 102.6649282 | 101.1407459 | 99.6550716 | 98.20661758 | 96.79414946 |
| 140318A00003 | 3/17/2014 | 3.08 | 3/18/2024 | 3/17/2014 | 110.7498 | 110.7498027 | 110.7498027 | 110.7498027 | 109.3258803 | 105.6763964 | 102.1741763 | 98.81243769 | 95.58474991 |
| 140924A00057 | 9/24/2014 | 3.25 | 9/25/2028 | 9/24/2014 | 122.86866 | 122.8686599 | 122.8686599 | 122.8686599 | 115.86042 | 108.5537566 | 101.8098966 | 95.58139214 | 89.82506605 |
| 140925A00039 | 9/25/2014 | 2.02 | 9/27/2021 | 9/25/2014 | 101.18676 | 101.1867628 | 101.1867628 | 101.1867628 | 101.0491249 | 100.3704864 | 99.70347693 | 99.04777187 | 98.40305912 |
| 150311A00003 | 3/11/2015 | 2.72 | 3/31/2025 | 3/11/2015 | 110.16691 | 110.1669084 | 110.1669084 | 110.1669084 | 108.1267744 | 103.9610636 | 99.99578241 | 96.22006351 | 92.62368755 |
| 150624A00077 | 6/24/2015 | 2.54 | 6/24/2022 | 6/24/2015 | 104.42111 | 104.4211079 | 104.4211079 | 104.4211079 | 104.0064279 | 102.0574826 | 100.1564956 | 98.30195934 | 96.49242492 |
| 150630A00086 | 6/30/2015 | 2.02 | 6/30/2020 | 6/30/2015 | 100.14804 | 100.1480447 | 100.1480447 | 100.1480447 | 100.1354602 | 100.047138 | 99.95897118 | 99.87095936 | 99.78310216 |
| 150803A00040 | 8/3/2015 | 3.01 | 8/2/2030 | 8/3/2015 | 114.64542 | 114.64542 | 114.64542 | 114.4733675 | 110.1664225 | 104.829026 | 99.86098626 | 95.23233025 | 90.91578346 |
| 150803A00042 | 8/3/2015 | 3.01 | 8/2/2030 | 8/3/2015 | 114.64541 | 114.6454078 | 114.6454078 | 114.4733557 | 110.1664156 | 104.8290235 | 99.86098774 | 95.23233531 | 90.91579177 |
| 150814A00029 | 8/14/2015 | 2.39 | 8/14/2025 | 8/14/2015 | 105.64884 | 105.6488445 | 105.6488445 | 105.6488445 | 104.6209467 | 101.9467214 | 99.37676932 | 96.90610616 | 94.53002301 |
| 150902A00008 | 9/2/2015 | 1.37 | 9/2/2020 | 9/2/2015 | 100.19985 | 100.1998548 | 100.1998548 | 100.1998548 | 100.1735045 | 100.0142721 | 99.85574863 | 99.69792897 | 99.54080807 |
| 150902A00009 | 9/2/2015 | 1.68 | 9/2/2020 | 9/2/2015 | 100.40424 | 100.4042386 | 100.4042386 | 100.4042386 | 100.359967 | 100.1017432 | 99.84488143 | 99.58937103 | 99.33520123 |
| 150925A00034 | 9/25/2015 | 2.36 | 9/25/2025 | 9/25/2015 | 105.65674 | 105.6567413 | 105.6567413 | 105.6567413 | 104.5950838 | 101.8799279 | 99.27206641 | 96.76630962 | 94.35775755 |
| 150929A00076 | 9/29/2015 | 2.28 | 9/29/2025 | 9/29/2015 | 105.43294 | 105.4329449 | 105.4329449 | 105.4329449 | 104.3733477 | 101.6639188 | 99.06156945 | 96.56111971 | 94.15767904 |
| 150929A00083 | 9/29/2015 | 2.09 | 9/29/2025 | 9/29/2015 | 105.43459 | 105.4345906 | 105.4345906 | 105.4345906 | 104.3704593 | 101.651747 | 99.04077951 | 96.5323315 | 94.12147013 |
| 151006A00019 | 10/6/2015 | 1.67 | 10/6/2022 | 10/6/2015 | 101.69722 | 101.6972205 | 101.6972205 | 101.6972205 | 101.4423118 | 100.2288126 | 99.04172442 | 97.88025001 | 96.74362311 |
| 151216A00005 | 12/16/2015 | 2.15 | 12/16/2020 | 12/16/2015 | 101.0445 | 101.0445001 | 101.0445001 | 101.0445001 | 100.9367612 | 100.3878234 | 99.84490169 | 99.30789743 | 98.77671396 |
| 151223A00078 | 12/23/2015 | 2.28 | 12/23/2025 | 12/23/2015 | 106.25233 | 106.2523269 | 106.2523269 | 106.2523269 | 105.0750713 | 102.2135447 | 99.46983679 | 96.8380366 | 94.31257432 |
| 160201A00016 | 2/1/2016 | 2.1 | 2/2/2026 | 2/1/2016 | 105.3177 | 105.3176987 | 105.3176987 | 105.3176987 | 104.0839736 | 101.1792076 | 98.39663137 | 95.72999658 | 93.17342149 |
| 160209A00008 | 2/9/2016 | 2.45 | 2/10/2031 | 2/9/2016 | 112.08542 | 112.0854175 | 112.0854175 | 111.8007543 | 107.2751193 | 101.8427435 | 96.80228314 | 92.12064832 | 87.76784292 |
| 160301A00012 | 3/1/2016 | 2.02 | 3/1/2023 | 3/1/2016 | 104.59564 | 104.5956431 | 104.5956431 | 104.5956431 | 103.8703645 | 101.2504071 | 98.71161704 | 96.25093742 | 93.8654503 |
| 160428A00025 | 4/28/2016 | 1.25 | 4/28/2021 | 4/28/2016 | 100.53367 | 100.5336672 | 100.5336672 | 100.5336672 | 100.437564 | 99.96900375 | 99.50642731 | 99.04970737 | 98.59872039 |
| 160523A00086 | 5/23/2016 | 2.2 | 5/26/2026 | 5/23/2016 | 110.53621 | 110.5362119 | 110.5362119 | 110.5362119 | 107.3250206 | 102.3580447 | 97.67746735 | 93.26485939 | 89.10308236 |
| 160524A00028 | 5/24/2016 | 2.06 | 5/24/2023 | 5/24/2016 | 105.07677 | 105.076771 | 105.076771 | 105.076771 | 104.2208952 | 101.3885892 | 98.65055233 | 96.0031129 | 93.44276393 |
| 160603A00029 | 6/3/2016 | 2.18 | 6/3/2031 | 6/3/2016 | 112.01787 | 112.0178732 | 112.0178732 | 111.6339137 | 106.8740573 | 101.2772597 | 96.0966031 | 91.29594371 | 86.84260887 |
| 160608A00034 | 6/8/2016 | 2.44 | 6/9/2031 | 6/8/2016 | 112.41088 | 112.4108778 | 112.4108778 | 112.0295114 | 107.2850472 | 101.6958008 | 96.52066389 | 91.72377393 | 87.27270332 |
| 160719A00012 | 7/19/2016 | 1.32 | 7/19/2021 | 7/19/2016 | 100.62298 | 100.6229775 | 100.6229775 | 100.6229775 | 100.5007809 | 99.9099683 | 99.32854831 | 98.7562727 | 98.19290251 |
| 160802A00026 | 8/2/2016 | 1.84 | 8/2/2023 | 8/2/2016 | 104.70947 | 104.709471 | 104.709471 | 104.709471 | 103.7407846 | 100.7507322 | 97.86501433 | 95.07935342 | 92.38967604 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160805A00014 | 8/5/2016 | 2.11 | 8/6/2029 | 8/5/2016 | 108.66974 | 108.669741 | 108.669741 | 108.640653 | 105.1996537 | 100.573186 | 96.23951981 | 92.17682204 | 88.36507395 |
| 160907A00041 | 9/7/2016 | 1.83 | 9/7/2023 | 9/7/2016 | 104.81698 | 104.8169763 | 104.8169763 | 104.8169763 | 103.7865461 | 100.7115531 | 97.74652806 | 94.88688014 | 92.12824026 |
| 160923A00009 | 9/23/2016 | 2.24 | 9/23/2031 | 9/23/2016 | 111.46847 | 111.4684714 | 111.4684714 | 111.0083197 | 106.1532362 | 100.5076403 | 95.28858169 | 90.45842442 | 85.98320247 |
| 160923A00020 | 9/23/2016 | 2.15 | 9/24/2029 | 9/23/2016 | 108.94978 | 108.9497811 | 108.9497811 | 108.9131098 | 105.407669 | 100.7322016 | 96.35500041 | 92.25365594 | 88.40763451 |
| 161005A00031 | 10/5/2016 | 1.43 | 10/5/2021 | 10/5/2016 | 100.94807 | 100.9480701 | 100.9480701 | 100.9480701 | 100.803752 | 100.0881727 | 99.38490675 | 98.69361571 | 98.01397403 |
| 161014A00008 | 10/14/2016 | 2.28 | 10/15/2029 | 10/14/2016 | 109.68667 | 109.6866682 | 109.6866682 | 109.6422542 | 106.0580536 | 101.3140987 | 96.87510024 | 92.71798153 | 88.82161023 |
| 161014A00029 | 10/14/2016 | 2.51 | 10/15/2031 | 10/14/2016 | 114.46293 | 114.4629273 | 114.4629273 | 113.9554406 | 108.8837116 | 103.0212927 | 97.60620086 | 92.59860964 | 87.96260904 |
| 161028A00011 | 10/28/2016 | 2.32 | 10/29/2029 | 10/28/2016 | 109.88971 | 109.8897129 | 109.8897129 | 109.8448134 | 106.2535546 | 101.5004368 | 97.05290112 | 92.88781942 | 88.98401289 |
| 161102A00014 | 11/2/2016 | 1.99 | 11/2/2023 | 11/2/2016 | 105.56221 | 105.5622133 | 105.5622133 | 105.5622133 | 104.4284811 | 101.2061562 | 98.10374649 | 95.11613512 | 92.23845197 |
| 161128A00006 | 11/28/2016 | 1.93 | 11/29/2021 | 11/28/2016 | 102.59123 | 102.5912279 | 102.5912279 | 102.5912279 | 102.3125214 | 100.9055267 | 99.52607649 | 98.17342717 | 96.84686146 |
| 161207A00014 | 12/7/2016 | 2.75 | 12/8/2031 | 12/7/2016 | 116.2273 | 116.2272956 | 116.2272956 | 115.648231 | 110.3943713 | 104.3696853 | 98.81053649 | 93.67497463 | 88.92522255 |
| 161212A00010 | 12/12/2016 | 3 | 12/12/2029 | 12/12/2016 | 113.60847 | 113.6084735 | 113.6084735 | 113.5440897 | 109.7175618 | 104.7266284 | 100.0614437 | 95.69699962 | 91.61042457 |
| 161227A00073 | 12/27/2016 | 2.83 | 12/28/2026 | 12/27/2016 | 113.41509 | 113.4150927 | 113.4150927 | 113.4150927 | 110.0302097 | 105.1021917 | 100.4659009 | 96.10172772 | 91.99150593 |
| 161229A00019 | 12/29/2016 | 2.46 | 12/29/2026 | 12/29/2016 | 108.02637 | 108.0263707 | 108.0263707 | 108.0263707 | 106.3221719 | 102.9261414 | 99.69087831 | 96.60723196 | 93.66664317 |
| 170120A00027 | 1/20/2017 | 2.35 | 1/20/2022 | 1/20/2017 | 103.33281 | 103.3328146 | 103.3328146 | 103.3328146 | 103.0156494 | 101.4259746 | 99.86911662 | 98.34411938 | 96.85006375 |
| 170217A00012 | 2/17/2017 | 2.97 | 2/19/2030 | 2/17/2017 | 113.62525 | 113.6252518 | 113.6252518 | 113.5399897 | 109.6275838 | 104.5823407 | 99.8706667 | 95.46661859 | 91.34649779 |
| 170224A00008 | 2/24/2017 | 2.18 | 2/24/2022 | 2/24/2017 | 103.22855 | 103.2285528 | 103.2285528 | 103.2285528 | 102.8929111 | 101.2160067 | 99.57514211 | 97.96921504 | 96.39716844 |
| 170224A00009 | 2/24/2017 | 2.39 | 2/24/2023 | 2/24/2017 | 105.5085 | 105.5085003 | 105.5085003 | 105.5085003 | 104.7948533 | 102.1962129 | 99.67747413 | 97.23564164 | 94.86785577 |
| 170406A00027 | 4/6/2017 | 2.61 | 4/8/2024 | 4/6/2017 | 108.3948 | 108.3948003 | 108.3948003 | 108.3948003 | 106.9709853 | 103.3726246 | 99.92093032 | 96.60912034 | 93.43076192 |
| 170406A00034 | 4/6/2017 | 3.01 | 4/6/2027 | 4/6/2017 | 116.39402 | 116.3940159 | 116.3940159 | 116.3940159 | 111.638017 | 105.6233757 | 100.0023746 | 94.74667902 | 89.83014732 |
| 170407A00001 | 4/6/2017 | 2.97 | 4/6/2027 | 4/6/2017 | 115.26146 | 115.2614563 | 115.2614563 | 115.2614563 | 110.8955371 | 105.2172519 | 99.90277335 | 94.92622263 | 90.26370898 |
| 170801A00022 | 8/1/2017 | 1.87 | 8/3/2020 | 8/1/2017 | 100.28914 | 100.2891415 | 100.2891415 | 100.2891415 | 100.259793 | 100.0779166 | 99.89670692 | 99.71616045 | 99.53627348 |
| 170804A00005 | 8/4/2017 | 1.94 | 8/5/2024 | 8/4/2017 | 103.98308 | 103.9830753 | 103.9830753 | 103.9830753 | 103.309408 | 101.1536577 | 99.06881325 | 97.05194856 | 95.1002803 |
| 170921A00054 | 9/21/2017 | 2.22 | 9/21/2022 | 9/21/2017 | 104.31299 | 104.3129909 | 104.3129909 | 104.3129909 | 103.7989886 | 101.5900945 | 99.44052601 | 97.34833199 | 95.31163848 |
| 171207A00025 | 12/7/2017 | 2.91 | 12/7/2027 | 12/7/2017 | 117.15179 | 117.1517899 | 117.1517899 | 117.1517899 | 111.4795507 | 104.9950703 | 98.96968577 | 93.36772203 | 88.1564771 |
| 171219A00009 | 12/19/2017 | 2.3 | 12/19/2024 | 12/19/2017 | 105.16501 | 105.1650061 | 105.1650061 | 105.1650061 | 104.3768951 | 102.0310193 | 99.76719331 | 97.5818504 | 95.47160521 |
| 171219A00067 | 12/19/2017 | 2.72 | 12/20/2027 | 12/19/2017 | 116.2815 | 116.281499 | 116.281499 | 116.281499 | 111.005176 | 104.8303554 | 99.08569782 | 93.73800166 | 88.75682628 |
| 180215A00034 | 2/15/2018 | 2.9 | 2/15/2023 | 2/15/2018 | 106.83094 | 106.8309397 | 106.8309397 | 106.8309397 | 106.1211138 | 103.5119595 | 100.9824409 | 98.52959676 | 96.15059841 |
| 180309A00011 | 3/9/2018 | 3.19 | 3/10/2025 | 3/9/2018 | 113.14618 | 113.1461825 | 113.1461825 | 113.1461825 | 110.8708648 | 106.3115615 | 101.97537 | 97.85007646 | 93.92420503 |
| 180322A00040 | 3/22/2018 | 3.16 | 3/21/2031 | 3/22/2018 | 120.45169 | 120.4516942 | 120.4516942 | 119.6468497 | 113.6004235 | 106.945934 | 100.8322252 | 95.20873623 | 90.03007234 |
| 180402A00013 | 4/2/2018 | 2.99 | 4/3/2028 | 4/2/2018 | 116.61726 | 116.6172641 | 116.6172641 | 116.6172641 | 111.8473681 | 106.0857207 | 100.7167597 | 95.7102682 | 91.03855376 |
| 180628A00068 | 6/28/2018 | 3.12 | 6/28/2028 | 6/28/2018 | 117.8163 | 117.8163006 | 117.8163006 | 117.8163006 | 112.782032 | 106.8529997 | 101.3371018 | 96.20181115 | 91.41738264 |
| 180907A00013 | 9/7/2018 | 3.27 | 9/8/2025 | 9/7/2018 | 114.47836 | 114.4783608 | 114.4783608 | 114.4783608 | 111.7473127 | 106.8381202 | 102.1882733 | 97.78250616 | 93.60653807 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180914A00049 | 9/14/2018 | 3.37 | 9/14/2033 | 9/14/2018 | 123.53648 | 123.5364775 | 123.5364775 | 121.9787151 | 115.2961596 | 108.1333089 | 101.5961383 | 95.62121874 | 90.15218586 |
| 181119A00008 | 11/19/2018 | 3.23 | 11/17/2023 | 11/19/2018 | 109.16561 | 109.1656062 | 109.1656062 | 109.1656062 | 108.077829 | 104.9478442 | 101.9327916 | 99.02776917 | 96.22811229 |
| 181128A00004 | 11/28/2018 | 3.08 | 11/28/2023 | 11/28/2018 | 109.9303 | 109.9302966 | 109.9302966 | 109.9302966 | 108.7255963 | 105.3580446 | 102.1177489 | 98.99917579 | 95.997064 |
| 181214A00009 | 12/14/2018 | 3.22 | 12/14/2028 | 12/14/2018 | 113.17652 | 113.1765196 | 113.1765196 | 113.1762938 | 110.0606854 | 105.5483704 | 101.3036528 | 97.30776246 | 93.5434019 |
| 181218A00040 | 12/18/2018 | 3.23 | 6/18/2030 | 12/18/2018 | 115.62614 | 115.6261375 | 115.6261375 | 115.4843141 | 111.2505102 | 105.9418099 | 100.9953058 | 96.38199786 | 92.07546404 |
| 190205A00021 | 2/5/2019 | 3.32 | 2/5/2029 | 2/5/2019 | 122.74368 | 122.7436786 | 122.7436786 | 122.6513303 | 115.2839283 | 107.7941145 | 100.9004191 | 94.55089212 | 88.69841855 |
| 190227A00033 | 2/27/2019 | 2.65 | 2/27/2026 | 2/27/2019 | 107.57244 | 107.5724449 | 107.5724449 | 107.5724449 | 106.304521 | 103.3249047 | 100.4710471 | 97.73649568 | 95.11517828 |
| 190315A00017 | 3/15/2019 | 2.88 | 3/15/2034 | 3/15/2019 | 120.57078 | 120.5707785 | 120.5707785 | 118.7254936 | 111.9165753 | 104.728386 | 98.18854043 | 92.22924813 | 86.79049767 |
| 190329A00021 | 3/29/2019 | 2.96 | 3/29/2034 | 3/29/2019 | 119.62844 | 119.6284415 | 119.6284415 | 117.818923 | 111.1129797 | 104.0200032 | 97.56427442 | 91.67936989 | 86.30646731 |
| 190405A00004 | 4/5/2019 | 3.02 | 4/5/2034 | 4/5/2019 | 120.22365 | 120.22365 | 120.22365 | 118.3508805 | 111.5652084 | 104.404864 | 97.89111411 | 91.95622988 | 86.54026947 |
| 190502A00016 | 5/2/2019 | 2.87 | 5/1/2026 | 5/2/2019 | 114.20119 | 114.2011864 | 114.2011864 | 114.2011864 | 110.5587921 | 105.0610647 | 99.88674192 | 95.01491452 | 90.4261341 |
| 190503A00015 | 5/3/2019 | 3.03 | 5/3/2034 | 5/3/2019 | 120.42987 | 120.4298702 | 120.4298702 | 118.4981073 | 111.6543688 | 104.4497017 | 97.89899545 | 91.93340692 | 86.49204647 |
| 190506A00026 | 5/6/2019 | 3.03 | 5/4/2029 | 5/6/2019 | 121.77893 | 121.7789253 | 121.7789253 | 121.5129078 | 113.6285455 | 105.7981125 | 98.61581159 | 92.02337583 | 85.96810107 |
| 190712A00003 | 7/12/2019 | 2.61 | 7/12/2034 | 7/12/2019 | 117.33602 | 117.3360221 | 117.3360221 | 115.3431017 | 108.5857418 | 101.5050217 | 95.07368485 | 89.22268267 | 83.89102137 |
| 190731A00013 | 7/31/2019 | 2.23 | 7/22/2022 | 7/31/2019 | 102.14856 | 102.1485577 | 102.1485577 | 102.1485577 | 101.9245929 | 100.8273061 | 99.75245539 | 98.69938583 | 97.66746747 |
| 190813A00051 | 8/13/2019 | 2.19 | 8/13/2029 | 8/13/2019 | 115.26619 | 115.2661888 | 115.2661888 | 114.8042075 | 107.0266606 | 99.38368783 | 92.39269591 | 85.99340656 | 80.13145637 |
| 190813A00052 | 8/13/2019 | 2.24 | 8/13/2029 | 8/13/2019 | 115.68524 | 115.6852445 | 115.6852445 | 115.2223335 | 107.4235883 | 99.75743991 | 92.74505772 | 86.32600821 | 80.4457874 |
| 190905A00018 | 9/5/2019 | 1.85 | 9/5/2029 | 9/5/2019 | 112.76831 | 112.7683127 | 112.7683127 | 112.3684681 | 105.5786734 | 98.63596952 | 92.26662743 | 86.41846319 | 81.04437242 |
| 190905A00019 | 9/5/2019 | 2.08 | 9/5/2029 | 9/5/2019 | 114.43705 | 114.4370515 | 114.4370515 | 113.9272064 | 106.1447417 | 98.51137353 | 91.53329611 | 85.14957603 | 79.30529003 |
| 191004A00017 | 10/4/2019 | 2.02 | 10/4/2029 | 10/4/2019 | 114.04119 | 114.0411861 | 114.0411861 | 113.468709 | 105.6489974 | 97.99313901 | 90.99947854 | 84.6060428 | 78.7569991 |
| 191206A00005 | 12/6/2019 | 2.18 | 12/7/2026 | 12/6/2019 | 111.26589 | 111.2658852 | 111.2658852 | 111.2658852 | 106.8237091 | 101.005804 | 95.56081309 | 90.46260484 | 85.68701682 |
| 200206A00027 | 2/6/2020 | 2.15 | 2/6/2030 | 2/6/2020 | 115.63748 | 115.6374755 | 115.6374755 | 114.7649281 | 106.6147076 | 98.67835273 | 91.44888032 | 84.85813409 | 78.84491877 |
| 200306A00048 | 3/6/2020 | 1.04 | 3/6/2035 | 3/6/2020 | 107.07577 | 107.0757683 | 107.0757683 | 104.8113937 | 98.27629468 | 91.55893329 | 85.48539056 | 79.98427979 | 74.99288314 |
| 200309A00034 | 3/9/2020 | 0.96 | 3/9/2035 | 3/9/2020 | 106.44903 | 106.4490281 | 106.4490281 | 104.1978065 | 97.70106958 | 91.02321634 | 84.98540975 | 79.5166798 | 74.55467493 |
| 200317A00009 | 3/17/2020 | 1.61 | 3/16/2035 | 3/17/2020 | 110.0571 | 110.0571031 | 110.0571031 | 107.7581352 | 101.0910272 | 94.22441975 | 88.01318386 | 82.38488938 | 77.27587688 |
| 200327A00084 | 3/27/2020 | 1.1 | 3/27/2025 | 3/27/2020 | 103.47276 | 103.4727599 | 103.4727599 | 103.4727599 | 101.4045648 | 97.27448317 | 93.34705908 | 89.61119561 | 86.05646163 |
| 200406A00032 | 4/6/2020 | 1.09 | 4/4/2025 | 4/6/2020 | 103.60525 | 103.6052457 | 103.6052457 | 103.6052457 | 101.3834928 | 97.04657557 | 92.92665359 | 89.01171058 | 85.29045631 |
| 200430A00027 | 4/30/2020 | 1.31 | 4/30/2035 | 4/30/2020 | 107.73304 | 107.7330373 | 107.7330373 | 105.4283315 | 98.86269828 | 92.11449696 | 86.0135466 | 80.48797131 | 75.47463922 |
| 200512A00017 | 5/12/2020 | 0.85 | 5/12/2025 | 5/12/2020 | 102.40853 | 102.4085321 | 102.4085321 | 102.4085321 | 100.2425363 | 96.04387087 | 92.05612077 | 88.26747056 | 84.66682981 |
| 200512A00020 | 5/12/2020 | 0.86 | 5/12/2025 | 5/12/2020 | 102.56582 | 102.5658185 | 102.5658185 | 102.5658185 | 100.259904 | 95.8700876 | 91.70430455 | 87.7499025 | 83.99500922 |
| 011115A00014 | 11/15/2001 | 5.19 | 11/16/2021 | 11/15/2001 | 105.07495 | 105.0749451 | 105.0749451 | 105.0749451 | 104.8782837 | 103.8693063 | 102.8773807 | 101.9020858 | 100.9430147 |
| 030605A00010 | 6/5/2003 | 3.97 | 6/5/2023 | 6/5/2003 | 106.12412 | 106.1241242 | 106.1241242 | 106.1241242 | 105.709822 | 104.1004826 | 102.536723 | 101.016892 | 99.53941075 |
| 050823A00088 | 8/23/2005 | 4.78 | 8/25/2025 | 8/23/2005 | 120.31314 | 120.3131444 | 120.3131444 | 120.3131444 | 117.9168531 | 113.3521381 | 109.0181427 | 104.9015832 | 100.9900247 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 110824A00006 | 8/24/2011 | 2.69 | 8/24/2026 | 8/24/2011 | 108.46075 | 108.4607466 | 108.4607466 | 108.4607466 | 106.7957334 | 103.4753918 | 100.3127665 | 97.29881138 | 94.425072 |
| 120423A00011 | 4/23/2012 | 2.07 | 4/25/2022 | 4/24/2017 | 102.53677 | 102.5367679 | 102.5367679 | 102.5367679 | 102.2394427 | 100.8280866 | 99.44727991 | 98.09614677 | 96.77384263 |
| 120614A00015 | 6/14/2012 | 1.89 | 6/14/2022 | 6/14/2012 | 103.01157 | 103.0115655 | 103.0115655 | 103.0115655 | 102.6540453 | 100.9606235 | 99.30857912 | 97.69661344 | 96.12347855 |
| 120827A00052 | 8/27/2012 | 2.01 | 8/27/2027 | 8/27/2012 | 107.18363 | 107.1836255 | 107.1836255 | 107.1836255 | 104.9621814 | 101.2539108 | 97.74429085 | 94.42060261 | 91.27104696 |
| 121120A00011 | 11/20/2012 | 2.22 | 11/22/2027 | 11/20/2012 | 111.33665 | 111.3366533 | 111.3366533 | 111.3366533 | 107.1569133 | 101.8525886 | 96.89492843 | 92.25821001 | 87.91878939 |
| 121220A00023 | 12/20/2012 | 1.82 | 12/20/2022 | 12/20/2012 | 103.77732 | 103.7773215 | 103.7773215 | 103.7773215 | 103.2226855 | 101.0152464 | 98.87011884 | 96.78512548 | 94.75818042 |
| 130528A00020 | 5/28/2013 | 2.43 | 5/30/2023 | 5/29/2018 | 105.02675 | 105.0267452 | 105.0267452 | 105.0267452 | 104.3328893 | 101.9722559 | 99.68789538 | 97.47687452 | 95.33639127 |
| 150601A00011 | 6/1/2015 | 5.17 | 8/3/2022 | 6/1/2015 | 110.56243 | 110.5624324 | 110.5624324 | 110.5624324 | 110.0838994 | 107.9153144 | 105.8021134 | 103.7424749 | 101.7346528 |
| 150601A00033 | 6/1/2015 | 5.96 | 12/24/2025 | 6/1/2015 | 129.15414 | 129.1541358 | 129.1541358 | 129.1541358 | 125.9716924 | 120.5046575 | 115.3335096 | 110.4402819 | 105.8082028 |
| 150601A00100 | 6/1/2015 | 3.26 | 1/7/2021 | 6/1/2015 | 100.92578 | 100.9257792 | 100.9257792 | 100.9257792 | 100.86771 | 100.5542616 | 100.2435273 | 99.93546767 | 99.63004446 |
| 150601A00261 | 6/1/2015 | 3.19 | 2/11/2033 | 6/1/2015 | 128.17047 | 128.1704681 | 128.1704681 | 124.6355908 | 115.468252 | 106.4932294 | 98.43295764 | 91.18341127 | 84.65323308 |
| 150601A00396 | 6/1/2015 | 3.61 | 1/3/2029 | 6/1/2015 | 114.07349 | 114.0734863 | 114.0734863 | 114.0729768 | 111.1388069 | 106.7788244 | 102.6721986 | 98.80136784 | 95.15013772 |
| 150601A00478 | 6/1/2015 | 2 | 6/16/2021 | 6/1/2015 | 100.90868 | 100.9086802 | 100.9086802 | 100.9086802 | 100.7977905 | 100.2639829 | 99.73785793 | 99.2192314 | 98.70792522 |
| 150601A00505 | 6/1/2015 | 2.07 | 7/8/2021 | 6/1/2015 | 101.01546 | 101.0154585 | 101.0154585 | 101.0154585 | 100.8965506 | 100.3230044 | 99.75828776 | 99.20217436 | 98.65444606 |
| 150601A00690 | 6/1/2015 | 2.34 | 2/28/2025 | 6/1/2015 | 104.80401 | 104.8040055 | 104.8040055 | 104.8040055 | 103.9895104 | 101.6242296 | 99.34312597 | 97.14247573 | 95.01874761 |
| 150601A00745 | 6/1/2015 | 1.76 | 5/7/2021 | 6/1/2015 | 100.70587 | 100.7058723 | 100.7058723 | 100.7058723 | 100.6072722 | 100.1281221 | 99.6551997 | 99.18837016 | 98.72750261 |
| 150601A00772 | 6/1/2015 | 1.84 | 5/13/2022 | 6/1/2015 | 101.51556 | 101.5155626 | 101.5155626 | 101.5155626 | 101.3172675 | 100.3332067 | 99.36819339 | 98.42168729 | 97.49316872 |
| 150601A00832 | 6/1/2015 | 7.17 | 8/28/2025 | 6/1/2015 | 117.93056 | 117.9305551 | 117.9305551 | 117.9305551 | 116.8689088 | 114.0338873 | 111.3067597 | 108.6824409 | 106.1561246 |
| 150601A00938 | 6/1/2015 | 6.35 | 12/21/2020 | 6/1/2015 | 103.43708 | 103.4370826 | 103.4370826 | 103.4370826 | 103.324996 | 102.7579421 | 102.1972256 | 101.6427401 | 101.0943814 |
| 150601A00943 | 6/1/2015 | 6.44 | 5/9/2031 | 6/1/2015 | 139.64789 | 139.6478895 | 139.6478895 | 139.1958724 | 133.1504778 | 126.0750145 | 119.5257863 | 113.4572663 | 107.8282745 |
| 150601A00964 | 6/1/2015 | 5.25 | 1/6/2033 | 6/1/2015 | 132.1906 | 132.190603 | 132.190603 | 131.2322366 | 125.2954856 | 118.5076062 | 112.2600616 | 106.5020103 | 101.1879222 |
| 050812A00050 | 8/12/2005 | 4.97 | 8/12/2025 | 8/12/2005 | 112.92673 | 112.9267277 | 112.9267277 | 112.9267277 | 111.7636512 | 108.8948943 | 106.1435198 | 103.5036308 | 100.9696736 |
| 080423A00066 | 4/23/2008 | 4.41 | 4/24/2023 | 4/23/2008 | 108.32116 | 108.321162 | 108.321162 | 108.321162 | 107.8225148 | 105.8519419 | 103.9350879 | 102.070102 | 100.2552099 |
| 081226A00013 | 12/26/2008 | 3.99 | 12/26/2023 | 12/26/2008 | 107.79025 | 107.7902512 | 107.7902512 | 107.7902512 | 107.1685811 | 105.039549 | 102.975575 | 100.9741164 | 99.03274939 |
| 110414A00007 | 4/14/2011 | 3.95 | 1/21/2025 | 4/14/2011 | 110.51837 | 110.5183722 | 110.5183722 | 110.5183722 | 109.3990781 | 106.4091993 | 103.5335459 | 100.7668151 | 98.10398807 |
| 120410A00005 | 4/10/2012 | 2.35 | 4/12/2027 | 4/10/2012 | 108.82585 | 108.8258504 | 108.8258504 | 108.8258504 | 106.5888614 | 102.6435711 | 98.90118507 | 95.34928445 | 91.97630677 |
| 121126A00009 | 11/26/2012 | 1.07 | 11/30/2020 | 11/26/2012 | 100.2472 | 100.2472005 | 100.2472005 | 100.2472005 | 100.1980616 | 99.9391955 | 99.6829309 | 99.42922841 | 99.17804948 |
| 121219A00029 | 12/19/2012 | 1.75 | 12/19/2022 | 12/21/2017 | 101.84673 | 101.846726 | 101.846726 | 101.846726 | 101.5765984 | 100.3260276 | 99.10421159 | 97.91023846 | 96.74323315 |
| 130425A00032 | 4/25/2013 | 2.59 | 4/25/2028 | 4/25/2018 | 110.13301 | 110.1330065 | 110.1330065 | 110.1330065 | 107.2286796 | 102.8156329 | 98.65488015 | 94.72932398 | 91.02316562 |
| 140314A00026 | 3/14/2014 | 2.99 | 3/14/2024 | 3/14/2019 | 109.79936 | 109.7993624 | 109.7993624 | 109.7993624 | 108.4803185 | 105.0065297 | 101.669268 | 98.46232867 | 95.37982667 |
| 140414A00009 | 4/14/2014 | 2.32 | 4/30/2024 | 4/14/2014 | 105.39138 | 105.3913841 | 105.3913841 | 105.3913841 | 104.607959 | 102.1517709 | 99.7779581 | 97.48312474 | 95.26403806 |
| 150601A00005 | 6/1/2015 | 4.84 | 6/9/2025 | 6/1/2015 | 121.419 | 121.4190034 | 121.4190034 | 121.4190034 | 118.9377875 | 114.1146246 | 109.5331653 | 105.179786 | 101.0417084 |
| 150601A00038 | 6/1/2015 | 5.77 | 6/2/2023 | 6/1/2015 | 116.11951 | 116.1195059 | 116.1195059 | 116.1195059 | 115.2116217 | 112.1941052 | 109.2764353 | 106.4547123 | 103.7252132 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150601A00270 | 6/1/2015 | 3.12 | 3/21/2031 | 6/1/2015 | 126.59441 | 126.5944102 | 126.5944102 | 124.6317823 | 115.6701562 | 106.8905074 | 98.94193834 | 91.73830392 | 85.20294213 |
| 150601A00299 | 6/1/2015 | 1.8 | 4/11/2023 | 6/1/2015 | 102.20253 | 102.202532 | 102.202532 | 102.202532 | 101.8672523 | 100.4031598 | 98.97497414 | 97.58152102 | 96.22167404 |
| 150601A00319 | 6/1/2015 | 1.94 | 6/26/2020 | 6/1/2015 | 100.06429 | 100.0642874 | 100.0642874 | 100.0642874 | 100.0584766 | 100.0173733 | 99.97633272 | 99.93535458 | 99.89443879 |
| 150601A00410 | 6/1/2015 | 2.68 | 1/24/2024 | 6/1/2015 | 104.34217 | 104.3421677 | 104.3421677 | 104.3421677 | 103.843043 | 102.0069949 | 100.2241598 | 98.49255628 | 96.81029185 |
| 150601A00424 | 6/1/2015 | 1.95 | 2/19/2021 | 6/1/2015 | 100.62819 | 100.6281889 | 100.6281889 | 100.6281889 | 100.5549936 | 100.1790746 | 99.80703081 | 99.43879561 | 99.07430401 |
| 150601A00461 | 6/1/2015 | 1.94 | 5/14/2021 | 6/1/2015 | 100.78063 | 100.7806311 | 100.7806311 | 100.7806311 | 100.683599 | 100.2099207 | 99.74237084 | 99.2808163 | 98.82512819 |
| 150601A00509 | 6/1/2015 | 2.52 | 7/8/2024 | 6/1/2015 | 104.55125 | 104.5512534 | 104.5512534 | 104.5512534 | 103.9309195 | 101.8712132 | 99.87690552 | 97.94537243 | 96.07411486 |
| 150601A00526 | 6/1/2015 | 2 | 7/28/2021 | 6/1/2015 | 101.00574 | 101.0057401 | 101.0057401 | 101.0057401 | 100.8836924 | 100.2923979 | 99.71049571 | 99.13773702 | 98.57388246 |
| 150601A00558 | 6/1/2015 | 2.51 | 8/30/2024 | 6/1/2015 | 104.69263 | 104.6926265 | 104.6926265 | 104.6926265 | 104.0284616 | 101.8942508 | 99.8297488 | 97.83208964 | 95.89854682 |
| 150601A00585 | 6/1/2015 | 2.45 | 10/8/2024 | 6/1/2015 | 104.66852 | 104.6685234 | 104.6685234 | 104.6685234 | 103.9749432 | 101.7934541 | 99.68453694 | 97.64516289 | 95.67245232 |
| 150601A00680 | 6/1/2015 | 2.23 | 2/6/2025 | 6/1/2015 | 104.49703 | 104.4970275 | 104.4970275 | 104.4970275 | 103.7006363 | 101.3643851 | 99.11058359 | 96.93561181 | 94.83603576 |
| 150601A00685 | 6/1/2015 | 1.91 | 2/10/2022 | 6/1/2015 | 101.38059 | 101.3805881 | 101.3805881 | 101.3805881 | 101.2084282 | 100.3521101 | 99.51137021 | 98.68577405 | 97.87490389 |
| 020918A00047 | 9/18/2002 | 4.72 | 9/19/2022 | 9/18/2002 | 106.19675 | 106.1967538 | 106.1967538 | 106.1967538 | 105.9045869 | 104.5414422 | 103.2085298 | 101.9049378 | 100.6297888 |
| 080220A00035 | 2/20/2008 | 4.65 | 2/22/2022 | 2/20/2008 | 105.71631 | 105.7163062 | 105.7163062 | 105.7163062 | 105.4543516 | 104.1822247 | 102.9349415 | 101.7117897 | 100.5120849 |
| 120210A00004 | 2/10/2012 | 1.98 | 2/10/2022 | 2/10/2012 | 102.95525 | 102.9552513 | 102.9552513 | 102.9552513 | 102.636799 | 101.0553464 | 99.50686843 | 97.99038485 | 96.50495478 |
| 120217A00007 | 2/17/2012 | 2.25 | 2/20/2024 | 2/17/2012 | 106.21596 | 106.2159585 | 106.2159585 | 106.2159585 | 105.1853642 | 102.2661594 | 99.45400028 | 96.74416003 | 94.13215495 |
| 120523A00024 | 5/23/2012 | 2.6 | 5/24/2027 | 5/23/2012 | 108.07506 | 108.0750638 | 108.0750638 | 108.0750638 | 106.053512 | 102.5378701 | 99.2049997 | 96.04359253 | 93.0431293 |
| 121219A00045 | 12/19/2012 | 1.75 | 12/19/2022 | 12/19/2017 | 101.9648 | 101.9647965 | 101.9647965 | 101.9647965 | 101.6743341 | 100.3445165 | 99.04510284 | 97.77515724 | 96.53378007 |
| 130925A00035 | 9/25/2013 | 1.53 | 6/25/2025 | 9/25/2013 | 103.69073 | 103.6907332 | 103.6907332 | 103.6907332 | 102.6567814 | 100.084884 | 97.61787611 | 95.25056305 | 92.978046 |
| 150601A00035 | 6/1/2015 | 5.73 | 4/1/2038 | 6/1/2015 | 149.71223 | 149.712233 | 149.712233 | 145.0641443 | 135.4480565 | 125.7632212 | 117.0977987 | 109.3252281 | 102.3362986 |
| 150601A00330 | 6/1/2015 | 2.6 | 8/2/2023 | 6/1/2015 | 103.65276 | 103.6527565 | 103.6527565 | 103.6527565 | 103.26338 | 101.6667022 | 100.1117645 | 98.59713248 | 97.12143234 |
| 150601A00394 | 6/1/2015 | 2.1 | 12/31/2020 | 6/1/2015 | 100.5581 | 100.5580985 | 100.5580985 | 100.5580985 | 100.501456 | 100.1943797 | 99.88992056 | 99.58804119 | 99.28870518 |
| 150601A00438 | 6/1/2015 | 1.91 | 3/18/2021 | 6/1/2015 | 100.66756 | 100.6675615 | 100.6675615 | 100.6675615 | 100.5858087 | 100.1752463 | 99.76928496 | 99.36783875 | 98.97082398 |
| 150601A00448 | 6/1/2015 | 2.61 | 4/26/2024 | 6/1/2015 | 104.51619 | 104.5161856 | 104.5161856 | 104.5161856 | 103.9490662 | 101.983326 | 100.0776756 | 98.22977896 | 96.43740853 |
| 150601A00451 | 6/1/2015 | 1.91 | 4/30/2021 | 6/1/2015 | 100.77634 | 100.776339 | 100.776339 | 100.776339 | 100.6779617 | 100.199708 | 99.72772051 | 99.26186153 | 98.80199757 |
| 150601A00458 | 6/1/2015 | 1.86 | 5/14/2021 | 6/1/2015 | 100.77045 | 100.7704549 | 100.7704549 | 100.7704549 | 100.6690805 | 100.1781986 | 99.69383752 | 99.21585298 | 98.74410513 |
| 150601A00889 | 6/1/2015 | 6.55 | 3/2/2029 | 6/1/2015 | 132.16933 | 132.1693271 | 132.1693271 | 132.1642875 | 128.1229374 | 122.5302254 | 117.2821973 | 112.3539361 | 107.7225303 |
| 150601A00906 | 6/1/2015 | 6.2 | 11/1/2029 | 6/1/2015 | 132.1545 | 132.1544998 | 132.1544998 | 132.0956082 | 127.5912657 | 121.7164319 | 116.2246513 | 111.0866531 | 106.2756518 |
| 150601A00947 | 6/1/2015 | 6.19 | 8/20/2021 | 6/1/2015 | 107.16931 | 107.1693073 | 107.1693073 | 107.1693073 | 106.9322167 | 105.7078188 | 104.5123713 | 103.3448473 | 102.2042681 |
| 150601A00953 | 6/1/2015 | 6.6 | 6/10/2032 | 6/1/2015 | 145.51259 | 145.5125925 | 145.5125925 | 144.47896 | 137.2678747 | 129.2691621 | 121.9181744 | 115.1541724 | 108.9226775 |
| 150601A00955 | 6/1/2015 | 5.84 | 7/15/2032 | 6/1/2015 | 134.54525 | 134.5452507 | 134.5452507 | 133.8030726 | 128.1003848 | 121.431268 | 115.2743054 | 109.5829054 | 104.3151906 |
| 150601A01011 | 6/1/2015 | 5.05 | 9/8/2025 | 6/1/2015 | 112.46078 | 112.4607752 | 112.4607752 | 112.4607752 | 111.4159887 | 108.6618045 | 106.0136163 | 103.4663886 | 101.0153631 |
| 150601A01041 | 6/1/2015 | 5.99 | 10/2/2036 | 6/1/2015 | 155.37315 | 155.3731474 | 155.3731474 | 150.6094427 | 140.0807809 | 129.6104827 | 120.2315425 | 111.8126743 | 104.2398448 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 151123A00067 | 11/23/2015 | 1.68 | 11/23/2020 | 11/23/2015 | 100.36635 | 100.3663524 | 100.3663524 | 100.3663524 | 100.3209234 | 100.0649635 | 99.81084384 | 99.55854255 | 99.30803799 |
| 160210A00068 | 2/10/2016 | 2.76 | 2/10/2031 | 2/10/2021 | 113.14673 | 113.1467313 | 113.1467313 | 112.9105987 | 108.676318 | 103.4487099 | 98.58780037 | 94.06322288 | 89.84740816 |
| 180716A00046 | 7/16/2018 | 2.9 | 7/16/2025 | 7/16/2018 | 107.17259 | 107.1725892 | 107.1725892 | 107.1725892 | 106.2218525 | 103.6414378 | 101.1583287 | 98.76799508 | 96.46615158 |
| 050823A00085 | 8/23/2005 | 4.78 | 8/25/2025 | 8/23/2005 | 120.31308 | 120.3130755 | 120.3130755 | 120.3130755 | 117.9167959 | 113.3520966 | 109.0181159 | 104.9015701 | 100.9900244 |
| 111128A00006 | 11/28/2011 | 3.03 | 11/28/2031 | 11/28/2011 | 117.403 | 117.4030034 | 117.4030034 | 116.7866163 | 111.6329888 | 105.6538318 | 100.1341083 | 95.0322556 | 90.31087504 |
| 120210A00005 | 2/10/2012 | 1.64 | 2/10/2022 | 2/10/2012 | 101.89285 | 101.892846 | 101.892846 | 101.892846 | 101.6377486 | 100.399912 | 99.18602322 | 97.99540569 | 96.82740882 |
| 121120A00010 | 11/20/2012 | 1.93 | 11/22/2027 | 11/20/2012 | 107.32897 | 107.328975 | 107.328975 | 107.328975 | 104.8552882 | 100.8829332 | 97.12845141 | 93.57757645 | 90.21709155 |
| 130206A00004 | 2/6/2013 | 2.14 | 2/7/2028 | 2/6/2013 | 108.17671 | 108.176705 | 108.176705 | 108.176705 | 105.7009653 | 101.7254257 | 97.96831256 | 94.41527671 | 91.05303242 |
| 130624A00019 | 6/24/2013 | 3.4 | 6/26/2023 | 6/24/2013 | 108.29121 | 108.2912075 | 108.2912075 | 108.2912075 | 107.4564425 | 104.7294633 | 102.0935162 | 99.54499784 | 97.08047101 |
| 141031A00015 | 10/31/2014 | 2.38 | 10/31/2024 | 10/31/2019 | 105.5447 | 105.5447019 | 105.5447019 | 105.5447019 | 104.7226876 | 102.2776993 | 99.91793982 | 97.63973349 | 95.43958916 |
| 150601A00001 | 6/1/2015 | 5.43 | 6/15/2037 | 6/1/2015 | 152.52597 | 152.5259681 | 152.5259681 | 147.0473268 | 136.1423716 | 125.4749359 | 115.9667089 | 107.4727255 | 99.86778403 |
| 150601A00096 | 6/1/2015 | 2.32 | 11/23/2020 | 6/1/2015 | 100.54402 | 100.5440236 | 100.5440236 | 100.5440236 | 100.49962 | 100.2485291 | 99.99920946 | 99.75164035 | 99.50580125 |
| 150601A00397 | 6/1/2015 | 2.2 | 12/31/2020 | 6/1/2015 | 100.58139 | 100.5813869 | 100.5813869 | 100.5813869 | 100.5255364 | 100.2220449 | 99.92111513 | 99.62271097 | 99.32679701 |
| 150601A00449 | 6/1/2015 | 2.12 | 4/28/2021 | 6/1/2015 | 100.85611 | 100.8561136 | 100.8561136 | 100.8561136 | 100.7602604 | 100.2924218 | 99.83052077 | 99.37443161 | 98.92403236 |
| 150601A00477 | 6/1/2015 | 3.21 | 6/1/2029 | 6/1/2015 | 116.47912 | 116.4791246 | 116.4791246 | 116.4592208 | 112.2750458 | 106.8537399 | 101.7856386 | 97.04415358 | 92.60490773 |
| 150601A00508 | 6/1/2015 | 1.97 | 7/8/2021 | 6/1/2015 | 100.94326 | 100.943262 | 100.943262 | 100.943262 | 100.8262794 | 100.2621534 | 99.70659099 | 99.15937566 | 98.6202984 |
| 150601A00555 | 6/1/2015 | 2.13 | 9/2/2021 | 6/1/2015 | 101.2008 | 101.2008017 | 101.2008017 | 101.2008017 | 101.067158 | 100.4102677 | 99.76478276 | 99.13037489 | 98.50672882 |
| 150601A00693 | 6/1/2015 | 2.31 | 2/27/2025 | 6/1/2015 | 104.74461 | 104.7446133 | 104.7446133 | 104.7446133 | 103.9265809 | 101.5567119 | 99.27135374 | 97.06676121 | 94.93938331 |
| 150601A00851 | 6/1/2015 | 7.12 | 4/30/2027 | 6/1/2015 | 126.68459 | 126.6845933 | 126.6845933 | 126.6845933 | 124.3930131 | 120.1453279 | 116.1090793 | 112.2716951 | 108.6214483 |
| 150601A00868 | 6/1/2015 | 7.08 | 6/5/2028 | 6/1/2015 | 131.33886 | 131.338861 | 131.338861 | 131.338861 | 128.0532042 | 122.9839963 | 118.2020244 | 113.6880566 | 109.4243034 |
| 150601A00909 | 6/1/2015 | 6.14 | 11/30/2020 | 6/1/2015 | 101.36791 | 101.3679073 | 101.3679073 | 101.3679073 | 101.32729 | 101.0947296 | 100.8636922 | 100.6341612 | 100.4061202 |
| 150601A00939 | 6/1/2015 | 5.79 | 1/17/2031 | 6/1/2015 | 133.37678 | 133.3767786 | 133.3767786 | 133.0725283 | 127.6804667 | 121.1931171 | 115.171777 | 109.5773392 | 104.3743287 |
| 150601A01012 | 6/1/2015 | 5.43 | 9/15/2023 | 6/1/2015 | 116.22485 | 116.2248453 | 116.2248453 | 116.2248453 | 115.1587782 | 111.932965 | 108.8209942 | 105.8181568 | 102.9199679 |
| 150601A01040 | 6/1/2015 | 5.4 | 10/2/2026 | 6/1/2015 | 129.00391 | 129.0039072 | 129.0039072 | 129.0039072 | 124.8766543 | 118.9184154 | 113.3170488 | 108.0487103 | 103.0912841 |
| 160928A00029 | 9/28/2016 | 2.52 | 9/29/2036 | 9/28/2016 | 118.38018 | 118.3801771 | 118.3801771 | 114.9406511 | 107.3207787 | 99.63323813 | 92.73585028 | 86.53369129 | 80.94436425 |
| 160930A00033 | 9/30/2016 | 1.8 | 9/30/2026 | 9/30/2016 | 104.77772 | 104.7777179 | 104.7777179 | 104.7777179 | 103.307891 | 100.2002499 | 97.23340323 | 94.39963119 | 91.69169686 |
| 170130A00046 | 1/30/2017 | 2.52 | 1/30/2026 | 1/30/2017 | 106.52235 | 106.5223468 | 106.5223468 | 106.5223468 | 105.2631567 | 102.3348598 | 99.53074213 | 96.84436381 | 94.26966971 |
| 070518A00023 | 5/18/2007 | 5.46 | 5/18/2027 | 5/18/2007 | 118.16016 | 118.1601618 | 118.1601618 | 118.1601618 | 116.0638737 | 112.3450178 | 108.8163872 | 105.4663276 | 102.2839921 |
| 121217A00009 | 12/17/2012 | 2.02 | 12/17/2027 | 12/17/2012 | 107.85188 | 107.851879 | 107.851879 | 107.851879 | 105.2920086 | 101.2267328 | 97.38607111 | 93.75519763 | 90.32038698 |
| 130128A00009 | 1/28/2013 | 2.82 | 1/28/2028 | 1/28/2013 | 113.90726 | 113.907264 | 113.907264 | 113.907264 | 109.4908007 | 103.9755064 | 98.82453115 | 94.01046208 | 89.50813817 |
| 141126A00006 | 11/26/2014 | 2.41 | 11/30/2021 | 11/26/2014 | 103.12565 | 103.1256486 | 103.1256486 | 103.1256486 | 102.8352125 | 101.3655868 | 99.92459981 | 98.51148445 | 97.12550036 |
| 150601A00019 | 6/1/2015 | 5.64 | 10/3/2022 | 6/1/2015 | 112.39915 | 112.3991534 | 112.3991534 | 112.3991534 | 111.8491567 | 109.5045221 | 107.2232155 | 105.0031645 | 102.8423769 |
| 150601A00022 | 6/1/2015 | 5.43 | 10/26/2037 | 6/1/2015 | 145.92023 | 145.9202267 | 145.9202267 | 141.6561111 | 132.4480698 | 123.1194301 | 114.756108 | 107.2403807 | 100.470375 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150601A00023 | 6/1/2015 | 5.46 | 10/30/2037 | 6/1/2015 | 154.14883 | 154.1488254 | 154.1488254 | 148.2390303 | 136.9867134 | 126.0498054 | 116.3236799 | 107.6541363 | 99.90837385 |
| 150601A00058 | 6/1/2015 | 4.46 | 8/16/2024 | 6/1/2015 | 108.74957 | 108.749566 | 108.749566 | 108.749566 | 108.0833404 | 105.911898 | 103.8104573 | 101.7761683 | 99.80631878 |
| 150601A00061 | 6/1/2015 | 4.25 | 9/30/2024 | 6/1/2015 | 108.54257 | 108.5425691 | 108.5425691 | 108.5425691 | 107.8406213 | 105.6124561 | 103.4577777 | 101.3735372 | 99.35683493 |
| 150601A00422 | 6/1/2015 | 2.03 | 2/19/2021 | 6/1/2015 | 100.61521 | 100.615211 | 100.615211 | 100.615211 | 100.5477065 | 100.1960372 | 99.84783471 | 99.50304114 | 99.16160003 |
| 150601A00425 | 6/1/2015 | 2.64 | 2/21/2024 | 6/1/2015 | 104.3636 | 104.363599 | 104.363599 | 104.363599 | 103.8441569 | 101.9684641 | 100.1480484 | 98.38082272 | 96.66479465 |
| 150601A00496 | 6/1/2015 | 2.27 | 6/27/2024 | 6/1/2015 | 104.38898 | 104.3889847 | 104.3889847 | 104.3889847 | 103.7744531 | 101.722977 | 99.73647486 | 97.81234514 | 95.94810986 |
| 150601A00543 | 6/1/2015 | 2.23 | 8/8/2024 | 6/1/2015 | 104.42623 | 104.4262292 | 104.4262292 | 104.4262292 | 103.7792837 | 101.672485 | 99.63386448 | 97.66064165 | 95.75017041 |
| 150601A00544 | 6/1/2015 | 1.95 | 8/13/2021 | 6/1/2015 | 101.01118 | 101.0111823 | 101.0111823 | 101.0111823 | 100.8853139 | 100.2729103 | 99.67056546 | 99.0780041 | 98.49496155 |
| 150601A00563 | 6/1/2015 | 2.14 | 9/10/2021 | 6/1/2015 | 101.20109 | 101.2010919 | 101.2010919 | 101.2010919 | 101.0680066 | 100.4143396 | 99.77191926 | 99.14042494 | 98.51954883 |
| 150601A00624 | 6/1/2015 | 2.48 | 12/8/2021 | 6/1/2015 | 103.53955 | 103.5395541 | 103.5395541 | 103.5395541 | 103.2414413 | 101.7377079 | 100.2638154 | 98.81894634 | 97.40231296 |
| 150601A00732 | 6/1/2015 | 1.91 | 4/29/2022 | 6/1/2015 | 101.56367 | 101.5636677 | 101.5636677 | 101.5636677 | 101.3681252 | 100.3968696 | 99.44428118 | 98.50983202 | 97.5930141 |
| 150601A00735 | 6/1/2015 | 2.35 | 5/1/2025 | 6/1/2015 | 105.01959 | 105.0195927 | 105.0195927 | 105.0195927 | 104.138359 | 101.6771747 | 99.30647005 | 97.02212904 | 94.82025368 |
| 150601A00865 | 6/1/2015 | 6 | 4/3/2028 | 6/1/2015 | 123.02444 | 123.0244426 | 123.0244426 | 123.0244426 | 120.463371 | 116.1913623 | 112.1472826 | 108.3165033 | 104.6854573 |
| 150601A00871 | 6/1/2015 | 6.74 | 7/31/2028 | 6/1/2015 | 130.34069 | 130.340691 | 130.340691 | 130.340691 | 126.9610241 | 121.8392561 | 117.0116521 | 112.4582933 | 108.160769 |
| 150601A00893 | 6/1/2015 | 6.49 | 4/6/2029 | 6/1/2015 | 131.80969 | 131.8096947 | 131.8096947 | 131.8013159 | 127.7573109 | 122.1831577 | 116.9538307 | 112.0442784 | 107.4314765 |
| 150601A00898 | 6/1/2015 | 6.66 | 6/8/2029 | 6/1/2015 | 129.45168 | 129.4516805 | 129.4516805 | 129.4378139 | 125.9446982 | 120.9120955 | 116.1804126 | 111.7281127 | 107.5353916 |
| 150601A00899 | 6/1/2015 | 7.07 | 6/14/2029 | 6/1/2015 | 130.31324 | 130.3132436 | 130.3132436 | 130.2989106 | 126.8172247 | 121.7861815 | 117.0547249 | 112.6014764 | 108.4067736 |
| 150601A00918 | 6/1/2015 | 5.62 | 4/28/2025 | 6/1/2015 | 114.16839 | 114.1683884 | 114.1683884 | 114.1683884 | 113.1924413 | 110.4606947 | 107.8295801 | 105.2945283 | 102.8512116 |
| 110223A00003 | 2/23/2011 | 3.41 | 2/23/2021 | 2/23/2011 | 102.3596 | 102.3596042 | 102.3596042 | 102.3596042 | 102.1924137 | 101.428119 | 100.6750766 | 99.93303982 | 99.20176891 |
| 111007A00007 | 10/7/2011 | 3.92 | 10/7/2031 | 10/7/2011 | 130.24221 | 130.2422114 | 130.2422114 | 128.0685103 | 119.622979 | 111.0976934 | 103.3695984 | 96.35524427 | 89.98054111 |
| 120716A00025 | 7/16/2012 | 1.83 | 7/18/2022 | 7/17/2017 | 101.80069 | 101.8006918 | 101.8006918 | 101.8006918 | 101.5593053 | 100.402439 | 99.27283458 | 98.16959651 | 97.09186692 |
| 120907A00026 | 9/7/2012 | 1.71 | 9/7/2022 | 9/7/2012 | 103.0901 | 103.0901011 | 103.0901011 | 103.0901011 | 102.6586732 | 100.7489279 | 98.88807409 | 97.07450005 | 95.30666069 |
| 140311A00039 | 3/11/2014 | 3.06 | 3/11/2024 | 3/11/2014 | 108.73116 | 108.7311568 | 108.7311568 | 108.7311568 | 107.553326 | 104.3458687 | 101.2603371 | 98.29129161 | 95.43357044 |
| 140911A00033 | 9/11/2014 | 3.02 | 9/13/2027 | 9/11/2014 | 112.32574 | 112.3257416 | 112.3257416 | 112.3257416 | 109.1411018 | 104.5645367 | 100.2592192 | 96.20640193 | 92.38877068 |
| 150601A00018 | 6/1/2015 | 4.91 | 9/5/2025 | 6/1/2015 | 122.70769 | 122.7076939 | 122.7076939 | 122.7076939 | 119.9570393 | 114.9034333 | 110.1125505 | 105.5690436 | 101.2585532 |
| 150601A00089 | 6/1/2015 | 2.56 | 10/27/2020 | 6/1/2015 | 100.48321 | 100.4832118 | 100.4832118 | 100.4832118 | 100.446436 | 100.2333414 | 100.0215367 | 99.81100889 | 99.60174512 |
| 150601A00407 | 6/1/2015 | 2.06 | 1/22/2021 | 6/1/2015 | 100.5533 | 100.5533009 | 100.5533009 | 100.5533009 | 100.4951922 | 100.1840753 | 99.875709 | 99.57005202 | 99.26706387 |
| 150601A00447 | 6/1/2015 | 2.02 | 4/28/2021 | 6/1/2015 | 100.80985 | 100.8098516 | 100.8098516 | 100.8098516 | 100.7140306 | 100.2463602 | 99.78462568 | 99.32870136 | 98.87846535 |
| 150601A00459 | 6/1/2015 | 2.42 | 5/16/2024 | 6/1/2015 | 104.19573 | 104.1957274 | 104.1957274 | 104.1957274 | 103.6166457 | 101.6317735 | 99.70818833 | 97.84348828 | 96.03538359 |
| 150601A00497 | 6/1/2015 | 1.95 | 7/1/2021 | 6/1/2015 | 100.91756 | 100.9175567 | 100.9175567 | 100.9175567 | 100.8023989 | 100.2472286 | 99.7003656 | 99.16160272 | 98.63073988 |
| 150601A00736 | 6/1/2015 | 2.87 | 5/1/2030 | 6/1/2015 | 112.59812 | 112.5981184 | 112.5981184 | 112.4978472 | 108.7205581 | 103.8175554 | 99.23810256 | 94.95692623 | 90.95095522 |
| 150601A00875 | 6/1/2015 | 7.14 | 9/29/2028 | 6/1/2015 | 132.7193 | 132.7192986 | 132.7192986 | 132.7192986 | 129.1790969 | 123.911437 | 118.9504567 | 114.2750952 | 109.8659093 |
| 150601A00883 | 6/1/2015 | 6.21 | 11/30/2028 | 6/1/2015 | 128.50127 | 128.5012743 | 128.5012743 | 128.5012727 | 124.9566207 | 119.7880906 | 114.9251219 | 110.3464131 | 106.0323219 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150601A00888 | 6/1/2015 | 5.92 | 3/1/2029 | 6/1/2015 | 128.11386 | 128.1138612 | 128.1138612 | 128.1092735 | 124.3086873 | 118.987073 | 113.9903921 | 109.2952904 | 104.880286 |
| 150601A00922 | 6/1/2015 | 6.51 | 7/7/2020 | 6/1/2015 | 100.67677 | 100.6767744 | 100.6767744 | 100.6767744 | 100.6607159 | 100.5526332 | 100.4447957 | 100.3372025 | 100.2298527 |
| 150601A00927 | 6/1/2015 | 6.08 | 8/7/2030 | 6/1/2015 | 130.27099 | 130.2709896 | 130.2709896 | 130.1251682 | 125.8026533 | 120.1810343 | 114.9323573 | 110.027165 | 105.438602 |
| 150601A00931 | 6/1/2015 | 7.13 | 9/20/2030 | 6/1/2015 | 141.10759 | 141.1075897 | 141.1075897 | 140.8777782 | 135.3750848 | 128.641212 | 122.3796198 | 116.5516188 | 111.1220288 |
| 150601A00948 | 6/1/2015 | 6.04 | 10/22/2031 | 6/1/2015 | 132.29563 | 132.2956333 | 132.2956333 | 131.8471886 | 126.7311392 | 120.5239144 | 114.7671229 | 109.4219461 | 104.4532944 |
| 151006A00015 | 10/6/2015 | 1.31 | 10/6/2020 | 10/6/2015 | 100.2154 | 100.2154035 | 100.2154035 | 100.2154035 | 100.180265 | 99.97523489 | 99.77137378 | 99.56867083 | 99.36711533 |
| 160928A00033 | 9/28/2016 | 2.46 | 9/29/2036 | 9/28/2016 | 117.88208 | 117.8820806 | 117.8820806 | 114.4485697 | 106.8516091 | 99.19044162 | 92.31723426 | 86.13728709 | 80.56840119 |
| 160928A00044 | 9/28/2016 | 2.89 | 9/29/2036 | 9/28/2023 | 121.45177 | 121.4517722 | 121.4517722 | 117.9751532 | 110.2139912 | 102.3638166 | 95.31731576 | 88.97818386 | 83.26280315 |
| 170530A00019 | 5/30/2017 | 1.58 | 6/1/2021 | 5/30/2017 | 100.80304 | 100.8030384 | 100.8030384 | 100.8030384 | 100.6889656 | 100.1427092 | 99.60446197 | 99.07402937 | 98.55122344 |
| 150601A00714 | 6/1/2015 | 1.67 | 4/1/2022 | 6/1/2015 | 101.27783 | 101.2778329 | 101.2778329 | 101.2778329 | 101.0907598 | 100.1602814 | 99.24734003 | 98.35144233 | 97.47211349 |
| 150601A00848 | 6/1/2015 | 6.36 | 2/18/2022 | 6/1/2015 | 105.41827 | 105.4182741 | 105.4182741 | 105.4182741 | 105.2379333 | 104.3408197 | 103.4600961 | 102.5953036 | 101.746001 |
| 150601A00864 | 6/1/2015 | 7.37 | 3/31/2028 | 6/1/2015 | 131.89195 | 131.891952 | 131.891952 | 131.891952 | 128.750975 | 123.7722098 | 119.0699797 | 114.626101 | 110.4237314 |
| 150601A00897 | 6/1/2015 | 6.15 | 5/28/2029 | 6/1/2015 | 130.05666 | 130.0566637 | 130.0566637 | 130.043933 | 126.0202684 | 120.5068783 | 115.3364419 | 110.4838887 | 105.9261898 |
| 150601A00900 | 6/1/2015 | 6.06 | 6/28/2024 | 6/1/2015 | 112.63462 | 112.634622 | 112.634622 | 112.634622 | 111.9627025 | 109.7119701 | 107.5324664 | 105.4213507 | 103.3759168 |
| 150601A00905 | 6/1/2015 | 6.14 | 10/29/2029 | 6/1/2015 | 131.55226 | 131.5522573 | 131.5522573 | 131.5028337 | 127.0779656 | 121.2682043 | 115.8346771 | 110.7488216 | 105.9844852 |
| 150601A00929 | 6/1/2015 | 5.91 | 8/30/2030 | 6/1/2015 | 133.50639 | 133.5063868 | 133.5063868 | 133.2870515 | 128.0460164 | 121.6484829 | 115.7006078 | 110.1655116 | 105.0096624 |
| 150601A00946 | 6/1/2015 | 6.28 | 8/22/2031 | 6/1/2015 | 139.68495 | 139.6849533 | 139.6849533 | 139.1233698 | 132.8475389 | 125.6123898 | 118.927158 | 112.7432993 | 107.016993 |
| 150601A00952 | 6/1/2015 | 6.34 | 2/13/2032 | 6/1/2015 | 142.17796 | 142.1779619 | 142.1779619 | 141.3563058 | 134.5608076 | 126.9169176 | 119.8771489 | 113.3861596 | 107.3941861 |
| 150601A00988 | 6/1/2015 | 4.57 | 3/22/2024 | 6/1/2015 | 108.13756 | 108.137556 | 108.137556 | 108.137556 | 107.5852978 | 105.6204281 | 103.7141806 | 101.8643172 | 100.0687022 |
| 150601A00997 | 6/1/2015 | 5.46 | 9/30/2022 | 6/1/2015 | 111.7799 | 111.7798996 | 111.7798996 | 111.7798996 | 111.2436278 | 108.9464449 | 106.7109274 | 104.5350657 | 102.4169276 |
| 150601A01005 | 6/1/2015 | 5.82 | 3/10/2025 | 6/1/2015 | 124.13187 | 124.1318709 | 124.1318709 | 124.1318709 | 121.933184 | 117.35061 | 112.9851003 | 108.8249642 | 104.8592113 |
| 150601A01013 | 6/1/2015 | 5.21 | 9/29/2023 | 6/1/2015 | 115.7234 | 115.7233963 | 115.7233963 | 115.7233963 | 114.6350174 | 111.3838596 | 108.2486118 | 105.2244854 | 102.306916 |
| 150601A01020 | 6/1/2015 | 5.22 | 10/19/2020 | 6/1/2015 | 101.03512 | 101.0351202 | 101.0351202 | 101.0351202 | 100.9984452 | 100.7855009 | 100.5738211 | 100.3633934 | 100.1542055 |
| 150601A01030 | 6/1/2015 | 5.43 | 9/30/2020 | 6/1/2015 | 101.78497 | 101.7849712 | 101.7849712 | 101.7849712 | 101.724021 | 101.3804495 | 101.0392124 | 100.700286 | 100.3636467 |
| 150601A01047 | 6/1/2015 | 5.35 | 12/30/2024 | 6/1/2015 | 121.78677 | 121.7867674 | 121.7867674 | 121.7867674 | 119.7156944 | 115.2579194 | 111.0064682 | 106.9505063 | 103.0798316 |
| 150601A01051 | 6/1/2015 | 4.91 | 2/7/2025 | 6/1/2015 | 120.38793 | 120.3879258 | 120.3879258 | 120.3879258 | 118.2312579 | 113.7143125 | 109.4107173 | 105.3090476 | 101.3985596 |
| 150601A01056 | 6/1/2015 | 4.7 | 3/16/2022 | 6/1/2015 | 107.94211 | 107.9421137 | 107.9421137 | 107.9421137 | 107.5849421 | 105.8056087 | 104.0654303 | 102.3632578 | 100.6979858 |
| 151110A00011 | 11/10/2015 | 3.23 | 11/12/2030 | 11/10/2020 | 115.4211 | 115.4210954 | 115.4210954 | 115.2215336 | 111.0412004 | 105.8076952 | 100.9351928 | 96.39424539 | 92.1580805 |
| 160210A00062 | 2/10/2016 | 1.36 | 2/10/2021 | 2/10/2016 | 100.42181 | 100.4218094 | 100.4218094 | 100.4218094 | 100.3477947 | 99.96853893 | 99.59321666 | 99.22176024 | 98.85410367 |
| 160928A00030 | 9/28/2016 | 2.52 | 9/29/2036 | 9/28/2016 | 118.38018 | 118.3801771 | 118.3801771 | 114.9406511 | 107.3207787 | 99.63323813 | 92.73585028 | 86.53369129 | 80.94436425 |
| 160928A00042 | 9/28/2016 | 3.05 | 9/29/2036 | 9/28/2021 | 122.78003 | 122.7800295 | 122.7800295 | 119.2873702 | 111.4651102 | 103.5446073 | 96.43362516 | 90.03526173 | 84.26537132 |
| 190327A00030 | 3/27/2019 | 2.9 | 3/27/2036 | 3/27/2019 | 120.51165 | 120.5116532 | 120.5116532 | 117.6991346 | 110.4719884 | 103.0224706 | 96.30012679 | 90.22183806 | 84.71494739 |
| 190523A00038 | 5/23/2019 | 2.54 | 5/24/2021 | 5/23/2019 | 101.15779 | 101.1577923 | 101.1577923 | 101.1577923 | 101.0521569 | 100.5427728 | 100.0403909 | 99.54485086 | 99.05599752 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150601A00976 | 6/1/2015 | 6.8 | 9/22/2033 | 6/1/2015 | 150.13391 | 150.1339132 | 150.1339132 | 148.3042161 | 140.3006067 | 131.6764647 | 123.8004627 | 116.5971177 | 109.9993238 |
| 150601A00993 | 6/1/2015 | 5.37 | 6/9/2034 | 6/1/2015 | 141.76927 | 141.7692715 | 141.7692715 | 139.3729645 | 131.1085871 | 122.4712793 | 114.6273353 | 107.4924884 | 100.9922797 |
| 150601A01008 | 6/1/2015 | 5.08 | 4/15/2025 | 6/1/2015 | 111.60514 | 111.6051397 | 111.6051397 | 111.6051397 | 110.7124357 | 108.1695058 | 105.7184383 | 103.3551075 | 101.075604 |
| 150601A01015 | 6/1/2015 | 5.61 | 10/28/2025 | 6/1/2015 | 126.07352 | 126.0735238 | 126.0735238 | 126.0735238 | 123.211541 | 118.0629993 | 113.1850276 | 108.561636 | 104.1778699 |
| 150819A00027 | 8/19/2015 | 3.05 | 8/19/2030 | 8/19/2020 | 115.19426 | 115.1942618 | 115.1942618 | 115.0401636 | 110.9738551 | 105.8158072 | 101.0080341 | 96.52241166 | 92.33333217 |
| 160506A00016 | 5/6/2016 | 1.28 | 5/6/2021 | 5/6/2016 | 100.51485 | 100.5148472 | 100.5148472 | 100.5148472 | 100.4103097 | 99.90712877 | 99.41078301 | 98.92111851 | 98.43798623 |
| 160930A00032 | 9/30/2016 | 2.15 | 9/30/2031 | 9/30/2016 | 110.48781 | 110.487813 | 110.487813 | 110.0742864 | 105.5115821 | 100.1072117 | 95.10381069 | 90.46638883 | 86.16334232 |
| 170616A00003 | 6/16/2017 | 1.91 | 6/17/2024 | 6/16/2017 | 103.71277 | 103.7127683 | 103.7127683 | 103.7127683 | 103.0999326 | 101.0570591 | 99.07898543 | 97.16311464 | 95.30697349 |
| 171206A00020 | 12/6/2017 | 2.62 | 12/6/2027 | 12/6/2017 | 108.84302 | 108.8430171 | 108.8430171 | 108.8430171 | 106.6324808 | 102.8668726 | 99.29904014 | 95.91653943 | 92.70781049 |
| 180725A00035 | 7/25/2018 | 2.85 | 7/25/2023 | 7/25/2018 | 104.39521 | 104.3952061 | 104.3952061 | 104.3952061 | 104.0047576 | 102.3999188 | 100.837022 | 99.31462589 | 97.83134971 |
| 181003A00044 | 10/3/2018 | 2.78 | 10/2/2020 | 10/3/2018 | 100.54349 | 100.5434859 | 100.5434859 | 100.5434859 | 100.5085659 | 100.3044312 | 100.1014475 | 99.89960409 | 99.69889068 |
| 181226A00040 | 12/26/2018 | 2.84 | 12/28/2020 | 12/26/2018 | 100.77869 | 100.7786915 | 100.7786915 | 100.7786915 | 100.7234974 | 100.4227795 | 100.1245783 | 99.82885882 | 99.53558655 |
| 190701A00022 | 7/1/2019 | 2.28 | 7/1/2021 | 7/1/2019 | 101.18539 | 101.1853934 | 101.1853934 | 101.1853934 | 101.0632529 | 100.4748866 | 99.89576172 | 99.32563771 | 98.76428265 |
| 191114A00013 | 11/14/2019 | 1.9 | 11/14/2022 | 11/14/2019 | 102.03606 | 102.0360643 | 102.0360643 | 102.0360643 | 101.7701569 | 100.5207294 | 99.29905391 | 98.10428156 | 96.93559672 |
| 191115A00029 | 11/15/2019 | 2.07 | 11/15/2029 | 11/15/2019 | 108.42777 | 108.427773 | 108.427773 | 108.3798266 | 104.9462468 | 100.3568035 | 96.06038846 | 92.03486033 | 88.25994531 |
| 200225A00049 | 2/25/2020 | 1.79 | 2/24/2040 | 2/25/2020 | 116.62263 | 116.62263 | 116.62263 | 111.0975677 | 102.1837107 | 93.66650222 | 86.16427035 | 79.53642831 | 73.66369394 |
| 200327A00004 | 3/27/2020 | 0.63 | 3/28/2022 | 3/27/2020 | 100.31256 | 100.312555 | 100.312555 | 100.312555 | 100.1289778 | 99.21572841 | 98.31962671 | 97.44019023 | 96.57695479 |
| 120614A00013 | 6/14/2012 | 1.89 | 6/14/2022 | 6/14/2012 | 103.0116 | 103.011597 | 103.011597 | 103.011597 | 102.6540731 | 100.9606336 | 99.30857204 | 97.69658963 | 96.12343845 |
| 120827A00048 | 8/27/2012 | 2.01 | 8/27/2027 | 8/27/2012 | 107.18362 | 107.183624 | 107.183624 | 107.183624 | 104.9621813 | 101.2539114 | 97.74429208 | 94.4206044 | 91.27104925 |
| 120907A00005 | 9/7/2012 | 1.76 | 9/7/2022 | 9/7/2012 | 101.95297 | 101.9529684 | 101.9529684 | 101.9529684 | 101.6747343 | 100.3663132 | 99.08663312 | 97.83481986 | 96.61003354 |
| 120907A00032 | 9/7/2012 | 1.86 | 9/9/2024 | 9/7/2012 | 105.39499 | 105.3949874 | 105.3949874 | 105.3949874 | 104.1755303 | 101.1342782 | 98.2167959 | 95.4171386 | 92.72968584 |
| 121219A00036 | 12/19/2012 | 2.2 | 12/19/2022 | 12/19/2017 | 104.20962 | 104.2096153 | 104.2096153 | 104.2096153 | 103.6561314 | 101.4495461 | 99.30500054 | 97.22033444 | 95.193478 |
| 130207A00012 | 2/7/2013 | 2.9 | 2/7/2033 | 2/7/2013 | 117.4923 | 117.4923046 | 117.4923046 | 116.257379 | 110.2860359 | 103.6935193 | 97.65319507 | 92.11071215 | 87.01763345 |
| 130913A00018 | 9/13/2013 | 3.72 | 9/13/2028 | 9/13/2013 | 114.85077 | 114.8507726 | 114.8507726 | 114.8507726 | 111.7777729 | 107.2982895 | 103.0824041 | 99.11163123 | 95.36893732 |
| 130918A00010 | 9/18/2013 | 2.43 | 9/18/2020 | 9/18/2013 | 100.69392 | 100.6939239 | 100.6939239 | 100.6939239 | 100.6414479 | 100.3415844 | 100.0435654 | 99.74737369 | 99.45299231 |
| 140325A00012 | 3/25/2014 | 3.61 | 3/26/2029 | 3/25/2019 | 116.02973 | 116.0297279 | 116.0297279 | 116.0021461 | 112.3919492 | 107.4159564 | 102.7483753 | 98.36655993 | 94.24972248 |
| 150601A00024 | 6/1/2015 | 5.58 | 11/8/2022 | 6/1/2015 | 112.76057 | 112.7605702 | 112.7605702 | 112.7605702 | 112.1659275 | 109.7239277 | 107.3503484 | 105.0428656 | 102.7992489 |
| 150601A00370 | 6/1/2015 | 2.58 | 10/31/2023 | 6/1/2015 | 103.89815 | 103.8981481 | 103.8981481 | 103.8981481 | 103.4549569 | 101.7364528 | 100.065378 | 98.44003431 | 96.85879742 |
| 150601A00371 | 6/1/2015 | 1.88 | 10/30/2020 | 6/1/2015 | 100.34978 | 100.3497771 | 100.3497771 | 100.3497771 | 100.3119093 | 100.0933232 | 99.87609466 | 99.66020975 | 99.44565462 |
| 150601A00387 | 6/1/2015 | 2.81 | 12/19/2023 | 6/1/2015 | 104.45843 | 104.4584294 | 104.4584294 | 104.4584294 | 103.9825187 | 102.1921453 | 100.4526048 | 98.76203565 | 97.11865908 |
| 150601A00390 | 6/1/2015 | 2.39 | 5/20/2022 | 6/1/2015 | 102.36068 | 102.3606783 | 102.3606783 | 102.3606783 | 102.1459585 | 101.0991392 | 100.0740104 | 99.06995126 | 98.0863639 |
| 150601A00409 | 6/1/2015 | 1.98 | 1/22/2021 | 6/1/2015 | 100.56946 | 100.5694569 | 100.5694569 | 100.5694569 | 100.5062358 | 100.171234 | 99.83932934 | 99.51047399 | 99.18462127 |
| 150601A00411 | 6/1/2015 | 3.38 | 1/24/2029 | 6/1/2015 | 113.17762 | 113.1776205 | 113.1776205 | 113.1764253 | 110.2167565 | 105.8563254 | 101.7510061 | 97.88300863 | 94.23593579 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150601A00436 | 6/1/2015 | 1.99 | 3/18/2021 | 6/1/2015 | 100.66267 | 100.6626695 | 100.6626695 | 100.6626695 | 100.5862494 | 100.1974358 | 99.81278208 | 99.43221358 | 99.05565773 |
| 150601A00557 | 6/1/2015 | 2.03 | 9/2/2021 | 6/1/2015 | 101.1071 | 101.1071013 | 101.1071013 | 101.1071013 | 100.97643 | 100.3362868 | 99.70704649 | 99.08840034 | 98.48005181 |
| 150601A00678 | 6/1/2015 | 2.12 | 1/30/2025 | 6/1/2015 | 104.23715 | 104.2371535 | 104.2371535 | 104.2371535 | 103.4429999 | 101.1124013 | 98.86403154 | 96.69428168 | 94.59972817 |
| 150601A00872 | 6/1/2015 | 7.42 | 7/31/2028 | 6/1/2015 | 133.0742 | 133.0742034 | 133.0742034 | 133.0742034 | 129.7125994 | 124.5661677 | 119.7129704 | 115.1332473 | 110.8087296 |
| 150601A00901 | 6/1/2015 | 7.16 | 7/26/2029 | 6/1/2015 | 131.10103 | 131.1010344 | 131.1010344 | 131.0800086 | 127.5046401 | 122.3945069 | 117.5917247 | 113.0741472 | 108.8214227 |
| 150601A00925 | 6/1/2015 | 5.73 | 7/21/2020 | 6/1/2015 | 100.41163 | 100.4116343 | 100.4116343 | 100.4116343 | 100.4004276 | 100.325551 | 100.2508539 | 100.1763356 | 100.1019954 |
| 150601A00932 | 6/1/2015 | 5.84 | 10/20/2020 | 6/1/2015 | 102.21708 | 102.2170813 | 102.2170813 | 102.2170813 | 102.1452048 | 101.7483527 | 101.3546308 | 100.9640019 | 100.5764295 |
| 150601A00966 | 6/1/2015 | 4.84 | 2/3/2023 | 6/1/2015 | 106.35673 | 106.3567315 | 106.3567315 | 106.3567315 | 106.0519232 | 104.6651613 | 103.310645 | 101.9873537 | 100.6943079 |
| 180814A00020 | 8/14/2018 | 2.7 | 8/14/2020 | 8/14/2018 | 100.293 | 100.2929996 | 100.2929996 | 100.2929996 | 100.2737982 | 100.153176 | 100.0329759 | 99.91319561 | 99.79383268 |
| 181015A00043 | 10/15/2018 | 2.91 | 10/15/2020 | 10/15/2018 | 100.55791 | 100.557912 | 100.557912 | 100.557912 | 100.5218105 | 100.3119556 | 100.103335 | 99.89593675 | 99.68974907 |
| 190513A00026 | 5/13/2019 | 2.55 | 5/13/2021 | 5/13/2019 | 101.16262 | 101.1626167 | 101.1626167 | 101.1626167 | 101.0573431 | 100.5501673 | 100.0499085 | 99.5564099 | 99.06951985 |
| 200311A00028 | 3/11/2020 | 1.04 | 3/12/2024 | 3/11/2020 | 101.47371 | 101.473712 | 101.473712 | 101.473712 | 100.9185296 | 98.99476644 | 97.12965472 | 95.32093206 | 93.56643987 |
| 191216A00013 | 12/16/2019 | 1.95 | 12/16/2024 | 12/16/2019 | 103.81262 | 103.8126202 | 103.8126202 | 103.8126202 | 103.0537795 | 100.7797085 | 98.5844858 | 96.46470414 | 94.41712878 |
| 170929A00046 | 9/29/2017 | 2.49 | 9/30/2027 | 9/29/2017 | 108.07517 | 108.0751729 | 108.0751729 | 108.0751729 | 106.0230945 | 102.3882193 | 98.9390886 | 95.66431112 | 92.55328604 |
| 190102A00020 | 1/2/2019 | 2.97 | 1/3/2034 | 1/2/2019 | 119.67408 | 119.6740836 | 119.6740836 | 118.179475 | 112.00568 | 105.2961246 | 99.16805144 | 93.56236202 | 88.4265903 |
| 190618A00009 | 6/18/2019 | 2.34 | 6/18/2021 | 6/18/2019 | 101.14043 | 101.1404266 | 101.1404266 | 101.1404266 | 101.0260579 | 100.4762113 | 99.93449086 | 99.40069685 | 98.87463638 |
| 200316A00008 | 3/16/2020 | 1.31 | 3/15/2030 | 3/16/2020 | 104.96421 | 104.9642136 | 104.9642136 | 104.8786033 | 101.3026097 | 96.682161 | 92.36718458 | 88.33386312 | 84.56044723 |
| 200326A00037 | 3/26/2020 | 1.78 | 3/26/2035 | 3/26/2020 | 110.93243 | 110.932435 | 110.932435 | 108.8184594 | 102.429 | 95.74790925 | 89.69172239 | 84.19222785 | 79.18940499 |
| 200330A00010 | 3/30/2020 | 0.61 | 3/30/2022 | 3/30/2020 | 100.29396 | 100.293957 | 100.293957 | 100.293957 | 100.1103477 | 99.19698979 | 98.30078746 | 97.42125802 | 96.55793716 |
| 150601A00919 | 6/1/2015 | 7.41 | 6/7/2030 | 6/1/2015 | 141.78239 | 141.7823874 | 141.7823874 | 141.6139482 | 136.2945301 | 129.6691492 | 123.4984956 | 117.7460765 | 112.3786452 |
| 150601A00923 | 6/1/2015 | 7.03 | 7/7/2020 | 6/1/2015 | 100.73233 | 100.732327 | 100.732327 | 100.732327 | 100.7162491 | 100.6080379 | 100.5000721 | 100.392351 | 100.2848736 |
| 150601A00941 | 6/1/2015 | 6.23 | 3/8/2021 | 6/1/2015 | 104.60701 | 104.6070113 | 104.6070113 | 104.6070113 | 104.4364254 | 103.6598579 | 102.8951007 | 102.1418842 | 101.3999469 |
| 150601A00971 | 6/1/2015 | 6.42 | 6/20/2033 | 6/1/2015 | 146.1294 | 146.1294022 | 146.1294022 | 144.4060476 | 136.4998176 | 128.0191774 | 120.2721197 | 113.1852235 | 106.6931305 |
| 151026A00034 | 10/26/2015 | 2.88 | 10/28/2030 | 10/26/2020 | 114.54547 | 114.5454745 | 114.5454745 | 114.3590213 | 110.2013993 | 104.9927522 | 100.1431459 | 95.62334792 | 91.40677538 |
| 160331A00096 | 3/31/2016 | 1.32 | 11/30/2020 | 3/31/2016 | 100.27677 | 100.2767702 | 100.2767702 | 100.2767702 | 100.2307495 | 99.97229382 | 99.7157298 | 99.46103438 | 99.20818487 |
| 160928A00032 | 9/28/2016 | 2.52 | 9/29/2036 | 9/28/2016 | 118.38018 | 118.3801771 | 118.3801771 | 114.9406511 | 107.3207787 | 99.63323813 | 92.73585028 | 86.53369129 | 80.94436425 |
| 170612A00024 | 6/12/2017 | 1.72 | 6/13/2022 | 6/12/2017 | 101.69715 | 101.6971536 | 101.6971536 | 101.6971536 | 101.4851744 | 100.4389581 | 99.41367913 | 98.40873396 | 97.42354202 |
| 170705A00029 | 7/5/2017 | 1.98 | 7/5/2022 | 7/5/2017 | 101.85205 | 101.8520544 | 101.8520544 | 101.8520544 | 101.6311139 | 100.54697 | 99.48490796 | 98.44428507 | 97.42448313 |
| 180914A00035 | 9/14/2018 | 2.82 | 9/15/2020 | 9/14/2018 | 100.4258 | 100.4258016 | 100.4258016 | 100.4258016 | 100.398043 | 100.2316574 | 100.0660599 | 99.90124442 | 99.73720487 |
| 181220A00006 | 12/20/2018 | 2.93 | 12/20/2022 | 12/20/2018 | 103.4552 | 103.4552012 | 103.4552012 | 103.4552012 | 103.1739107 | 101.8706036 | 100.5968436 | 99.35171412 | 98.13433459 |
| 190111A00047 | 1/11/2019 | 2.8 | 1/11/2021 | 1/11/2019 | 100.86195 | 100.8619467 | 100.8619467 | 100.8619467 | 100.7982148 | 100.4601327 | 100.1251748 | 99.79329326 | 99.46444136 |
| 200130A00027 | 1/31/2020 | 1.79 | 1/31/2025 | 1/31/2020 | 103.50505 | 103.5050526 | 103.5050526 | 103.5050526 | 102.7200582 | 100.410626 | 98.18251579 | 96.03216532 | 93.95619503 |
| 200203A00046 | 2/3/2020 | 1.98 | 2/3/2040 | 2/3/2020 | 118.51165 | 118.5116466 | 118.5116466 | 112.9501496 | 103.9386892 | 95.31595563 | 87.71807172 | 81.00332521 | 75.05145301 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200311A00027 | 3/11/2020 | 1.52 | 3/9/2035 | 3/11/2020 | 109.00434 | 109.00434 | 109.00434 | 106.9013461 | 100.5809757 | 93.98582508 | 88.00923236 | 82.58356597 | 77.64932459 |
| 200331A00056 | 3/31/2020 | 0.96 | 3/29/2030 | 3/31/2020 | 104.18552 | 104.185516 | 104.185516 | 104.0979407 | 100.4966604 | 95.86610671 | 91.54355595 | 87.50488374 | 83.72806836 |
| 970806A00018 | 8/1/1997 | 6.7 | 10/23/2026 | 8/1/1997 | 121.03307 | 121.0330743 | 121.0330743 | 121.0330743 | 119.3932652 | 115.893045 | 112.5501584 | 109.3559892 | 106.3024614 |
| 180123A00010 | 1/23/2018 | 2.68 | 1/24/2028 | 1/23/2018 | 109.94397 | 109.9439659 | 109.9439659 | 109.9439659 | 107.6481964 | 103.7932873 | 100.1433444 | 96.68532215 | 93.40711194 |
| 180126A00018 | 1/26/2018 | 2.34 | 1/26/2023 | 1/26/2018 | 103.01354 | 103.0135391 | 103.0135391 | 103.0135391 | 102.7185601 | 101.3735517 | 100.0597842 | 98.77627063 | 97.52206377 |
| 180529A00057 | 5/29/2018 | 3.09 | 5/30/2028 | 5/29/2018 | 114.44171 | 114.4417078 | 114.4417078 | 114.4417078 | 110.8506789 | 105.9892217 | 101.4313829 | 97.15498346 | 93.13963928 |
| 180725A00034 | 7/25/2018 | 2.79 | 7/25/2022 | 7/25/2018 | 102.94678 | 102.946785 | 102.946785 | 102.946785 | 102.7226912 | 101.6247978 | 100.5493461 | 99.49567996 | 98.4631685 |
| 180928A00077 | 9/28/2018 | 2.85 | 9/28/2021 | 9/28/2018 | 101.86158 | 101.8615814 | 101.8615814 | 101.8615814 | 101.7235929 | 101.0431431 | 100.3743291 | 99.71682648 | 99.07032367 |
| 181120A00026 | 11/20/2018 | 2.92 | 11/20/2020 | 11/20/2018 | 100.68185 | 100.6818493 | 100.6818493 | 100.6818493 | 100.6365615 | 100.3810546 | 100.12737 | 99.87548612 | 99.62538186 |
| 181211A00042 | 12/11/2018 | 3.7 | 12/11/2028 | 12/11/2023 | 122.64094 | 122.6409431 | 122.6409431 | 122.6317054 | 116.2909855 | 109.449661 | 103.1213328 | 97.26298357 | 91.83548303 |
| 190102A00022 | 1/2/2019 | 2.97 | 1/3/2034 | 1/2/2019 | 119.67399 | 119.6739912 | 119.6739912 | 118.1794284 | 112.0056698 | 105.2961418 | 99.16809095 | 93.56241967 | 88.42666255 |
| 190102A00024 | 1/2/2019 | 2.97 | 1/3/2034 | 1/2/2019 | 119.67404 | 119.6740409 | 119.6740409 | 118.1794567 | 112.0056783 | 105.2961352 | 99.16807194 | 93.56239036 | 88.42662477 |
| 190520A00020 | 5/20/2019 | 2.39 | 5/20/2026 | 5/20/2019 | 106.90812 | 106.9081165 | 106.9081165 | 106.9081165 | 105.5761116 | 102.5632061 | 99.68078028 | 96.92196322 | 94.28029843 |
| 190627A00020 | 6/27/2019 | 2.28 | 6/25/2021 | 6/27/2019 | 101.11007 | 101.1100724 | 101.1100724 | 101.1100724 | 100.995624 | 100.4445585 | 99.90167363 | 99.36676718 | 98.8396438 |
| 191114A00012 | 11/14/2019 | 1.89 | 11/15/2021 | 11/14/2019 | 101.22502 | 101.2250151 | 101.2250151 | 101.2250151 | 101.072978 | 100.3178224 | 99.57583774 | 98.8466635 | 98.12995258 |
| 191114A00014 | 11/14/2019 | 1.9 | 11/14/2023 | 11/14/2019 | 102.84486 | 102.8448567 | 102.8448567 | 102.8448567 | 102.3870217 | 100.6443135 | 98.95057557 | 97.30403127 | 95.70298181 |
| 191231A00021 | 12/31/2019 | 1.9 | 2/28/2023 | 12/31/2019 | 102.10589 | 102.1058875 | 102.1058875 | 102.1058875 | 101.8266309 | 100.5346721 | 99.27207013 | 98.0379127 | 96.83132348 |
| 200317A00022 | 3/17/2020 | 0.97 | 3/17/2022 | 3/17/2020 | 100.62912 | 100.6291168 | 100.6291168 | 100.6291168 | 100.4454091 | 99.53137646 | 98.63447165 | 97.7542112 | 96.89013018 |
| 200317A00024 | 3/17/2020 | 1.09 | 3/17/2025 | 3/17/2020 | 101.94183 | 101.9418344 | 101.9418344 | 101.9418344 | 101.1094861 | 98.74684212 | 96.46995145 | 94.27496025 | 92.15821672 |
| 200428A00018 | 4/28/2020 | 1.33 | 4/27/2035 | 4/28/2020 | 107.63787 | 107.6378736 | 107.6378736 | 105.4914494 | 99.18124213 | 92.6202626 | 86.67888455 | 81.28895405 | 76.39055523 |
| 150601A01055 | 6/1/2015 | 5.29 | 3/16/2022 | 6/1/2015 | 108.96525 | 108.9652496 | 108.9652496 | 108.9652496 | 108.6061811 | 106.8174086 | 105.0679665 | 103.3567009 | 101.6825016 |
| 151119A00027 | 11/19/2015 | 1.64 | 11/19/2020 | 11/19/2015 | 100.35387 | 100.3538704 | 100.3538704 | 100.3538704 | 100.3087981 | 100.0544274 | 99.8018674 | 99.5510967 | 99.30209433 |
| 170705A00027 | 7/5/2017 | 1.73 | 7/6/2020 | 7/5/2017 | 100.09328 | 100.0932821 | 100.0932821 | 100.0932821 | 100.0836261 | 100.0171692 | 99.95084252 | 99.88464577 | 99.81857854 |
| 170705A00028 | 7/5/2017 | 1.86 | 7/6/2021 | 7/5/2017 | 100.9385 | 100.9384968 | 100.9384968 | 100.9384968 | 100.8165203 | 100.2283222 | 99.64939187 | 99.07948719 | 98.51837471 |
| 180719A00077 | 7/19/2018 | 3.06 | 7/19/2023 | 7/19/2018 | 108.25846 | 108.2584645 | 108.2584645 | 108.2584645 | 107.3104607 | 104.324825 | 101.4416539 | 98.65680321 | 95.96632383 |
| 180727A00030 | 7/27/2018 | 2.89 | 7/27/2021 | 7/27/2018 | 101.55862 | 101.5586207 | 101.5586207 | 101.5586207 | 101.4358838 | 100.8411225 | 100.2558312 | 99.67975881 | 99.11266329 |
| 180830A00066 | 8/30/2018 | 3.02 | 8/30/2023 | 8/30/2018 | 108.42108 | 108.4210822 | 108.4210822 | 108.4210822 | 107.4017551 | 104.3147347 | 101.3367044 | 98.46312366 | 95.68967305 |
| 181003A00072 | 10/3/2018 | 2.78 | 10/2/2020 | 10/3/2018 | 100.54349 | 100.543486 | 100.543486 | 100.543486 | 100.5085659 | 100.3044312 | 100.1014475 | 99.89960409 | 99.69889068 |
| 181029A00097 | 10/29/2018 | 3.53 | 10/27/2028 | 10/29/2018 | 120.96147 | 120.9614674 | 120.9614674 | 120.9614674 | 115.0074801 | 108.4875027 | 102.4496559 | 96.85408848 | 91.66449951 |
| 181214A00026 | 12/14/2018 | 2.92 | 12/14/2020 | 12/14/2018 | 100.78987 | 100.7898673 | 100.7898673 | 100.7898673 | 100.735953 | 100.4399773 | 100.1464127 | 99.85522674 | 99.56638757 |
| 190118A00031 | 1/18/2019 | 2.81 | 1/19/2021 | 1/18/2019 | 100.87164 | 100.8716394 | 100.8716394 | 100.8716394 | 100.8071798 | 100.4666349 | 100.1292754 | 99.79505185 | 99.46391574 |
| 190813A00019 | 8/13/2019 | 2.13 | 8/13/2021 | 8/13/2019 | 101.17945 | 101.1794454 | 101.1794454 | 101.1794454 | 101.0499387 | 100.4176662 | 99.7960789 | 99.18487682 | 98.58377166 |
| 200310A00067 | 3/10/2020 | 0.94 | 3/10/2025 | 3/10/2020 | 101.57497 | 101.5749708 | 101.5749708 | 101.5749708 | 100.7446336 | 98.38825618 | 96.11742782 | 93.92830341 | 91.81723944 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 200521A00005 | 5/21/2020 | 0.75 | 5/21/2030 | 5/21/2020 | 103.22046 | 103.22046 | 103.22046 | 103.1087022 | 99.39553057 | 94.69002532 | 90.30258145 | 86.20791791 | 82.38298742 |
| 970806A00017 | 8/1/1997 | 7.02 | 7/23/2026 | 8/1/1997 | 121.17942 | 121.1794238 | 121.1794238 | 121.1794238 | 119.6758809 | 116.303165 | 113.0769088 | 109.9893384 | 107.0331536 |
| 970806A00059 | 8/1/1997 | 8.25 | 9/22/2025 | 8/1/1997 | 138.58915 | 138.5891459 | 138.5891459 | 138.5891459 | 135.5662192 | 130.0046149 | 124.7304531 | 119.7270094 | 114.9786271 |
| 120119A00015 | 1/19/2012 | 2.27 | 1/19/2024 | 1/19/2012 | 106.09384 | 106.093837 | 106.093837 | 106.093837 | 105.1151997 | 102.2776821 | 99.54223361 | 96.90443813 | 94.36010103 |
| 120315A00002 | 3/14/2012 | 2.56 | 3/15/2027 | 3/14/2022 | 109.45584 | 109.4558382 | 109.4558382 | 109.4558382 | 107.2853569 | 103.3963217 | 99.70470499 | 96.19854563 | 92.86670052 |
| 120621A00009 | 6/21/2012 | 3.18 | 6/21/2032 | 6/21/2012 | 122.24007 | 122.2400674 | 122.2400674 | 120.1076799 | 112.8365363 | 105.3604044 | 98.58260005 | 92.4289005 | 86.83361635 |
| 121214A00014 | 12/14/2012 | 2.16 | 12/14/2027 | 12/14/2017 | 108.43281 | 108.4328091 | 108.4328091 | 108.4328091 | 105.8928963 | 101.8519256 | 98.03396372 | 94.42430927 | 91.00935073 |
| 130624A00017 | 6/24/2013 | 3.4 | 6/26/2023 | 6/24/2013 | 108.29121 | 108.2912075 | 108.2912075 | 108.2912075 | 107.4564425 | 104.7294633 | 102.0935162 | 99.54499784 | 97.08047101 |
| 140311A00037 | 3/11/2014 | 2.59 | 3/11/2021 | 3/11/2014 | 101.8492 | 101.8492036 | 101.8492036 | 101.8492036 | 101.671647 | 100.8692757 | 100.0794105 | 99.30176096 | 98.53604556 |
| 141124A00024 | 11/24/2014 | 2.27 | 11/30/2021 | 11/24/2014 | 103.13686 | 103.1368613 | 103.1368613 | 103.1368613 | 102.849101 | 101.3927412 | 99.96474164 | 98.56434198 | 97.19080864 |
| 150601A00030 | 6/1/2015 | 5.28 | 11/26/2027 | 6/1/2015 | 133.03996 | 133.0399626 | 133.0399626 | 133.0399626 | 127.1927708 | 120.2398667 | 113.7651798 | 107.7321808 | 102.1073498 |
| 150601A00040 | 6/1/2015 | 5.45 | 7/14/2023 | 6/1/2015 | 108.3281 | 108.3281034 | 108.3281034 | 108.3281034 | 107.9216884 | 106.2451965 | 104.6123489 | 103.0216529 | 101.4716786 |
| 150601A00165 | 6/1/2015 | 2.66 | 6/4/2032 | 6/1/2015 | 115.20482 | 115.2048237 | 115.2048237 | 114.5315988 | 109.4027834 | 103.5071742 | 98.07140945 | 93.05334487 | 88.41511378 |
| 150601A00348 | 6/1/2015 | 2.11 | 9/16/2020 | 6/1/2015 | 100.28081 | 100.2808098 | 100.2808098 | 100.2808098 | 100.2551638 | 100.1001837 | 99.94590294 | 99.79231625 | 99.63941848 |
| 150601A00395 | 6/1/2015 | 2.86 | 1/3/2024 | 6/1/2015 | 104.59901 | 104.5990102 | 104.5990102 | 104.5990102 | 104.1128686 | 102.3009808 | 100.5409772 | 98.83094449 | 97.16905472 |
| 150601A00426 | 6/1/2015 | 3.37 | 2/21/2029 | 6/1/2015 | 113.25687 | 113.2568715 | 113.2568715 | 113.2541289 | 110.2389181 | 105.8399286 | 101.7003651 | 97.80199981 | 94.1280424 |
| 150601A00473 | 6/1/2015 | 2.22 | 5/31/2024 | 6/1/2015 | 104.21428 | 104.2142827 | 104.2142827 | 104.2142827 | 103.6196537 | 101.6042238 | 99.65178399 | 97.75984013 | 95.92601553 |
| 150601A00475 | 6/1/2015 | 3.04 | 6/1/2029 | 6/1/2015 | 112.1975 | 112.1975018 | 112.1975018 | 112.1849037 | 109.0028253 | 104.5116543 | 100.2929646 | 96.32710241 | 92.59600176 |
| 150601A00492 | 6/1/2015 | 1.92 | 6/25/2021 | 6/1/2015 | 100.89111 | 100.8911126 | 100.8911126 | 100.8911126 | 100.7771182 | 100.2281951 | 99.68738993 | 99.15450265 | 98.62934011 |
| 150601A00527 | 6/1/2015 | 2.5 | 7/26/2024 | 6/1/2015 | 104.5677 | 104.5676967 | 104.5676967 | 104.5676967 | 103.9321055 | 101.8463366 | 99.82747274 | 97.87280616 | 95.97975886 |
| 150601A00529 | 6/1/2015 | 2.08 | 7/28/2021 | 6/1/2015 | 100.98599 | 100.9859932 | 100.9859932 | 100.9859932 | 100.871039 | 100.3168214 | 99.7708796 | 99.23300734 | 98.70300574 |
| 150601A00660 | 6/1/2015 | 2.26 | 1/5/2022 | 6/1/2015 | 103.36807 | 103.3680686 | 103.3680686 | 103.3680686 | 103.0541475 | 101.4777888 | 99.93359087 | 98.42063404 | 96.93803345 |
| 150601A00679 | 6/1/2015 | 1.86 | 2/4/2022 | 6/1/2015 | 101.32898 | 101.3289805 | 101.3289805 | 101.3289805 | 101.1580255 | 100.307759 | 99.47292326 | 98.65308876 | 97.84784224 |
| 150601A00739 | 6/1/2015 | 2.35 | 5/6/2025 | 6/1/2015 | 105.02208 | 105.0220808 | 105.0220808 | 105.0220808 | 104.1398779 | 101.6773461 | 99.3053845 | 97.01987118 | 94.81690281 |
| 150601A00847 | 6/1/2015 | 6.59 | 1/31/2022 | 6/1/2015 | 109.73951 | 109.7395116 | 109.7395116 | 109.7395116 | 109.42699 | 107.8638577 | 106.3329312 | 104.833262 | 103.3639391 |
| 150601A00912 | 6/1/2015 | 5.96 | 11/30/2029 | 6/1/2015 | 130.9111 | 130.9111037 | 130.9111037 | 130.8512838 | 126.3634297 | 120.5240102 | 115.066141 | 109.9606217 | 105.1807342 |
| 150601A00921 | 6/1/2015 | 5.55 | 6/30/2020 | 6/1/2015 | 100.25968 | 100.2596812 | 100.2596812 | 100.2596812 | 100.2527428 | 100.2040136 | 100.1553679 | 100.1068054 | 100.058326 |
| 150601A00928 | 6/1/2015 | 5.94 | 8/21/2030 | 6/1/2015 | 129.66834 | 129.6683403 | 129.6683403 | 129.5158149 | 125.1794135 | 119.5594933 | 114.3138453 | 109.4128043 | 104.8293342 |
| 150601A00935 | 6/1/2015 | 6.46 | 11/21/2030 | 6/1/2015 | 137.51074 | 137.5107375 | 137.5107375 | 137.2395855 | 131.7331293 | 125.0731154 | 118.8871616 | 113.1358924 | 107.7835506 |
| 150601A00950 | 6/1/2015 | 6.76 | 12/18/2031 | 6/1/2015 | 143.51597 | 143.5159679 | 143.5159679 | 142.8148963 | 136.2769293 | 128.7916826 | 121.8846436 | 115.5038124 | 109.6023477 |
| 150601A00960 | 6/1/2015 | 6.49 | 12/16/2032 | 6/1/2015 | 139.794 | 139.7939963 | 139.7939963 | 138.8497285 | 132.7346456 | 125.6751846 | 119.1709597 | 113.1701981 | 107.6264957 |
| 150601A00963 | 6/1/2015 | 4.76 | 12/27/2022 | 6/1/2015 | 105.99659 | 105.9965882 | 105.9965882 | 105.9965882 | 105.7101395 | 104.3813423 | 103.0826321 | 101.8130747 | 100.5717729 |
| 150601A00978 | 6/1/2015 | 6.32 | 11/24/2033 | 6/1/2015 | 141.61609 | 141.6160859 | 141.6160859 | 140.1560707 | 133.3906472 | 125.839892 | 118.9200625 | 112.5687563 | 106.7304225 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150601A00994 | 6/1/2015 | 5.86 | 6/24/2022 | 6/1/2015 | 111.26971 | 111.2697113 | 111.2697113 | 111.2697113 | 110.8349528 | 108.789397 | 106.7940555 | 104.8473488 | 102.9477594 |
| 150601A01014 | 6/1/2015 | 4.96 | 9/30/2020 | 6/1/2015 | 101.62643 | 101.6264251 | 101.6264251 | 101.6264251 | 101.5655545 | 101.2224426 | 100.8816622 | 100.5431898 | 100.2070018 |
| 150601A01016 | 6/1/2015 | 5.73 | 10/28/2025 | 6/1/2015 | 126.64337 | 126.6433744 | 126.6433744 | 126.6433744 | 123.775816 | 118.6128867 | 113.7210913 | 109.0844129 | 104.6878709 |
| 150601A01021 | 6/1/2015 | 5.28 | 10/3/2025 | 6/1/2015 | 113.2035 | 113.203502 | 113.203502 | 113.203502 | 112.1322928 | 109.337185 | 106.6505038 | 104.0670608 | 101.5819558 |
| 150601A01048 | 6/1/2015 | 5.27 | 1/3/2025 | 6/1/2015 | 121.50143 | 121.5014256 | 121.5014256 | 121.5014256 | 119.4226887 | 114.9619217 | 110.7080745 | 106.6502592 | 102.7782244 |
| 150914A00032 | 9/14/2015 | 1.49 | 9/14/2020 | 9/14/2015 | 100.20355 | 100.2035528 | 100.2035528 | 100.2035528 | 100.1759644 | 100.0105085 | 99.84583267 | 99.68193088 | 99.5187972 |
| 150914A00040 | 9/14/2015 | 1.85 | 9/14/2022 | 9/14/2015 | 101.84167 | 101.8416723 | 101.8416723 | 101.8416723 | 101.5993533 | 100.4328363 | 99.29113771 | 98.17351437 | 97.07925194 |
| 160928A00041 | 9/28/2016 | 3.26 | 9/29/2036 | 9/30/2019 | 124.52337 | 124.5233672 | 124.5233672 | 121.0096552 | 113.1072038 | 105.0943952 | 97.89878124 | 91.42267643 | 85.58124205 |
| 170130A00036 | 1/30/2017 | 3.11 | 1/31/2033 | 1/30/2017 | 118.01922 | 118.0192211 | 118.0192211 | 116.9734282 | 111.3355025 | 105.0290807 | 99.23981479 | 93.91782669 | 89.01856343 |
| 170130A00039 | 1/30/2017 | 2.74 | 1/31/2028 | 1/30/2017 | 109.6038 | 109.6037963 | 109.6037963 | 109.6037963 | 107.2000265 | 103.2794181 | 99.57129303 | 96.06185761 | 92.73832895 |
| 170130A00043 | 1/30/2017 | 2.64 | 1/29/2027 | 1/30/2017 | 108.04312 | 108.0431226 | 108.0431226 | 108.0431226 | 106.2598622 | 102.8335623 | 99.57287728 | 96.4681373 | 93.51031525 |
| 170313A00041 | 3/13/2017 | 3.21 | 3/15/2032 | 3/13/2017 | 117.23474 | 117.234736 | 117.234736 | 116.6451191 | 111.631982 | 105.7848129 | 100.3839178 | 95.38916103 | 90.76441133 |
| 170315A00005 | 3/15/2017 | 2.1 | 3/15/2022 | 3/15/2017 | 101.6822 | 101.6822003 | 101.6822003 | 101.6822003 | 101.4971401 | 100.5763519 | 99.67279603 | 98.78598592 | 97.91545372 |
| 190102A00015 | 1/2/2019 | 2.97 | 1/3/2034 | 1/2/2019 | 119.67423 | 119.674235 | 119.674235 | 118.1795726 | 112.0057163 | 105.2961139 | 99.16800112 | 93.56227842 | 88.42647882 |
| 190220A00012 | 2/20/2019 | 2.76 | 2/19/2021 | 2/20/2019 | 100.9959 | 100.9959025 | 100.9959025 | 100.9959025 | 100.9188324 | 100.5220995 | 100.1294211 | 99.74072778 | 99.35595185 |
| 190604A00010 | 6/4/2019 | 2.45 | 6/4/2021 | 6/4/2019 | 101.19515 | 101.1951535 | 101.1951535 | 101.1951535 | 101.0809604 | 100.53363 | 99.99431708 | 99.46282689 | 98.93897124 |
| 190628A00007 | 6/28/2019 | 2.28 | 6/28/2034 | 6/28/2019 | 115.36605 | 115.3660547 | 115.3660547 | 113.6424071 | 107.38911 | 100.7090392 | 94.62655103 | 89.07913549 | 84.01148862 |
| 190823A00009 | 8/23/2019 | 1.8 | 8/23/2029 | 8/23/2019 | 107.86931 | 107.8693138 | 107.8693138 | 107.8418398 | 104.5392121 | 100.0401471 | 95.82331406 | 91.86776015 | 88.15427036 |
| 191231A00027 | 12/31/2019 | 1.9 | 4/28/2023 | 12/31/2019 | 102.10589 | 102.1058864 | 102.1058864 | 102.1058864 | 101.826629 | 100.5346667 | 99.27206135 | 98.03790068 | 96.83130832 |
| 200210A00007 | 2/10/2020 | 1.78 | 2/10/2025 | 2/10/2023 | 105.98816 | 105.9881618 | 105.9881618 | 105.9881618 | 104.3913664 | 100.8650103 | 97.49762413 | 94.28090467 | 91.20703623 |
| 200401A00011 | 4/1/2020 | 0.68 | 4/3/2023 | 4/1/2020 | 100.56839 | 100.5683945 | 100.5683945 | 100.5683945 | 100.237672 | 98.80150633 | 97.40072765 | 96.03417462 | 94.70073336 |
| 200402A00050 | 4/6/2020 | 0.73 | 4/5/2024 | 4/6/2020 | 100.86119 | 100.8611913 | 100.8611913 | 100.8611913 | 100.3065234 | 98.3907232 | 96.53373225 | 94.73326057 | 92.98712444 |
| 111213A00004 | 12/13/2011 | 2.96 | 12/13/2021 | 12/13/2011 | 104.17289 | 104.1728917 | 104.1728917 | 104.1728917 | 103.8667157 | 102.3233288 | 100.8107007 | 99.32798368 | 97.8743609 |
| 140605A00056 | 6/6/2016 | 3.07 | 6/8/2020 | 6/6/2016 | 100.07531 | 100.0753082 | 100.0753082 | 100.0753082 | 100.0713895 | 100.0436634 | 100.0159677 | 99.98830246 | 99.96066756 |
| 150601A00332 | 6/1/2015 | 2.72 | 8/7/2020 | 6/1/2015 | 100.46467 | 100.464665 | 100.464665 | 100.464665 | 100.4329916 | 100.2389785 | 100.0457246 | 99.85322521 | 99.66147598 |
| 150601A00625 | 6/1/2015 | 3.96 | 12/9/2044 | 6/1/2015 | 186.20361 | 186.2036063 | 181.0801958 | 153.3017294 | 128.6117567 | 108.5531055 | 92.39895153 | 79.33137347 | 68.71058432 |
| 150601A00656 | 6/1/2015 | 2.59 | 12/17/2021 | 6/1/2015 | 103.5611 | 103.561099 | 103.561099 | 103.561099 | 103.2535147 | 101.7040699 | 100.1856359 | 98.69735262 | 97.23839137 |
| 150630A00097 | 6/30/2015 | 3.05 | 7/1/2024 | 6/30/2015 | 111.35934 | 111.35934 | 111.35934 | 111.35934 | 109.5867455 | 105.4607633 | 101.5148607 | 97.74019726 | 94.12841636 |
| 150706A00019 | 7/6/2015 | 1.93 | 7/6/2020 | 7/6/2015 | 100.16872 | 100.1687196 | 100.1687196 | 100.1687196 | 100.1531611 | 100.0479439 | 99.94295668 | 99.83819853 | 99.73366872 |
| 150731A00016 | 7/31/2015 | 3.04 | 7/31/2025 | 7/31/2015 | 114.23177 | 114.2317737 | 114.2317737 | 114.2317737 | 111.3213029 | 106.1161934 | 101.1890038 | 96.52338409 | 92.10403572 |
| 150824A00043 | 8/24/2015 | 1.82 | 8/24/2020 | 8/24/2015 | 100.37341 | 100.3734067 | 100.3734067 | 100.3734067 | 100.3326492 | 100.0918715 | 99.85225208 | 99.61378277 | 99.37645529 |
| 150824A00046 | 8/24/2015 | 1.82 | 8/24/2020 | 8/24/2015 | 100.37341 | 100.3734067 | 100.3734067 | 100.3734067 | 100.3326492 | 100.0918715 | 99.85225208 | 99.61378277 | 99.37645529 |
| 150930A00059 | 9/30/2015 | 1.78 | 9/30/2020 | 9/30/2015 | 100.52203 | 100.5220315 | 100.5220315 | 100.5220315 | 100.4611464 | 100.1182181 | 99.77762207 | 99.43933476 | 99.10333279 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 151008A00025 | 10/8/2015 | 2.91 | 10/8/2025 | 10/8/2015 | 114.04699 | 114.0469877 | 114.0469877 | 114.0469877 | 110.8883232 | 105.5176258 | 100.4429779 | 95.646537 | 91.11162358 |
| 151013A00012 | 10/13/2015 | 1.58 | 10/13/2020 | 10/13/2015 | 100.55638 | 100.5563754 | 100.5563754 | 100.5563754 | 100.4880298 | 100.1086578 | 99.73215712 | 99.35849522 | 98.98763994 |
| 151214A00051 | 12/14/2015 | 2.92 | 12/15/2025 | 12/14/2015 | 114.58643 | 114.5864324 | 114.5864324 | 114.5864324 | 111.1547289 | 105.6018017 | 100.364456 | 95.4230784 | 90.7593758 |
| 160208A00004 | 2/8/2016 | 1.46 | 2/8/2021 | 2/8/2016 | 100.95024 | 100.9502355 | 100.9502355 | 100.9502355 | 100.7986757 | 100.0947895 | 99.4007048 | 98.71621789 | 98.04113062 |
| 160210A00041 | 2/10/2016 | 1.97 | 2/10/2023 | 2/10/2016 | 104.5718 | 104.5717976 | 104.5717976 | 104.5717976 | 103.8377026 | 101.1564443 | 98.55787992 | 96.03892718 | 93.59664173 |
| 160210A00052 | 2/10/2016 | 1.64 | 2/10/2021 | 2/10/2016 | 100.98769 | 100.9876927 | 100.9876927 | 100.9876927 | 100.83489 | 100.1266811 | 99.42839233 | 98.73981617 | 98.06075099 |
| 160211A00056 | 2/11/2016 | 1.82 | 2/10/2023 | 2/11/2016 | 104.16226 | 104.1622602 | 104.1622602 | 104.1622602 | 103.4294027 | 100.7537449 | 98.16064966 | 95.64703897 | 93.20997248 |
| 160212A00017 | 2/12/2016 | 1.57 | 2/12/2021 | 2/12/2016 | 100.94503 | 100.9450344 | 100.9450344 | 100.9450344 | 100.7907659 | 100.0772848 | 99.37387535 | 98.68032524 | 97.99642822 |
| 160222A00005 | 2/22/2016 | 2.79 | 2/22/2028 | 2/22/2016 | 119.26238 | 119.2623797 | 119.2623797 | 119.2623797 | 112.0232394 | 104.4473313 | 97.44747388 | 90.97667279 | 84.99200762 |
| 160222A00018 | 2/22/2016 | 2.59 | 2/23/2026 | 2/22/2016 | 113.18181 | 113.1818057 | 113.1818057 | 113.1818057 | 109.4730531 | 103.7874516 | 98.43518761 | 93.39492015 | 88.64678993 |
| 061013A00024 | 10/13/2006 | 5.53 | 10/15/2021 | 10/13/2006 | 107.34107 | 107.3410709 | 107.3410709 | 107.3410709 | 107.0691285 | 105.6615913 | 104.2796177 | 102.9225688 | 101.5898267 |
| 110609A00010 | 6/9/2011 | 3.83 | 6/9/2021 | 6/9/2011 | 103.70609 | 103.7060868 | 103.7060868 | 103.7060868 | 103.4801298 | 102.434577 | 101.410191 | 100.4063329 | 99.42238933 |
| 110706A00009 | 7/6/2011 | 3.93 | 7/6/2021 | 7/6/2011 | 104.08377 | 104.0837673 | 104.0837673 | 104.0837673 | 103.8518904 | 102.7301866 | 101.632765 | 100.5588427 | 99.50766962 |
| 140605A00058 | 6/6/2016 | 3.29 | 6/7/2021 | 6/6/2016 | 103.12624 | 103.1262422 | 103.1262422 | 103.1262422 | 102.9013914 | 101.8645389 | 100.8485857 | 99.85290406 | 98.87689126 |
| 140811A00047 | 8/11/2016 | 3.13 | 8/11/2021 | 8/11/2016 | 103.47406 | 103.4740583 | 103.4740583 | 103.4740583 | 103.2366039 | 102.0202774 | 100.8326087 | 99.67259293 | 98.5392719 |
| 140814A00004 | 8/14/2014 | 2.25 | 8/14/2020 | 8/14/2014 | 100.42234 | 100.4223436 | 100.4223436 | 100.4223436 | 100.3869267 | 100.173638 | 99.96126784 | 99.74981017 | 99.53925907 |
| 150211A00005 | 2/11/2015 | 2.35 | 2/15/2022 | 2/11/2015 | 103.5864 | 103.5864034 | 103.5864034 | 103.5864034 | 103.2442105 | 101.5330084 | 99.85837121 | 98.21919175 | 96.61440764 |
| 150601A00188 | 6/1/2015 | 2.06 | 8/24/2021 | 6/1/2015 | 102.19726 | 102.1972624 | 102.1972624 | 102.1972624 | 101.958716 | 100.715412 | 99.50230128 | 98.31829462 | 97.16235445 |
| 150601A00334 | 6/1/2015 | 3.33 | 8/9/2022 | 6/1/2015 | 106.62977 | 106.6297748 | 106.6297748 | 106.6297748 | 106.1352223 | 103.9189462 | 101.7601984 | 99.6570675 | 97.60772192 |
| 150709A00014 | 7/9/2015 | 1.91 | 6/25/2020 | 7/9/2015 | 100.11709 | 100.1170868 | 100.1170868 | 100.1170868 | 100.1065178 | 100.0317591 | 99.95711767 | 99.88259327 | 99.80818567 |
| 150710A00025 | 7/10/2015 | 2.07 | 7/10/2020 | 7/10/2015 | 100.20384 | 100.2038425 | 100.2038425 | 100.2038425 | 100.1863245 | 100.0700104 | 99.95397862 | 99.83822801 | 99.72275759 |
| 151002A00011 | 10/2/2015 | 1.65 | 10/2/2020 | 10/2/2015 | 100.48494 | 100.4849365 | 100.4849365 | 100.4849365 | 100.4229371 | 100.0745909 | 99.72865584 | 99.38510707 | 99.04391995 |
| 151002A00038 | 10/2/2015 | 2.81 | 10/2/2025 | 10/2/2015 | 113.46669 | 113.4666896 | 113.4666896 | 113.4666896 | 110.3368166 | 104.9963372 | 99.94962388 | 95.17901549 | 90.66799893 |
| 151002A00091 | 10/2/2015 | 1.65 | 10/2/2020 | 10/2/2015 | 100.48494 | 100.4849365 | 100.4849365 | 100.4849365 | 100.4229371 | 100.0745909 | 99.72865584 | 99.38510707 | 99.04391995 |
| 151211A00037 | 12/11/2017 | 2.69 | 1/11/2023 | 12/11/2017 | 106.33954 | 106.3395432 | 106.3395432 | 106.3395432 | 105.6453793 | 103.0194655 | 100.4724608 | 98.00150424 | 95.60385893 |
| 160208A00024 | 2/8/2016 | 1.64 | 2/8/2021 | 2/8/2016 | 100.98004 | 100.9800417 | 100.9800417 | 100.9800417 | 100.8287436 | 100.1260086 | 99.43304071 | 98.74963728 | 98.07560126 |
| 160209A00010 | 2/9/2016 | 1.57 | 2/9/2021 | 2/9/2016 | 100.93414 | 100.9341401 | 100.9341401 | 100.9341401 | 100.7821275 | 100.0768521 | 99.38141826 | 98.69562102 | 98.01926103 |
| 160211A00093 | 2/16/2016 | 2.62 | 2/16/2021 | 2/16/2016 | 101.72584 | 101.7258447 | 101.7258447 | 101.7258447 | 101.5679668 | 100.8404435 | 100.1233319 | 99.41640958 | 98.71946028 |
| 160225A00023 | 2/25/2016 | 1.66 | 2/25/2021 | 2/25/2016 | 101.06017 | 101.060171 | 101.060171 | 101.060171 | 100.8960732 | 100.1467674 | 99.4085476 | 98.68116936 | 97.96439528 |
| 160302A00013 | 3/2/2016 | 1.63 | 3/2/2021 | 3/2/2016 | 101.16275 | 101.1627533 | 101.1627533 | 101.1627533 | 100.9945899 | 100.229851 | 99.47664744 | 98.73471982 | 98.00381653 |
| 160304A00015 | 3/4/2016 | 1.82 | 3/4/2021 | 3/4/2016 | 101.2111 | 101.2111001 | 101.2111001 | 101.2111001 | 101.0418078 | 100.2728351 | 99.5155256 | 98.76961566 | 98.0348494 |
| 081219A00006 | 12/19/2008 | 3.88 | 12/22/2023 | 12/19/2008 | 113.57444 | 113.5744428 | 113.5744428 | 113.5744428 | 112.2154757 | 108.5370489 | 105.0012952 | 101.6018813 | 98.33279191 |
| 120419A00009 | 4/19/2012 | 2.76 | 4/19/2022 | 4/19/2012 | 104.70902 | 104.7090189 | 104.7090189 | 104.7090189 | 104.3242483 | 102.4300463 | 100.5796615 | 98.77182097 | 97.00529674 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 130211A00016 | 2/11/2013 | 2.27 | 2/15/2023 | 2/11/2013 | 105.41801 | 105.4180076 | 105.4180076 | 105.4180076 | 104.6736212 | 101.967371 | 99.34484774 | 96.80291761 | 94.3385879 |
| 130501A00021 | 5/1/2013 | 2.27 | 5/1/2023 | 5/1/2013 | 105.82491 | 105.8249088 | 105.8249088 | 105.8249088 | 104.9567026 | 102.044148 | 99.22767804 | 96.5036101 | 93.86842334 |
| 140701A00054 | 7/2/2014 | 2.65 | 7/2/2020 | 7/2/2014 | 100.21813 | 100.2181254 | 100.2181254 | 100.2181254 | 100.2045143 | 100.1103132 | 100.0162922 | 99.92245072 | 99.82878835 |
| 141218A00039 | 12/18/2014 | 2.29 | 12/18/2020 | 12/18/2014 | 101.14657 | 101.1465715 | 101.1465715 | 101.1465715 | 101.035879 | 100.4744662 | 99.91928735 | 99.37023879 | 98.82721932 |
| 150115A00021 | 1/17/2017 | 2.26 | 1/18/2022 | 1/17/2017 | 103.27732 | 103.2773225 | 103.2773225 | 103.2773225 | 102.9516883 | 101.3187295 | 99.71955794 | 98.15319058 | 96.61868224 |
| 150601A00356 | 6/1/2015 | 3.66 | 9/22/2023 | 6/1/2015 | 111.08605 | 111.0860514 | 111.0860514 | 111.0860514 | 109.9314377 | 106.5562329 | 103.3038244 | 100.1690822 | 97.14711973 |
| 150731A00040 | 7/31/2015 | 2.01 | 7/31/2020 | 7/31/2015 | 100.30173 | 100.3017324 | 100.3017324 | 100.3017324 | 100.2738442 | 100.0993796 | 99.92552151 | 99.75226683 | 99.57961242 |
| 150824A00118 | 8/24/2015 | 1.65 | 8/24/2020 | 8/24/2015 | 100.37024 | 100.3702388 | 100.3702388 | 100.3702388 | 100.3294117 | 100.0882285 | 99.84821058 | 99.60934938 | 99.37163654 |
| 150909A00003 | 9/9/2015 | 3.11 | 9/9/2025 | 9/9/2015 | 114.90326 | 114.9032588 | 114.9032588 | 114.9032588 | 111.8436876 | 106.5225975 | 101.490561 | 96.73031637 | 92.22572542 |
| 151030A00022 | 10/30/2015 | 1.8 | 10/30/2020 | 10/30/2015 | 100.66049 | 100.6604909 | 100.6604909 | 100.6604909 | 100.5825765 | 100.1568785 | 99.73477113 | 99.31620913 | 98.90114807 |
| 160210A00036 | 2/10/2016 | 1.77 | 2/10/2023 | 2/10/2016 | 104.52059 | 104.5205888 | 104.5205888 | 104.5205888 | 103.7832832 | 101.0918845 | 98.48371842 | 95.95567502 | 93.50478405 |
| 160211A00086 | 2/16/2016 | 2.8 | 2/16/2022 | 2/16/2016 | 104.37505 | 104.3750504 | 104.3750504 | 104.3750504 | 104.030866 | 102.309888 | 100.6257064 | 98.97720572 | 97.3633157 |
| 160216A00040 | 2/16/2016 | 1.49 | 2/16/2021 | 2/16/2016 | 101.00189 | 101.0018875 | 101.0018875 | 101.0018875 | 100.8442799 | 100.1183696 | 99.40287895 | 98.69758482 | 98.00227029 |
| 160216A00051 | 2/16/2016 | 1.49 | 2/16/2021 | 2/16/2016 | 101.00189 | 101.0018875 | 101.0018875 | 101.0018875 | 100.8442799 | 100.1183696 | 99.40287895 | 98.69758482 | 98.00227029 |
| 160303A00020 | 3/3/2016 | 2.97 | 3/3/2031 | 3/3/2016 | 130.92713 | 130.9271344 | 130.9271344 | 128.0768904 | 116.7599304 | 106.2828574 | 96.86889304 | 88.40357429 | 80.78534591 |
| 160316A00009 | 3/16/2016 | 1.95 | 3/16/2021 | 3/16/2016 | 101.35965 | 101.3596473 | 101.3596473 | 101.3596473 | 101.1817801 | 100.3796392 | 99.59018173 | 98.8131085 | 98.04812975 |
| 160331A00056 | 3/31/2016 | 2.09 | 3/30/2023 | 3/31/2016 | 105.13529 | 105.1352884 | 105.1352884 | 105.1352884 | 104.3232701 | 101.5033904 | 98.77408711 | 96.13198296 | 93.57384471 |
| 161017A00015 | 10/17/2016 | 1.68 | 10/18/2021 | 10/17/2016 | 101.97371 | 101.9737054 | 101.9737054 | 101.9737054 | 101.7076994 | 100.3311631 | 98.97980036 | 97.65298065 | 96.3500941 |
| 161031A00028 | 10/31/2016 | 1.51 | 10/30/2020 | 10/31/2016 | 100.53652 | 100.5365163 | 100.5365163 | 100.5365163 | 100.4586566 | 100.0332746 | 99.61148125 | 99.19323135 | 98.77848047 |
| 120614A00005 | 6/14/2012 | 2.22 | 6/15/2022 | 6/14/2012 | 104.355 | 104.354998 | 104.354998 | 104.354998 | 103.920737 | 101.8702162 | 99.87057797 | 97.92022696 | 96.0176299 |
| 140811A00037 | 8/11/2016 | 2.97 | 8/11/2020 | 8/11/2016 | 100.55178 | 100.5517823 | 100.5517823 | 100.5517823 | 100.5179452 | 100.3127616 | 100.1084276 | 99.90493793 | 99.70228728 |
| 140923A00070 | 9/23/2014 | 2.88 | 9/23/2022 | 9/23/2014 | 106.05885 | 106.0588524 | 106.0588524 | 106.0588524 | 105.5135574 | 103.1849291 | 100.919472 | 98.71510777 | 96.56983954 |
| 150126A00024 | 1/26/2015 | 1.9 | 6/22/2020 | 1/26/2015 | 100.10341 | 100.1034104 | 100.1034104 | 100.1034104 | 100.0940155 | 100.0275584 | 99.96120003 | 99.89494026 | 99.82877885 |
| 150601A00211 | 6/1/2015 | 2.63 | 9/25/2020 | 6/1/2015 | 100.76756 | 100.7675567 | 100.7675567 | 100.7675567 | 100.7093215 | 100.3796305 | 100.052097 | 99.72669991 | 99.40341836 |
| 150601A00672 | 6/1/2015 | 1.96 | 1/28/2022 | 6/1/2015 | 102.77734 | 102.7773362 | 102.7773362 | 102.7773362 | 102.4469087 | 100.791824 | 99.17136303 | 97.58450418 | 96.03026605 |
| 150630A00091 | 6/30/2015 | 2.31 | 6/30/2021 | 6/30/2015 | 102.23955 | 102.2395508 | 102.2395508 | 102.2395508 | 102.010843 | 100.9164015 | 99.84536759 | 98.79699652 | 97.77057494 |
| 150731A00020 | 7/31/2015 | 2.47 | 7/29/2022 | 7/31/2015 | 104.76095 | 104.7609464 | 104.7609464 | 104.7609464 | 104.2829269 | 102.1166294 | 100.0060801 | 97.94944761 | 95.94497644 |
| 150812A00026 | 8/12/2015 | 1.86 | 8/12/2020 | 8/12/2015 | 100.3281 | 100.3280962 | 100.3280962 | 100.3280962 | 100.2937764 | 100.0861684 | 99.87943184 | 99.67356114 | 99.46855083 |
| 150929A00024 | 9/29/2015 | 1.81 | 9/29/2020 | 9/29/2015 | 100.52809 | 100.5280864 | 100.5280864 | 100.5280864 | 100.4677631 | 100.1275716 | 99.78967308 | 99.45404455 | 99.12066327 |
| 151002A00007 | 10/2/2015 | 1.65 | 10/2/2020 | 10/2/2015 | 100.48494 | 100.4849365 | 100.4849365 | 100.4849365 | 100.4229371 | 100.0745909 | 99.72865584 | 99.38510707 | 99.04391995 |
| 151002A00067 | 10/2/2015 | 1.48 | 10/2/2020 | 10/2/2015 | 100.4768 | 100.4768024 | 100.4768024 | 100.4768024 | 100.4147002 | 100.0657873 | 99.71929675 | 99.37520339 | 99.03348239 |
| 151211A00041 | 12/11/2017 | 2.71 | 3/13/2023 | 12/11/2017 | 106.79761 | 106.7976081 | 106.7976081 | 106.7976081 | 106.007784 | 103.2112509 | 100.5030377 | 97.87982853 | 95.33845427 |
| 160203A00013 | 2/3/2016 | 1.72 | 2/3/2021 | 2/3/2016 | 101.01641 | 101.0164146 | 101.0164146 | 101.0164146 | 100.8688373 | 100.1795751 | 99.49970205 | 98.82902745 | 98.16736554 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160205A00004 | 2/5/2016 | 1.7 | 2/5/2021 | 2/5/2016 | 101.01052 | 101.0105232 | 101.0105232 | 101.0105232 | 100.8614508 | 100.1667643 | 99.48161803 | 98.80581657 | 98.13916967 |
| 160209A00026 | 2/9/2016 | 1.57 | 2/8/2021 | 2/9/2016 | 100.93051 | 100.9305086 | 100.9305086 | 100.9305086 | 100.779248 | 100.0767082 | 99.38393352 | 98.70072143 | 98.02687489 |
| 160211A00005 | 2/11/2016 | 1.3 | 2/11/2021 | 2/11/2016 | 100.84678 | 100.8467778 | 100.8467778 | 100.8467778 | 100.6930447 | 99.98138881 | 99.27976032 | 98.5879483 | 97.90574772 |
| 160211A00036 | 2/11/2016 | 2.41 | 2/11/2026 | 2/11/2016 | 112.07444 | 112.0744418 | 112.0744418 | 112.0744418 | 108.4298 | 102.8043505 | 97.50752863 | 92.51838589 | 87.81742106 |
| 160212A00002 | 2/12/2016 | 1.58 | 11/17/2020 | 2/12/2016 | 100.63277 | 100.6327684 | 100.6327684 | 100.6327684 | 100.5437498 | 100.0687743 | 99.59828388 | 99.13221514 | 98.67050587 |
| 160212A00005 | 2/12/2016 | 1.42 | 2/16/2021 | 2/12/2016 | 100.95077 | 100.9507733 | 100.9507733 | 100.9507733 | 100.7932059 | 100.0675028 | 99.35221745 | 98.64712648 | 97.95201306 |
| 160216A00007 | 2/16/2016 | 1.68 | 2/16/2021 | 2/16/2016 | 101.03984 | 101.0398377 | 101.0398377 | 101.0398377 | 100.8824985 | 100.1577536 | 99.44339221 | 98.73919237 | 98.04493834 |
| 130211A00035 | 2/11/2013 | 2.27 | 2/15/2023 | 2/11/2013 | 105.41801 | 105.4180076 | 105.4180076 | 105.4180076 | 104.6736212 | 101.967371 | 99.34484774 | 96.80291761 | 94.3385879 |
| 130827A00012 | 8/27/2013 | 3.66 | 7/31/2023 | 8/27/2013 | 110.76858 | 110.7685762 | 110.7685762 | 110.7685762 | 109.7174674 | 106.4868296 | 103.3694775 | 100.3607594 | 97.45624568 |
| 130827A00014 | 8/27/2013 | 2.73 | 8/31/2020 | 8/27/2013 | 100.68199 | 100.6819925 | 100.6819925 | 100.6819925 | 100.6373085 | 100.376266 | 100.1165781 | 99.85823411 | 99.60122374 |
| 140626A00028 | 6/27/2016 | 2.99 | 6/29/2020 | 6/27/2016 | 100.22741 | 100.2274057 | 100.2274057 | 100.2274057 | 100.2152602 | 100.1293559 | 100.0435958 | 99.9579796 | 99.87250705 |
| 141002A00030 | 10/2/2014 | 2.33 | 10/2/2020 | 10/2/2014 | 100.7228 | 100.7227993 | 100.7227993 | 100.7227993 | 100.6607127 | 100.3118498 | 99.96540073 | 99.62134062 | 99.27964479 |
| 150120A00025 | 1/20/2015 | 2.54 | 1/21/2025 | 1/20/2015 | 110.46319 | 110.4631937 | 110.4631937 | 110.4631937 | 108.1676654 | 103.5398879 | 99.13803396 | 94.94985966 | 90.96385246 |
| 150601A00998 | 6/1/2015 | 5.37 | 10/25/2034 | 6/1/2015 | 171.28405 | 171.2840546 | 171.2840546 | 159.9729608 | 143.5189745 | 128.6409614 | 115.6261641 | 104.2239113 | 94.21882393 |
| 150630A00119 | 6/30/2015 | 2.05 | 6/30/2020 | 6/30/2015 | 100.15118 | 100.1511771 | 100.1511771 | 100.1511771 | 100.1385526 | 100.0499497 | 99.96150271 | 99.87321122 | 99.78507486 |
| 150814A00024 | 8/14/2015 | 2.04 | 8/14/2020 | 8/14/2015 | 100.37745 | 100.3774459 | 100.3774459 | 100.3774459 | 100.3420398 | 100.1288199 | 99.91651817 | 99.70512872 | 99.49464562 |
| 151013A00007 | 10/13/2015 | 1.75 | 10/13/2020 | 10/13/2015 | 100.56508 | 100.5650843 | 100.5650843 | 100.5650843 | 100.4968532 | 100.1181038 | 99.74221311 | 99.36914866 | 98.99887862 |
| 151030A00001 | 10/30/2015 | 1.9 | 10/30/2020 | 10/30/2015 | 100.70324 | 100.7032407 | 100.7032407 | 100.7032407 | 100.6253075 | 100.1995006 | 99.77728488 | 99.35861526 | 98.94344724 |
| 151211A00040 | 12/11/2017 | 2.7 | 2/13/2023 | 12/11/2017 | 106.58471 | 106.5847147 | 106.5847147 | 106.5847147 | 105.83988 | 103.1229959 | 100.4899094 | 97.93749192 | 95.46275538 |
| 160209A00007 | 2/9/2016 | 1.53 | 2/9/2021 | 2/9/2016 | 100.90572 | 100.9057245 | 100.9057245 | 100.9057245 | 100.7537336 | 100.0485705 | 99.35324797 | 98.66756088 | 97.99130997 |
| 160209A00049 | 2/9/2016 | 1.92 | 2/9/2023 | 2/9/2016 | 104.43082 | 104.4308224 | 104.4308224 | 104.4308224 | 103.698696 | 101.0220375 | 98.42787632 | 95.91314008 | 93.47489383 |
| 160210A00053 | 2/10/2016 | 1.99 | 2/10/2023 | 2/10/2016 | 104.6264 | 104.6264026 | 104.6264026 | 104.6264026 | 103.8921425 | 101.2101375 | 98.61084396 | 96.09117894 | 93.64819763 |
| 160222A00019 | 2/22/2016 | 3.09 | 2/21/2031 | 2/22/2016 | 129.81707 | 129.8170675 | 129.8170675 | 127.0748885 | 115.9752188 | 105.6744421 | 96.41227729 | 88.0774798 | 80.57129156 |
| 160309A00015 | 3/9/2016 | 1.84 | 3/9/2021 | 3/9/2016 | 101.24835 | 101.248354 | 101.248354 | 101.248354 | 101.0755003 | 100.2927707 | 99.52212702 | 98.76329101 | 98.01599277 |
| 160315A00003 | 3/15/2016 | 1.88 | 3/15/2021 | 3/15/2016 | 101.29869 | 101.2986949 | 101.2986949 | 101.2986949 | 101.121587 | 100.3224333 | 99.53587448 | 98.76161459 | 97.99936672 |
| 160404A00040 | 4/4/2016 | 1.65 | 4/5/2021 | 4/4/2016 | 101.19375 | 101.1937509 | 101.1937509 | 101.1937509 | 101.0022467 | 100.1465646 | 99.30532473 | 98.47816394 | 97.66473106 |
| 160627A00021 | 6/27/2016 | 1.24 | 6/25/2020 | 6/27/2016 | 100.06685 | 100.0668519 | 100.0668519 | 100.0668519 | 100.056289 | 99.98157332 | 99.90697488 | 99.83249341 | 99.75812867 |
| 160711A00022 | 1/10/2018 | 1.91 | 1/10/2025 | 1/10/2018 | 107.46489 | 107.464889 | 107.464889 | 107.464889 | 105.2229806 | 100.6908169 | 96.37965185 | 92.27754729 | 88.37327498 |
| 160229A00027 | 2/29/2016 | 1.74 | 3/1/2021 | 2/29/2016 | 101.13694 | 101.1369371 | 101.1369371 | 101.1369371 | 100.9698244 | 100.209325 | 99.46023458 | 98.72229819 | 97.99526826 |
| 160301A00006 | 3/1/2016 | 1.69 | 3/1/2021 | 3/1/2016 | 101.09865 | 101.0986453 | 101.0986453 | 101.0986453 | 100.9315643 | 100.1712263 | 99.42229559 | 98.68451722 | 97.95764367 |
| 160308A00011 | 3/8/2016 | 1.81 | 2/16/2021 | 3/8/2016 | 101.13471 | 101.134711 | 101.134711 | 101.134711 | 100.9772973 | 100.2521681 | 99.53742642 | 98.83285007 | 98.13822329 |
| 160309A00008 | 3/9/2016 | 1.83 | 3/3/2021 | 3/9/2016 | 101.21452 | 101.2145151 | 101.2145151 | 101.2145151 | 101.0459261 | 100.2796588 | 99.52497113 | 98.78160228 | 98.04929913 |
| 160309A00014 | 3/9/2016 | 1.84 | 3/9/2021 | 3/9/2016 | 101.24835 | 101.248354 | 101.248354 | 101.248354 | 101.0755003 | 100.2927707 | 99.52212702 | 98.76329101 | 98.01599277 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160405A00018 | 4/5/2016 | 1.61 | 4/5/2021 | 4/5/2016 | 101.15924 | 101.1592388 | 101.1592388 | 101.1592388 | 100.9677673 | 100.1122472 | 99.27116749 | 98.44416495 | 97.63088846 |
| 160627A00019 | 6/27/2016 | 1.24 | 6/25/2020 | 6/27/2016 | 100.06685 | 100.0668519 | 100.0668519 | 100.0668519 | 100.056289 | 99.98157332 | 99.90697488 | 99.83249341 | 99.75812867 |
| 161118A00026 | 12/20/2016 | 3.03 | 12/21/2026 | 12/20/2016 | 117.95493 | 117.9549338 | 117.9549338 | 117.9549338 | 112.7799705 | 106.2333748 | 100.1172326 | 94.40090919 | 89.05610515 |
| 170331A00031 | 3/31/2017 | 2.03 | 3/31/2021 | 3/31/2017 | 101.49711 | 101.4971128 | 101.4971128 | 101.4971128 | 101.3086248 | 100.4651047 | 99.63558244 | 98.81971189 | 98.01715829 |
| 170412A00019 | 4/12/2017 | 2.56 | 4/12/2024 | 4/12/2017 | 108.84105 | 108.8410485 | 108.8410485 | 108.8410485 | 107.2695867 | 103.4000326 | 99.69196573 | 96.13782398 | 92.73043814 |
| 171016A00016 | 10/16/2017 | 2.23 | 10/17/2022 | 10/16/2017 | 104.66294 | 104.6629413 | 104.6629413 | 104.6629413 | 104.0912897 | 101.7150117 | 99.40494009 | 97.15886765 | 94.97467357 |
| 171219A00024 | 12/19/2017 | 2.26 | 12/18/2020 | 12/19/2017 | 101.12967 | 101.1296688 | 101.1296688 | 101.1296688 | 101.0189863 | 100.4576282 | 99.90250346 | 99.35350866 | 98.81054253 |
| 180110A00012 | 1/10/2018 | 2.38 | 1/11/2021 | 1/10/2018 | 101.33868 | 101.3386771 | 101.3386771 | 101.3386771 | 101.2092152 | 100.5815033 | 99.961571 | 99.34927404 | 98.74447187 |
| 180125A00038 | 2/1/2018 | 2.91 | 2/3/2025 | 2/1/2018 | 112.28837 | 112.2883748 | 112.2883748 | 112.2883748 | 109.941988 | 105.2393713 | 100.7672399 | 96.51303716 | 92.46496146 |
| 180302A00011 | 3/2/2018 | 2.68 | 3/2/2021 | 3/2/2018 | 101.8635 | 101.8635046 | 101.8635046 | 101.8635046 | 101.6950828 | 100.9287904 | 100.1740233 | 99.43052277 | 98.69803811 |
| 180424A00028 | 4/24/2018 | 2.98 | 4/23/2021 | 4/24/2018 | 102.47687 | 102.4768731 | 102.4768731 | 102.4768731 | 102.2722106 | 101.3614125 | 100.4668233 | 99.58801297 | 98.72456655 |
| 180518A00042 | 5/25/2018 | 3.42 | 5/19/2025 | 5/25/2018 | 115.58795 | 115.5879509 | 115.5879509 | 115.5879509 | 112.9027416 | 107.8497577 | 103.0572342 | 98.51035951 | 94.19524036 |
| 180529A00072 | 5/29/2018 | 3 | 5/30/2023 | 5/29/2018 | 108.1944 | 108.1944031 | 108.1944031 | 108.1944031 | 107.2670381 | 104.2417144 | 101.318495 | 98.49336644 | 95.7624966 |
| 180726A00046 | 7/26/2018 | 3.2 | 12/26/2023 | 7/26/2018 | 110.47857 | 110.478573 | 110.478573 | 110.478573 | 109.1337429 | 105.5168175 | 102.0406651 | 98.69902502 | 95.48595188 |
| 180910A00039 | 9/10/2018 | 3.03 | 9/9/2022 | 9/10/2018 | 106.3047 | 106.3047036 | 106.3047036 | 106.3047036 | 105.7754856 | 103.4809063 | 101.2477137 | 99.0738535 | 96.95735608 |
| 181206A00021 | 12/6/2018 | 3.15 | 12/6/2023 | 12/6/2018 | 110.14154 | 110.1415384 | 110.1415384 | 110.1415384 | 108.8399234 | 105.28266 | 101.8622733 | 98.57275008 | 95.40837533 |
| 130211A00026 | 2/11/2013 | 2.27 | 2/15/2023 | 2/11/2013 | 105.41801 | 105.4180076 | 105.4180076 | 105.4180076 | 104.6736212 | 101.967371 | 99.34484774 | 96.80291761 | 94.33858791 |
| 130716A00006 | 7/16/2013 | 2.81 | 7/30/2020 | 7/16/2013 | 100.43466 | 100.4346597 | 100.4346597 | 100.4346597 | 100.4072811 | 100.2354065 | 100.0641178 | 99.89341206 | 99.72328635 |
| 140314A00003 | 3/14/2014 | 3.32 | 3/14/2024 | 3/14/2014 | 111.56812 | 111.5681187 | 111.5681187 | 111.5681187 | 110.0469118 | 106.2023618 | 102.5146751 | 98.97658818 | 95.58121598 |
| 140930A00104 | 9/30/2016 | 3.23 | 9/30/2021 | 9/30/2016 | 103.99162 | 103.9916239 | 103.9916239 | 103.9916239 | 103.7346521 | 102.3929463 | 101.0749752 | 99.78016254 | 98.50795031 |
| 150601A00406 | 6/1/2015 | 3.71 | 1/17/2024 | 6/1/2015 | 112.33235 | 112.3323482 | 112.3323482 | 112.3323482 | 110.9317192 | 107.2237206 | 103.6615947 | 100.2387726 | 96.94902092 |
| 150601A00682 | 6/1/2015 | 2.3 | 2/9/2022 | 6/1/2015 | 103.40828 | 103.4082764 | 103.4082764 | 103.4082764 | 103.0698499 | 101.3765921 | 99.71925849 | 98.09677048 | 96.50809274 |
| 150601A00775 | 6/1/2015 | 2.28 | 11/12/2021 | 6/1/2015 | 102.90588 | 102.9058777 | 102.9058777 | 102.9058777 | 102.6216577 | 101.1713451 | 99.74875007 | 98.35314735 | 96.98383644 |
| 150601A00791 | 6/1/2015 | 2.42 | 5/20/2022 | 6/1/2015 | 104.1709 | 104.1708984 | 104.1708984 | 104.1708984 | 103.7624127 | 101.7901509 | 99.86546355 | 97.98690874 | 96.15309825 |
| 150619A00028 | 6/19/2015 | 2.54 | 6/20/2022 | 6/19/2015 | 104.67289 | 104.6728919 | 104.6728919 | 104.6728919 | 104.2347252 | 102.1747775 | 100.166013 | 98.20682199 | 96.29565761 |
| 150714A00061 | 7/14/2015 | 2.09 | 7/14/2020 | 7/14/2015 | 100.22697 | 100.22697 | 100.22697 | 100.22697 | 100.207494 | 100.0800947 | 99.95303256 | 99.82630616 | 99.69991416 |
| 150715A00017 | 7/15/2015 | 2.14 | 7/15/2020 | 7/15/2015 | 100.23841 | 100.2384093 | 100.2384093 | 100.2384093 | 100.2184434 | 100.0882696 | 99.95844701 | 99.82897415 | 99.69984959 |
| 150824A00031 | 8/24/2015 | 1.93 | 2/25/2021 | 8/24/2015 | 101.26395 | 101.2639523 | 101.2639523 | 101.2639523 | 101.0996886 | 100.3495338 | 99.61047394 | 98.88226431 | 98.16466743 |
| 151215A00027 | 12/15/2015 | 2.09 | 12/15/2020 | 12/15/2015 | 101.01866 | 101.0186612 | 101.0186612 | 101.0186612 | 100.9102517 | 100.3574601 | 99.81071965 | 99.26993125 | 98.73499799 |
| 160201A00024 | 2/1/2016 | 2.16 | 2/1/2023 | 2/1/2016 | 105.04443 | 105.0444295 | 105.0444295 | 105.0444295 | 104.3228187 | 101.6592304 | 99.07712665 | 96.57349649 | 94.1454624 |
| 160210A00021 | 2/10/2016 | 1.97 | 2/10/2023 | 2/10/2016 | 104.5718 | 104.5717976 | 104.5717976 | 104.5717976 | 103.8377026 | 101.1564443 | 98.55787992 | 96.03892718 | 93.59664173 |
| 160211A00091 | 2/16/2016 | 3.55 | 2/16/2023 | 2/16/2016 | 108.93931 | 108.9393119 | 108.9393119 | 108.9393119 | 108.1826422 | 105.4252774 | 102.7529321 | 100.1624274 | 97.65072783 |
| 160217A00004 | 2/17/2016 | 1.54 | 2/17/2021 | 2/17/2016 | 101.04234 | 101.042338 | 101.042338 | 101.042338 | 100.8839475 | 100.1551461 | 99.43684372 | 98.72881469 | 98.03083967 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160218A00014 | 2/18/2016 | 1.57 | 2/18/2021 | 2/18/2016 | 101.06835 | 101.0683509 | 101.0683509 | 101.0683509 | 100.9091888 | 100.1775544 | 99.45649794 | 98.74579123 | 98.04521253 |
| 160307A00029 | 3/7/2016 | 3.21 | 3/7/2031 | 3/7/2016 | 131.21094 | 131.2109395 | 131.2109395 | 128.3971824 | 117.2047966 | 106.8093094 | 97.46352902 | 89.05479194 | 81.48310608 |
| 161123A00035 | 11/23/2016 | 2.16 | 11/23/2021 | 11/23/2016 | 102.82115 | 102.8211487 | 102.8211487 | 102.8211487 | 102.5296232 | 101.0512523 | 99.60167763 | 98.18013178 | 96.78587406 |
| 161125A00002 | 11/25/2016 | 2.62 | 11/27/2023 | 11/25/2016 | 108.20102 | 108.2010222 | 108.2010222 | 108.2010222 | 106.9269757 | 103.4275871 | 100.0624322 | 96.82564174 | 93.71163556 |
| 160311A00005 | 3/11/2016 | 1.91 | 3/11/2021 | 3/11/2016 | 101.31261 | 101.3126111 | 101.3126111 | 101.3126111 | 101.1382901 | 100.3498431 | 99.57365452 | 98.80944002 | 98.05692406 |
| 160323A00030 | 3/23/2016 | 2.22 | 3/22/2023 | 3/23/2016 | 105.46528 | 105.4652783 | 105.4652783 | 105.4652783 | 104.6651547 | 101.8624839 | 99.14917463 | 96.52188626 | 93.97742292 |
| 160331A00088 | 3/31/2016 | 1.69 | 3/30/2021 | 3/31/2016 | 101.20451 | 101.2045121 | 101.2045121 | 101.2045121 | 101.0169558 | 100.1775024 | 99.35193928 | 98.53992409 | 97.74112568 |
| 160406A00012 | 4/6/2016 | 1.62 | 4/6/2021 | 4/6/2016 | 101.17163 | 101.1716314 | 101.1716314 | 101.1716314 | 100.9794887 | 100.1211987 | 99.2774423 | 98.4478528 | 97.63207569 |
| 160520A00018 | 9/20/2017 | 2.34 | 9/20/2024 | 9/20/2017 | 108.88579 | 108.8857894 | 108.8857894 | 108.8857894 | 106.9284775 | 102.6462401 | 98.56010296 | 94.66007205 | 90.93671533 |
| 160711A00020 | 8/24/2017 | 1.59 | 8/24/2022 | 8/24/2017 | 102.92712 | 102.9271213 | 102.9271213 | 102.9271213 | 102.4245363 | 100.210882 | 98.05574695 | 95.95715125 | 93.91319956 |
| 160714A00018 | 9/6/2016 | 2.28 | 9/4/2026 | 9/6/2016 | 112.43146 | 112.4314612 | 112.4314612 | 112.4314612 | 107.8571794 | 101.7336865 | 95.99922725 | 90.62703712 | 85.59233133 |
| 160801A00007 | 8/1/2016 | 1.47 | 8/2/2021 | 8/1/2016 | 101.42355 | 101.4235461 | 101.4235461 | 101.4235461 | 101.1907078 | 100.0118481 | 98.86028983 | 97.73509386 | 96.63536349 |
| 160830A00068 | 11/30/2016 | 1.95 | 11/30/2023 | 11/30/2016 | 105.85075 | 105.850752 | 105.850752 | 105.850752 | 104.5814484 | 101.1154141 | 97.78302802 | 94.57842537 | 91.49603131 |
| 170327A00078 | 3/27/2019 | 3.04 | 3/27/2026 | 3/27/2019 | 116.01585 | 116.0158495 | 116.0158495 | 116.0158495 | 112.1336022 | 106.2873818 | 100.7874799 | 95.61157524 | 90.73889471 |
| 170531A00055 | 5/31/2017 | 2.13 | 5/31/2022 | 5/31/2017 | 103.71763 | 103.7176275 | 103.7176275 | 103.7176275 | 103.3006162 | 101.3033977 | 99.35503871 | 97.45403677 | 95.59894609 |
| 170609A00052 | 6/11/2018 | 2.9 | 6/9/2027 | 6/11/2018 | 118.29673 | 118.2967277 | 118.2967277 | 118.2967277 | 112.2929 | 105.3356552 | 98.86498564 | 92.8442221 | 87.23964157 |
| 170612A00035 | 6/12/2017 | 1.85 | 6/12/2020 | 6/12/2017 | 100.05838 | 100.0583782 | 100.0583782 | 100.0583782 | 100.0528974 | 100.0141218 | 99.97539315 | 99.9367113 | 99.89807621 |
| 170614A00019 | 6/14/2017 | 2.48 | 6/13/2025 | 6/14/2017 | 111.03188 | 111.031883 | 111.031883 | 111.031883 | 108.3092725 | 103.3050095 | 98.56339158 | 94.06925881 | 89.80840512 |
| 170703A00022 | 7/3/2017 | 2.86 | 7/3/2026 | 7/3/2017 | 115.64452 | 115.6445188 | 115.6445188 | 115.6445188 | 111.3210838 | 105.2501804 | 99.55397809 | 94.20734449 | 89.18696179 |
| 170816A00029 | 8/16/2017 | 1.79 | 8/17/2020 | 8/16/2017 | 100.33665 | 100.3366453 | 100.3366453 | 100.3366453 | 100.2996434 | 100.0782153 | 99.8577758 | 99.63831813 | 99.41983572 |
| 171110A00008 | 11/10/2017 | 2.65 | 11/12/2024 | 11/10/2017 | 110.57515 | 110.5751499 | 110.5751499 | 110.5751499 | 108.4684556 | 104.0145497 | 99.77048719 | 95.72529319 | 91.86862325 |
| 171110A00019 | 5/4/2018 | 2.46 | 5/4/2023 | 5/4/2018 | 106.40336 | 106.4033568 | 106.4033568 | 106.4033568 | 105.5279256 | 102.5988468 | 99.76659144 | 97.02743904 | 94.37783328 |
| 180104A00016 | 1/4/2018 | 2.56 | 1/4/2023 | 1/4/2018 | 105.95158 | 105.9515771 | 105.9515771 | 105.9515771 | 105.2688955 | 102.6664571 | 100.1418377 | 97.69223256 | 95.31495771 |
| 180417A00028 | 4/17/2018 | 2.88 | 4/16/2021 | 4/17/2018 | 102.33481 | 102.3348133 | 102.3348133 | 102.3348133 | 102.1349327 | 101.2439004 | 100.3684041 | 99.5080397 | 98.66241714 |
| 180621A00031 | 6/21/2018 | 3.07 | 6/21/2023 | 6/21/2018 | 108.57483 | 108.5748325 | 108.5748325 | 108.5748325 | 107.6061768 | 104.5174326 | 101.5343688 | 98.6527664 | 95.86860099 |
| 170404A00002 | 4/4/2017 | 2.42 | 4/4/2023 | 4/4/2017 | 106.10922 | 106.1092218 | 106.1092218 | 106.1092218 | 105.285622 | 102.4388562 | 99.68381701 | 97.01707085 | 94.43533121 |
| 170405A00031 | 4/5/2017 | 2.22 | 4/4/2022 | 4/5/2017 | 103.59713 | 103.5971322 | 103.5971322 | 103.5971322 | 103.2251932 | 101.3812434 | 99.57916962 | 97.8177788 | 96.09591942 |
| 170519A00019 | 5/19/2017 | 2 | 11/19/2021 | 5/19/2017 | 102.56134 | 102.5613428 | 102.5613428 | 102.5613428 | 102.2729451 | 100.8071168 | 99.3696483 | 97.95978886 | 96.57681366 |
| 170622A00044 | 6/22/2017 | 2.38 | 6/21/2024 | 6/22/2017 | 108.53889 | 108.5388868 | 108.5388868 | 108.5388868 | 106.8072293 | 102.7638777 | 98.89674205 | 95.19720151 | 91.6571046 |
| 170918A00051 | 12/18/2017 | 2.24 | 12/19/2022 | 12/18/2017 | 105.02482 | 105.0248154 | 105.0248154 | 105.0248154 | 104.3676836 | 101.8200546 | 99.3477717 | 96.9481564 | 94.61864308 |
| 171110A00006 | 11/10/2017 | 2.11 | 11/10/2020 | 11/10/2017 | 100.84972 | 100.8497219 | 100.8497219 | 100.8497219 | 100.7649217 | 100.3085378 | 99.85628913 | 99.40811976 | 98.96397449 |
| 171219A00032 | 12/19/2017 | 2.42 | 12/20/2021 | 12/19/2017 | 103.3716 | 103.3716014 | 103.3716014 | 103.3716014 | 103.0625344 | 101.5064269 | 99.98155796 | 98.487057 | 97.02208538 |
| 180124A00073 | 1/24/2018 | 2.46 | 1/25/2021 | 1/24/2018 | 101.4748 | 101.4748046 | 101.4748046 | 101.4748046 | 101.3338906 | 100.6674333 | 100.0097251 | 99.36059453 | 98.71987463 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180201A00022 | 2/1/2018 | 2.99 | 2/3/2025 | 2/1/2018 | 112.6658 | 112.665802 | 112.665802 | 112.665802 | 110.3164355 | 105.6051262 | 101.1246106 | 96.86231861 | 92.80643574 |
| 180205A00047 | 2/5/2018 | 2.56 | 2/5/2021 | 2/5/2018 | 101.61192 | 101.6119203 | 101.6119203 | 101.6119203 | 101.4623986 | 100.7653686 | 100.0779016 | 99.39980196 | 98.73087892 |
| 180518A00046 | 5/25/2018 | 3.62 | 5/18/2027 | 5/25/2018 | 123.17636 | 123.1763556 | 123.1763556 | 123.1763556 | 117.1904525 | 110.1215227 | 103.5399433 | 97.40938864 | 91.69642276 |
| 180628A00020 | 6/28/2018 | 2.79 | 6/29/2020 | 6/28/2018 | 100.21019 | 100.2101887 | 100.2101887 | 100.2101887 | 100.1980453 | 100.1121557 | 100.0264103 | 99.94080883 | 99.85535096 |
| 180821A00029 | 8/21/2018 | 3.01 | 8/21/2023 | 8/21/2018 | 108.84501 | 108.8450144 | 108.8450144 | 108.8450144 | 107.7615397 | 104.5067955 | 101.3681478 | 98.34074801 | 95.41998363 |
| 190315A00039 | 3/15/2019 | 2.64 | 9/15/2021 | 3/15/2019 | 103.09396 | 103.0939573 | 103.0939573 | 103.0939573 | 102.8453579 | 101.5443371 | 100.2701768 | 99.02205095 | 97.79916802 |
| 190318A00017 | 3/19/2019 | 2.7 | 3/18/2022 | 3/19/2019 | 104.38199 | 104.3819882 | 104.3819882 | 104.3819882 | 104.0196826 | 102.2151563 | 100.4506935 | 98.7251259 | 97.03732854 |
| 190322A00024 | 3/22/2019 | 2.55 | 3/22/2021 | 3/22/2019 | 101.88183 | 101.8818313 | 101.8818313 | 101.8818313 | 101.69926 | 100.8784635 | 100.0708927 | 99.27622976 | 98.49416696 |
| 190329A00012 | 3/29/2019 | 2.61 | 3/29/2024 | 3/29/2019 | 108.94712 | 108.9471249 | 108.9471249 | 108.9471249 | 107.4067344 | 103.5707598 | 99.89340827 | 96.36731949 | 92.98551167 |
| 190422A00030 | 4/22/2019 | 2.93 | 12/22/2025 | 4/22/2019 | 114.69229 | 114.6922916 | 114.6922916 | 114.6922916 | 111.2309563 | 105.6576204 | 100.4018987 | 95.44399796 | 90.76546055 |
| 190529A00078 | 5/29/2019 | 2.39 | 11/30/2020 | 5/29/2019 | 101.09658 | 101.0965809 | 101.0965809 | 101.0965809 | 100.9991763 | 100.4872323 | 99.98046337 | 99.47879151 | 98.98214014 |
| 190530A00049 | 5/30/2019 | 2.44 | 5/30/2023 | 5/30/2019 | 106.49737 | 106.4973721 | 106.4973721 | 106.4973721 | 105.5760303 | 102.5763366 | 99.67810115 | 96.87733205 | 94.17021782 |
| 190621A00034 | 6/21/2019 | 2.17 | 6/15/2023 | 6/21/2019 | 105.76193 | 105.7619291 | 105.7619291 | 105.7619291 | 104.8143855 | 101.7844303 | 98.8581165 | 96.03131747 | 93.30009576 |
| 110805A00021 | 8/5/2011 | 3.36 | 8/5/2021 | 8/5/2011 | 103.70272 | 103.7027246 | 103.7027246 | 103.7027246 | 103.4662728 | 102.2648517 | 101.0913451 | 99.94478774 | 98.8242583 |
| 120531A00008 | 5/31/2012 | 2.27 | 5/31/2022 | 5/31/2012 | 104.00141 | 104.0014057 | 104.0014057 | 104.0014057 | 103.5838039 | 101.5836603 | 99.63243361 | 97.72861969 | 95.87077122 |
| 141117A00011 | 11/17/2014 | 3.81 | 11/17/2034 | 11/17/2014 | 150.30404 | 150.3040394 | 150.3040394 | 139.2468935 | 123.9804191 | 110.3574077 | 98.48881895 | 88.13446117 | 79.08838744 |
| 141215A00062 | 12/15/2014 | 2.65 | 12/16/2024 | 12/15/2014 | 111.65502 | 111.655022 | 111.655022 | 111.655022 | 109.4335793 | 104.8437288 | 100.4744377 | 96.31393632 | 92.35114619 |
| 150601A00333 | 6/1/2015 | 3.06 | 8/9/2021 | 6/1/2015 | 103.31765 | 103.317652 | 103.317652 | 103.317652 | 103.0808337 | 101.8709447 | 100.6894413 | 99.53533267 | 98.40767355 |
| 150601A00341 | 6/1/2015 | 3.09 | 8/21/2020 | 6/1/2015 | 100.64489 | 100.6448949 | 100.6448949 | 100.6448949 | 100.6056725 | 100.3727231 | 100.14086 | 99.91007577 | 99.68036275 |
| 150601A00355 | 6/1/2015 | 2.86 | 9/24/2020 | 6/1/2015 | 100.83522 | 100.835215 | 100.835215 | 100.835215 | 100.7774999 | 100.4504218 | 100.1254678 | 99.80261716 | 99.48184955 |
| 150619A00025 | 6/19/2015 | 2.01 | 6/19/2020 | 6/19/2015 | 100.09746 | 100.0974629 | 100.0974629 | 100.0974629 | 100.0892404 | 100.0310741 | 99.97298944 | 99.91498632 | 99.85706456 |
| 150624A00075 | 6/24/2015 | 2.1 | 6/24/2020 | 6/24/2015 | 100.12717 | 100.127167 | 100.127167 | 100.127167 | 100.1169866 | 100.0449754 | 99.97307517 | 99.90128582 | 99.82960707 |
| 150731A00036 | 7/31/2015 | 2.01 | 7/31/2020 | 7/31/2015 | 100.30173 | 100.3017324 | 100.3017324 | 100.3017324 | 100.2738442 | 100.0993796 | 99.92552151 | 99.75226683 | 99.57961242 |
| 150812A00040 | 8/12/2015 | 2.94 | 8/12/2025 | 8/12/2015 | 113.79788 | 113.7978782 | 113.7978782 | 113.7978782 | 110.8493705 | 105.6256218 | 100.682474 | 96.00332384 | 91.57264217 |
| 150909A00017 | 9/9/2015 | 2.02 | 9/9/2020 | 9/9/2015 | 100.49938 | 100.4993821 | 100.4993821 | 100.4993821 | 100.4499357 | 100.1648627 | 99.88141565 | 99.59958069 | 99.31934401 |
| 150929A00085 | 9/29/2015 | 1.81 | 9/29/2020 | 9/29/2015 | 100.52809 | 100.5280864 | 100.5280864 | 100.5280864 | 100.4677631 | 100.1275716 | 99.78967308 | 99.45404455 | 99.12066327 |
| 151002A00014 | 10/2/2015 | 1.65 | 10/2/2020 | 10/2/2015 | 100.48494 | 100.4849365 | 100.4849365 | 100.4849365 | 100.4229371 | 100.0745909 | 99.72865584 | 99.38510707 | 99.04391995 |
| 151027A00020 | 10/27/2015 | 1.75 | 10/27/2020 | 10/27/2015 | 100.62669 | 100.6266911 | 100.6266911 | 100.6266911 | 100.5505364 | 100.1331564 | 99.71923099 | 99.30871735 | 98.90157352 |
| 151215A00010 | 12/15/2015 | 2.16 | 12/15/2020 | 12/15/2015 | 101.05752 | 101.0575182 | 101.0575182 | 101.0575182 | 100.9490863 | 100.3961706 | 99.84930711 | 99.30839661 | 98.7733422 |
| 160203A00012 | 2/3/2016 | 1.54 | 2/3/2021 | 2/3/2016 | 100.98717 | 100.9871743 | 100.9871743 | 100.9871743 | 100.8393429 | 100.1489555 | 99.4679906 | 98.79625621 | 98.13356564 |
| 160209A00019 | 2/9/2016 | 2.52 | 2/9/2026 | 2/9/2016 | 112.69348 | 112.693481 | 112.693481 | 112.693481 | 109.0501435 | 103.4124476 | 98.10352726 | 93.10245178 | 88.38973471 |
| 160210A00042 | 2/10/2016 | 2.57 | 2/10/2026 | 2/10/2016 | 112.98624 | 112.9862383 | 112.9862383 | 112.9862383 | 109.3352254 | 103.6869678 | 98.36810888 | 93.35767359 | 88.63613473 |
| 160211A00089 | 2/16/2016 | 3.91 | 2/16/2024 | 2/16/2016 | 113.55721 | 113.5572108 | 113.5572108 | 113.5572108 | 112.0853274 | 108.2763734 | 104.619777 | 101.1085512 | 97.73607357 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160212A00027 | 2/12/2016 | 2.53 | 2/12/2026 | 2/12/2016 | 112.76897 | 112.7689717 | 112.7689717 | 112.7689717 | 109.1119638 | 103.4648165 | 98.14738561 | 93.1386548 | 88.41905966 |
| 160225A00024 | 2/25/2016 | 2.22 | 2/26/2024 | 2/25/2016 | 107.27136 | 107.2713597 | 107.2713597 | 107.2713597 | 105.8102521 | 102.0922848 | 98.52518096 | 95.10194916 | 91.81596684 |
| 160304A00016 | 3/4/2016 | 1.82 | 3/4/2021 | 3/4/2016 | 101.2111 | 101.2111001 | 101.2111001 | 101.2111001 | 101.0418078 | 100.2728351 | 99.5155256 | 98.76961566 | 98.0348494 |
| 160422A00019 | 4/22/2016 | 1.69 | 4/22/2021 | 4/22/2016 | 101.29556 | 101.2955586 | 101.2955586 | 101.2955586 | 101.0927463 | 100.1904921 | 99.30427885 | 98.4336819 | 97.57829128 |
| 160520A00017 | 9/20/2017 | 2.34 | 9/20/2024 | 9/20/2017 | 108.88579 | 108.8857894 | 108.8857894 | 108.8857894 | 106.9284775 | 102.6462401 | 98.56010296 | 94.66007205 | 90.93671533 |
| 160524A00015 | 11/25/2016 | 2.71 | 11/25/2026 | 11/25/2016 | 115.67612 | 115.6761172 | 115.6761172 | 115.6761172 | 110.6625648 | 104.2493644 | 98.25518792 | 92.65043738 | 87.40775221 |
| 160527A00021 | 5/27/2016 | 1.68 | 5/27/2021 | 5/27/2016 | 101.41334 | 101.4133448 | 101.4133448 | 101.4133448 | 101.1932767 | 100.1957359 | 99.2177675 | 98.25880019 | 97.31828466 |
| 160601A00021 | 6/1/2016 | 1.71 | 6/1/2021 | 6/1/2016 | 101.46343 | 101.463426 | 101.463426 | 101.463426 | 101.2417665 | 100.230407 | 99.23915918 | 98.26742787 | 97.31464135 |
| 160627A00068 | 6/27/2016 | 1.4 | 6/28/2021 | 6/27/2016 | 101.23143 | 101.2314342 | 101.2314342 | 101.2314342 | 101.0043099 | 99.92117781 | 98.86113508 | 97.82345021 | 96.80742225 |
| 160714A00024 | 9/20/2016 | 2.5 | 9/20/2028 | 9/20/2016 | 118.26836 | 118.2683645 | 118.2683645 | 118.2683645 | 110.0550741 | 102.0512718 | 94.69789706 | 87.93857447 | 81.72208742 |
| 160819A00015 | 10/12/2016 | 2.3 | 10/13/2026 | 10/12/2016 | 112.76943 | 112.7694325 | 112.7694325 | 112.7694325 | 108.0055918 | 101.7816442 | 95.95906518 | 90.50992832 | 85.40838395 |
| 161005A00008 | 10/5/2016 | 1.51 | 10/5/2020 | 10/5/2016 | 100.44629 | 100.4462855 | 100.4462855 | 100.4462855 | 100.3826094 | 100.0261051 | 99.67213158 | 99.32066189 | 98.97166951 |
| 161017A00007 | 10/17/2016 | 1.99 | 10/18/2023 | 10/17/2016 | 105.79163 | 105.7916297 | 105.7916297 | 105.7916297 | 104.6084806 | 101.2534782 | 98.0237815 | 94.91406807 | 91.91926964 |
| 161123A00037 | 11/23/2016 | 2.16 | 11/23/2021 | 11/23/2016 | 102.82115 | 102.8211487 | 102.8211487 | 102.8211487 | 102.5296232 | 101.0512523 | 99.60167763 | 98.18013178 | 96.78587406 |
| 170627A00018 | 6/27/2017 | 1.83 | 6/29/2020 | 6/27/2017 | 100.12755 | 100.1275468 | 100.1275468 | 100.1275468 | 100.1154134 | 100.0295946 | 99.94391997 | 99.85838911 | 99.77300171 |
| 171110A00007 | 11/10/2017 | 2.38 | 11/10/2022 | 11/10/2017 | 105.16248 | 105.1624824 | 105.1624824 | 105.1624824 | 104.5584176 | 102.112456 | 99.73635273 | 97.42771777 | 95.18425774 |
| 171222A00037 | 12/22/2017 | 2.71 | 12/29/2023 | 12/22/2017 | 108.73055 | 108.7305478 | 108.7305478 | 108.7305478 | 107.3878771 | 103.7941592 | 100.34088 | 97.02177529 | 93.83089735 |
| 180328A00015 | 3/28/2018 | 2.93 | 3/28/2023 | 3/28/2018 | 107.52528 | 107.5252764 | 107.5252764 | 107.5252764 | 106.7088199 | 103.8601567 | 101.102566 | 98.43265727 | 95.84718482 |
| 180504A00039 | 5/4/2018 | 3.33 | 5/5/2025 | 5/4/2018 | 115.02185 | 115.0218525 | 115.0218525 | 115.0218525 | 112.3847062 | 107.3816951 | 102.6348433 | 98.12968829 | 93.85265733 |
| 180518A00048 | 5/25/2018 | 3.65 | 5/18/2028 | 5/25/2018 | 126.70866 | 126.708663 | 126.708663 | 126.708663 | 118.8877586 | 110.8381342 | 103.4116244 | 96.55637046 | 90.22509057 |
| 180618A00036 | 6/18/2018 | 3.89 | 6/18/2048 | 6/18/2018 | 198.10736 | 198.1073582 | 187.9414917 | 155.6746846 | 128.2797428 | 106.6579849 | 89.67747088 | 76.25986616 | 65.58765502 |
| 180627A00065 | 6/27/2018 | 2.9 | 6/25/2021 | 6/27/2018 | 102.85275 | 102.8527515 | 102.8527515 | 102.8527515 | 102.624315 | 101.5399024 | 100.4783799 | 99.43902805 | 98.42115759 |
| 160712A00019 | 7/12/2017 | 2.32 | 7/12/2027 | 7/12/2017 | 114.38702 | 114.3870196 | 114.3870196 | 114.3870196 | 108.2993791 | 101.3988613 | 94.98893851 | 89.03214374 | 83.49405792 |
| 160729A00017 | 7/31/2017 | 2.47 | 7/31/2029 | 7/31/2017 | 119.8548 | 119.8548028 | 119.8548028 | 119.2836583 | 110.0056432 | 101.2727439 | 93.31406981 | 86.05664924 | 79.43474842 |
| 161005A00007 | 10/5/2016 | 1.51 | 10/5/2020 | 10/5/2016 | 100.44629 | 100.4462855 | 100.4462855 | 100.4462855 | 100.3826094 | 100.0261051 | 99.67213158 | 99.32066189 | 98.97166951 |
| 161221A00053 | 12/23/2016 | 3.05 | 12/23/2021 | 12/23/2016 | 104.38962 | 104.3896246 | 104.3896246 | 104.3896246 | 104.0770807 | 102.5044027 | 100.9633681 | 99.45309096 | 97.97271802 |
| 170628A00044 | 10/9/2018 | 2.12 | 10/8/2021 | 10/9/2018 | 102.52747 | 102.5274707 | 102.5274707 | 102.5274707 | 102.2673053 | 100.9141685 | 99.5853293 | 98.28018977 | 96.99817105 |
| 170703A00024 | 7/3/2017 | 2.95 | 7/6/2027 | 7/3/2017 | 118.84358 | 118.8435817 | 118.8435817 | 118.8435817 | 112.7008352 | 105.663077 | 99.12153987 | 93.03852352 | 87.37938229 |
| 170908A00021 | 9/8/2017 | 1.96 | 9/8/2022 | 9/8/2017 | 103.83299 | 103.83299 | 103.83299 | 103.83299 | 103.3109055 | 101.0477251 | 98.84519549 | 96.70128208 | 94.61403463 |
| 180312A00014 | 3/12/2018 | 3 | 3/13/2023 | 3/12/2018 | 107.61414 | 107.614145 | 107.614145 | 107.614145 | 106.8217374 | 104.013706 | 101.2942698 | 98.66010383 | 96.10803052 |
| 180515A00022 | 5/15/2018 | 3.19 | 5/15/2023 | 5/15/2018 | 108.65082 | 108.6508206 | 108.6508206 | 108.6508206 | 107.7483143 | 104.7563963 | 101.8640842 | 99.06751585 | 96.36300148 |
| 180524A00003 | 5/24/2018 | 2.91 | 5/24/2021 | 5/24/2018 | 102.62988 | 102.6298767 | 102.6298767 | 102.6298767 | 102.4098039 | 101.4138648 | 100.4372751 | 99.47947475 | 98.53992521 |
| 180621A00068 | 6/21/2018 | 3.32 | 6/23/2025 | 6/21/2018 | 115.3762 | 115.3762012 | 115.3762012 | 115.3762012 | 112.5820903 | 107.4454872 | 102.5780465 | 97.96421266 | 93.58941152 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180626A00026 | 6/26/2018 | 2.92 | 6/25/2021 | 6/26/2018 | 102.87449 | 102.8744941 | 102.8744941 | 102.8744941 | 102.6460315 | 101.561493 | 100.4998464 | 99.46037237 | 98.44238143 |
| 180713A00024 | 7/13/2018 | 2.96 | 7/13/2021 | 7/13/2018 | 103.05164 | 103.0516445 | 103.0516445 | 103.0516445 | 102.8199762 | 101.6853156 | 100.5756805 | 99.49024906 | 98.42823531 |
| 180821A00039 | 8/21/2018 | 2.99 | 7/21/2023 | 8/21/2018 | 108.54983 | 108.5498254 | 108.5498254 | 108.5498254 | 107.5259533 | 104.3573581 | 101.2994138 | 98.34760422 | 95.49762712 |
| 180911A00007 | 9/11/2018 | 3.12 | 9/8/2023 | 9/11/2018 | 109.34357 | 109.34357 | 109.34357 | 109.34357 | 108.223475 | 104.9137287 | 101.7234723 | 98.6476972 | 95.6816373 |
| 180925A00033 | 9/25/2018 | 3.26 | 9/25/2023 | 9/25/2018 | 109.94557 | 109.945569 | 109.945569 | 109.945569 | 108.7899271 | 105.4259193 | 102.1847362 | 99.06124566 | 96.05055793 |
| 181001A00031 | 10/1/2018 | 3.23 | 9/29/2023 | 10/1/2018 | 109.87726 | 109.8772555 | 109.8772555 | 109.8772555 | 108.7141286 | 105.3408397 | 102.0910718 | 98.9596663 | 95.9417069 |
| 181119A00020 | 11/19/2018 | 3.06 | 11/19/2020 | 11/19/2018 | 101.35495 | 101.3549515 | 101.3549515 | 101.3549515 | 101.2643365 | 100.7818336 | 100.3039323 | 99.83056685 | 99.36167289 |
| 181210A00068 | 12/10/2018 | 3.34 | 12/10/2025 | 12/10/2018 | 116.88824 | 116.8882366 | 116.8882366 | 116.8882366 | 113.4516635 | 107.8493007 | 102.5636787 | 97.57518287 | 92.86551467 |
| 190123A00059 | 1/23/2019 | 2.95 | 1/24/2022 | 1/23/2019 | 104.46682 | 104.4668191 | 104.4668191 | 104.4668191 | 104.1357243 | 102.4766324 | 100.8520602 | 99.26099499 | 97.70246388 |
| 190206A00010 | 2/12/2019 | 2.84 | 2/11/2022 | 2/12/2019 | 104.40941 | 104.4094103 | 104.4094103 | 104.4094103 | 104.0680532 | 102.3604786 | 100.6891932 | 99.05310453 | 97.4511642 |
| 181210A00066 | 12/10/2018 | 3.13 | 12/11/2023 | 12/10/2018 | 110.10936 | 110.1093629 | 110.1093629 | 110.1093629 | 108.7974917 | 105.2273672 | 101.7950293 | 98.49440568 | 95.3197263 |
| 181220A00077 | 12/20/2018 | 3.06 | 12/20/2023 | 12/20/2018 | 109.92795 | 109.9279529 | 109.9279529 | 109.9279529 | 108.5982233 | 105.0071809 | 101.5555081 | 98.23702728 | 95.0458709 |
| 190221A00012 | 2/21/2019 | 2.83 | 8/23/2022 | 2/21/2019 | 105.72446 | 105.7244619 | 105.7244619 | 105.7244619 | 105.2164126 | 102.973408 | 100.7894631 | 98.66258483 | 96.59086476 |
| 190517A00023 | 5/17/2019 | 2.51 | 5/17/2024 | 5/17/2019 | 108.85859 | 108.8585892 | 108.8585892 | 108.8585892 | 107.2070516 | 103.2469938 | 99.45603819 | 95.8260802 | 92.34944653 |
| 190530A00048 | 5/30/2019 | 2.41 | 5/31/2022 | 5/30/2019 | 104.28518 | 104.2851839 | 104.2851839 | 104.2851839 | 103.8669916 | 101.8639229 | 99.90982851 | 98.00320261 | 96.14259635 |
| 190614A00007 | 6/14/2019 | 2.22 | 6/15/2021 | 6/14/2019 | 102.05953 | 102.0595283 | 102.0595283 | 102.0595283 | 101.8341878 | 100.781517 | 99.75054831 | 98.74061582 | 97.75108042 |
| 190621A00037 | 6/21/2019 | 2.21 | 5/15/2024 | 6/21/2019 | 107.64791 | 107.6479099 | 107.6479099 | 107.6479099 | 106.0079693 | 102.0769367 | 98.31381856 | 94.7105717 | 91.25958077 |
| 190722A00051 | 11/22/2019 | 2.03 | 11/22/2021 | 11/22/2019 | 102.62067 | 102.6206724 | 102.6206724 | 102.6206724 | 102.3301421 | 100.8559652 | 99.41045672 | 97.99285393 | 96.60242064 |
| 190726A00014 | 7/26/2019 | 2.23 | 7/24/2024 | 7/26/2019 | 108.09932 | 108.0993187 | 108.0993187 | 108.0993187 | 106.2912264 | 102.1714766 | 98.23463469 | 94.47158488 | 90.87371817 |
| 190829A00075 | 8/29/2019 | 1.8 | 6/15/2023 | 8/29/2019 | 104.62438 | 104.6243836 | 104.6243836 | 104.6243836 | 103.6809755 | 100.6684419 | 97.75910608 | 94.94885626 | 92.23376933 |
| 190829A00078 | 8/29/2019 | 1.8 | 12/15/2023 | 8/29/2019 | 105.38211 | 105.382106 | 105.382106 | 105.382106 | 104.0842075 | 100.5870179 | 97.22597383 | 93.9950422 | 90.88849183 |
| 190904A00036 | 9/4/2019 | 1.74 | 6/8/2022 | 9/4/2019 | 102.95911 | 102.9591149 | 102.9591149 | 102.9591149 | 102.5360543 | 100.5256717 | 98.5648355 | 96.65200748 | 94.78570832 |
| 191002A00045 | 2/14/2020 | 1.75 | 2/14/2023 | 2/14/2020 | 103.98712 | 103.9871206 | 103.9871206 | 103.9871206 | 103.2486308 | 100.5647067 | 97.96389526 | 95.44308599 | 92.99930835 |
| 200131A00029 | 1/31/2020 | 1.78 | 10/31/2024 | 1/31/2020 | 106.6185 | 106.618497 | 106.618497 | 106.618497 | 104.5717176 | 100.2342417 | 96.10082363 | 92.16083811 | 88.40426666 |
| 170727A00020 | 7/27/2017 | 1.94 | 7/27/2021 | 7/27/2017 | 101.95628 | 101.9562766 | 101.9562766 | 101.9562766 | 101.7238966 | 100.5579212 | 99.41855438 | 98.30489362 | 97.21607689 |
| 170814A00034 | 8/14/2017 | 2.1 | 8/15/2022 | 8/14/2017 | 104.03559 | 104.0355859 | 104.0355859 | 104.0355859 | 103.5403636 | 101.337575 | 99.19245222 | 97.10306406 | 95.06756097 |
| 170822A00023 | 8/23/2017 | 3.95 | 8/23/2028 | 8/23/2017 | 130.06231 | 130.0623053 | 130.0623053 | 130.0623053 | 121.6824753 | 113.2818352 | 105.5475673 | 98.42277514 | 91.85572091 |
| 171219A00022 | 12/19/2017 | 2.26 | 12/18/2020 | 12/19/2017 | 101.12967 | 101.1296688 | 101.1296688 | 101.1296688 | 101.0189863 | 100.4576282 | 99.90250346 | 99.35350866 | 98.81054253 |
| 171228A00023 | 12/28/2017 | 2.69 | 3/29/2024 | 12/28/2017 | 109.25642 | 109.2564162 | 109.2564162 | 109.2564162 | 107.7143482 | 103.8724801 | 100.1894135 | 96.65778099 | 93.27059433 |
| 171228A00024 | 12/28/2017 | 2.71 | 6/28/2024 | 12/28/2017 | 109.93727 | 109.9372727 | 109.9372727 | 109.9372727 | 108.1805924 | 104.0912379 | 100.1804133 | 96.43936065 | 92.8598005 |
| 180118A00008 | 1/18/2018 | 2.44 | 1/19/2021 | 1/18/2018 | 101.42502 | 101.4250201 | 101.4250201 | 101.4250201 | 101.2890084 | 100.6391234 | 99.99756881 | 99.36418497 | 98.73881644 |
| 180123A00067 | 1/23/2018 | 2.67 | 1/23/2023 | 1/23/2018 | 106.36528 | 106.3652803 | 106.3652803 | 106.3652803 | 105.6532703 | 102.9955802 | 100.4184901 | 97.91904722 | 95.4944287 |
| 180130A00062 | 1/30/2018 | 2.51 | 2/1/2021 | 1/30/2018 | 101.55201 | 101.5520056 | 101.5520056 | 101.5520056 | 101.4055359 | 100.7196665 | 100.0430554 | 99.37551609 | 98.71686698 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 180316A00031 | 3/16/2018 | 2.96 | 12/16/2022 | 3/16/2018 | 106.86345 | 106.8634458 | 106.8634458 | 106.8634458 | 106.2054148 | 103.6420857 | 101.1542317 | 98.73917919 | 96.39436697 |
| 180328A00042 | 3/28/2018 | 2.95 | 3/28/2023 | 3/28/2018 | 107.58242 | 107.5824156 | 107.5824156 | 107.5824156 | 106.7657743 | 103.9162953 | 101.1579086 | 98.48722299 | 95.90099207 |
| 180625A00012 | 6/25/2018 | 3.07 | 6/23/2023 | 6/25/2018 | 108.59013 | 108.5901327 | 108.5901327 | 108.5901327 | 107.6177933 | 104.5235802 | 101.5353684 | 98.64892032 | 95.86019392 |
| 180726A00044 | 7/26/2018 | 2.94 | 7/27/2020 | 7/26/2018 | 100.43494 | 100.434944 | 100.434944 | 100.434944 | 100.4090778 | 100.245488 | 100.0824308 | 99.91990391 | 99.75790462 |
| 181016A00019 | 10/18/2018 | 3.32 | 10/16/2023 | 10/18/2018 | 110.32135 | 110.3213529 | 110.3213529 | 110.3213529 | 109.1224745 | 105.6960784 | 102.3967097 | 99.21899527 | 96.15781775 |
| 181203A00039 | 12/3/2018 | 3.27 | 12/1/2023 | 12/3/2018 | 110.52709 | 110.5270889 | 110.5270889 | 110.5270889 | 109.2341025 | 105.6835259 | 102.2690941 | 98.98484631 | 95.82511613 |
| 190311A00030 | 3/11/2019 | 2.68 | 3/11/2021 | 3/11/2019 | 101.92365 | 101.9236467 | 101.9236467 | 101.9236467 | 101.7487987 | 100.9576882 | 100.1788654 | 99.41204526 | 98.65695181 |
| 190311A00061 | 3/25/2019 | 2.75 | 3/25/2022 | 3/25/2019 | 104.5203 | 104.5202963 | 104.5202963 | 104.5202963 | 104.1533599 | 102.3277513 | 100.5430343 | 98.79804012 | 97.09164181 |
| 190311A00068 | 3/25/2019 | 2.76 | 9/26/2022 | 3/25/2019 | 105.79797 | 105.7979701 | 105.7979701 | 105.7979701 | 105.2497489 | 102.9163167 | 100.6463884 | 98.43788158 | 96.28879496 |
| 190318A00016 | 3/19/2019 | 2.7 | 3/18/2022 | 3/19/2019 | 104.38199 | 104.3819882 | 104.3819882 | 104.3819882 | 104.0196826 | 102.2151563 | 100.4506935 | 98.7251259 | 97.03732854 |
| 190501A00024 | 5/1/2019 | 2.62 | 5/1/2024 | 5/1/2019 | 109.19678 | 109.1967829 | 109.1967829 | 109.1967829 | 107.580302 | 103.6554611 | 99.89634769 | 96.29510756 | 92.8442997 |
| 190515A00030 | 5/15/2019 | 2.49 | 5/15/2024 | 5/15/2019 | 108.76656 | 108.766555 | 108.766555 | 108.766555 | 107.1201667 | 103.1671385 | 99.38270744 | 95.75880368 | 92.28778624 |
| 190722A00047 | 11/22/2019 | 2.03 | 11/22/2021 | 11/22/2019 | 102.62067 | 102.6206724 | 102.6206724 | 102.6206724 | 102.3301421 | 100.8559652 | 99.41045672 | 97.99285393 | 96.60242064 |
| 190722A00056 | 12/19/2019 | 2.02 | 12/20/2021 | 12/19/2019 | 102.73977 | 102.7397734 | 102.7397734 | 102.7397734 | 102.4317445 | 100.8807957 | 99.36099414 | 97.87147167 | 96.41139211 |
| 190815A00041 | 8/15/2019 | 1.86 | 8/15/2024 | 8/15/2019 | 106.64462 | 106.6446214 | 106.6446214 | 106.6446214 | 104.7919756 | 100.6468986 | 96.6884702 | 92.90726194 | 89.29437764 |
| 190829A00016 | 8/29/2019 | 1.82 | 8/29/2022 | 8/29/2019 | 103.46838 | 103.4683849 | 103.4683849 | 103.4683849 | 102.9590004 | 100.7261262 | 98.55252405 | 96.43617859 | 94.37516094 |
| 180727A00017 | 7/27/2018 | 3.16 | 7/27/2023 | 7/27/2018 | 109.13654 | 109.1365378 | 109.1365378 | 109.1365378 | 108.0992832 | 104.9052399 | 101.8231159 | 98.84832474 | 95.9764983 |
| 180821A00040 | 8/21/2018 | 2.99 | 8/21/2023 | 8/21/2018 | 108.77984 | 108.7798385 | 108.7798385 | 108.7798385 | 107.696625 | 104.442936 | 101.3053155 | 98.27891582 | 95.35912543 |
| 180910A00037 | 9/10/2018 | 3.03 | 9/9/2022 | 9/10/2018 | 106.3047 | 106.3047036 | 106.3047036 | 106.3047036 | 105.7754856 | 103.4809063 | 101.2477137 | 99.0738535 | 96.95735608 |
| 180919A00013 | 9/19/2018 | 3.14 | 9/19/2022 | 9/19/2018 | 106.63694 | 106.6369354 | 106.6369354 | 106.6369354 | 106.0949893 | 103.7700906 | 101.5079779 | 99.30657599 | 97.16389252 |
| 181220A00041 | 12/20/2018 | 3.36 | 12/18/2026 | 12/20/2018 | 120.10481 | 120.1048062 | 120.1048062 | 120.1048062 | 114.9106928 | 108.3035946 | 102.1291966 | 96.35678211 | 90.95797129 |
| 181220A00079 | 12/20/2018 | 3.23 | 6/20/2025 | 12/20/2018 | 114.89309 | 114.8930903 | 114.8930903 | 114.8930903 | 112.1129991 | 106.9958967 | 102.1467601 | 97.55011755 | 93.19147208 |
| 181227A00001 | 12/27/2018 | 2.92 | 12/27/2021 | 12/27/2018 | 104.21229 | 104.21229 | 104.21229 | 104.21229 | 103.8976357 | 102.3154149 | 100.7651569 | 99.24596148 | 97.75696165 |
| 190122A00018 | 1/22/2019 | 2.98 | 12/1/2022 | 1/22/2019 | 106.80416 | 106.8041631 | 106.8041631 | 106.8041631 | 106.1674872 | 103.6457747 | 101.1974865 | 98.8200566 | 96.51102515 |
| 190221A00009 | 2/21/2019 | 2.81 | 2/22/2021 | 2/21/2019 | 101.90692 | 101.906921 | 101.906921 | 101.906921 | 101.7443888 | 100.9997445 | 100.2659873 | 99.54287969 | 98.83019087 |
| 190311A00076 | 3/14/2019 | 2.88 | 9/16/2024 | 3/14/2019 | 111.20438 | 111.2043833 | 111.2043833 | 111.2043833 | 109.2416045 | 104.9201187 | 100.7954724 | 96.85765433 | 93.09721669 |
| 190327A00027 | 3/27/2019 | 2.66 | 1/15/2025 | 3/27/2019 | 110.9863 | 110.986296 | 110.986296 | 110.986296 | 108.7034005 | 104.0786777 | 99.67891404 | 95.49195734 | 91.50637908 |
| 190530A00028 | 5/30/2019 | 2.35 | 5/28/2021 | 5/30/2019 | 102.09365 | 102.093647 | 102.093647 | 102.093647 | 101.872369 | 100.8684432 | 99.88424454 | 98.91919595 | 97.9727428 |
| 190607A00041 | 6/7/2019 | 2.12 | 6/7/2022 | 6/7/2019 | 103.73271 | 103.7327114 | 103.7327114 | 103.7327114 | 103.3089775 | 101.293169 | 99.32695994 | 97.40881276 | 95.53724846 |
| 191002A00042 | 1/13/2020 | 1.76 | 1/13/2023 | 1/13/2020 | 103.88539 | 103.8853851 | 103.8853851 | 103.8853851 | 103.1953726 | 100.5968747 | 98.07681391 | 95.6323379 | 93.26071802 |
| 191002A00044 | 2/3/2020 | 1.75 | 2/3/2023 | 2/3/2020 | 103.94318 | 103.9431817 | 103.9431817 | 103.9431817 | 103.2217711 | 100.5677742 | 97.99521438 | 95.50107486 | 93.08247297 |
| 160212A00037 | 2/12/2016 | 3.03 | 2/12/2031 | 2/12/2016 | 129.10879 | 129.1087944 | 129.1087944 | 126.4119881 | 115.363694 | 105.1142053 | 95.89697158 | 87.60159919 | 80.13006404 |
| 160223A00012 | 2/23/2016 | 1.89 | 2/23/2023 | 2/23/2016 | 104.91274 | 104.9127365 | 104.9127365 | 104.9127365 | 104.1540358 | 101.4222469 | 98.77581757 | 96.21152102 | 93.72627734 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 160229A00028 | 2/29/2016 | 1.74 | 3/1/2021 | 2/29/2016 | 101.13694 | 101.1369371 | 101.1369371 | 101.1369371 | 100.9698244 | 100.209325 | 99.46023458 | 98.72229819 | 97.99526826 |
| 160406A00009 | 4/6/2016 | 1.62 | 4/6/2021 | 4/6/2016 | 101.17163 | 101.1716314 | 101.1716314 | 101.1716314 | 100.9794887 | 100.1211987 | 99.2774423 | 98.4478528 | 97.63207569 |
| 160629A00021 | 6/29/2016 | 1.32 | 6/29/2020 | 6/29/2016 | 100.08364 | 100.0836433 | 100.0836433 | 100.0836433 | 100.0715152 | 99.98573408 | 99.90009699 | 99.81460363 | 99.72925367 |
| 170327A00077 | 3/27/2019 | 2.74 | 3/27/2024 | 3/27/2019 | 109.43638 | 109.4363795 | 109.4363795 | 109.4363795 | 107.8977567 | 104.0579143 | 100.3765424 | 96.8462902 | 93.46018609 |
| 170327A00079 | 3/27/2019 | 3.19 | 3/29/2027 | 3/27/2019 | 119.77716 | 119.7771601 | 119.7771601 | 119.7771601 | 114.0945892 | 107.2549686 | 100.8803796 | 94.93670985 | 89.39251459 |
| 170327A00080 | 3/27/2019 | 3.43 | 3/27/2029 | 3/27/2019 | 127.59775 | 127.5977469 | 127.5977469 | 127.3545303 | 118.1831071 | 109.3929001 | 101.3475542 | 93.9795643 | 87.22787843 |
| 170331A00032 | 3/31/2017 | 2.03 | 3/31/2021 | 3/31/2017 | 101.49711 | 101.4971128 | 101.4971128 | 101.4971128 | 101.3086248 | 100.4651047 | 99.63558244 | 98.81971189 | 98.01715829 |
| 180130A00063 | 1/30/2018 | 2.63 | 1/31/2022 | 1/30/2018 | 103.9758 | 103.9757991 | 103.9757991 | 103.9757991 | 103.6415622 | 101.967961 | 100.3294644 | 98.7250326 | 97.15366665 |
| 180130A00064 | 1/30/2018 | 2.75 | 1/30/2023 | 1/30/2018 | 106.62715 | 106.6271497 | 106.6271497 | 106.6271497 | 105.903929 | 103.224298 | 100.6263486 | 98.10707104 | 95.66358843 |
| 180612A00031 | 6/12/2018 | 3.04 | 6/13/2022 | 6/12/2018 | 105.66086 | 105.6608585 | 105.6608585 | 105.6608585 | 105.2273022 | 103.1754909 | 101.174316 | 99.2221981 | 97.3176184 |
| 180726A00045 | 7/26/2018 | 3.1 | 7/26/2022 | 7/26/2018 | 106.11736 | 106.11736 | 106.11736 | 106.11736 | 105.6393843 | 103.4662496 | 101.348806 | 99.28523138 | 97.27377823 |
| 180919A00091 | 5/19/2020 | 3.3 | 5/19/2025 | 5/19/2020 | 114.98733 | 114.9873345 | 114.9873345 | 114.9873345 | 112.3074442 | 107.2690915 | 102.4906539 | 97.95734486 | 93.65529488 |
| 181015A00034 | 4/15/2019 | 3.25 | 4/15/2021 | 4/15/2019 | 102.65705 | 102.6570467 | 102.6570467 | 102.6570467 | 102.4575125 | 101.5676473 | 100.6932427 | 99.83389806 | 98.98922625 |
| 181029A00051 | 2/5/2019 | 3.69 | 2/5/2029 | 2/5/2019 | 129.4383 | 129.4383009 | 129.4383009 | 129.310708 | 120.2319604 | 111.4807985 | 103.458706 | 96.10052851 | 89.34727289 |
| 181206A00018 | 12/6/2018 | 3.13 | 12/6/2023 | 12/6/2018 | 110.07048 | 110.0704787 | 110.0704787 | 110.0704787 | 108.7691947 | 105.2131806 | 101.7940079 | 98.50566447 | 95.34243665 |
| 181220A00076 | 12/20/2018 | 3.02 | 1/20/2023 | 12/20/2018 | 107.28094 | 107.2809443 | 107.2809443 | 107.2809443 | 106.5706941 | 103.9085891 | 101.326945 | 98.8228234 | 96.39341428 |
| 190122A00017 | 1/22/2019 | 2.94 | 5/2/2022 | 1/22/2019 | 105.14805 | 105.1480479 | 105.1480479 | 105.1480479 | 104.7527478 | 102.8196404 | 100.931991 | 99.08845615 | 97.28774128 |
| 190206A00009 | 2/12/2019 | 2.84 | 2/11/2022 | 2/12/2019 | 104.40941 | 104.4094103 | 104.4094103 | 104.4094103 | 104.0680532 | 102.3604786 | 100.6891932 | 99.05310453 | 97.4511642 |
| 190425A00041 | 4/25/2019 | 2.56 | 6/15/2021 | 4/25/2019 | 102.41974 | 102.4197371 | 102.4197371 | 102.4197371 | 102.1939739 | 101.1392643 | 100.1062863 | 99.09437309 | 98.1028849 |
| 180709A00081 | 7/9/2018 | 3.05 | 7/7/2023 | 7/9/2018 | 108.63431 | 108.6343052 | 108.6343052 | 108.6343052 | 107.6360729 | 104.5038822 | 101.4800031 | 98.56006118 | 95.73988643 |
| 180821A00041 | 8/21/2018 | 3 | 9/21/2023 | 8/21/2018 | 109.04345 | 109.0434477 | 109.0434477 | 109.0434477 | 107.8993615 | 104.5607533 | 101.3438391 | 98.24352837 | 95.2549724 |
| 180823A00043 | 8/23/2018 | 2.83 | 9/23/2020 | 8/23/2018 | 100.83362 | 100.8336179 | 100.8336179 | 100.8336179 | 100.776447 | 100.4521261 | 100.1298953 | 99.80973437 | 99.49162332 |
| 180919A00012 | 9/19/2018 | 3 | 9/18/2020 | 9/19/2018 | 100.85084 | 100.8508355 | 100.8508355 | 100.8508355 | 100.7963776 | 100.4857969 | 100.1771384 | 99.87038435 | 99.56551711 |
| 181031A00070 | 3/1/2019 | 3.77 | 3/1/2029 | 3/1/2019 | 130.35859 | 130.3585908 | 130.3585908 | 130.1751022 | 121.0004558 | 112.1573822 | 104.0552062 | 96.62731777 | 89.81344523 |
| 181220A00078 | 12/20/2018 | 3.17 | 12/20/2024 | 12/20/2018 | 113.1618 | 113.1617973 | 113.1617973 | 113.1617973 | 110.9343824 | 106.3267648 | 101.9398089 | 97.76176171 | 93.78155926 |
| 190110A00036 | 1/10/2019 | 2.88 | 10/9/2020 | 1/10/2019 | 100.96588 | 100.9658789 | 100.9658789 | 100.9658789 | 100.8997473 | 100.5310728 | 100.1650975 | 99.80179169 | 99.44112625 |
| 190311A00073 | 3/14/2019 | 2.81 | 3/14/2024 | 3/14/2019 | 109.61739 | 109.6173934 | 109.6173934 | 109.6173934 | 108.1065655 | 104.2988123 | 100.6468187 | 97.14336332 | 93.78160126 |
| 190328A00077 | 3/28/2019 | 2.46 | 9/28/2021 | 3/28/2019 | 102.93582 | 102.935824 | 102.935824 | 102.935824 | 102.681491 | 101.3522561 | 100.0467726 | 98.76445251 | 97.50472713 |
| 190426A00023 | 4/26/2019 | 2.91 | 6/24/2026 | 4/26/2019 | 115.88683 | 115.8868313 | 115.8868313 | 115.8868313 | 111.6019515 | 105.5455074 | 99.86146846 | 94.52494311 | 89.51283053 |
| 190515A00032 | 5/15/2019 | 2.49 | 5/15/2024 | 5/15/2019 | 108.76656 | 108.766555 | 108.766555 | 108.766555 | 107.1201667 | 103.1671385 | 99.38270744 | 95.75880368 | 92.28778624 |
| 190607A00040 | 6/7/2019 | 2.12 | 6/7/2022 | 6/7/2019 | 103.73271 | 103.7327114 | 103.7327114 | 103.7327114 | 103.3089775 | 101.293169 | 99.32695994 | 97.40881276 | 95.53724846 |
| 190621A00039 | 6/21/2019 | 2.21 | 6/17/2024 | 6/21/2019 | 107.82138 | 107.8213788 | 107.8213788 | 107.8213788 | 106.1034686 | 102.0846629 | 98.24081184 | 94.56337007 | 91.04425668 |
| 190826A00046 | 8/26/2019 | 1.77 | 8/26/2024 | 8/26/2019 | 106.30698 | 106.3069783 | 106.3069783 | 106.3069783 | 104.4295731 | 100.2642332 | 96.28767507 | 92.49030125 | 88.86305979 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190904A00044 | 9/4/2019 | 1.72 | 12/30/2022 | 9/4/2019 | 103.72411 | 103.7241088 | 103.7241088 | 103.7241088 | 103.0551515 | 100.4950371 | 98.01138533 | 95.60144966 | 93.26260081 |
| 191002A00038 | 1/13/2020 | 1.76 | 1/13/2023 | 1/13/2020 | 103.88539 | 103.8853851 | 103.8853851 | 103.8853851 | 103.1953726 | 100.5968747 | 98.07681391 | 95.6323379 | 93.26071802 |
| 191002A00043 | 2/3/2020 | 1.75 | 2/3/2023 | 2/3/2020 | 103.94318 | 103.9431817 | 103.9431817 | 103.9431817 | 103.2217711 | 100.5677742 | 97.99521438 | 95.50107486 | 93.08247297 |
| 200131A00031 | 1/31/2020 | 1.74 | 1/31/2024 | 1/31/2020 | 105.35427 | 105.3542681 | 105.3542681 | 105.3542681 | 103.958725 | 100.3419531 | 96.86998553 | 93.53621508 | 90.33437652 |
| 190221A00011 | 2/21/2019 | 2.81 | 8/23/2021 | 2/21/2019 | 103.16887 | 103.1688728 | 103.1688728 | 103.1688728 | 102.9292318 | 101.6822402 | 100.4654202 | 99.27768622 | 98.11800441 |
| 190311A00069 | 3/25/2019 | 2.78 | 3/27/2023 | 3/25/2019 | 107.08993 | 107.0899306 | 107.0899306 | 107.0899306 | 106.2765009 | 103.4368366 | 100.6879267 | 98.02638994 | 95.44899012 |
| 190311A00072 | 3/25/2019 | 2.79 | 9/25/2023 | 3/25/2019 | 108.36869 | 108.3686942 | 108.3686942 | 108.3686942 | 107.2196935 | 103.8819336 | 100.666286 | 97.56764354 | 94.58114067 |
| 190405A00040 | 4/3/2020 | 3.12 | 4/5/2030 | 4/3/2020 | 127.69939 | 127.6993897 | 127.6993897 | 126.341164 | 116.1463164 | 106.5637394 | 97.87783503 | 89.99931427 | 82.84822125 |
| 190520A00048 | 5/20/2019 | 2.53 | 5/20/2024 | 5/20/2019 | 108.95696 | 108.9569635 | 108.9569635 | 108.9569635 | 107.2979284 | 103.328103 | 99.52811451 | 95.88980693 | 92.4054593 |
| 190604A00019 | 6/4/2019 | 2.27 | 6/4/2024 | 6/4/2019 | 107.99591 | 107.9959065 | 107.9959065 | 107.9959065 | 106.3075818 | 102.3181548 | 98.50119206 | 94.84832878 | 91.35165101 |
| 190829A00080 | 8/29/2019 | 1.8 | 12/29/2023 | 8/29/2019 | 105.43981 | 105.4398142 | 105.4398142 | 105.4398142 | 104.1129562 | 100.5780706 | 97.18193316 | 93.91834214 | 90.78140934 |
| 190904A00037 | 9/4/2019 | 1.73 | 6/15/2022 | 9/4/2019 | 102.96644 | 102.9664423 | 102.9664423 | 102.9664423 | 102.5366945 | 100.5078894 | 98.52937443 | 96.5995758 | 94.71698066 |
| 190904A00043 | 9/4/2019 | 1.72 | 12/15/2022 | 9/4/2019 | 103.66537 | 103.6653749 | 103.6653749 | 103.6653749 | 103.0176359 | 100.4983653 | 98.05350132 | 95.68040639 | 93.37655376 |
| 191002A00046 | 2/14/2020 | 1.75 | 2/14/2023 | 2/14/2020 | 103.98712 | 103.9871206 | 103.9871206 | 103.9871206 | 103.2486308 | 100.5647067 | 97.96389526 | 95.44308599 | 92.99930835 |
| 190621A00035 | 6/21/2019 | 2.19 | 12/15/2023 | 6/21/2019 | 106.77742 | 106.7774159 | 106.7774159 | 106.7774159 | 105.4729369 | 101.9510515 | 98.5660154 | 95.31176968 | 92.18255852 |
| 190807A00043 | 8/7/2019 | 1.8 | 8/7/2023 | 8/7/2019 | 104.84374 | 104.8437376 | 104.8437376 | 104.8437376 | 103.8025284 | 100.6482941 | 97.60605438 | 94.67116913 | 91.83922169 |
| 190829A00013 | 8/29/2019 | 1.78 | 8/29/2024 | 8/29/2019 | 106.36201 | 106.3620123 | 106.3620123 | 106.3620123 | 104.4769015 | 100.3029667 | 96.31849846 | 92.51384862 | 88.87991857 |
| 190829A00028 | 8/29/2019 | 1.78 | 8/29/2024 | 8/29/2019 | 106.36201 | 106.3620123 | 106.3620123 | 106.3620123 | 104.4769015 | 100.3029667 | 96.31849846 | 92.51384862 | 88.87991857 |
| 190829A00073 | 8/29/2019 | 1.81 | 3/15/2023 | 8/29/2019 | 104.27179 | 104.2717887 | 104.2717887 | 104.2717887 | 103.4867411 | 100.7202714 | 98.04159964 | 95.4474286 | 92.93460663 |
| 190904A00034 | 9/4/2019 | 1.74 | 6/1/2022 | 9/4/2019 | 102.9311 | 102.9311039 | 102.9311039 | 102.9311039 | 102.5147757 | 100.5230411 | 98.58011151 | 96.68448398 | 94.83471246 |
| 190904A00040 | 9/4/2019 | 1.73 | 6/22/2022 | 9/4/2019 | 102.99426 | 102.9942607 | 102.9942607 | 102.9942607 | 102.5577838 | 100.5103509 | 98.51396267 | 96.56700924 | 94.66794376 |
| 190530A00018 | 5/30/2019 | 2.36 | 5/28/2021 | 5/30/2019 | 102.10374 | 102.1037429 | 102.1037429 | 102.1037429 | 101.8824536 | 100.8784732 | 99.89422067 | 98.92911897 | 97.98261342 |
| 190530A00066 | 5/30/2019 | 2.44 | 5/30/2023 | 5/30/2019 | 106.49737 | 106.4973721 | 106.4973721 | 106.4973721 | 105.5760303 | 102.5763366 | 99.67810115 | 96.87733205 | 94.17021782 |
| 190815A00040 | 8/15/2019 | 1.86 | 8/15/2023 | 8/15/2019 | 105.0715 | 105.0714963 | 105.0714963 | 105.0714963 | 104.0143891 | 100.8360612 | 97.7711826 | 94.81502525 | 91.96309029 |
| 190829A00072 | 8/29/2019 | 1.81 | 12/15/2022 | 8/29/2019 | 103.89696 | 103.8969608 | 103.8969608 | 103.8969608 | 103.2485788 | 100.7263148 | 98.27852489 | 95.90256943 | 93.59591967 |
| 190917A00030 | 1/10/2020 | 2.03 | 1/10/2023 | 1/10/2020 | 104.58734 | 104.5873409 | 104.5873409 | 104.5873409 | 103.899715 | 101.2996704 | 98.77786176 | 96.33145265 | 93.95772914 |
| 110706A00010 | 7/6/2011 | 3.93 | 7/6/2021 | 7/6/2011 | 104.08377 | 104.0837673 | 104.0837673 | 104.0837673 | 103.8518904 | 102.7301866 | 101.632765 | 100.5588427 | 99.50766962 |
| 110927A00009 | 9/27/2011 | 3.07 | 9/27/2021 | 9/27/2011 | 103.75161 | 103.7516107 | 103.7516107 | 103.7516107 | 103.4965687 | 102.1638347 | 100.8551873 | 99.57001748 | 98.30773636 |
| 111024A00013 | 10/24/2011 | 3.24 | 10/25/2021 | 10/24/2011 | 104.22352 | 104.2235172 | 104.2235172 | 104.2235172 | 103.9495155 | 102.5372753 | 101.151161 | 99.79050997 | 98.45468112 |
| 140625A00021 | 6/27/2016 | 3.2 | 6/25/2021 | 6/27/2016 | 103.17889 | 103.1788908 | 103.1788908 | 103.1788908 | 102.9500626 | 101.8637615 | 100.8003782 | 99.75919279 | 98.73951523 |
| 140923A00069 | 9/23/2014 | 2.63 | 9/23/2021 | 9/23/2014 | 103.13282 | 103.132822 | 103.132822 | 103.132822 | 102.8804988 | 101.5611506 | 100.2667633 | 98.9966563 | 97.75017374 |
| 150115A00022 | 1/17/2017 | 2.56 | 1/16/2024 | 1/17/2017 | 108.30036 | 108.3003574 | 108.3003574 | 108.3003574 | 106.921748 | 103.2894822 | 99.80077673 | 96.44915411 | 93.22846827 |
| 150601A00246 | 6/1/2015 | 2 | 12/9/2022 | 6/1/2015 | 104.74842 | 104.7484159 | 104.7484159 | 104.7484159 | 104.1033083 | 101.5763714 | 99.12382927 | 96.74305419 | 94.43152823 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 150601A00677 | 6/1/2015 | 2.39 | 1/30/2025 | 6/1/2015 | 110.57531 | 110.5753052 | 110.5753052 | 110.5753052 | 108.2363839 | 103.5559877 | 99.10581938 | 94.87331304 | 90.84665903 |
| 150601A00713 | 6/1/2015 | 2.2 | 4/1/2022 | 6/1/2015 | 103.48425 | 103.4842545 | 103.4842545 | 103.4842545 | 103.1146579 | 101.2796496 | 99.4861541 | 97.73299357 | 96.01903087 |
| 150821A00008 | 8/21/2015 | 1.83 | 8/21/2020 | 8/21/2015 | 100.36284 | 100.36284 | 100.36284 | 100.36284 | 100.3236906 | 100.0911965 | 99.85978705 | 99.62945473 | 99.40019202 |
| 150929A00031 | 9/29/2015 | 1.81 | 9/29/2020 | 9/29/2015 | 100.52809 | 100.5280864 | 100.5280864 | 100.5280864 | 100.4677631 | 100.1275716 | 99.78967308 | 99.45404455 | 99.12066327 |
| 151002A00053 | 10/2/2017 | 2.17 | 10/4/2021 | 10/2/2017 | 102.57555 | 102.5755521 | 102.5755521 | 102.5755521 | 102.3179658 | 100.9753886 | 99.65674346 | 98.3614457 | 97.08892918 |
| 151027A00021 | 10/27/2015 | 2.02 | 10/27/2021 | 10/27/2015 | 102.49488 | 102.4948809 | 102.4948809 | 102.4948809 | 102.2221478 | 100.8172986 | 99.43854553 | 98.08522473 | 96.75669438 |
| 160210A00050 | 2/10/2016 | 1.64 | 2/10/2021 | 2/10/2016 | 100.98769 | 100.9876927 | 100.9876927 | 100.9876927 | 100.83489 | 100.1266811 | 99.42839233 | 98.73981617 | 98.06075099 |
| 160211A00034 | 2/11/2016 | 1.82 | 2/10/2023 | 2/11/2016 | 104.16226 | 104.1622602 | 104.1622602 | 104.1622602 | 103.4294027 | 100.7537449 | 98.16064966 | 95.64703897 | 93.20997248 |
| 160212A00014 | 2/12/2016 | 1.61 | 2/12/2021 | 2/12/2016 | 100.97378 | 100.9737826 | 100.9737826 | 100.9737826 | 100.8194919 | 100.105896 | 99.40237278 | 98.70871007 | 98.02470156 |
| 160711A00016 | 7/11/2016 | 1.42 | 7/12/2021 | 7/11/2016 | 101.29755 | 101.2975535 | 101.2975535 | 101.2975535 | 101.0682236 | 99.94685618 | 98.85023224 | 97.77754012 | 96.72800332 |
| 161031A00027 | 10/31/2016 | 1.51 | 10/30/2020 | 10/31/2016 | 100.53652 | 100.5365163 | 100.5365163 | 100.5365163 | 100.4586566 | 100.0332746 | 99.61148125 | 99.19323135 | 98.77848047 |
| 161115A00021 | 11/15/2016 | 2.02 | 11/15/2021 | 11/15/2016 | 102.57198 | 102.5719782 | 102.5719782 | 102.5719782 | 102.2862837 | 100.8308922 | 99.40346312 | 98.00326106 | 96.62957604 |
| 170404A00003 | 4/4/2017 | 2.74 | 4/4/2025 | 4/4/2017 | 111.93565 | 111.9356537 | 111.9356537 | 111.9356537 | 109.4171907 | 104.5644836 | 99.95736404 | 95.58215526 | 91.42600963 |
| 170518A00008 | 5/18/2018 | 3.06 | 5/18/2028 | 5/18/2018 | 121.99691 | 121.9969077 | 121.9969077 | 121.9969077 | 114.2883354 | 106.4158481 | 99.15662496 | 92.45945779 | 86.27766725 |
| 170622A00045 | 6/22/2017 | 2.76 | 6/22/2027 | 6/22/2017 | 117.39627 | 117.3962738 | 117.3962738 | 117.3962738 | 111.347015 | 104.3905037 | 97.9231878 | 91.90802801 | 86.31097443 |
| 170726A00025 | 7/26/2017 | 2.14 | 7/26/2022 | 7/26/2017 | 104.02307 | 104.0230671 | 104.0230671 | 104.0230671 | 103.5498126 | 101.3998199 | 99.30504626 | 97.26368317 | 95.2739964 |
| 170816A00030 | 8/16/2017 | 1.95 | 8/16/2021 | 8/16/2017 | 102.06093 | 102.0609345 | 102.0609345 | 102.0609345 | 101.82428 | 100.6035144 | 99.41189677 | 98.24839286 | 97.11201675 |
| 171219A00031 | 12/19/2017 | 2.42 | 12/20/2021 | 12/19/2017 | 103.3716 | 103.3716014 | 103.3716014 | 103.3716014 | 103.0625344 | 101.5064269 | 99.98155796 | 98.487057 | 97.02208538 |
| 171229A00031 | 12/29/2017 | 2.36 | 12/29/2020 | 12/29/2017 | 101.25008 | 101.2500776 | 101.2500776 | 101.2500776 | 101.131225 | 100.539373 | 99.9544268 | 99.37626626 | 98.80477394 |
| 180105A00021 | 1/5/2018 | 2.33 | 1/5/2021 | 1/5/2018 | 101.2726 | 101.2726003 | 101.2726003 | 101.2726003 | 101.148051 | 100.5369746 | 99.93327062 | 99.33680629 | 98.74745181 |
| 180110A00011 | 1/10/2018 | 2.38 | 1/11/2021 | 1/10/2018 | 101.33868 | 101.3386771 | 101.3386771 | 101.3386771 | 101.2092152 | 100.5815033 | 99.961571 | 99.34927404 | 98.74447187 |
| 180131A00022 | 1/31/2018 | 2.96 | 1/30/2025 | 1/31/2018 | 112.49525 | 112.4952545 | 112.4952545 | 112.4952545 | 110.1586905 | 105.4616997 | 100.9943815 | 96.7442515 | 92.69957419 |
| 180403A00024 | 4/3/2018 | 2.96 | 4/3/2023 | 4/3/2018 | 107.65504 | 107.6550373 | 107.6550373 | 107.6550373 | 106.8280773 | 103.9617093 | 101.1874438 | 98.50183867 | 95.90159916 |
| 180404A00018 | 4/4/2018 | 2.89 | 4/4/2022 | 4/4/2018 | 104.84975 | 104.8497544 | 104.8497544 | 104.8497544 | 104.4754098 | 102.6194934 | 100.8056785 | 99.03276567 | 97.29959736 |
| 180518A00025 | 5/18/2018 | 2.96 | 5/18/2021 | 5/18/2018 | 102.63526 | 102.6352615 | 102.6352615 | 102.6352615 | 102.4178933 | 101.4382655 | 100.4773654 | 99.53465918 | 98.60963355 |
| 180518A00041 | 5/25/2018 | 3.32 | 5/20/2024 | 5/25/2018 | 112.12398 | 112.1239822 | 112.1239822 | 112.1239822 | 110.4465775 | 106.414277 | 102.5537581 | 98.85678823 | 95.3155734 |
| 180518A00071 | 5/25/2018 | 3.56 | 5/18/2026 | 5/25/2018 | 119.52331 | 119.5233055 | 119.5233055 | 119.5233055 | 115.3619617 | 109.2889826 | 103.5822203 | 98.21760274 | 93.17276169 |
| 180613A00046 | 6/13/2018 | 3 | 1/13/2022 | 6/13/2018 | 104.46795 | 104.4679466 | 104.4679466 | 104.4679466 | 104.1431137 | 102.5132888 | 100.9169803 | 99.35321989 | 97.82107656 |
| 180613A00047 | 6/13/2018 | 3.17 | 1/12/2024 | 6/13/2018 | 110.50475 | 110.5047543 | 110.5047543 | 110.5047543 | 109.1237859 | 105.4619682 | 101.9441179 | 98.56376433 | 95.31476666 |
| 180615A00039 | 6/15/2018 | 3.49 | 6/15/2028 | 6/15/2018 | 125.67259 | 125.6725925 | 125.6725925 | 125.6725925 | 117.7409286 | 109.6665232 | 102.2233432 | 95.35838111 | 89.02334896 |
| 180720A00022 | 7/20/2018 | 2.88 | 7/20/2020 | 7/20/2018 | 100.37194 | 100.3719408 | 100.3719408 | 100.3719408 | 100.3495086 | 100.2053569 | 100.0616294 | 99.91832433 | 99.77543968 |
| 180912A00017 | 9/12/2018 | 3.13 | 9/12/2023 | 9/12/2018 | 109.40789 | 109.4078902 | 109.4078902 | 109.4078902 | 108.2797576 | 104.9585309 | 101.75754 | 98.67174917 | 95.69636459 |
| 181003A00023 | 10/3/2018 | 3.17 | 4/4/2022 | 10/3/2018 | 105.37324 | 105.3732384 | 105.3732384 | 105.3732384 | 104.9978884 | 103.136971 | 101.3182493 | 99.54052137 | 97.80262694 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 181113A00073 | 11/13/2018 | 3.17 | 11/13/2020 | 11/13/2018 | 101.3595 | 101.3595046 | 101.3595046 | 101.3595046 | 101.2726031 | 100.806582 | 100.3448564 | 99.88736716 | 99.43405593 |
| 190311A00031 | 3/11/2019 | 2.71 | 9/8/2021 | 3/11/2019 | 103.15183 | 103.1518286 | 103.1518286 | 103.1518286 | 102.9063234 | 101.6205208 | 100.3632662 | 99.13360805 | 97.93063723 |
| 190325A00022 | 3/25/2019 | 2.55 | 11/25/2022 | 3/25/2019 | 105.67697 | 105.6769677 | 105.6769677 | 105.6769677 | 105.0515127 | 102.5600048 | 100.1407321 | 97.79118386 | 95.50895274 |
| 190501A00014 | 5/1/2019 | 2.62 | 5/1/2024 | 5/1/2019 | 109.19678 | 109.1967829 | 109.1967829 | 109.1967829 | 107.580302 | 103.6554611 | 99.89634769 | 96.29510756 | 92.8442997 |
| 190514A00006 | 5/14/2019 | 2.43 | 5/17/2021 | 5/14/2019 | 102.10891 | 102.1089054 | 102.1089054 | 102.1089054 | 101.8925611 | 100.9184298 | 99.96288585 | 99.02540091 | 98.10546642 |
| 190514A00017 | 5/14/2019 | 2.43 | 5/17/2021 | 5/14/2019 | 102.10891 | 102.1089054 | 102.1089054 | 102.1089054 | 101.8925611 | 100.9184298 | 99.96288585 | 99.02540091 | 98.10546642 |
| 190523A00035 | 5/23/2019 | 2.34 | 11/23/2021 | 5/23/2019 | 103.09203 | 103.0920325 | 103.0920325 | 103.0920325 | 102.8000808 | 101.3195952 | 99.86794282 | 98.44435516 | 97.0480906 |
| 190530A00040 | 5/30/2019 | 2.32 | 11/30/2021 | 5/30/2019 | 103.10139 | 103.1013879 | 103.1013879 | 103.1013879 | 102.8047371 | 101.3056312 | 99.83604825 | 98.39519253 | 96.98229618 |
| 190531A00051 | 6/3/2019 | 2.27 | 6/3/2021 | 6/3/2019 | 102.04607 | 102.0460707 | 102.0460707 | 102.0460707 | 101.8233217 | 100.8033392 | 99.80373162 | 98.82389304 | 97.86324139 |
| 190625A00018 | 6/25/2019 | 2.19 | 6/25/2020 | 6/25/2019 | 100.13808 | 100.1380805 | 100.1380805 | 100.1380805 | 100.127509 | 100.0527323 | 99.97807286 | 99.90353053 | 99.82910501 |
| 190722A00054 | 12/19/2019 | 2.02 | 12/20/2021 | 12/19/2019 | 102.73977 | 102.7397734 | 102.7397734 | 102.7397734 | 102.4317445 | 100.8807957 | 99.36099414 | 97.87147167 | 96.41139211 |
| 190829A00017 | 8/29/2019 | 1.8 | 8/29/2023 | 8/29/2019 | 104.9351 | 104.9350977 | 104.9350977 | 104.9350977 | 103.8523047 | 100.6404661 | 97.54441398 | 94.55927196 | 91.68040323 |
| 190829A00076 | 8/29/2019 | 1.81 | 6/30/2023 | 8/29/2019 | 104.71784 | 104.7178354 | 104.7178354 | 104.7178354 | 103.7471439 | 100.6945938 | 97.74761611 | 94.90195964 | 92.15357104 |
| 190917A00033 | 1/10/2020 | 2.03 | 1/10/2023 | 1/10/2020 | 104.58734 | 104.5873409 | 104.5873409 | 104.5873409 | 103.899715 | 101.2996704 | 98.77786176 | 96.33145265 | 93.95772914 |
| 191211A00013 | 12/11/2019 | 1.57 | 12/11/2024 | 12/12/2022 | 106.66285 | 106.6628527 | 106.6628527 | 106.6628527 | 104.7927041 | 101.2195319 | 98.29577981 | 95.7800998 | 93.45437573 |
| 200227A00018 | 2/27/2020 | 0.99 | 2/27/2025 | 2/28/2022 | 104.18837 | 104.188368 | 104.188368 | 104.188368 | 102.5964194 | 99.85400483 | 97.84295423 | 96.13472738 | 94.51390223 |
| 190426A00018 | 4/26/2019 | 2.14 | 4/26/2024 | 7/27/2020 | 107.27222 | 107.2722163 | 107.2722163 | 107.2722163 | 105.773133 | 102.4655534 | 100.306013 | 99.7947131 | 99.64110667 |
| 190515A00061 | 5/15/2019 | 2 | 5/15/2024 | 8/17/2020 | 106.80893 | 106.8089261 | 106.8089261 | 106.8089261 | 105.3016261 | 102.0851747 | 100.1431475 | 99.68159458 | 99.47070481 |
| 190530A00092 | 5/30/2019 | 1.69 | 5/30/2024 | 6/1/2020 | 106.36649 | 106.3664877 | 106.3664877 | 106.3664877 | 104.8589307 | 101.7418113 | 100.0083519 | 99.60128815 | 99.35259723 |
| 181004A00034 | 10/4/2018 | 2.58 | 10/5/2020 | 7/6/2020 | 100.82948 | 100.8294762 | 100.8294762 | 100.8294762 | 100.7656554 | 100.4082998 | 100.0610371 | 99.90177996 | 99.80551353 |
| 190603A00067 | 6/3/2019 | 1.72 | 6/3/2024 | 6/3/2020 | 105.76446 | 105.7644565 | 105.7644565 | 105.7644565 | 104.3024514 | 101.3587938 | 99.98700979 | 99.95608308 | 99.94247481 |
| 190610A00069 | 6/10/2019 | 2.04 | 6/10/2022 | 6/10/2020 | 103.5835 | 103.5834957 | 103.5834957 | 103.5834957 | 103.1596657 | 101.2603984 | 100.0521281 | 99.93912231 | 99.90613042 |
| 190712A00047 | 7/12/2019 | 1.54 | 7/12/2024 | 7/13/2020 | 105.92783 | 105.9278319 | 105.9278319 | 105.9278319 | 104.387672 | 101.3826981 | 99.96655515 | 99.79360783 | 99.67801309 |
| 190808A00013 | 8/8/2019 | 1.23 | 8/8/2024 | 8/10/2020 | 104.71805 | 104.71805 | 104.71805 | 104.71805 | 103.2779173 | 100.6957057 | 99.80402695 | 99.59798329 | 99.4063413 |
| 190820A00068 | 8/20/2019 | 1.39 | 8/20/2024 | 8/20/2020 | 104.66334 | 104.6633431 | 104.6633431 | 104.6633431 | 103.21683 | 100.6494399 | 99.76116458 | 99.52168952 | 99.29541779 |
| 190911A00012 | 9/11/2019 | 1.27 | 9/11/2024 | 9/11/2020 | 104.99623 | 104.9962326 | 104.9962326 | 104.9962326 | 103.4756456 | 100.7892944 | 99.73027223 | 99.41271217 | 99.12705781 |
| 200130A00029 | 1/30/2020 | 1.3 | 1/30/2023 | 2/1/2021 | 103.19825 | 103.1982498 | 103.1982498 | 103.1982498 | 102.5414159 | 100.5094232 | 99.36367954 | 98.65967489 | 98.00962196 |
| 200227A00025 | 2/27/2020 | 1.09 | 2/27/2025 | 2/27/2023 | 104.66891 | 104.6689148 | 104.6689148 | 104.6689148 | 102.905721 | 99.54360948 | 96.67730483 | 94.07335399 | 91.59892606 |
| 190509A00033 | 5/9/2019 | 2.41 | 5/9/2022 | 5/10/2021 | 104.15696 | 104.1569637 | 104.1569637 | 104.1569637 | 103.7582258 | 101.8578931 | 100.2256901 | 99.0361856 | 98.10297188 |
| 190516A00028 | 5/16/2019 | 2.03 | 5/16/2024 | 8/17/2020 | 106.93353 | 106.933529 | 106.933529 | 106.933529 | 105.4173517 | 102.1714091 | 100.1761057 | 99.68813035 | 99.47708847 |
| 181031A00046 | 11/2/2018 | 3.05 | 10/29/2021 | 11/2/2020 | 103.98346 | 103.9834592 | 103.9834592 | 103.9834592 | 103.7071551 | 102.2866441 | 100.9299338 | 99.91846935 | 99.39363621 |
| 190606A00030 | 6/6/2019 | 1.48 | 6/6/2024 | 6/8/2020 | 105.54208 | 105.5420773 | 105.5420773 | 105.5420773 | 104.0921812 | 101.2169001 | 99.97735659 | 99.9580444 | 99.93875149 |
| 190702A00051 | 7/2/2019 | 1.46 | 7/2/2024 | 7/2/2020 | 105.5572 | 105.5572008 | 105.5572008 | 105.5572008 | 104.0693427 | 101.1890268 | 99.94947291 | 99.82209367 | 99.72840267 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190725A00022 | 7/25/2019 | 1.7 | 7/25/2022 | 7/27/2020 | 103.45261 | 103.4526072 | 103.4526072 | 103.4526072 | 102.9863744 | 101.0394797 | 99.95584834 | 99.75547125 | 99.60160883 |
| 190812A00020 | 8/12/2019 | 1.47 | 8/12/2024 | 8/12/2020 | 104.97836 | 104.9783638 | 104.9783638 | 104.9783638 | 103.5009931 | 100.8164564 | 99.80397467 | 99.57760884 | 99.37290296 |
| 190821A00046 | 8/21/2019 | 1.44 | 8/21/2024 | 8/21/2020 | 104.87956 | 104.8795601 | 104.8795601 | 104.8795601 | 103.4027058 | 100.7514196 | 99.77528844 | 99.52837752 | 99.29939083 |
| 190924A00014 | 9/24/2019 | 1.54 | 9/24/2024 | 9/24/2020 | 105.42246 | 105.4224645 | 105.4224645 | 105.4224645 | 103.8322314 | 100.9866787 | 99.74515212 | 99.37524573 | 99.05546402 |
| 081028A00036 | 10/30/2008 | 4.22 | 10/30/2023 | | 113.54402 | 113.544025 | 113.544025 | 113.544025 | 112.3029342 | 108.7839087 | 105.3962453 | 102.1342962 | 98.99271612 |
| 191121A00031 | 11/21/2019 | 1.54 | 11/21/2024 | 11/21/2022 | 106.44662 | 106.4466198 | 106.4466198 | 106.4466198 | 104.6302438 | 101.1217574 | 98.26075931 | 95.79897432 | 93.51836115 |
| 200221A00041 | 2/21/2020 | 1.53 | 2/21/2025 | 2/21/2023 | 105.88617 | 105.8861679 | 105.8861679 | 105.8861679 | 103.9779641 | 100.433104 | 97.46842249 | 94.83904632 | 92.37020137 |
| 200303A00035 | 3/3/2020 | 0.81 | 3/3/2025 | 3/3/2023 | 103.33097 | 103.330971 | 103.330971 | 103.330971 | 101.7881308 | 98.63391634 | 95.86200544 | 93.28575513 | 90.81704441 |
| 190417A00010 | 4/17/2019 | 2.09 | 4/17/2024 | 7/17/2020 | 107.7526 | 107.7526015 | 107.7526015 | 107.7526015 | 106.2423559 | 102.8463887 | 100.4920709 | 99.83849441 | 99.70187734 |
| 190513A00065 | 5/13/2019 | 2.01 | 5/13/2022 | 8/13/2020 | 103.74682 | 103.7468169 | 103.7468169 | 103.7468169 | 103.3448751 | 101.4703554 | 100.1243597 | 99.73011253 | 99.52153725 |
| 190529A00115 | 5/29/2019 | 1.92 | 5/29/2024 | 8/31/2020 | 106.55156 | 106.5515603 | 106.5515603 | 106.5515603 | 105.0368652 | 101.8715159 | 100.0495674 | 99.615951 | 99.36756393 |
| 190607A00022 | 6/7/2019 | 1.5 | 6/7/2024 | 6/8/2020 | 105.62731 | 105.6273121 | 105.6273121 | 105.6273121 | 104.1677911 | 101.2640551 | 99.97774648 | 99.95843478 | 99.93914235 |
| 190712A00038 | 7/12/2019 | 1.87 | 7/12/2021 | 7/13/2020 | 101.98851 | 101.9885124 | 101.9885124 | 101.9885124 | 101.7578134 | 100.6620315 | 99.97366282 | 99.83197452 | 99.71633915 |
| 190807A00035 | 8/7/2019 | 1.45 | 8/7/2024 | 8/7/2020 | 104.87768 | 104.8776754 | 104.8776754 | 104.8776754 | 103.4199231 | 100.7752998 | 99.80761881 | 99.5972499 | 99.40606439 |
| 190816A00028 | 8/16/2019 | 1.33 | 8/16/2022 | 8/17/2020 | 102.71876 | 102.7187581 | 102.7187581 | 102.7187581 | 102.2446821 | 100.4825428 | 99.80137258 | 99.58172098 | 99.37113568 |
| 190830A00028 | 8/30/2019 | 1.39 | 8/30/2024 | 8/31/2020 | 104.69361 | 104.6936094 | 104.6936094 | 104.6936094 | 103.2318656 | 100.6552764 | 99.74405524 | 99.48241082 | 99.23458687 |
| 180404A00037 | 4/6/2018 | 2.51 | 4/6/2028 | 4/6/2022 | 118.96837 | 118.9683694 | 118.9683694 | 118.9683694 | 112.421687 | 106.3692161 | 101.9539047 | 99.01026548 | 96.95262948 |
| 200128A00045 | 1/28/2020 | 1.45 | 1/28/2025 | 1/28/2021 | 105.38158 | 105.3815807 | 105.3815807 | 105.3815807 | 103.6287378 | 100.7906612 | 99.37576001 | 98.64548746 | 97.99900852 |
| 200227A00024 | 2/27/2020 | 0.85 | 2/27/2025 | 3/1/2021 | 103.5156 | 103.515603 | 103.515603 | 103.515603 | 102.0827055 | 99.95220176 | 98.91522252 | 98.16899479 | 97.45038801 |
| 190426A00024 | 4/26/2019 | 2.24 | 4/26/2022 | 7/27/2020 | 103.75298 | 103.7529844 | 103.7529844 | 103.7529844 | 103.3658637 | 101.5258622 | 100.1579445 | 99.81020425 | 99.65657925 |
| 190516A00018 | 5/16/2019 | 2.03 | 5/16/2024 | 8/17/2020 | 106.93353 | 106.933529 | 106.933529 | 106.933529 | 105.4173517 | 102.1714091 | 100.1761057 | 99.68813035 | 99.47708847 |
| 190530A00108 | 5/30/2019 | 1.88 | 5/30/2024 | 6/1/2020 | 106.39473 | 106.3947253 | 106.3947253 | 106.3947253 | 104.889853 | 101.7682529 | 100.0170072 | 99.60577222 | 99.35752786 |
| 181004A00037 | 10/4/2018 | 2.48 | 10/5/2020 | 7/6/2020 | 100.79366 | 100.7936639 | 100.7936639 | 100.7936639 | 100.7298567 | 100.3725806 | 100.0321893 | 99.89208905 | 99.79583177 |
| 190605A00032 | 6/5/2019 | 1.92 | 6/3/2022 | 6/3/2020 | 103.30546 | 103.3054554 | 103.3054554 | 103.3054554 | 102.8898244 | 101.0452128 | 99.99964735 | 99.95885269 | 99.94524204 |
| 190613A00024 | 6/13/2019 | 2.18 | 6/13/2024 | 6/13/2023 | 107.67807 | 107.678067 | 107.678067 | 107.678067 | 106.0371497 | 102.3342952 | 99.0511393 | 96.09442371 | 93.33581277 |
| 190725A00018 | 7/25/2019 | 1.78 | 7/25/2024 | 7/27/2020 | 106.21913 | 106.2191251 | 106.2191251 | 106.2191251 | 104.6377153 | 101.5421962 | 99.97621693 | 99.73893415 | 99.58539113 |
| 190809A00026 | 8/9/2019 | 1.52 | 8/9/2024 | 8/10/2020 | 105.18021 | 105.1802139 | 105.1802139 | 105.1802139 | 103.6824973 | 100.9264796 | 99.83167621 | 99.61080072 | 99.41959798 |
| 190821A00024 | 8/21/2019 | 1.65 | 8/21/2024 | 8/22/2022 | 105.77501 | 105.7750052 | 105.7750052 | 105.7750052 | 104.1826389 | 100.9361104 | 98.33811222 | 96.12574096 | 94.07316303 |
| 190917A00040 | 9/17/2019 | 1.63 | 9/17/2024 | 9/17/2020 | 105.78891 | 105.7889054 | 105.7889054 | 105.7889054 | 104.1672587 | 101.2008492 | 99.81231957 | 99.43416287 | 99.13293391 |
| 070906A00048 | 9/10/2007 | 3.79 | 9/12/2022 | 6/10/2020 | 108.086 | 108.086002 | 108.086002 | 108.086002 | 107.5489008 | 105.2277309 | 102.9990358 | 101.0320986 | 99.97512784 |
| 191029A00020 | 10/29/2019 | 1.51 | 10/31/2022 | 11/2/2020 | 103.41578 | 103.4157845 | 103.4157845 | 103.4157845 | 102.8497663 | 100.8233295 | 99.72127988 | 99.24067689 | 98.8248075 |
| 200221A00040 | 2/21/2020 | 1.28 | 2/21/2025 | 2/22/2021 | 104.69411 | 104.694106 | 104.694106 | 104.694106 | 103.0275171 | 100.4379178 | 99.15998992 | 98.39964184 | 97.69881254 |
| 200228A00096 | 2/28/2020 | 1.28 | 2/28/2022 | 3/1/2021 | 101.78571 | 101.7857058 | 101.7857058 | 101.7857058 | 101.447689 | 100.0370604 | 99.11146614 | 98.36978633 | 97.65192864 |

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 190104A00032 | 1/4/2019 | 2.33 | 1/4/2024 | 6/4/2020 | 107.39002 | 107.3900162 | 107.3900162 | 107.3900162 | 106.0879701 | 102.8673692 | 100.5581802 | 99.8753267 | 99.77653408 |
| 190513A00033 | 5/13/2019 | 2.35 | 5/15/2023 | 5/13/2022 | 106.13996 | 106.13996 | 106.13996 | 106.13996 | 105.2615487 | 102.4668248 | 100.0416601 | 97.97736376 | 96.11798952 |
| 190523A00050 | 5/23/2019 | 2.3 | 5/23/2023 | 5/23/2022 | 106.03455 | 106.0345492 | 106.0345492 | 106.0345492 | 105.1375325 | 102.3203044 | 99.89910436 | 97.84247846 | 95.97222492 |
| 190607A00016 | 6/7/2019 | 1.75 | 6/7/2024 | 6/8/2020 | 105.9019 | 105.901896 | 105.901896 | 105.901896 | 104.4218813 | 101.4351884 | 99.99955883 | 99.94878224 | 99.92963698 |
| 190703A00023 | 7/3/2019 | 1.9 | 6/30/2022 | 6/30/2020 | 103.38476 | 103.3847603 | 103.3847603 | 103.3847603 | 102.9442709 | 101.0501155 | 99.98088853 | 99.84158813 | 99.7536582 |
| 190805A00014 | 8/5/2019 | 1.49 | 8/5/2024 | 8/5/2022 | 105.81027 | 105.8102661 | 105.8102661 | 105.8102661 | 104.236682 | 100.9957905 | 98.40832145 | 96.2152197 | 94.18605244 |
| 190814A00019 | 8/14/2019 | 1.46 | 8/14/2024 | 8/14/2020 | 104.94239 | 104.9423859 | 104.9423859 | 104.9423859 | 103.4668502 | 100.7951767 | 99.79658717 | 99.56608236 | 99.35597763 |
| 190828A00021 | 8/28/2019 | 1.36 | 8/28/2024 | 8/28/2020 | 104.55897 | 104.5589734 | 104.5589734 | 104.5589734 | 103.1170195 | 100.5893752 | 99.73388091 | 99.47486134 | 99.2270469 |
| 191011A00020 | 10/11/2019 | 1.53 | 10/11/2024 | 10/13/2020 | 105.43634 | 105.4363444 | 105.4363444 | 105.4363444 | 103.8222543 | 100.9789265 | 99.70467516 | 99.28083014 | 98.92144016 |
| 191209A00045 | 12/9/2019 | 1.56 | 12/9/2024 | 12/9/2022 | 106.609 | 106.6089976 | 106.6089976 | 106.6089976 | 104.7475675 | 101.1847425 | 98.26766885 | 95.75484132 | 93.43000945 |
| 200221A00045 | 2/21/2020 | 1.03 | 2/21/2025 | 2/22/2021 | 104.36551 | 104.36551 | 104.36551 | 104.36551 | 102.7569268 | 100.2928338 | 99.0943767 | 98.34511595 | 97.64314025 |
| 200306A00069 | 3/6/2020 | 0.58 | 3/6/2025 | 3/7/2022 | 102.22695 | 102.2269528 | 102.2269528 | 102.2269528 | 101.1046569 | 98.86824799 | 97.04790083 | 95.36885533 | 93.74086646 |
| 190426A00017 | 4/26/2019 | 2.31 | 4/26/2022 | 7/27/2020 | 103.88811 | 103.8881086 | 103.8881086 | 103.8881086 | 103.5005582 | 101.6489789 | 100.2225354 | 99.82104805 | 99.66741006 |
| 190515A00056 | 5/15/2019 | 1.81 | 5/15/2024 | 8/17/2020 | 106.78249 | 106.7824934 | 106.7824934 | 106.7824934 | 105.2707781 | 102.055613 | 100.1340283 | 99.68443835 | 99.47312844 |
| 190530A00057 | 5/30/2019 | 1.71 | 5/30/2024 | 6/1/2020 | 106.44751 | 106.4475114 | 106.4475114 | 106.4475114 | 104.9341803 | 101.7961107 | 100.0261413 | 99.6063873 | 99.35761667 |
| 180925A00059 | 9/25/2018 | 3.01 | 9/25/2028 | 9/25/2023 | 124.30258 | 124.3025821 | 124.3025821 | 124.3025821 | 116.4965908 | 109.4214366 | 103.7873834 | 99.42390746 | 95.93503234 |
| 190607A00025 | 6/7/2019 | 1.48 | 6/7/2024 | 6/8/2020 | 105.54585 | 105.5458467 | 105.5458467 | 105.5458467 | 104.0939017 | 101.2161599 | 99.9773583 | 99.95804691 | 99.93875479 |
| 190712A00044 | 7/12/2019 | 1.73 | 7/12/2022 | 7/13/2020 | 103.46012 | 103.4601227 | 103.4601227 | 103.4601227 | 103.0062437 | 101.0786674 | 99.98388012 | 99.81569774 | 99.70007961 |
| 190807A00056 | 8/7/2019 | 1.49 | 8/7/2024 | 8/7/2020 | 105.0467 | 105.0467005 | 105.0467005 | 105.0467005 | 103.567863 | 100.8610614 | 99.82104622 | 99.60498944 | 99.41379292 |
| 190816A00029 | 8/16/2019 | 1.11 | 8/16/2024 | 8/17/2020 | 104.23066 | 104.2306628 | 104.2306628 | 104.2306628 | 102.8493791 | 100.4677512 | 99.75192584 | 99.53489924 | 99.32438477 |
| 190909A00021 | 9/9/2019 | 1.2 | 9/9/2024 | 9/9/2020 | 104.68654 | 104.6865421 | 104.6865421 | 104.6865421 | 103.2118416 | 100.6466843 | 99.70593345 | 99.40325488 | 99.12297999 |
| 180406A00015 | 4/10/2018 | 2.61 | 4/10/2028 | 4/10/2023 | 119.78897 | 119.788969 | 119.788969 | 119.788969 | 113.1112768 | 106.849478 | 102.0138146 | 98.36174934 | 95.43790293 |
| 191017A00012 | 10/17/2019 | 1.43 | 10/17/2022 | 10/19/2020 | 103.16858 | 103.1685827 | 103.1685827 | 103.1685827 | 102.6234012 | 100.6762801 | 99.70045878 | 99.28255122 | 98.90389107 |
| 200207A00008 | 2/7/2020 | 1.35 | 2/7/2025 | 2/7/2023 | 105.85041 | 105.8504056 | 105.8504056 | 105.8504056 | 103.9655974 | 100.4383374 | 97.49376251 | 94.88646397 | 92.43985453 |
| 200228A00095 | 2/28/2020 | 1.15 | 2/28/2023 | 3/1/2021 | 102.39833 | 102.3983313 | 102.3983313 | 102.3983313 | 101.7627269 | 99.99553493 | 99.00919503 | 98.26552681 | 97.54818256 |
| 190510A00019 | 5/10/2019 | 2.39 | 5/10/2022 | 5/10/2021 | 104.12341 | 104.1234094 | 104.1234094 | 104.1234094 | 103.7239428 | 101.8234009 | 100.1960964 | 99.00936174 | 98.07131705 |
| 190523A00048 | 5/23/2019 | 2.32 | 5/23/2024 | 5/23/2023 | 108.13173 | 108.13173 | 108.13173 | 108.13173 | 106.5202514 | 102.8180213 | 99.53643873 | 96.59926524 | 93.87385702 |
| 181210A00035 | 12/12/2018 | 2.65 | 1/16/2024 | 1/15/2021 | 108.63027 | 108.6302653 | 108.6302653 | 108.6302653 | 107.2758907 | 103.870418 | 101.1681324 | 99.61205829 | 98.86215502 |
| 190606A00054 | 6/6/2019 | 1.8 | 6/6/2024 | 6/8/2020 | 106.10067 | 106.1006677 | 106.1006677 | 106.1006677 | 104.6062437 | 101.5638076 | 100.0286937 | 99.94974872 | 99.93060172 |
| 190702A00082 | 7/2/2019 | 1.63 | 6/30/2022 | 6/30/2020 | 103.19524 | 103.1952354 | 103.1952354 | 103.1952354 | 102.7555673 | 100.9022552 | 99.96264158 | 99.84661766 | 99.75839301 |
| 190801A00025 | 8/1/2019 | 1.68 | 8/1/2024 | 8/3/2020 | 105.8267 | 105.8267034 | 105.8267034 | 105.8267034 | 104.2715115 | 101.3003657 | 99.91709571 | 99.67065353 | 99.49835923 |
| 190812A00027 | 8/12/2019 | 1.71 | 8/12/2024 | 8/12/2022 | 105.99581 | 105.9958057 | 105.9958057 | 105.9958057 | 104.3976734 | 101.1190246 | 98.50007718 | 96.28780902 | 94.24672569 |
| 190828A00011 | 8/28/2019 | 1.1 | 8/28/2024 | 8/28/2020 | 104.22062 | 104.220617 | 104.220617 | 104.220617 | 102.8243941 | 100.4405869 | 99.70750436 | 99.45276019 | 99.20451352 |

Classification | Public

| | Parallel-Shift Sensitivity Analysis | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/29/2020 | | | | | Price | | | | | | | | |
| REFERENCE | DATE | Rate | DATE | Call/Put | -400 | -300 | -200 | -100 | Base | 100 | 200 | 300 | 400 |
| 191008A00028 | 10/11/2019 | 1.08 | 10/8/2024 | 10/8/2020 | 104.2437 | 104.2437003 | 104.2437003 | 104.2437003 | 102.8054654 | 100.4299689 | 99.56881658 | 99.19322001 | 98.83605392 |
| 200131A00023 | 1/31/2020 | 1.56 | 1/31/2025 | 1/31/2023 | 105.90915 | 105.9091454 | 105.9091454 | 105.9091454 | 104.0339465 | 100.5160008 | 97.58632438 | 95.00072266 | 92.5784504 |
| 200228A00090 | 2/28/2020 | 1 | 2/28/2025 | 3/1/2021 | 103.3955 | 103.3954953 | 103.3954953 | 103.3954953 | 101.9860621 | 99.90892931 | 98.89575333 | 98.15338651 | 97.43652867 |
| 190509A00063 | 5/9/2019 | 2.11 | 5/9/2024 | 8/10/2020 | 107.21859 | 107.2185881 | 107.2185881 | 107.2185881 | 105.6995017 | 102.3975896 | 100.2805328 | 99.72675417 | 99.53359724 |
| 190522A00029 | 5/22/2019 | 2.41 | 5/22/2024 | 5/22/2023 | 108.48748 | 108.4874795 | 108.4874795 | 108.4874795 | 106.8687106 | 103.1376731 | 99.82528242 | 96.86826554 | 94.1348953 |
| 181203A00046 | 12/4/2018 | 2.8 | 12/4/2023 | 12/4/2020 | 108.88425 | 108.8842537 | 108.8842537 | 108.8842537 | 107.6084516 | 104.2459272 | 101.4810917 | 99.83190446 | 99.1380635 |
| 190606A00032 | 6/6/2019 | 1.75 | 6/6/2024 | 6/8/2020 | 105.89789 | 105.8978909 | 105.8978909 | 105.8978909 | 104.4198129 | 101.4351445 | 100.000935 | 99.94877927 | 99.92963307 |
| 190702A00079 | 7/2/2019 | 1.69 | 7/2/2024 | 7/5/2022 | 106.50995 | 106.5099468 | 106.5099468 | 106.5099468 | 104.9344431 | 101.609826 | 98.97778717 | 96.81392609 | 94.85317185 |
| 190731A00008 | 7/31/2019 | 1.53 | 7/31/2024 | 7/31/2020 | 105.96023 | 105.9602305 | 105.9602305 | 105.9602305 | 104.3890488 | 101.3712714 | 99.94180589 | 99.68784676 | 99.51507623 |
| 190812A00026 | 8/12/2019 | 1.48 | 8/12/2024 | 8/12/2020 | 105.02076 | 105.0207572 | 105.0207572 | 105.0207572 | 103.5381032 | 100.8380868 | 99.80748819 | 99.57968139 | 99.37497242 |
| 190823A00023 | 8/23/2019 | 1.37 | 8/23/2024 | 8/24/2020 | 104.587 | 104.5870004 | 104.5870004 | 104.5870004 | 103.1472526 | 100.6097729 | 99.75279695 | 99.51215029 | 99.28319441 |
| 191008A00020 | 10/8/2019 | 1.58 | 10/8/2024 | 10/11/2022 | 105.64601 | 105.6460117 | 105.6460117 | 105.6460117 | 103.9903923 | 100.6980155 | 98.0240932 | 95.70900276 | 93.5487054 |
| 060517A00115 | 5/19/2006 | 4.52 | 5/19/2021 | 5/21/2007 | 104.17875 | 104.178752 | 104.178752 | 104.178752 | 103.9592424 | 102.935415 | 101.9195918 | 100.9942188 | 100.183055 |
| 061128A00049 | 11/30/2006 | 3.84 | 11/30/2021 | 2/28/2007 | 105.68059 | 105.6805858 | 105.6805858 | 105.6805858 | 105.378978 | 103.7580349 | 102.2291373 | 100.8960884 | 99.85066575 |
| 070727A00036 | 7/31/2007 | 4.23 | 8/1/2022 | 10/31/2007 | 108.64766 | 108.6476636 | 108.6476636 | 108.6476636 | 108.1574612 | 105.7402179 | 103.4789357 | 101.620476 | 100.1458074 |