

## **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
1/7/2000	1/7/2015	4/7/2014	5.950	105.173	105.173	105.173	104.875	104.011	103.162	102.329	101.525
7/2/2004	7/2/2014	4/2/2014	3.990	101.374	101.374	101.374	101.307	100.967	100.629	100.294	99.960
12/13/2004	12/15/2014	3/13/2014	3.320	102.674	102.674	102.674	102.411	101.621	100.874	100.251	99.976
9/1/2005	9/1/2015	3/1/2014	4.130	106.309	106.309	106.309	105.527	104.004	102.510	101.045	99.609
9/30/2005	9/30/2015	3/30/2014	4.440	107.141	107.141	107.141	106.278	104.667	103.090	101.544	100.028
10/26/2005	10/26/2015	4/26/2014	4.540	107.629	107.629	107.629	106.691	105.007	103.358	101.743	100.161
1/17/2006	1/19/2016	4/17/2014	4.080	107.820	107.820	107.820	106.624	104.751	103.027	101.565	100.510
4/24/2006	4/25/2016	4/24/2014	4.440	109.706	109.706	109.706	108.160	106.012	104.026	102.305	100.960
5/5/2006	5/5/2016	5/5/2014	4.350	109.630	109.630	109.630	108.047	105.884	103.900	102.199	100.900
5/5/2006	5/5/2016	5/5/2014	4.530	110.028	110.028	110.028	108.442	106.265	104.251	102.501	101.124
5/15/2006	5/16/2016	5/15/2014	4.350	109.763	109.763	109.763	108.134	105.942	103.931	102.206	100.890
5/15/2006	5/16/2016	5/15/2014	4.520	110.144	110.144	110.144	108.511	106.306	104.267	102.494	101.103
5/19/2006	5/19/2016	5/19/2014	4.510	110.159	110.159	110.159	108.514	106.301	104.257	102.480	101.088
6/12/2006	6/13/2016	3/12/2014	4.620	110.728	110.728	110.728	108.972	106.689	104.579	102.736	101.277
6/26/2006	6/27/2016	3/26/2014	4.730	111.167	111.167	111.167	109.346	107.016	104.855	102.953	101.422
7/24/2006	7/25/2016	4/24/2014	4.660	111.365	111.365	111.365	109.415	107.023	104.817	102.892	101.367
7/28/2006	7/28/2016	4/28/2014	4.490	110.987	110.987	110.987	109.030	106.645	104.462	102.585	101.120
8/25/2006	8/25/2016	5/27/2014	4.350	110.983	110.983	110.983	108.897	106.463	104.257	102.384	100.964
11/24/2006	11/25/2016	5/27/2014	4.190	111.650	111.650	111.650	109.105	106.487	104.164	102.240	100.832
12/1/2006	12/1/2016	6/2/2014	4.090	111.440	111.440	111.440	108.877	106.271	103.978	102.107	100.772
12/4/2006	12/5/2016	6/4/2014	4.080	111.457	111.457	111.457	108.873	106.259	103.962	102.090	100.756
12/5/2006	12/5/2016	6/5/2014	4.260	111.963	111.963	111.963	109.362	106.717	104.367	102.415	100.970
12/8/2006	12/8/2016	3/10/2014	3.990	111.238	111.238	111.238	108.645	106.043	103.766	101.929	100.644
12/12/2006	12/12/2016	3/12/2014	3.990	111.282	111.282	111.282	108.667	106.055	103.770	101.926	100.636
12/12/2006	12/12/2016	3/12/2014	4.050	111.452	111.452	111.452	108.831	106.207	103.902	102.031	100.705
12/19/2006	12/19/2016	3/19/2014	4.190	111.929	111.929	111.929	109.257	106.589	104.229	102.282	100.857
12/28/2006	12/28/2016	3/28/2014	4.250	112.206	112.206	112.206	109.478	106.779	104.383	102.395	100.914
12/28/2006	12/28/2016	3/28/2014	4.400	112.637	112.637	112.637	109.896	107.173	104.736	102.684	101.126
1/12/2007	1/12/2017	4/14/2014	4.420	112.879	112.879	112.879	110.055	107.302	104.842	102.776	101.207
1/16/2007	1/17/2017	4/16/2014	4.790	114.023	114.023	114.023	111.142	108.319	105.757	103.545	101.786
2/2/2007	2/2/2017	5/2/2014	4.690	113.939	113.939	113.934	110.917	107.923	105.027	102.225	99.513
2/20/2007	2/21/2017	5/20/2014	4.850	114.670	114.670	114.619	111.529	108.470	105.513	102.654	99.889
2/20/2007	2/21/2017	5/20/2014	4.390	113.279	113.279	113.227	110.234	107.393	104.872	102.769	101.181
2/23/2007	2/23/2017	5/23/2014	4.250	112.879	112.879	112.823	109.838	107.019	104.534	102.485	100.971
2/23/2007	2/23/2017	5/23/2014	4.350	113.182	113.182	113.126	110.130	107.291	104.776	102.686	101.115
3/16/2007	3/16/2017	3/17/2014	4.090	112.633	112.633	112.510	109.494	106.669	104.209	102.216	100.796
3/21/2007	3/21/2017	3/21/2014	4.220	113.093	113.093	112.954	109.907	107.042	104.528	102.466	100.947
3/23/2007	3/23/2017	3/24/2014	4.290	113.334	113.334	113.188	110.127	107.243	104.703	102.606	101.044
3/23/2007	3/23/2017	3/24/2014	4.290	113.334	113.334	113.188	110.127	107.243	104.703	102.606	101.044
4/9/2007	4/10/2017	4/9/2014	4.150	113.106	113.106	112.900	109.816	106.931	104.417	102.374	100.899
4/12/2007	4/12/2017	4/14/2014	4.250	113.446	113.446	113.232	110.129	107.217	104.664	102.572	101.025
4/13/2007	4/13/2017	4/14/2014	4.450	114.091	114.091	113.874	110.742	107.785	105.168	102.983	101.330
4/23/2007	4/23/2014	4/23/2014	4.620	100.693	100.693	100.693	100.672	100.525	100.377	100.231	100.084
4/27/2007	4/27/2017	4/28/2014	4.250	113.623	113.623	113.361	110.212	107.266	104.683	102.568	101.004
5/2/2007	5/2/2014	5/2/2014	4.590	100.803	100.803	100.803	100.779	100.606	100.434	100.262	100.092
5/4/2007	5/5/2014	5/5/2014	4.550	100.834	100.834	100.834	100.808	100.627	100.447	100.268	100.089
5/18/2007	5/18/2017	5/19/2014	4.190	113.675	113.675	113.335	110.145	107.175	104.590	102.485	100.956
5/22/2007	5/22/2017	5/22/2014	4.750	115.555	115.555	115.194	111.923	108.823	106.051	103.694	101.840
5/29/2007	5/30/2017	5/29/2014	4.250	114.012	114.012	113.626	110.395	107.385	104.760	102.618	101.038
6/1/2007	6/2/2014	6/2/2014	4.500	101.175	101.175	101.175	101.133	100.876	100.621	100.367	100.114
6/7/2007	6/7/2017	6/9/2014	4.820	115.999	115.999	115.573	112.256	109.115	106.303	103.907	102.014
6/8/2007	6/8/2017	3/10/2014	4.490	114.916	114.916	114.490	111.210	108.135	105.422	103.162	101.449
6/11/2007	6/12/2017	3/11/2014	4.490	114.966	114.966	114.523	111.232	108.148	105.428	103.163	101.444
6/18/2007	6/19/2017	3/18/2014	4.500	115.087	115.087	114.615	111.304	108.201	105.464	103.182	101.447
6/19/2007	6/19/2017	3/19/2014	4.650	115.590	115.590	115.116	111.785	108.649	105.864	103.516	101.699
6/22/2007	6/22/2017	3/24/2014	4.500	115.124	115.124	114.640	111.321	108.211	105.468	103.180	101.440
6/28/2007	6/28/2017	3/28/2014	4.500	115.199	115.199	114.691	111.355	108.231	105.476	103.177	101.428
7/13/2007	7/13/2017	4/14/2014	4.290	114.669	114.669	114.099	110.764	107.668	104.973	102.772	101.142
7/20/2007	7/20/2017	4/21/2014	4.290	114.752	114.752	114.154	110.798	107.687	104.979	102.769	101.130

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
7/27/2007	7/27/2017	4/28/2014	4.250	114.697	114.697	114.072	110.703	107.587	104.880	102.681	101.059
7/30/2007	1/30/2019	4/30/2014	3.990	119.915	119.915	116.347	111.950	108.135	104.996	102.572	100.893
7/31/2007	7/31/2017	4/30/2014	3.990	113.842	113.842	113.211	109.883	106.837	104.241	102.168	100.724
7/31/2007	7/31/2017	4/30/2014	3.990	113.842	113.842	113.211	109.883	106.837	104.241	102.168	100.724
7/31/2007	7/31/2017	4/30/2014	4.060	114.085	114.085	113.452	110.110	107.045	104.418	102.309	100.806
8/2/2007	8/4/2014	5/2/2014	4.490	101.958	101.958	101.958	101.854	101.424	100.998	100.579	100.206
8/2/2007	8/2/2017	5/2/2014	4.050	114.073	114.073	113.432	110.091	107.029	104.410	102.320	100.852
8/2/2007	8/2/2017	5/2/2014	4.150	114.420	114.420	113.776	110.417	107.326	104.665	102.522	100.982
8/9/2007	8/9/2017	5/9/2014	3.990	113.942	113.942	113.271	109.924	106.867	104.260	102.192	100.767
8/16/2007	8/16/2017	5/16/2014	3.990	114.019	114.019	113.316	109.952	106.881	104.262	102.184	100.752
8/17/2007	8/17/2017	5/19/2014	4.000	114.066	114.066	113.357	109.989	106.912	104.288	102.204	100.762
8/20/2007	8/20/2014	5/20/2014	4.250	102.042	102.042	102.042	101.919	101.446	100.978	100.514	100.054
8/28/2007	8/28/2014	5/28/2014	4.350	102.187	102.187	102.187	102.054	101.560	101.070	100.592	100.169
8/30/2007	9/2/2014	5/30/2014	3.890	102.010	102.010	102.010	101.871	101.364	100.862	100.385	100.005
9/4/2007	9/5/2017	6/4/2014	3.890	113.884	113.884	113.095	109.717	106.650	104.059	102.037	100.666
9/10/2007	9/11/2017	3/10/2014	3.690	113.232	113.232	112.427	109.081	106.071	103.567	101.659	100.417
9/11/2007	9/11/2017	3/11/2014	3.590	112.873	112.873	112.073	108.754	105.781	103.324	101.483	100.325
9/12/2007	9/12/2014	3/12/2014	3.690	102.009	102.009	102.009	101.859	101.324	100.797	100.316	100.019
9/13/2007	9/15/2014	3/13/2014	3.990	102.205	102.205	102.205	102.052	101.508	100.971	100.459	100.088
9/13/2007	9/13/2017	3/13/2014	3.990	114.330	114.330	113.499	110.079	106.963	104.312	102.216	100.763
9/27/2007	9/29/2014	9/27/2010	4.490	102.656	102.656	102.656	102.487	101.903	101.325	100.754	100.190
9/27/2007	9/27/2017	3/27/2014	3.650	113.251	113.251	112.374	109.002	105.975	103.462	101.559	100.341
10/11/2007	10/14/2014	4/11/2014	4.180	102.647	102.647	102.647	102.460	101.836	101.222	100.636	100.162
10/11/2007	10/11/2017	4/11/2014	3.990	114.640	114.640	113.680	110.203	107.042	104.362	102.245	100.776
10/15/2007	10/16/2017	4/15/2014	3.990	114.696	114.696	113.712	110.221	107.052	104.364	102.244	100.771
10/25/2007	10/27/2014	4/25/2014	4.360	102.919	102.919	102.919	102.716	102.056	101.406	100.781	100.253
10/26/2007	10/26/2017	4/28/2014	3.390	112.580	112.580	111.598	108.242	105.282	102.884	101.135	100.121
11/2/2007	11/3/2014	5/2/2014	3.990	102.748	102.748	102.748	102.538	101.860	101.196	100.577	100.108
11/2/2007	11/3/2014	5/2/2014	4.190	102.886	102.886	102.886	102.675	101.997	101.331	100.702	100.196
11/5/2007	11/5/2014	5/5/2014	3.990	102.771	102.771	102.771	102.557	101.874	101.205	100.581	100.106
11/5/2007	11/6/2017	5/5/2014	4.390	116.425	116.425	115.324	111.701	108.376	105.498	103.145	101.402
11/6/2007	11/6/2017	5/6/2014	3.480	113.020	113.020	111.987	108.587	105.585	103.139	101.341	100.248
11/9/2007	11/10/2014	5/9/2014	4.330	103.067	103.067	103.067	102.847	102.149	101.462	100.809	100.267
11/13/2007	11/13/2014	5/13/2014	3.350	102.401	102.401	102.401	102.178	101.475	100.801	100.242	99.885
11/19/2007	11/19/2014	5/19/2014	3.750	102.750	102.750	102.750	102.519	101.798	101.094	100.460	100.012
11/19/2007	11/19/2014	5/19/2014	4.270	103.131	103.131	103.131	102.900	102.177	101.467	100.794	100.238
11/19/2007	11/20/2017	5/19/2014	4.290	116.218	116.218	114.978	111.105	107.332	103.710	100.232	96.892
11/20/2007	11/20/2017	5/20/2014	3.740	114.138	114.138	113.013	109.507	106.372	103.764	101.776	100.485
11/23/2007	11/24/2017	5/19/2014	3.990	115.128	115.128	113.868	110.001	106.238	102.626	99.159	95.829
11/23/2007	11/24/2017	5/24/2014	3.990	115.128	115.128	113.868	110.001	106.238	102.626	99.159	95.829
11/29/2007	11/29/2017	5/29/2014	2.950	111.225	111.225	110.147	106.893	104.109	101.965	100.556	99.836
11/30/2007	11/30/2017	5/30/2014	3.190	112.148	112.148	111.032	107.682	104.776	102.482	100.874	99.982
12/10/2007	12/11/2017	3/10/2014	3.450	113.243	113.243	112.048	108.598	105.560	103.099	101.295	100.247
12/24/2007	12/26/2017	3/24/2014	3.990	115.482	115.482	114.048	110.090	106.243	102.554	99.015	95.620
1/3/2008	1/5/2015	4/3/2014	3.650	103.153	103.153	103.153	102.861	102.013	101.198	100.490	100.044
1/4/2008	1/4/2018	4/4/2014	3.360	113.122	113.122	111.824	108.369	105.347	102.921	101.168	100.169
1/7/2008	1/7/2015	4/7/2014	3.490	103.034	103.034	103.034	102.739	101.888	101.075	100.388	99.998
1/7/2008	1/8/2018	4/7/2014	2.590	110.143	110.143	108.961	105.840	103.234	101.335	100.227	99.861
1/8/2008	1/8/2018	4/8/2014	2.570	110.065	110.065	108.886	105.776	103.182	101.299	100.206	99.854
1/8/2008	1/8/2018	4/8/2014	2.640	110.339	110.339	109.145	105.997	103.359	101.423	100.270	99.863
1/11/2008	1/11/2018	4/11/2014	2.720	110.675	110.675	109.452	106.257	103.565	101.563	100.343	99.871
1/14/2008	1/16/2018	4/14/2014	3.240	112.761	112.761	111.426	107.988	105.004	102.639	100.964	100.074
1/16/2008	1/16/2018	4/16/2014	2.380	109.374	109.374	108.211	105.188	102.709	100.967	100.060	99.790
1/17/2008	1/17/2018	4/17/2014	2.250	108.868	108.868	107.736	104.792	102.403	100.771	99.999	99.765
1/18/2008	1/20/2015	4/18/2014	2.350	102.128	102.128	102.128	101.816	100.961	100.271	99.919	99.770
1/18/2008	1/18/2018	4/18/2014	2.290	109.032	109.032	107.886	104.914	102.494	100.824	100.014	99.766
2/14/2008	2/14/2018	5/14/2014	3.190	112.821	112.821	111.117	107.066	103.148	99.397	95.805	92.364
2/25/2008	2/26/2018	5/27/2014	2.420	109.807	109.807	108.476	105.370	102.825	101.028	100.040	99.623
3/7/2008	3/9/2015	6/9/2014	2.890	103.002	103.002	103.002	102.613	101.609	100.722	100.126	99.978

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
3/7/2008	3/7/2018	6/9/2014	3.550	114.475	114.475	112.867	109.224	106.032	103.440	101.523	100.334
3/14/2008	3/14/2018	3/14/2014	2.400	109.832	109.832	108.441	105.343	102.808	101.022	100.122	99.938
3/17/2008	3/19/2018	3/17/2014	3.300	113.566	113.566	111.937	108.366	105.279	102.825	101.074	100.156
4/14/2008	4/14/2015	4/14/2014	2.750	103.132	103.132	103.132	102.676	101.551	100.443	99.352	98.278
4/28/2008	4/28/2015	4/28/2014	3.250	103.827	103.827	103.827	103.344	102.193	101.140	100.335	99.907
4/28/2008	4/30/2018	4/28/2014	2.150	109.089	109.089	107.614	104.607	102.221	100.640	99.930	99.690
4/30/2008	4/30/2018	4/30/2014	3.740	115.811	115.811	113.670	109.367	105.210	101.236	97.438	93.805
5/2/2008	5/4/2015	5/2/2014	3.990	104.766	104.766	104.766	104.268	103.084	101.957	100.971	100.255
5/5/2008	5/5/2015	5/5/2014	3.170	103.795	103.795	103.795	103.298	102.134	101.089	100.312	99.884
5/19/2008	5/19/2015	5/21/2014	4.700	105.809	105.809	105.809	105.278	104.041	102.824	101.627	100.450
5/23/2008	5/23/2018	5/23/2014	3.270	114.033	114.033	112.100	108.428	105.280	102.796	101.036	100.056
6/24/2008	6/24/2015	3/24/2014	3.830	105.117	105.117	105.117	104.508	103.189	101.948	100.888	100.175
6/30/2008	7/2/2018	3/30/2014	3.690	116.245	116.245	113.713	109.237	104.923	100.807	96.878	93.127
7/10/2008	7/10/2014	4/10/2014	4.800	101.760	101.760	101.760	101.684	101.321	100.962	100.604	100.250
7/11/2008	7/11/2018	4/11/2014	3.750	116.603	116.603	114.010	109.505	105.163	101.021	97.068	93.296
7/14/2008	7/14/2015	4/15/2014	4.900	106.819	106.819	106.819	106.158	104.762	103.390	102.043	100.720
7/14/2008	7/16/2018	4/14/2014	2.500	111.103	111.103	109.162	105.852	103.155	101.238	100.156	99.818
7/14/2008	7/16/2018	4/14/2014	3.250	114.434	114.434	112.234	108.497	105.309	102.807	101.046	100.092
7/17/2008	7/17/2018	4/17/2014	3.750	116.665	116.665	114.033	109.512	105.155	100.999	97.034	93.250
8/15/2008	8/15/2018	5/15/2014	3.830	117.330	117.330	114.826	110.782	107.250	104.349	102.138	100.676
5/13/2009	5/13/2014	5/13/2014	4.000	100.822	100.822	100.822	100.792	100.590	100.388	100.187	99.988
5/11/2010	5/11/2015	5/11/2015	3.700	104.491	104.491	104.491	103.978	102.748	101.417	99.728	97.766
5/24/2010	5/26/2015	5/26/2014	2.250	102.825	102.825	102.825	102.285	101.049	99.833	98.637	97.461
6/15/2010	6/15/2015	5/15/2014	2.280	102.989	102.989	102.989	102.405	101.114	99.844	98.596	97.370
10/8/2010	10/8/2015	10/9/2012	2.250	103.668	103.668	103.668	102.794	101.192	99.622	98.083	96.576
12/27/2011	12/27/2021	12/29/2014	3.550	128.191	121.240	113.169	105.507	94.951	82.661	71.355	60.953
4/27/2012	4/27/2016	4/27/2013	1.430	103.134	103.134	103.134	101.610	99.480	97.405	95.383	93.412
4/30/2012	5/2/2016	4/30/2013	1.380	103.043	103.043	103.043	101.500	99.358	97.272	95.239	93.258
5/15/2012	5/15/2017	5/15/2014	-0.224	105.839	105.839	105.499	102.338	100.335	99.937	99.934	99.929
5/15/2012	5/15/2017	11/17/2014	-0.224	106.026	106.026	105.686	102.708	100.910	100.002	99.743	99.688
6/20/2012	6/20/2017	6/22/2015	1.630	105.469	105.469	104.982	101.665	96.634	91.716	87.002	82.484
7/16/2012	7/17/2017	7/16/2014	-0.213	105.069	105.069	104.462	101.364	100.068	99.867	99.864	99.856
7/18/2012	7/18/2018	7/20/2015	-0.213	107.658	107.658	105.040	101.826	100.348	99.616	99.338	99.249
7/19/2012	7/19/2017	7/21/2014	-0.213	105.149	105.149	104.534	101.375	100.036	99.857	99.841	99.841
10/1/2012	10/1/2019	4/1/2015	-0.113	109.918	109.490	103.929	100.912	99.791	99.421	99.266	99.173
10/5/2012	10/5/2017	10/6/2014	-0.107	104.816	104.816	103.827	100.979	99.938	99.627	99.506	99.407
3/8/2013	3/8/2018	3/9/2015	-0.028	105.145	105.145	103.334	100.759	99.930	99.652	99.586	99.565