

HLB Option Sensitivity Analysis for HLB-Option, Flipper, and Knockout Advances

The Federal Home Loan Bank of Boston (Bank) is providing estimated valuations of the specific aforementioned advances for members' information and convenience only. The estimated valuations are generated by models obtained from external sources which are used for the Bank's own asset/liability management purposes. The models include the use of 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 values only and should not be construed as a liquidation price for the aforementioned advances.

It is expressly understood that in providing this valuation information to members, the Bank is not performing any advisory service. The valuations are being provided without representation or warranty and the member shall be solely responsible for any decision it makes or actions it takes based on the valuations provided. It is recommended that institutions maintain independent capabilities to value their asset/liability positions, including the aforementioned advances.

The table depicts valuation estimates resulting from immediate, parallel interest-rate movements. In order to rule out negative interest rates, our model applies an effective floor of plus ten basis points to the yield curve for all down-rate scenarios. As a result, large down-rate shocks will reflect valuation at the floor rate of ten basis points in place of any negative interest rates that would otherwise be produced. Please note that the valuation estimates are from the Bank's perspective. Since the member holds the advance as a liability, positive price changes in the table correspond to the advance having a negative impact on the member's estimated market value of portfolio equity (and vice versa). The theoretical argument follows that as interest rates rise, the value of the advance to the Bank falls. In the case of an HLB-Option or a Flipper advance, the Bank would likely exercise its option to cancel the advance as the value falls below 100. In the case of a Knockout advance, the Bank is obligated to terminate the advance on any specified cancellation date if LIBOR is equal to or greater than the predetermined "strike rate." In either case, the member's cost to prepay the advance increases as interest rates fall.

To identify your advance, locate the appropriate start date and maturity date and then verify the coupon rate. The report is sorted in ascending order by start date, followed by coupon. Once the appropriate structure is determined, read across to view the sensitivity analysis that has been performed on the advance.

If you have any questions or would like further explanation of this analysis, contact Member Financial Strategies at 1-800-292-9644.

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
9/12/2017	9/12/2022	9/12/2019	1.49000	105.06344	101.89857	99.91497	98.66053	97.57917	96.52433	95.48616	94.46410
9/18/2017	9/19/2022	9/18/2019	1.62000	105.60189	102.27411	100.11678	98.78690	97.68327	96.61264	95.55923	94.52233
9/22/2017	9/22/2022	9/23/2019	1.65000	105.73264	102.36590	100.16126	98.80279	97.68395	96.60073	95.53513	94.48636
9/22/2017	9/24/2022	9/24/2018	1.33188	107.45552	103.71058	101.03002	99.88273	99.80177	99.73913	99.67699	99.61527
10/10/2017	10/11/2022	10/10/2018	0.99144	108.30887	104.40222	101.44433	99.88422	99.72392	99.69910	99.67485	99.65087
10/10/2017	10/11/2022	10/10/2018	1.58144	107.35231	103.60046	100.97564	99.88847	99.84214	99.81714	99.79272	99.76858
10/10/2017	10/11/2022	10/10/2019	1.75000	106.20670	102.70257	100.33176	98.86475	97.69357	96.56909	95.46376	94.37643
10/23/2017	10/24/2022	10/23/2018	1.59706	107.43234	103.65072	100.99103	99.86942	99.78177	99.72173	99.66216	99.60322
10/23/2017	10/24/2022	10/23/2019	1.79000	106.41892	102.84779	100.39509	98.86678	97.65773	96.50086	95.36427	94.24661
10/25/2017	10/25/2022	10/25/2018	1.33531	108.01184	104.13029	101.26189	99.86352	99.71186	99.64616	99.58110	99.51665
11/6/2017	11/7/2022	11/6/2018	1.36313	107.88173	103.99749	101.18067	99.83409	99.72321	99.70879	99.69483	99.68131
11/6/2017	11/7/2022	11/6/2019	1.82000	106.59675	102.96681	100.44151	98.84934	97.59808	96.40565	95.23488	94.08401
11/17/2017	11/17/2022	11/18/2019	1.88000	106.88815	103.18085	100.55328	98.88757	97.59793	96.37534	95.17570	93.99683
11/17/2017	11/19/2022	11/19/2018	1.32063	108.03103	104.11169	101.23754	99.82259	99.65730	99.60773	99.55884	99.51060
12/4/2017	12/5/2022	12/4/2018	1.32125	108.59370	104.58458	101.55921	99.90277	99.65037	99.64105	99.63265	99.62479
12/4/2017	12/5/2022	12/4/2019	2.00000	107.47344	103.62770	100.81333	99.00679	97.64996	96.38474	95.14558	93.92843
12/14/2017	12/14/2022	12/16/2019	2.04000	107.68563	103.79020	100.90756	99.03481	97.63723	96.34301	95.07678	93.83349
12/18/2017	12/19/2022	12/18/2018	1.75000	106.45794	102.82339	100.54041	99.75228	99.37481	99.00361	98.63561	98.27075
1/12/2018	1/14/2023	1/14/2019	1.33744	109.12832	105.01783	101.84050	99.96382	99.53290	99.49423	99.46143	99.42945
1/19/2018	1/19/2023	1/21/2020	2.26000	108.81933	104.68632	101.46412	99.29297	97.73619	96.34410	94.99062	93.66312
1/29/2018	1/30/2023	1/29/2019	2.05000	107.93768	103.93772	101.11563	99.83811	99.30955	98.82670	98.34860	97.87512
2/2/2018	2/4/2023	2/4/2019	0.61294	110.63352	106.35825	102.82717	100.26870	99.20406	99.10504	99.10002	99.09612
2/2/2018	2/4/2023	2/4/2019	1.36294	109.73932	105.55767	102.25405	100.13562	99.51983	99.49139	99.48556	99.48054
2/9/2018	2/9/2023	2/10/2020	2.33000	109.23971	105.01470	101.67123	99.37157	97.72730	96.27999	94.87830	93.50452
2/9/2018	2/9/2023	2/9/2022	2.77000	111.22898	106.71707	102.58438	98.84606	95.45136	92.30454	89.32632	86.47371
2/16/2018	2/19/2023	2/19/2019	1.33000	110.15829	105.92748	102.51590	100.24229	99.46672	99.37478	99.32825	99.28289
2/20/2018	2/21/2023	2/20/2020	2.44000	109.80209	105.48775	102.00658	99.56647	97.84760	96.36774	94.94124	93.54386
2/20/2018	2/21/2023	2/22/2022	2.87000	111.76321	107.19446	102.99812	99.19717	95.74909	92.56003	89.54775	86.66575
3/5/2018	3/6/2023	3/5/2019	1.06781	110.27881	106.02137	102.58136	100.21418	99.34818	99.26887	99.26246	99.25743
3/15/2018	3/15/2023	3/15/2019	1.09063	110.53410	106.25057	102.75066	100.28656	99.31459	99.18889	99.15527	99.12362
3/20/2018	3/20/2023	3/20/2019	0.32469	111.18515	106.82572	103.14969	100.33764	98.93878	98.67575	98.62671	98.58354
3/21/2018	3/21/2023	3/21/2019	0.33025	111.18427	106.82357	103.14494	100.33065	98.93028	98.66504	98.61333	98.56754
3/29/2018	3/29/2023	3/29/2019	1.08438	110.99884	106.66805	103.06498	100.43366	99.27758	99.07104	98.99874	98.92994
4/5/2018	4/5/2023	4/5/2019	0.03725	111.41223	107.02453	103.31960	100.39147	98.81146	98.47176	98.45506	98.45314
4/13/2018	4/15/2023	4/15/2019	0.03700	111.59893	107.19061	103.44042	100.44577	98.77108	98.36305	98.31507	98.28660
4/27/2018	4/29/2023	4/29/2019	0.33688	112.44980	107.99326	104.14445	100.97793	99.03540	98.44338	98.34026	98.27387
5/4/2018	5/4/2023	5/6/2019	2.63000	111.09056	106.50666	102.77271	100.43271	99.33763	98.58692	97.86235	97.14673
5/4/2018	5/6/2023	5/6/2019	0.36294	112.24952	107.80963	104.02619	100.92987	99.06174	98.53785	98.49837	98.49610
5/8/2018	5/8/2023	5/8/2019	1.06313	111.50649	107.12939	103.48411	100.69580	99.30017	99.02753	99.00629	98.99693
5/17/2018	5/17/2023	5/17/2019	1.03000	111.75949	107.36001	103.66311	100.79057	99.29096	98.95290	98.90353	98.87013
5/17/2018	5/17/2023	5/18/2020	2.84000	112.17389	107.46358	103.43542	100.35649	98.15745	96.39323	94.75305	93.15737
5/24/2018	5/24/2021	5/24/2019	0.93000	106.67718	104.30534	102.25163	100.40644	99.16836	98.80750	98.74378	98.69246
5/24/2018	5/24/2023	5/26/2020	1.33000	109.17220	105.85521	102.98981	100.57918	98.91072	98.12920	97.94388	97.94388
6/5/2018	6/5/2023	6/5/2019	1.01781	110.85643	106.50693	102.95070	100.33886	99.14421	98.93854	98.92840	98.92765
6/5/2018	6/5/2023	6/5/2020	2.72000	111.71004	107.00165	103.02887	100.02183	97.83811	96.04859	94.37085	92.73733
6/25/2018	6/25/2021	6/25/2019	1.83506	105.92749	103.57709	101.61593	100.14765	99.57070	99.46853	99.40941	99.35224
6/25/2018	6/26/2023	6/25/2020	1.83506	108.28919	104.99865	102.29101	100.26998	99.15282	98.74986	98.64624	98.60644
6/25/2018	6/26/2023	6/25/2020	0.03560	109.44493	105.94986	102.86372	100.09095	97.80527	96.26645	95.55803	95.36738
6/27/2018	6/27/2023	6/27/2019	2.53000	110.90713	106.24579	102.52467	100.23461	99.06381	98.18014	97.32420	96.48005
7/2/2018	7/2/2023	7/2/2019	0.33738	111.04238	106.63598	102.97275	100.12030	98.59497	98.23513	98.21921	98.21921
7/2/2018	7/2/2023	7/2/2019	1.33738	110.28896	105.99057	102.56835	100.20308	99.26048	99.12670	99.12670	99.12670
7/2/2018	7/3/2023	7/2/2020	2.71000	111.82416	107.05085	103.02329	99.95245	97.69457	95.83528	94.09493	92.40267
7/30/2018	7/31/2023	7/30/2019	0.33888	111.74599	107.27589	103.46729	100.38958	98.54967	97.96903	97.85750	97.79622
7/30/2018	7/31/2023	7/30/2019	1.58888	110.79971	106.46452	102.94612	100.46904	99.39340	99.15950	99.08387	99.01739