

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: **4/30/2016** 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
5/5/2006	5/5/2016	5/5/2016	4.350	100.060	100.060	100.060	100.056	100.043	100.029	100.016	100.002
5/5/2006	5/5/2016	5/5/2016	4.530	100.063	100.063	100.063	100.059	100.045	100.032	100.018	100.005
5/15/2006	5/16/2016	5/16/2016	4.350	100.193	100.193	100.193	100.180	100.136	100.093	100.050	100.007
5/15/2006	5/16/2016	5/16/2016	4.520	100.201	100.201	100.201	100.187	100.144	100.101	100.058	100.015
5/19/2006	5/19/2016	5/19/2016	4.510	100.238	100.238	100.238	100.222	100.170	100.119	100.068	100.017
6/12/2006	6/13/2016	6/13/2016	4.620	100.565	100.565	100.565	100.522	100.402	100.283	100.164	100.045
6/26/2006	6/27/2016	6/27/2016	4.730	100.762	100.762	100.762	100.703	100.544	100.386	100.228	100.071
7/24/2006	7/25/2016	7/25/2016	4.660	101.113	101.113	101.113	101.015	100.780	100.547	100.314	100.083
7/28/2006	7/28/2016	7/28/2016	4.490	101.110	101.110	101.110	101.007	100.765	100.523	100.283	100.044
8/25/2006	8/25/2016	5/25/2016	4.350	101.414	101.414	101.414	101.259	100.940	100.624	100.310	100.052
11/24/2006	11/25/2016	5/24/2016	4.190	102.432	102.432	102.432	102.046	101.476	100.916	100.398	100.047
12/1/2006	12/1/2016	6/1/2016	4.090	102.442	102.442	102.442	102.039	101.454	100.882	100.363	100.030
12/4/2006	12/5/2016	6/6/2016	4.080	102.482	102.482	102.482	102.067	101.471	100.889	100.361	100.024
12/5/2006	12/5/2016	6/6/2016	4.260	102.591	102.591	102.591	102.177	101.580	100.995	100.453	100.067
12/8/2006	12/8/2016	6/8/2016	3.990	102.460	102.460	102.460	102.037	101.433	100.846	100.318	100.003
12/12/2006	12/12/2016	6/13/2016	3.990	102.505	102.505	102.505	102.070	101.456	100.858	100.326	99.998
12/19/2006	12/19/2016	6/20/2016	4.190	102.712	102.712	102.712	102.257	101.623	101.003	100.432	100.041
12/28/2006	12/28/2016	6/28/2016	4.250	102.857	102.857	102.857	102.377	101.718	101.074	100.476	100.054
12/28/2006	12/28/2016	6/28/2016	4.400	102.958	102.958	102.958	102.477	101.819	101.171	100.564	100.104
1/12/2007	1/12/2017	7/12/2016	4.420	103.155	103.155	103.155	102.630	101.931	101.247	100.612	100.128
1/16/2007	1/17/2017	7/18/2016	4.790	103.486	103.486	103.486	102.944	102.231	101.529	100.859	100.294
2/2/2007	2/2/2017	5/20/2016	4.690	103.622	103.622	103.622	103.029	102.270	101.522	100.785	100.059
2/20/2007	2/21/2017	5/20/2016	4.850	104.001	104.001	104.001	103.345	102.534	101.735	100.949	100.176
2/20/2007	2/21/2017	5/20/2016	4.390	103.622	103.622	103.622	102.967	102.158	101.373	100.659	100.136
2/23/2007	2/23/2017	5/23/2016	4.250	103.530	103.530	103.530	102.868	102.055	101.269	100.567	100.094
2/23/2007	2/23/2017	5/23/2016	4.350	103.613	103.613	103.613	102.951	102.137	101.348	100.634	100.125
3/16/2007	3/16/2017	6/16/2016	4.090	103.635	103.635	103.635	102.910	102.041	101.212	100.493	100.042
3/23/2007	3/23/2017	6/23/2016	4.290	103.897	103.897	103.897	103.150	102.260	101.403	100.638	100.106
4/9/2007	4/10/2017	7/11/2016	4.150	103.977	103.977	103.977	103.174	102.238	101.347	100.578	100.062
4/12/2007	4/12/2017	7/12/2016	4.250	104.096	104.096	104.096	103.287	102.344	101.442	100.652	100.103
4/13/2007	4/13/2017	7/13/2016	4.450	104.301	104.301	104.301	103.488	102.540	101.626	100.804	100.195
5/18/2007	5/18/2017	5/18/2016	4.190	104.457	104.457	104.457	103.536	102.492	101.501	100.650	100.105
5/22/2007	5/22/2017	5/23/2016	4.750	105.106	105.106	105.106	104.170	103.107	102.076	101.127	100.370
5/29/2007	5/30/2017	5/31/2016	4.250	104.663	104.663	104.663	103.705	102.625	101.594	100.703	100.122
6/7/2007	6/7/2017	6/7/2016	4.820	105.395	105.395	105.395	104.410	103.301	102.224	101.235	100.439
6/8/2007	6/8/2017	6/8/2016	4.490	105.038	105.038	105.038	104.051	102.944	101.880	100.934	100.248
6/18/2007	6/19/2017	6/20/2016	4.500	105.187	105.187	105.187	104.165	103.026	101.933	100.958	100.249
6/19/2007	6/19/2017	6/20/2016	4.650	105.360	105.360	105.360	104.337	103.196	102.095	101.097	100.337
6/22/2007	6/22/2017	6/22/2016	4.500	105.225	105.225	105.225	104.193	103.046	101.944	100.963	100.248
6/28/2007	6/28/2017	6/28/2016	4.500	105.300	105.300	105.300	104.249	103.085	101.967	100.972	100.247
7/13/2007	7/13/2017	7/13/2016	4.290	105.231	105.231	105.231	104.138	102.938	101.801	100.823	100.158
7/20/2007	7/20/2017	7/20/2016	4.290	105.315	105.315	105.315	104.200	102.982	101.826	100.832	100.153
7/27/2007	7/27/2017	7/27/2016	4.250	105.348	105.348	105.348	104.213	102.976	101.805	100.804	100.126
7/30/2007	1/30/2019	8/1/2016	3.990	111.138	111.138	110.828	108.029	105.423	103.135	101.347	100.260
7/31/2007	7/31/2017	8/1/2016	3.990	105.065	105.065	105.065	103.921	102.682	101.530	100.600	100.075
7/31/2007	7/31/2017	8/1/2016	3.990	105.065	105.065	105.065	103.921	102.682	101.530	100.600	100.075
7/31/2007	7/31/2017	8/1/2016	4.060	105.154	105.154	105.154	104.009	102.767	101.608	100.657	100.096
8/2/2007	8/2/2017	8/2/2016	4.050	105.163	105.163	105.163	104.013	102.768	101.611	100.663	100.098
8/2/2007	8/2/2017	8/2/2016	4.150	105.291	105.291	105.291	104.140	102.892	101.723	100.748	100.130
8/9/2007	8/9/2017	5/9/2016	3.990	105.165	105.165	105.165	103.994	102.732	101.563	100.615	100.075
8/16/2007	8/16/2017	5/16/2016	3.990	105.242	105.242	105.242	104.050	102.769	101.581	100.616	100.069
8/17/2007	8/17/2017	5/17/2016	4.000	105.266	105.266	105.266	104.071	102.787	101.595	100.624	100.072
9/4/2007	9/5/2017	6/6/2016	3.890	105.327	105.327	105.327	104.075	102.747	101.532	100.564	100.037
9/10/2007	9/11/2017	6/10/2016	3.690	105.114	105.114	105.114	103.847	102.513	101.316	100.413	99.975
9/11/2007	9/11/2017	6/13/2016	3.590	104.976	104.976	104.976	103.710	102.383	101.205	100.343	99.946
9/13/2007	9/13/2017	6/13/2016	3.990	105.552	105.552	105.552	104.274	102.919	101.669	100.652	100.062
9/27/2007	9/27/2017	6/27/2016	3.650	105.221	105.221	105.221	103.904	102.530	101.299	100.383	99.931
10/11/2007	10/11/2017	7/11/2016	3.990	105.863	105.863	105.863	104.499	103.071	101.758	100.699	100.057

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Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
10/15/2007	10/16/2017	7/15/2016	3.990	105.918	105.918	105.918	104.540	103.098	101.771	100.701	100.051
10/26/2007	10/26/2017	7/26/2016	3.390	105.122	105.122	105.122	103.725	102.301	101.073	100.228	99.801
11/5/2007	11/6/2017	5/5/2016	4.390	106.768	106.768	106.768	105.320	103.807	102.383	101.160	100.293
11/6/2007	11/6/2017	5/6/2016	3.480	105.365	105.365	105.365	103.933	102.477	101.213	100.312	99.988
11/19/2007	11/20/2017	11/19/2012	4.290	106.780	106.780	106.780	105.287	103.721	102.186	100.681	99.205
11/20/2007	11/20/2017	5/20/2016	3.740	105.911	105.911	105.911	104.429	102.911	101.550	100.509	100.004
11/23/2007	11/24/2017	11/23/2011	3.990	106.350	106.350	106.350	104.847	103.274	101.732	100.220	98.738
11/23/2007	11/24/2017	11/23/2011	3.990	106.350	106.350	106.350	104.847	103.274	101.732	100.220	98.738
11/29/2007	11/29/2017	5/31/2016	2.950	104.736	104.736	104.736	103.250	101.803	100.656	100.045	99.894
11/30/2007	11/30/2017	5/31/2016	3.190	105.130	105.130	105.130	103.631	102.143	100.906	100.144	99.915
12/10/2007	12/11/2017	6/10/2016	3.450	105.654	105.654	105.654	104.115	102.574	101.244	100.319	99.932
12/24/2007	12/26/2017	12/24/2012	3.990	106.705	106.705	106.705	105.103	103.441	101.814	100.220	98.659
1/7/2008	1/8/2018	7/7/2016	2.590	104.446	104.446	104.446	102.872	101.433	100.409	99.907	99.680
1/8/2008	1/8/2018	7/8/2016	2.570	104.411	104.411	104.411	102.839	101.404	100.390	99.897	99.671
1/8/2008	1/8/2018	7/8/2016	2.640	104.532	104.532	104.532	102.953	101.499	100.447	99.921	99.685
1/11/2008	1/11/2018	7/11/2016	2.720	104.692	104.692	104.692	103.097	101.615	100.517	99.944	99.688
1/14/2008	1/16/2018	7/14/2016	3.240	105.634	105.634	105.634	103.992	102.392	101.060	100.196	99.799
1/16/2008	1/16/2018	7/18/2016	2.380	104.138	104.138	104.138	102.562	101.168	100.243	99.813	99.580
1/17/2008	1/17/2018	7/18/2016	2.250	103.918	103.918	103.918	102.357	101.009	100.158	99.777	99.552
1/18/2008	1/18/2018	7/18/2016	2.290	103.994	103.994	103.994	102.424	101.059	100.183	99.787	99.560
2/14/2008	2/14/2018	2/14/2012	3.190	105.804	105.804	105.804	104.046	102.258	100.509	98.798	97.125
2/25/2008	2/26/2018	5/25/2016	2.420	104.483	104.483	104.483	102.776	101.284	100.266	99.945	99.878
3/7/2008	3/7/2018	6/7/2016	3.550	106.666	106.666	106.666	104.847	103.085	101.563	100.470	99.973
3/14/2008	3/14/2018	6/14/2016	2.400	104.553	104.553	104.553	102.806	101.299	100.296	99.906	99.769
3/17/2008	3/19/2018	6/17/2016	3.300	106.306	106.306	106.306	104.461	102.705	101.235	100.267	99.887
4/28/2008	4/30/2018	7/28/2016	2.150	104.359	104.359	104.359	102.513	101.022	100.119	99.719	99.470
4/30/2008	4/30/2018	4/30/2013	3.740	107.583	107.583	107.583	105.557	103.551	101.594	99.683	97.819
5/23/2008	5/23/2018	5/23/2016	3.270	106.839	106.839	106.837	104.775	102.875	101.303	100.262	99.942
6/30/2008	7/2/2018	6/30/2011	3.690	108.128	108.128	108.093	105.867	103.688	101.566	99.497	97.481
7/11/2008	7/11/2018	7/11/2012	3.750	108.354	108.354	108.311	106.057	103.853	101.706	99.614	97.575
7/14/2008	7/16/2018	7/14/2016	2.500	105.604	105.604	105.557	103.450	101.679	100.461	99.881	99.628
7/14/2008	7/16/2018	7/14/2016	3.250	107.285	107.285	107.237	105.032	103.023	101.376	100.302	99.816
7/17/2008	7/17/2018	7/14/2016	3.750	108.416	108.416	108.368	106.097	103.876	101.714	99.607	97.554
8/15/2008	8/15/2018	5/16/2016	3.830	108.904	108.904	108.825	106.497	104.310	102.389	100.918	100.117
12/27/2011	12/27/2021	12/29/2014	3.550	120.381	120.381	116.371	110.494	104.948	99.721	94.793	90.145
4/30/2012	5/2/2016	4/30/2013	1.380	100.008	100.008	100.008	100.006	100.001	99.995	99.990	99.984
5/15/2012	5/15/2017	11/17/2014	1.950	102.058	102.058	102.058	101.155	100.128	99.118	98.126	97.151
6/20/2012	6/20/2017	6/22/2015	1.630	101.883	101.883	101.883	100.874	99.745	98.635	97.541	96.464
7/16/2012	7/17/2017	7/16/2014	1.720	102.116	102.116	102.116	101.026	99.827	98.648	97.488	96.346
7/18/2012	7/18/2018	7/20/2015	2.720	106.112	106.112	106.063	103.813	101.615	99.476	97.391	95.360
7/19/2012	7/19/2017	7/21/2014	1.690	102.089	102.089	102.089	100.993	99.789	98.605	97.440	96.294
10/1/2012	10/1/2019	4/1/2015	2.250	107.805	107.805	107.000	103.537	100.199	96.987	93.895	90.918
10/5/2012	10/5/2017	10/6/2014	1.630	102.368	102.368	102.368	101.040	99.630	98.246	96.887	95.554
3/8/2013	3/8/2018	3/9/2015	1.780	103.347	103.347	103.347	101.536	99.710	97.926	96.182	94.477
5/7/2014	5/7/2018	5/7/2015	1.760	103.603	103.603	103.602	101.589	99.605	97.670	95.782	93.940
10/16/2014	10/16/2018	10/17/2016	0.413	105.061	105.061	104.905	102.610	100.801	99.776	99.350	99.120
10/24/2014	10/24/2018	10/26/2015	1.740	104.383	104.383	104.218	101.722	99.296	96.939	94.650	92.426
10/24/2014	10/24/2018	10/26/2015	1.740	104.383	104.383	104.218	101.722	99.296	96.939	94.650	92.426
2/20/2015	2/20/2019	2/22/2016	1.790	105.101	105.101	104.754	101.927	99.187	96.533	93.964	91.475
3/26/2015	3/26/2019	3/29/2016	1.610	104.740	104.740	104.341	101.427	98.606	95.877	93.237	90.683
3/26/2015	3/26/2020	3/29/2016	1.590	106.297	106.297	105.016	101.114	97.376	93.795	90.364	87.077
6/29/2015	7/1/2019	6/29/2017	0.350	105.452	105.452	104.861	102.629	101.076	100.099	99.589	99.345
7/30/2015	7/30/2019	8/1/2016	0.326	105.391	105.391	104.742	101.784	100.280	99.980	99.971	99.967
8/14/2015	8/14/2025	8/14/2020	1.850	117.434	115.656	109.971	104.169	99.137	94.667	90.612	86.870
8/19/2015	8/19/2025	8/21/2017	0.990	109.342	108.241	104.974	101.733	99.468	97.784	96.394	95.132
8/25/2015	8/25/2020	8/25/2017	0.950	104.163	104.163	103.304	100.916	99.093	97.604	96.281	95.033
8/26/2015	8/26/2025	8/26/2020	1.750	116.550	114.812	109.263	103.539	98.560	94.122	90.083	86.347
9/14/2015	9/14/2020	9/14/2017	1.050	104.660	104.660	103.712	101.191	99.247	97.662	96.267	94.962

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
9/15/2015	9/16/2019	9/15/2016	0.304	105.324	105.324	104.559	101.601	100.141	99.736	99.597	99.480
9/18/2015	9/18/2020	9/18/2017	1.090	104.849	104.849	103.868	101.297	99.315	97.705	96.293	94.975
9/29/2015	9/30/2019	9/29/2016	0.310	104.871	104.871	104.071	101.209	99.948	99.601	99.432	99.277
10/2/2015	10/2/2020	10/2/2017	0.890	103.994	103.994	103.134	100.760	98.884	97.310	95.893	94.553
10/2/2015	10/2/2025	10/2/2020	1.690	116.156	114.417	108.878	103.135	98.117	93.628	89.535	85.743
11/6/2015	11/6/2020	11/6/2017	1.050	104.814	104.814	103.791	101.183	99.119	97.400	95.870	94.436
11/6/2015	11/7/2022	11/6/2018	1.400	109.262	109.262	106.276	102.418	99.197	96.401	93.887	91.552
12/4/2015	12/4/2025	12/4/2018	1.360	113.239	111.624	107.275	102.849	99.283	96.276	93.625	91.197
12/8/2015	12/8/2020	12/8/2016	0.174	105.386	105.386	104.094	101.620	100.286	99.685	99.457	99.343
12/11/2015	12/12/2022	12/11/2017	0.145	109.371	109.371	105.496	102.528	100.629	99.395	98.609	98.086
12/15/2015	12/16/2019	12/15/2016	0.384	104.154	104.154	103.483	101.378	100.249	99.732	99.516	99.390
12/15/2015	12/15/2022	12/15/2017	0.134	109.350	109.350	105.460	102.530	100.723	99.641	99.047	98.732
12/18/2015	12/18/2020	12/18/2017	0.389	106.492	106.492	104.767	102.422	100.913	99.959	99.405	99.094
12/24/2015	12/24/2020	12/26/2017	1.250	105.898	105.898	104.647	101.747	99.439	97.520	95.829	94.258
12/24/2015	12/24/2025	12/24/2020	1.990	119.483	117.290	111.028	104.814	99.410	94.606	90.252	86.243
1/8/2016	1/8/2019	1/9/2017	1.120	103.058	103.058	102.871	101.063	99.833	98.972	98.266	97.606
1/12/2016	1/13/2020	1/12/2017	0.031	105.392	105.392	104.552	102.055	100.440	99.527	99.081	98.837
1/19/2016	1/19/2021	1/19/2018	1.150	105.509	105.509	104.283	101.439	99.148	97.211	95.481	93.861
1/19/2016	1/20/2026	1/22/2019	1.350	113.317	111.617	107.190	102.574	98.760	95.472	92.530	89.815
1/22/2016	1/22/2020	1/23/2017	0.035	104.136	104.136	103.380	101.192	99.924	99.268	98.931	98.701
1/29/2016	1/29/2021	1/30/2017	0.038	105.459	105.459	104.025	101.479	100.010	99.252	98.869	98.614
2/2/2016	2/2/2021	2/2/2018	0.013	105.690	105.690	103.854	101.669	100.346	99.562	99.155	98.979
2/17/2016	2/17/2021	2/17/2017	0.018	103.071	103.071	102.031	100.353	99.687	99.452	99.379	99.347
2/26/2016	2/26/2020	2/27/2017	0.036	103.339	103.339	102.596	100.723	99.824	99.438	99.294	99.227
2/26/2016	2/26/2021	2/26/2018	0.890	104.357	104.357	103.282	100.610	98.399	96.464	94.684	92.992
2/26/2016	2/26/2026	2/26/2021	1.490	114.852	112.917	107.387	101.527	96.346	91.665	87.366	83.369
3/8/2016	3/8/2023	3/8/2018	0.990	106.881	106.881	104.374	101.243	98.762	96.676	94.816	93.077
3/18/2016	3/18/2020	3/20/2017	0.039	104.476	104.476	103.574	101.360	100.090	99.419	99.107	98.942
4/5/2016	4/5/2021	4/2/2018	0.990	104.951	104.951	102.393	99.878	98.162	96.319	94.519	92.760
4/8/2016	4/8/2020	4/10/2017	0.031	103.258	103.258	102.466	100.627	99.648	99.143	98.868	98.676
4/12/2016	4/12/2021	4/12/2017	0.031	103.526	103.526	102.305	100.460	99.543	99.085	98.827	98.634
4/28/2016	4/28/2020	4/28/2017	0.034	103.844	103.844	102.935	100.878	99.700	99.052	98.686	98.432
4/28/2016	4/28/2021	4/28/2017	0.034	104.827	104.827	103.293	101.008	99.736	99.058	98.687	98.432
4/28/2016	4/28/2021	4/30/2018	0.034	105.815	105.815	103.323	100.977	99.520	98.659	98.152	97.822
5/2/2016	5/2/2023	5/4/2018	0.037	107.354	107.354	103.452	101.189	99.927	99.242	98.912	98.778
5/2/2016	5/4/2026	5/2/2017	0.037	107.521	106.157	103.047	100.793	99.826	99.460	99.362	99.355