

## **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 purchase 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
1/7/2000	1/7/2015	10/7/2014	5.950	102.644	102.644	102.644	102.533	102.093	101.658	101.226	100.798
12/13/2004	12/15/2014	9/15/2014	3.320	101.263	101.263	101.263	101.177	100.803	100.431	100.096	99.908
9/1/2005	9/1/2015	9/1/2014	4.130	104.554	104.554	104.554	104.073	102.976	101.896	100.831	99.783
9/30/2005	9/30/2015	9/30/2014	4.440	105.254	105.254	105.254	104.690	103.508	102.346	101.201	100.075
10/26/2005	10/26/2015	10/26/2014	4.540	105.700	105.700	105.700	105.050	103.797	102.564	101.351	100.158
1/17/2006	1/19/2016	10/17/2014	4.080	106.086	106.086	106.086	105.106	103.642	102.274	101.111	100.280
4/24/2006	4/25/2016	10/24/2014	4.440	107.819	107.819	107.819	106.382	104.655	103.052	101.662	100.613
5/5/2006	5/5/2016	8/5/2014	4.350	107.781	107.781	107.781	106.298	104.554	102.949	101.579	100.564
5/5/2006	5/5/2016	8/5/2014	4.530	108.103	108.103	108.103	106.616	104.861	103.232	101.816	100.728
5/15/2006	5/16/2016	8/15/2014	4.350	107.914	107.914	107.914	106.375	104.602	102.972	101.581	100.547
5/15/2006	5/16/2016	8/15/2014	4.520	108.223	108.223	108.223	106.681	104.897	103.245	101.808	100.703
5/19/2006	5/19/2016	8/19/2014	4.510	108.243	108.243	108.243	106.685	104.894	103.236	101.796	100.692
6/12/2006	6/13/2016	9/12/2014	4.620	108.765	108.765	108.765	107.078	105.219	103.497	102.000	100.829
6/26/2006	6/27/2016	9/26/2014	4.730	109.157	109.157	109.157	107.397	105.493	103.723	102.177	100.945
7/24/2006	7/25/2016	10/24/2014	4.660	109.384	109.384	109.384	107.482	105.512	103.698	102.126	100.897
7/28/2006	7/28/2016	10/28/2014	4.490	109.079	109.079	109.079	107.166	105.203	103.408	101.874	100.717
8/25/2006	8/25/2016	8/25/2014	4.350	109.134	109.134	109.134	107.079	105.061	103.237	101.708	100.589
11/24/2006	11/25/2016	8/25/2014	4.190	109.869	109.869	109.629	107.295	105.091	103.151	101.580	100.477
12/1/2006	12/1/2016	9/2/2014	4.090	109.702	109.702	109.443	107.103	104.910	102.995	101.472	100.439
12/4/2006	12/5/2016	9/4/2014	4.080	109.723	109.723	109.450	107.100	104.900	102.981	101.457	100.428
12/5/2006	12/5/2016	9/5/2014	4.260	110.152	110.152	109.878	107.515	105.284	103.319	101.715	100.579
12/8/2006	12/8/2016	9/8/2014	3.990	109.542	109.542	109.258	106.907	104.716	102.818	101.328	100.347
12/12/2006	12/12/2016	9/12/2014	3.990	109.586	109.586	109.288	106.926	104.726	102.820	101.326	100.340
12/12/2006	12/12/2016	9/12/2014	4.050	109.731	109.731	109.432	107.065	104.853	102.930	101.407	100.392
12/19/2006	12/19/2016	9/19/2014	4.190	110.148	110.148	109.823	107.427	105.176	103.201	101.608	100.505
12/28/2006	12/28/2016	9/29/2014	4.250	110.400	110.400	110.042	107.617	105.335	103.328	101.697	100.550
12/28/2006	12/28/2016	9/29/2014	4.400	110.767	110.767	110.408	107.973	105.667	103.623	101.933	100.697
1/12/2007	1/12/2017	10/14/2014	4.420	111.000	111.000	110.583	108.111	105.774	103.709	102.004	100.759
1/16/2007	1/17/2017	10/16/2014	4.790	111.988	111.988	111.548	109.039	106.642	104.474	102.639	101.213
2/2/2007	2/2/2017	8/2/2014	4.690	111.946	111.946	111.440	108.856	106.312	103.842	101.442	99.450
2/20/2007	2/21/2017	8/20/2014	4.850	112.609	112.609	112.030	109.382	106.776	104.246	101.790	99.405
2/20/2007	2/21/2017	8/20/2014	4.390	111.413	111.413	110.842	108.264	105.847	103.722	101.985	100.727
2/23/2007	2/23/2017	8/25/2014	4.250	111.073	111.073	110.495	107.924	105.526	103.439	101.757	100.573
2/23/2007	2/23/2017	8/25/2014	4.350	111.333	111.333	110.755	108.174	105.760	103.642	101.915	100.678
3/16/2007	3/16/2017	9/16/2014	4.090	110.895	110.895	110.234	107.627	105.225	103.161	101.539	100.450
3/21/2007	3/21/2017	9/22/2014	4.220	111.300	111.300	110.616	107.982	105.540	103.427	101.736	100.561
3/23/2007	3/23/2017	9/23/2014	4.290	111.511	111.511	110.817	108.171	105.711	103.573	101.849	100.626
3/23/2007	3/23/2017	9/23/2014	4.290	111.511	111.511	110.817	108.171	105.711	103.573	101.849	100.626
4/9/2007	4/10/2017	10/9/2014	4.150	111.343	111.343	110.576	107.903	105.443	103.330	101.661	100.531
4/12/2007	4/12/2017	10/14/2014	4.250	111.640	111.640	110.863	108.173	105.686	103.537	101.817	100.622
4/13/2007	4/13/2017	10/14/2014	4.450	112.200	112.200	111.415	108.702	106.173	103.960	102.151	100.836
4/27/2007	4/27/2017	10/27/2014	4.250	111.817	111.817	110.975	108.245	105.726	103.550	101.812	100.605
5/18/2007	5/18/2017	8/18/2014	4.190	111.894	111.894	110.961	108.190	105.647	103.469	101.744	100.555
5/22/2007	5/22/2017	8/22/2014	4.750	113.537	113.537	112.574	109.732	107.064	104.700	102.732	101.228
5/29/2007	5/30/2017	8/29/2014	4.250	112.206	112.206	111.219	108.407	105.825	103.606	101.844	100.621
6/7/2007	6/7/2017	9/8/2014	4.820	113.950	113.950	112.916	110.027	107.318	104.916	102.907	101.367
6/8/2007	6/8/2017	9/8/2014	4.490	113.008	113.008	111.976	109.118	106.472	104.167	102.293	100.913
6/11/2007	6/12/2017	9/11/2014	4.490	113.058	113.058	112.008	109.139	106.483	104.172	102.293	100.910
6/18/2007	6/19/2017	9/18/2014	4.500	113.174	113.174	112.092	109.203	106.529	104.201	102.309	100.913
6/19/2007	6/19/2017	9/19/2014	4.650	113.613	113.613	112.528	109.622	106.918	104.541	102.582	101.111
6/22/2007	6/22/2017	9/22/2014	4.500	113.212	113.212	112.116	109.219	106.538	104.204	102.307	100.908
6/28/2007	6/28/2017	9/29/2014	4.500	113.287	113.287	112.164	109.251	106.555	104.210	102.305	100.900
7/13/2007	7/13/2017	10/14/2014	4.290	112.845	112.845	111.661	108.742	106.073	103.789	101.969	100.696
7/20/2007	7/20/2017	10/20/2014	4.290	112.929	112.929	111.712	108.774	106.090	103.794	101.966	100.688
7/27/2007	7/27/2017	10/27/2014	4.250	112.891	112.891	111.643	108.693	106.003	103.710	101.894	100.638
7/30/2007	1/30/2019	10/30/2014	3.990	118.220	118.220	113.969	109.950	106.538	103.812	101.797	100.502
7/31/2007	7/31/2017	10/31/2014	3.990	112.147	112.147	110.892	107.980	105.363	103.172	101.496	100.385
7/31/2007	7/31/2017	10/31/2014	3.990	112.147	112.147	110.892	107.980	105.363	103.172	101.496	100.385

As of: 7/31/2014 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
7/31/2007	7/31/2017	10/31/2014	4.060	112.360	112.360	111.102	108.177	105.539	103.321	101.605	100.457
8/2/2007	8/4/2014	8/4/2014	4.490	100.050	100.050	100.050	100.048	100.038	100.027	100.016	100.005
8/2/2007	8/2/2017	11/3/2014	4.150	112.657	112.657	111.387	108.445	105.781	103.528	101.771	100.580
8/2/2007	8/2/2017	11/3/2014	4.050	112.352	112.352	111.087	108.162	105.526	103.315	101.610	100.476
8/9/2007	8/9/2017	8/11/2014	3.990	112.246	112.246	110.951	108.019	105.387	103.187	101.509	100.398
8/16/2007	8/16/2017	8/18/2014	3.990	112.324	112.324	110.995	108.046	105.398	103.187	101.500	100.382
8/17/2007	8/17/2017	8/18/2014	4.000	112.366	112.366	111.032	108.078	105.426	103.209	101.516	100.392
8/20/2007	8/20/2014	8/20/2014	4.250	100.236	100.236	100.236	100.229	100.175	100.121	100.067	100.013
8/28/2007	8/28/2014	8/28/2014	4.350	100.338	100.338	100.338	100.328	100.252	100.177	100.102	100.027
8/30/2007	9/2/2014	9/2/2014	3.890	100.357	100.357	100.357	100.344	100.255	100.166	100.077	99.988
9/4/2007	9/5/2017	9/4/2014	3.890	112.231	112.231	110.818	107.845	105.201	103.017	101.374	100.340
9/10/2007	9/11/2017	9/10/2014	3.690	111.664	111.664	110.237	107.292	104.705	102.608	101.075	100.170
9/11/2007	9/11/2017	9/11/2014	3.590	111.348	111.348	109.929	107.007	104.457	102.410	100.932	100.102
9/12/2007	9/12/2014	9/12/2014	3.690	100.441	100.441	100.441	100.423	100.306	100.190	100.073	99.957
9/13/2007	9/15/2014	9/15/2014	3.990	100.510	100.510	100.510	100.491	100.365	100.240	100.116	99.991
9/13/2007	9/13/2017	9/15/2014	3.990	112.634	112.634	111.176	108.164	105.470	103.227	101.518	100.412
9/27/2007	9/29/2014	9/29/2014	4.490	100.748	100.748	100.748	100.723	100.558	100.394	100.231	100.068
9/27/2007	9/27/2017	9/29/2014	3.650	111.699	111.699	110.199	107.224	104.622	102.523	100.994	100.107
10/11/2007	10/14/2014	10/14/2014	4.180	100.871	100.871	100.871	100.836	100.631	100.427	100.223	100.021
10/11/2007	10/11/2017	10/14/2014	3.990	112.944	112.944	111.350	108.276	105.540	103.269	101.543	100.423
10/15/2007	10/16/2017	10/15/2014	3.990	113.000	113.000	111.379	108.293	105.548	103.271	101.541	100.420
10/25/2007	10/27/2014	10/27/2014	4.360	101.066	101.066	101.066	101.023	100.783	100.544	100.306	100.069
10/26/2007	10/26/2017	10/27/2014	3.390	111.139	111.139	109.524	106.567	104.032	102.049	100.680	99.955
11/2/2007	11/3/2014	8/3/2014	3.990	101.053	101.053	101.053	101.005	100.746	100.488	100.231	100.024
11/2/2007	11/3/2014	8/3/2014	4.190	101.106	101.106	101.106	101.058	100.798	100.540	100.284	100.051
11/5/2007	11/5/2014	8/5/2014	3.990	101.075	101.075	101.075	101.026	100.761	100.497	100.235	100.024
11/5/2007	11/6/2017	8/5/2014	4.390	114.559	114.559	112.806	109.601	106.699	104.232	102.270	100.874
11/6/2007	11/6/2017	8/6/2014	3.480	111.541	111.541	109.866	106.869	104.290	102.255	100.826	100.107
11/9/2007	11/10/2014	8/11/2014	4.330	101.227	101.227	101.227	101.173	100.894	100.617	100.341	100.078
11/13/2007	11/13/2014	8/13/2014	3.350	100.977	100.977	100.977	100.921	100.634	100.349	100.076	99.976
11/19/2007	11/19/2014	8/19/2014	4.270	101.317	101.317	101.317	101.255	100.951	100.649	100.349	100.077
11/19/2007	11/19/2014	8/19/2014	3.750	101.156	101.156	101.156	101.095	100.791	100.489	100.189	99.986
11/19/2007	11/20/2017	8/19/2014	4.290	114.394	114.394	112.512	109.100	105.782	102.584	99.502	96.530
11/20/2007	11/20/2017	8/20/2014	3.740	112.549	112.549	110.773	107.671	104.962	102.771	101.164	100.207
11/23/2007	11/24/2017	8/19/2014	3.990	113.432	113.432	111.531	108.121	104.810	101.618	98.542	95.576
11/23/2007	11/24/2017	8/24/2014	3.990	113.432	113.432	111.531	108.121	104.810	101.618	98.542	95.576
11/29/2007	11/29/2017	8/29/2014	2.950	109.972	109.972	108.268	105.400	103.043	101.312	100.247	99.915
11/30/2007	11/30/2017	9/2/2014	3.190	110.792	110.792	109.040	106.082	103.600	101.716	100.495	99.975
12/10/2007	12/11/2017	9/10/2014	3.450	111.777	111.777	109.935	106.878	104.267	102.221	100.788	100.052
12/24/2007	12/26/2017	9/24/2014	3.990	113.787	113.787	111.702	108.204	104.809	101.541	98.394	95.362
1/3/2008	1/5/2015	10/3/2014	3.650	101.602	101.602	101.602	101.493	101.062	100.634	100.236	99.948
1/4/2008	1/4/2018	10/6/2014	3.360	111.694	111.694	109.746	106.680	104.085	102.071	100.699	99.999
1/7/2008	1/7/2015	10/7/2014	3.490	101.551	101.551	101.551	101.440	101.004	100.571	100.180	99.900
1/7/2008	1/8/2018	10/7/2014	2.590	109.043	109.043	107.247	104.503	102.332	100.825	100.040	99.730
1/8/2008	1/8/2018	10/8/2014	2.570	108.973	108.973	107.181	104.449	102.289	100.796	100.028	99.721
1/8/2008	1/8/2018	10/8/2014	2.640	109.217	109.217	107.406	104.636	102.432	100.892	100.063	99.737
1/11/2008	1/11/2018	10/14/2014	2.720	109.519	109.519	107.672	104.857	102.597	100.998	100.094	99.734
1/14/2008	1/16/2018	10/14/2014	3.240	111.384	111.384	109.393	106.346	103.795	101.843	100.559	99.917
1/16/2008	1/16/2018	10/16/2014	2.380	108.362	108.362	106.591	103.953	101.908	100.559	99.916	99.640
1/17/2008	1/17/2018	10/17/2014	2.250	107.912	107.912	106.182	103.622	101.664	100.423	99.856	99.607
1/18/2008	1/20/2015	10/20/2014	2.350	101.129	101.129	101.129	101.004	100.534	100.115	99.836	99.614
1/18/2008	1/18/2018	10/20/2014	2.290	108.059	108.059	106.309	103.724	101.737	100.462	99.866	99.602
2/14/2008	2/14/2018	8/14/2014	3.190	111.465	111.465	109.100	105.504	102.028	98.687	95.473	92.383
2/25/2008	2/26/2018	8/25/2014	2.420	108.778	108.778	106.820	104.101	101.997	100.595	99.984	99.890
3/7/2008	3/9/2015	9/8/2014	2.890	101.774	101.774	101.774	101.592	100.985	100.413	100.025	99.876
3/7/2008	3/7/2018	9/8/2014	3.550	112.966	112.966	110.670	107.425	104.662	102.489	100.951	100.104
3/14/2008	3/14/2018	9/15/2014	2.400	108.812	108.812	106.801	104.077	101.980	100.590	99.972	99.789
3/17/2008	3/19/2018	9/17/2014	3.300	112.163	112.163	109.850	106.673	104.019	101.985	100.622	99.983

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
4/14/2008	4/14/2015	10/14/2014	2.750	101.963	101.963	101.963	101.735	101.030	100.335	99.649	98.973
4/28/2008	4/28/2015	10/28/2014	3.250	102.446	102.446	102.446	102.200	101.455	100.743	100.164	99.810
4/28/2008	4/30/2018	10/28/2014	2.150	108.175	108.175	106.063	103.460	101.511	100.323	99.790	99.528
4/30/2008	4/30/2018	10/30/2014	3.740	114.221	114.221	111.392	107.555	103.849	100.293	96.880	93.603
5/2/2008	5/4/2015	11/3/2014	3.990	103.070	103.070	103.070	102.814	102.050	101.304	100.616	100.116
5/5/2008	5/5/2015	8/5/2014	3.170	102.448	102.448	102.448	102.191	101.429	100.710	100.141	99.988
5/19/2008	5/19/2015	8/21/2014	4.700	103.812	103.812	103.812	103.534	102.726	101.932	101.150	100.380
5/23/2008	5/23/2018	8/25/2014	3.270	112.643	112.643	109.998	106.726	104.018	101.958	100.593	99.989
6/24/2008	6/24/2015	9/24/2014	3.830	103.489	103.489	103.489	103.154	102.251	101.377	100.587	100.051
6/30/2008	7/2/2018	9/30/2014	3.690	114.677	114.677	111.456	107.448	103.587	99.888	96.344	92.946
7/11/2008	7/11/2018	10/11/2014	3.750	115.009	115.009	111.731	107.694	103.806	100.082	96.515	93.096
7/14/2008	7/14/2015	10/15/2014	4.900	104.736	104.736	104.736	104.362	103.400	102.455	101.527	100.617
7/14/2008	7/16/2018	10/14/2014	2.500	110.041	110.041	107.425	104.502	102.255	100.741	99.989	99.679
7/14/2008	7/16/2018	10/14/2014	3.250	113.053	113.053	110.136	106.792	104.041	101.969	100.609	99.932
7/17/2008	7/17/2018	10/17/2014	3.750	115.072	115.072	111.755	107.703	103.800	100.062	96.482	93.052
8/15/2008	8/15/2018	8/15/2014	3.830	115.702	115.702	112.463	108.824	105.719	103.240	101.437	100.306
5/11/2010	5/11/2015	5/11/2015	3.700	102.919	102.919	102.919	102.653	101.868	101.046	100.038	98.479
5/24/2010	5/26/2015	8/26/2014	2.250	101.869	101.869	101.869	101.582	100.765	99.961	99.170	98.392
6/15/2010	6/15/2015	8/15/2014	2.280	102.020	102.020	102.020	101.702	100.830	99.974	99.131	98.303
10/8/2010	10/8/2015	10/9/2012	2.250	102.712	102.712	102.712	102.128	100.941	99.773	98.624	97.494
12/27/2011	12/27/2021	12/29/2014	3.550	126.682	121.160	113.455	106.180	97.881	85.754	74.529	64.137
4/27/2012	4/27/2016	4/27/2013	1.430	102.526	102.526	102.526	101.100	99.381	97.700	96.055	94.444
4/30/2012	5/2/2016	4/30/2013	1.380	102.457	102.457	102.457	101.007	99.276	97.583	95.926	94.305
5/15/2012	5/15/2017	5/15/2014	1.950	105.519	105.519	104.586	101.788	99.067	96.432	93.880	91.408
5/15/2012	5/15/2017	11/17/2014	-0.236	106.244	106.244	105.309	102.558	100.572	99.889	99.773	99.733
6/20/2012	6/20/2017	6/22/2015	1.630	104.776	104.776	103.682	100.456	95.742	91.195	86.810	82.580
7/16/2012	7/17/2017	7/16/2014	1.720	105.169	105.169	103.949	100.992	98.123	95.350	92.670	90.079
7/18/2012	7/18/2018	7/20/2015	-0.216	107.997	107.997	104.706	101.626	100.087	99.375	99.034	98.803
7/19/2012	7/19/2017	7/21/2014	1.690	105.088	105.088	103.859	100.898	98.025	95.250	92.566	89.972
10/1/2012	10/1/2019	4/1/2015	-0.125	110.148	109.202	104.014	100.894	99.816	99.506	99.327	99.167
10/5/2012	10/5/2017	10/6/2014	-0.118	105.037	105.037	103.428	100.680	99.889	99.686	99.505	99.324
3/8/2013	3/8/2018	3/9/2015	-0.039	105.311	105.311	102.844	100.514	99.829	99.645	99.532	99.428
5/7/2014	5/7/2018	5/7/2015	0.003	105.191	105.191	102.387	100.396	99.883	99.780	99.764	99.758