

## **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.

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
4/24/2006	4/25/2016	4/25/2016	4.440	100.691	100.691	100.691	100.625	100.471	100.319	100.166	100.015
5/5/2006	5/5/2016	5/5/2016	4.350	100.797	100.797	100.797	100.717	100.536	100.356	100.177	99.998
5/5/2006	5/5/2016	5/5/2016	4.530	100.830	100.830	100.830	100.749	100.569	100.389	100.210	100.031
5/15/2006	5/16/2016	5/16/2016	4.350	100.930	100.930	100.930	100.831	100.621	100.412	100.204	99.996
5/15/2006	5/16/2016	5/16/2016	4.520	100.967	100.967	100.967	100.868	100.658	100.448	100.240	100.032
5/19/2006	5/19/2016	5/19/2016	4.510	101.002	101.002	101.002	100.898	100.680	100.463	100.246	100.031
6/12/2006	6/13/2016	3/14/2016	4.620	101.347	101.347	101.347	101.197	100.910	100.625	100.341	100.088
6/26/2006	6/27/2016	3/28/2016	4.730	101.563	101.563	101.563	101.385	101.059	100.735	100.413	100.126
7/24/2006	7/25/2016	4/25/2016	4.660	101.903	101.903	101.903	101.658	101.256	100.858	100.466	100.133
7/28/2006	7/28/2016	4/28/2016	4.490	101.871	101.871	101.871	101.619	101.209	100.803	100.405	100.086
8/25/2006	8/25/2016	5/25/2016	4.350	102.151	102.151	102.151	101.825	101.341	100.862	100.415	100.050
11/24/2006	11/25/2016	5/24/2016	4.190	103.142	103.142	103.142	102.540	101.808	101.104	100.493	100.046
12/1/2006	12/1/2016	6/1/2016	4.090	103.135	103.135	103.135	102.514	101.768	101.062	100.460	100.082
12/4/2006	12/5/2016	3/4/2016	4.080	103.173	103.173	103.173	102.539	101.782	101.066	100.455	100.077
12/5/2006	12/5/2016	3/7/2016	4.260	103.313	103.313	103.313	102.678	101.919	101.195	100.561	100.124
12/8/2006	12/8/2016	3/8/2016	3.990	103.136	103.136	103.136	102.492	101.729	101.011	100.406	100.053
12/12/2006	12/12/2016	3/14/2016	3.990	103.181	103.181	103.181	102.524	101.749	101.021	100.407	100.048
12/19/2006	12/19/2016	3/21/2016	4.190	103.422	103.422	103.422	102.741	101.946	101.189	100.531	100.102
12/28/2006	12/28/2016	3/28/2016	4.250	103.577	103.577	103.577	102.866	102.047	101.265	100.578	100.120
12/28/2006	12/28/2016	3/28/2016	4.400	103.703	103.703	103.703	102.992	102.171	101.383	100.678	100.170
1/12/2007	1/12/2017	4/12/2016	4.420	103.904	103.904	103.904	103.143	102.284	101.463	100.734	100.201
1/16/2007	1/17/2017	4/18/2016	4.790	104.297	104.297	104.297	103.519	102.642	101.795	101.016	100.389
2/2/2007	2/2/2017	5/20/2016	4.690	104.416	104.416	104.416	103.584	102.663	101.758	100.870	99.996
2/20/2007	2/21/2017	5/20/2016	4.850	104.823	104.823	104.823	103.928	102.950	101.990	101.049	100.125
2/20/2007	2/21/2017	5/20/2016	4.390	104.365	104.365	104.365	103.472	102.504	101.587	100.789	100.201
2/23/2007	2/23/2017	5/23/2016	4.250	104.250	104.250	104.250	103.351	102.379	101.466	100.687	100.129
2/23/2007	2/23/2017	5/23/2016	4.350	104.350	104.350	104.350	103.450	102.477	101.557	100.761	100.178
3/16/2007	3/16/2017	3/16/2016	4.090	104.328	104.328	104.328	103.363	102.336	101.387	100.600	100.113
3/23/2007	3/23/2017	3/23/2016	4.290	104.623	104.623	104.623	103.634	102.582	101.595	100.754	100.180
4/9/2007	4/10/2017	4/11/2016	4.150	104.680	104.680	104.680	103.634	102.538	101.526	100.683	100.136
4/12/2007	4/12/2017	4/12/2016	4.250	104.816	104.816	104.816	103.763	102.658	101.631	100.766	100.180
4/13/2007	4/13/2017	4/13/2016	4.450	105.055	105.055	105.055	103.997	102.884	101.838	100.934	100.281
5/18/2007	5/18/2017	5/18/2016	4.190	105.167	105.167	105.167	103.999	102.801	101.695	100.781	100.155
5/22/2007	5/22/2017	5/23/2016	4.750	105.911	105.911	105.911	104.725	103.500	102.335	101.304	100.504
5/29/2007	5/30/2017	5/31/2016	4.250	105.383	105.383	105.383	104.176	102.942	101.799	100.844	100.174
6/7/2007	6/7/2017	3/7/2016	4.820	106.212	106.212	106.212	104.974	103.706	102.501	101.435	100.594
6/8/2007	6/8/2017	3/8/2016	4.490	105.799	105.799	105.799	104.561	103.299	102.118	101.106	100.352
6/18/2007	6/19/2017	3/18/2016	4.500	105.950	105.950	105.950	104.676	103.382	102.171	101.129	100.345
6/19/2007	6/19/2017	3/21/2016	4.650	106.148	106.148	106.148	104.873	103.575	102.351	101.281	100.456
6/22/2007	6/22/2017	3/22/2016	4.500	105.987	105.987	105.987	104.704	103.402	102.182	101.133	100.343
6/28/2007	6/28/2017	3/28/2016	4.500	106.062	106.062	106.062	104.760	103.441	102.205	101.141	100.337
7/13/2007	7/13/2017	4/13/2016	4.290	105.958	105.958	105.958	104.611	103.262	102.021	100.983	100.269
7/20/2007	7/20/2017	4/20/2016	4.290	106.041	106.041	106.041	104.671	103.304	102.044	100.990	100.265
7/27/2007	7/27/2017	4/27/2016	4.250	106.068	106.068	106.068	104.676	103.291	102.018	100.957	100.236
7/30/2007	1/30/2019	5/2/2016	3.990	111.814	111.814	111.267	108.343	105.690	103.417	101.653	100.503
7/31/2007	7/31/2017	5/2/2016	3.990	105.741	105.741	105.741	104.341	102.961	101.722	100.746	100.128
7/31/2007	7/31/2017	5/2/2016	3.990	105.741	105.741	105.741	104.341	102.961	101.722	100.746	100.128
7/31/2007	7/31/2017	5/2/2016	4.060	105.842	105.842	105.842	104.440	103.056	101.806	100.808	100.164
8/2/2007	8/2/2017	5/2/2016	4.050	105.850	105.850	105.850	104.443	103.059	101.812	100.814	100.166
8/2/2007	8/2/2017	5/2/2016	4.150	105.994	105.994	105.994	104.585	103.195	101.933	100.907	100.222
8/9/2007	8/9/2017	5/9/2016	3.990	105.841	105.841	105.841	104.412	103.012	101.756	100.762	100.123
8/16/2007	8/16/2017	5/16/2016	3.990	105.918	105.918	105.918	104.467	103.048	101.774	100.764	100.110
8/17/2007	8/17/2017	5/17/2016	4.000	105.944	105.944	105.944	104.489	103.067	101.789	100.773	100.114
9/4/2007	9/5/2017	3/4/2016	3.890	105.986	105.986	105.986	104.473	103.015	101.723	100.716	100.136
9/10/2007	9/11/2017	3/10/2016	3.690	105.740	105.740	105.740	104.212	102.755	101.488	100.537	100.057
9/11/2007	9/11/2017	3/11/2016	3.590	105.584	105.584	105.584	104.060	102.612	101.368	100.450	100.019
9/13/2007	9/13/2017	3/14/2016	3.990	106.228	106.228	106.228	104.687	103.198	101.867	100.810	100.167
9/27/2007	9/27/2017	3/28/2016	3.650	105.840	105.840	105.840	104.261	102.763	101.464	100.489	100.012

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
10/11/2007	10/11/2017	4/11/2016	3.990	106.539	106.539	106.537	104.907	103.348	101.959	100.855	100.170
10/15/2007	10/16/2017	4/15/2016	3.990	106.594	106.594	106.591	104.945	103.373	101.971	100.856	100.164
10/26/2007	10/26/2017	4/26/2016	3.390	105.697	105.697	105.692	104.035	102.500	101.216	100.333	99.899
11/5/2007	11/6/2017	5/5/2016	4.390	107.511	107.511	107.502	105.783	104.132	102.622	101.362	100.465
11/6/2007	11/6/2017	5/6/2016	3.480	105.954	105.954	105.945	104.255	102.691	101.373	100.444	99.934
11/19/2007	11/20/2017	11/19/2012	4.290	107.507	107.507	107.491	105.726	103.992	102.295	100.633	99.007
11/20/2007	11/20/2017	5/20/2016	3.740	106.545	106.545	106.529	104.787	103.152	101.729	100.662	100.015
11/23/2007	11/24/2017	11/23/2011	3.990	107.026	107.026	107.008	105.236	103.495	101.792	100.124	98.492
11/23/2007	11/24/2017	11/23/2011	3.990	107.026	107.026	107.008	105.236	103.495	101.792	100.124	98.492
11/29/2007	11/29/2017	5/31/2016	2.950	105.236	105.236	105.215	103.490	101.957	100.772	100.046	99.660
11/30/2007	11/30/2017	5/31/2016	3.190	105.671	105.671	105.650	103.906	102.321	101.041	100.198	99.742
12/10/2007	12/11/2017	3/10/2016	3.450	106.238	106.238	106.210	104.425	102.782	101.409	100.431	100.002
12/24/2007	12/26/2017	12/24/2012	3.990	107.381	107.381	107.342	105.479	103.651	101.863	100.115	98.406
1/7/2008	1/8/2018	4/7/2016	2.590	104.885	104.885	104.837	103.056	101.556	100.497	99.991	99.823
1/8/2008	1/8/2018	4/8/2016	2.570	104.847	104.847	104.799	103.021	101.525	100.476	99.982	99.816
1/8/2008	1/8/2018	4/8/2016	2.640	104.979	104.979	104.931	103.143	101.626	100.539	100.004	99.824
1/11/2008	1/11/2018	4/11/2016	2.720	105.152	105.152	105.102	103.297	101.749	100.605	100.027	99.820
1/14/2008	1/16/2018	4/14/2016	3.240	106.183	106.183	106.128	104.262	102.575	101.206	100.307	99.908
1/16/2008	1/16/2018	4/18/2016	2.380	104.541	104.541	104.488	102.717	101.267	100.313	99.901	99.736
1/17/2008	1/17/2018	4/18/2016	2.250	104.300	104.300	104.246	102.496	101.096	100.221	99.870	99.719
1/18/2008	1/18/2018	4/18/2016	2.290	104.382	104.382	104.328	102.568	101.149	100.248	99.879	99.724
2/14/2008	2/14/2018	2/14/2012	3.190	106.344	106.344	106.269	104.275	102.323	100.419	98.559	96.742
2/25/2008	2/26/2018	5/25/2016	2.420	104.893	104.893	104.813	102.932	101.391	100.357	99.828	99.541
3/7/2008	3/7/2018	3/7/2016	3.550	107.267	107.267	107.177	105.155	103.304	101.751	100.625	100.073
3/14/2008	3/14/2018	3/14/2016	2.400	104.959	104.959	104.866	102.957	101.406	100.357	99.966	99.928
3/17/2008	3/19/2018	3/17/2016	3.300	106.865	106.865	106.764	104.727	102.893	101.399	100.371	99.955
4/28/2008	4/30/2018	4/28/2016	2.150	104.723	104.723	104.590	102.627	101.102	100.186	99.818	99.641
4/30/2008	4/30/2018	4/30/2013	3.740	108.217	108.217	108.073	105.850	103.679	101.563	99.502	97.492
5/23/2008	5/23/2018	5/23/2016	3.270	107.393	107.393	107.226	105.024	103.059	101.473	100.405	99.836
6/30/2008	7/2/2018	6/30/2011	3.690	108.753	108.753	108.536	106.134	103.792	101.513	99.296	97.139
7/11/2008	7/11/2018	7/11/2012	3.750	108.989	108.989	108.761	106.331	103.963	101.660	99.419	97.240
7/14/2008	7/16/2018	4/14/2016	2.500	106.027	106.027	105.806	103.600	101.802	100.566	99.978	99.777
7/14/2008	7/16/2018	4/14/2016	3.250	107.835	107.835	107.606	105.273	103.211	101.555	100.453	99.940
7/17/2008	7/17/2018	4/14/2016	3.750	109.051	109.051	108.815	106.369	103.984	101.666	99.411	97.218
8/15/2008	8/15/2018	5/16/2016	3.830	109.553	109.553	109.280	106.811	104.552	102.622	101.151	100.226
12/27/2011	12/27/2021	12/29/2014	3.550	120.983	120.983	116.584	110.547	104.864	99.515	94.479	89.737
4/27/2012	4/27/2016	4/27/2013	1.430	100.123	100.123	100.123	100.055	99.897	99.739	99.582	99.426
4/30/2012	5/2/2016	4/30/2013	1.380	100.241	100.241	100.241	100.166	99.994	99.823	99.652	99.482
5/15/2012	5/15/2017	5/15/2014	1.950	102.388	102.388	102.388	101.242	100.048	98.873	97.717	96.580
5/15/2012	5/15/2017	11/17/2014	2.510	103.074	103.074	103.074	101.925	100.726	99.547	98.387	97.245
6/20/2012	6/20/2017	6/22/2015	1.630	102.159	102.159	102.159	100.903	99.615	98.349	97.105	95.882
7/16/2012	7/17/2017	7/16/2014	1.720	102.408	102.408	102.408	101.067	99.706	98.370	97.058	95.770
7/18/2012	7/18/2018	7/20/2015	2.720	106.573	106.573	106.336	103.915	101.558	99.266	97.038	94.870
7/19/2012	7/19/2017	7/21/2014	1.690	102.375	102.375	102.375	101.028	99.663	98.322	97.005	95.712
10/1/2012	10/1/2019	4/1/2015	2.250	108.187	108.187	106.999	103.374	99.888	96.539	93.320	90.226
10/5/2012	10/5/2017	10/6/2014	1.630	102.644	102.644	102.643	101.051	99.479	97.940	96.432	94.954
3/8/2013	3/8/2018	3/9/2015	1.780	103.648	103.648	103.557	101.525	99.541	97.606	95.718	93.875
5/7/2014	5/7/2018	5/7/2015	1.760	103.901	103.901	103.750	101.553	99.411	97.325	95.292	93.312
10/16/2014	10/16/2018	10/17/2016	0.400	104.970	104.970	104.605	102.392	100.847	99.977	99.577	99.384
10/24/2014	10/24/2018	10/26/2015	1.740	104.678	104.678	104.301	101.641	99.059	96.555	94.127	91.772
10/24/2014	10/24/2018	10/17/2016	1.740	104.678	104.678	104.301	101.641	99.059	96.555	94.127	91.772
2/20/2015	2/20/2019	2/22/2016	1.790	105.404	105.404	104.817	101.826	98.933	96.137	93.435	90.822
3/26/2015	3/26/2019	3/29/2016	0.343	104.914	104.914	104.256	101.180	99.923	99.845	99.767	99.690
3/26/2015	3/26/2020	3/29/2016	0.343	106.470	106.470	104.735	100.912	99.923	99.845	99.767	99.690
6/29/2015	7/1/2019	6/29/2017	0.323	105.350	105.350	104.444	102.366	101.041	100.235	99.806	99.602
7/30/2015	7/30/2019	8/1/2016	0.326	105.446	105.446	104.455	101.616	100.166	99.643	99.422	99.255
8/14/2015	8/14/2025	8/14/2020	1.850	117.747	115.946	110.206	104.327	99.159	94.519	90.283	86.366
8/19/2015	8/19/2025	8/21/2017	0.990	109.510	108.404	105.100	101.807	99.403	97.523	95.926	94.478

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
8/25/2015	8/25/2020	8/25/2017	0.950	104.324	104.324	103.270	100.824	98.889	97.245	95.755	94.348
8/26/2015	8/26/2025	8/26/2020	1.750	116.846	115.096	109.466	103.657	98.538	93.930	89.714	85.808
9/14/2015	9/14/2020	9/14/2017	1.050	104.838	104.838	103.689	101.114	99.065	97.328	95.764	94.297
9/15/2015	9/16/2019	9/15/2016	0.182	105.224	105.224	104.087	101.414	100.194	99.802	99.684	99.622
9/18/2015	9/18/2020	9/18/2017	1.090	105.034	105.034	103.848	101.226	99.142	97.381	95.799	94.318
9/29/2015	9/30/2019	9/29/2016	0.283	104.760	104.760	103.582	101.058	100.020	99.707	99.599	99.529
10/2/2015	10/2/2020	10/2/2017	0.890	104.145	104.145	103.111	100.654	98.662	96.935	95.354	93.856
10/2/2015	10/2/2025	10/2/2020	1.690	116.442	114.628	109.070	103.239	98.081	93.426	89.158	85.201
11/6/2015	11/6/2020	11/6/2017	1.050	104.992	104.992	103.772	101.096	98.925	97.055	95.356	93.758
11/6/2015	11/7/2022	11/6/2018	1.400	109.499	109.499	106.347	102.425	99.085	96.134	93.445	90.939
12/4/2015	12/4/2025	12/4/2018	1.360	113.469	111.841	107.471	102.992	99.293	96.102	93.250	90.628
12/8/2015	12/8/2020	12/8/2016	0.002	105.248	105.248	103.731	101.486	100.342	99.816	99.619	99.559
12/11/2015	12/12/2022	12/11/2017	0.002	109.227	109.227	105.252	102.452	100.718	99.577	98.825	98.318
12/15/2015	12/16/2019	12/15/2016	0.262	104.051	104.051	103.142	101.246	100.298	99.863	99.694	99.630
12/15/2015	12/15/2022	12/15/2017	0.000	109.229	109.229	105.243	102.491	100.859	99.870	99.300	98.988
12/18/2015	12/18/2020	12/18/2017	0.283	106.389	106.389	104.383	102.209	100.902	100.084	99.598	99.322
12/24/2015	12/24/2020	12/26/2017	1.250	106.110	106.110	104.640	101.690	99.284	97.218	95.356	93.618
12/24/2015	12/24/2025	12/24/2020	1.990	119.820	117.556	111.326	105.045	99.511	94.538	90.002	85.817
1/8/2016	1/8/2019	1/9/2017	1.120	103.247	103.247	102.915	101.032	99.684	98.655	97.776	96.959
1/12/2016	1/13/2020	1/12/2017	0.021	105.238	105.238	104.113	101.833	100.451	99.659	99.250	99.039
1/19/2016	1/19/2021	1/19/2018	1.150	105.704	105.704	104.266	101.360	98.962	96.878	94.981	93.199
1/19/2016	1/20/2026	1/22/2019	1.350	113.546	111.834	107.360	102.675	98.722	95.253	92.118	89.218
1/22/2016	1/22/2020	1/23/2017	0.021	103.980	103.980	102.973	100.991	99.912	99.341	99.046	98.871
1/29/2016	1/29/2021	1/30/2017	0.018	105.301	105.301	103.640	101.317	100.036	99.351	98.996	98.788
2/2/2016	2/2/2021	2/2/2018	0.013	105.693	105.693	103.582	101.416	100.037	99.127	98.534	98.141
2/17/2016	2/17/2021	2/17/2017	0.018	103.074	103.074	101.860	100.207	99.409	98.985	98.720	98.511
2/26/2016	2/26/2020	2/27/2017	0.036	103.345	103.345	102.369	100.542	99.548	98.988	98.645	98.391
2/26/2016	2/26/2021	2/26/2018	0.890	104.508	104.508	103.235	100.477	98.142	96.058	94.121	92.278
2/26/2016	2/26/2026	2/26/2021	1.490	115.104	113.176	107.526	101.563	96.240	91.399	86.941	82.797