

## **Parallel-Shift Sensitivity Analysis for HLB-Option and Knockout Advances**

The Federal Home Loan Bank of Boston (Bank) is providing estimated valuations of the specific HLB-Option and Knockout advances set forth below 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 HLB-Option or Knockout advance.

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 HLB-Option and Knockout advances.

The table depicts valuation estimates resulting from immediate parallel interest-rate movements of plus/minus 400 basis points in 100 basis point increments. 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 by the indicated basis point shocks. Please note that the valuation estimates are from the Federal Home Loan Bank of Boston's perspective. Since the advance is held by the member 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 advance, the Bank would be likely to exercise its option to cancel the advance as the value falls below 100. In the case of a Knockout advance, the Bank would automatically terminate the advance on any specified cancellation date if LIBOR is equal to or greater than a predetermined "strike rate" four London Business days prior to the scheduled cancellation date. In either case, the member's cost to prepay the advance increases as interest rates fall.

To identify your advance, locate the appropriate 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 the Money Desk at 1-800-357-3452.





As of: **5/31/2013** Parallel-Shift Sensitivity Analysis for HLB-Option and Knockout Advances

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
2/25/2008	2/26/2018	8/26/2013	2.420	111.642	111.642	110.299	106.236	103.034	100.925	99.956	99.610
3/7/2008	3/9/2015	6/7/2013	2.890	105.194	105.194	105.194	104.169	102.440	100.998	100.131	99.976
3/7/2008	3/7/2018	6/7/2013	3.550	117.167	117.167	115.642	111.061	107.084	103.915	101.649	100.319
3/14/2008	3/14/2018	6/14/2013	2.400	111.652	111.652	110.251	106.185	102.994	100.906	100.029	99.933
3/17/2008	3/19/2018	6/17/2013	3.300	116.068	116.068	114.510	109.992	106.135	103.143	101.109	100.117
4/14/2008	4/14/2015	7/14/2013	2.750	105.217	105.217	105.217	104.090	102.213	100.378	98.585	96.833
4/28/2008	4/28/2015	7/29/2013	3.250	106.292	106.292	106.292	105.122	103.235	101.585	100.416	99.901
4/28/2008	4/30/2018	7/29/2013	2.150	110.719	110.719	109.199	105.242	102.259	100.474	99.861	99.688
4/30/2008	4/30/2018	7/30/2013	3.740	118.647	118.647	116.734	111.603	106.671	101.991	97.548	93.329
5/2/2008	5/4/2015	8/2/2013	3.990	107.791	107.791	107.791	106.597	104.656	102.855	101.359	100.362
5/5/2008	5/5/2015	8/5/2013	3.170	106.199	106.199	106.199	105.010	103.116	101.487	100.378	99.875
5/19/2008	5/19/2015	8/21/2013	4.700	109.373	109.373	109.373	108.129	106.117	104.153	102.235	100.363
5/23/2008	5/23/2018	8/23/2013	3.270	116.512	116.512	114.652	110.033	106.119	103.101	101.066	100.022
6/6/2008	6/6/2013	6/6/2013	3.990	100.066	100.066	100.066	100.064	100.048	100.031	100.014	99.998
6/16/2008	6/17/2013	6/17/2013	4.070	100.192	100.192	100.192	100.187	100.139	100.092	100.045	99.997
6/24/2008	6/24/2015	6/24/2013	3.830	108.021	108.021	108.021	106.680	104.608	102.714	101.187	100.212
6/30/2008	7/2/2018	6/30/2013	3.690	119.043	119.043	116.773	111.466	106.378	101.558	96.990	92.659
7/7/2008	7/8/2013	7/8/2013	4.590	100.484	100.484	100.484	100.471	100.366	100.261	100.156	100.052
7/8/2008	7/8/2013	7/8/2013	4.250	100.449	100.449	100.449	100.435	100.330	100.225	100.120	100.016
7/10/2008	7/10/2014	7/10/2013	4.800	105.400	105.400	105.400	104.951	103.824	102.714	101.622	100.546
7/11/2008	7/11/2018	7/11/2013	3.750	119.447	119.447	117.120	111.781	106.664	101.816	97.222	92.868
7/14/2008	7/14/2015	7/15/2013	4.900	110.534	110.534	110.534	109.120	106.944	104.823	102.754	100.961
7/14/2008	7/16/2018	7/15/2013	2.500	112.999	112.999	111.053	106.771	103.405	101.150	100.058	99.806
7/14/2008	7/16/2018	7/15/2013	3.250	116.899	116.899	114.779	110.083	106.130	103.101	101.068	100.058
7/17/2008	7/17/2018	7/17/2013	3.750	119.509	119.509	117.146	111.791	106.658	102.117	100.141	99.957
7/21/2008	7/22/2013	7/22/2013	3.000	100.433	100.433	100.433	100.414	100.271	100.129	99.987	99.846
8/15/2008	8/15/2018	8/15/2013	3.830	120.234	120.234	117.866	112.881	108.550	105.039	102.421	100.737
9/8/2008	9/9/2013	6/10/2013	2.890	100.811	100.811	100.811	100.763	100.487	100.213	99.997	99.966
5/13/2009	5/13/2014	8/13/2013	4.000	103.855	103.855	103.855	103.508	102.552	101.618	100.761	100.132
9/28/2009	9/30/2013	6/28/2013	2.920	100.989	100.989	100.989	100.923	100.590	100.258	99.995	99.907
5/11/2010	5/11/2015	5/11/2015	3.700	107.297	107.297	107.297	106.084	104.093	101.885	98.986	95.584
5/24/2010	5/26/2015	8/26/2013	2.250	104.531	104.531	104.531	103.289	101.308	99.375	97.488	95.646
6/15/2010	6/15/2015	6/15/2013	2.280	104.718	104.718	104.718	103.418	101.382	99.396	97.458	95.568
10/8/2010	10/8/2015	10/9/2012	2.250	105.374	105.374	105.374	103.725	101.379	99.098	96.880	94.722
12/27/2011	12/27/2021	12/29/2014	3.550	130.883	127.104	118.109	109.471	99.784	86.748	74.883	64.085
4/27/2012	4/27/2016	4/27/2013	1.430	104.288	104.288	104.288	101.929	99.075	96.315	93.646	91.063
4/30/2012	5/2/2016	4/30/2013	1.380	104.089	104.089	104.089	101.714	98.851	96.083	93.406	90.817
5/15/2012	5/15/2017	5/15/2014	-0.185	105.936	105.936	105.569	102.044	100.412	99.996	99.941	99.941
5/15/2012	5/15/2017	11/17/2014	-0.185	106.358	106.358	105.991	102.420	100.570	99.800	99.532	99.466
6/20/2012	6/20/2017	6/22/2015	1.630	106.705	106.705	106.215	102.137	96.369	90.845	85.599	80.616
7/16/2012	7/17/2017	7/16/2014	-0.172	105.277	105.277	104.689	101.301	100.009	99.639	99.479	99.357
7/18/2012	7/18/2018	7/20/2015	0.287	108.263	108.263	105.915	101.725	99.816	98.966	98.576	98.351
7/19/2012	7/19/2017	7/21/2014	-0.174	105.180	105.180	104.585	101.220	99.974	99.608	99.437	99.300
10/1/2012	10/1/2019	4/1/2015	-0.076	110.273	110.273	104.895	101.045	99.708	99.341	99.242	99.232
10/5/2012	10/5/2017	10/6/2014	-0.069	104.979	104.979	104.077	100.899	99.933	99.737	99.701	99.694
10/5/2012	10/5/2017	10/6/2014	-0.069	104.979	104.979	104.077	100.899	99.933	99.737	99.701	99.694
3/8/2013	3/8/2018	3/9/2015	0.010	105.235	105.235	103.628	100.527	99.640	99.409	99.352	99.333