

## **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 pay 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	104.661	104.661	104.661	104.404	103.625	102.858	102.104	101.373
7/2/2004	7/2/2014	4/2/2014	3.990	101.031	101.031	101.031	100.989	100.733	100.478	100.224	99.972
12/13/2004	12/15/2014	6/13/2014	3.320	102.388	102.388	102.388	102.164	101.457	100.780	100.222	99.870
9/1/2005	9/1/2015	6/1/2014	4.130	105.954	105.954	105.954	105.191	103.753	102.342	100.957	99.597
9/30/2005	9/30/2015	6/30/2014	4.440	106.758	106.758	106.758	105.904	104.381	102.887	101.423	99.986
10/26/2005	10/26/2015	4/26/2014	4.540	107.238	107.238	107.238	106.298	104.701	103.137	101.604	100.101
1/17/2006	1/19/2016	4/17/2014	4.080	107.468	107.468	107.468	106.231	104.449	102.813	101.436	100.436
4/24/2006	4/25/2016	4/24/2014	4.440	109.323	109.323	109.323	107.693	105.638	103.748	102.120	100.859
5/5/2006	5/5/2016	5/5/2014	4.350	109.255	109.255	109.255	107.584	105.517	103.628	102.018	100.803
5/5/2006	5/5/2016	5/5/2014	4.530	109.638	109.638	109.638	107.962	105.879	103.962	102.305	101.009
5/15/2006	5/16/2016	5/15/2014	4.350	109.388	109.388	109.388	107.665	105.569	103.654	102.024	100.792
5/15/2006	5/16/2016	5/15/2014	4.520	109.755	109.755	109.755	108.027	105.916	103.974	102.297	100.987
5/19/2006	5/19/2016	5/19/2014	4.510	109.771	109.771	109.771	108.029	105.911	103.964	102.283	100.973
6/12/2006	6/13/2016	6/12/2014	4.620	110.330	110.330	110.330	108.465	106.277	104.266	102.524	101.152
6/26/2006	6/27/2016	6/26/2014	4.730	110.760	110.760	110.760	108.820	106.588	104.526	102.727	101.292
7/24/2006	7/25/2016	4/24/2014	4.660	110.963	110.963	110.963	108.878	106.585	104.482	102.661	101.229
7/28/2006	7/28/2016	4/28/2014	4.490	110.601	110.601	110.601	108.505	106.223	104.143	102.369	100.997
8/25/2006	8/25/2016	5/27/2014	4.350	110.609	110.609	110.609	108.366	106.036	103.938	102.175	100.851
11/24/2006	11/25/2016	5/27/2014	4.190	111.289	111.289	111.166	108.521	106.025	103.825	102.025	100.720
12/1/2006	12/1/2016	6/2/2014	4.090	111.088	111.088	110.943	108.299	105.818	103.650	101.899	100.675
12/4/2006	12/5/2016	6/4/2014	4.080	111.106	111.106	110.946	108.293	105.804	103.633	101.882	100.660
12/5/2006	12/5/2016	6/5/2014	4.260	111.596	111.596	111.436	108.764	106.241	104.016	102.188	100.851
12/8/2006	12/8/2016	6/9/2014	3.990	110.894	110.894	110.723	108.074	105.595	103.446	101.733	100.562
12/12/2006	12/12/2016	6/12/2014	3.990	110.939	110.939	110.753	108.092	105.605	103.449	101.730	100.555
12/12/2006	12/12/2016	6/12/2014	4.050	111.103	111.103	110.917	108.249	105.749	103.574	101.827	100.615
12/19/2006	12/19/2016	6/19/2014	4.190	111.568	111.568	111.357	108.654	106.112	103.882	102.059	100.750
12/28/2006	12/28/2016	6/30/2014	4.250	111.840	111.840	111.596	108.862	106.289	104.025	102.163	100.800
12/28/2006	12/28/2016	6/30/2014	4.400	112.258	112.258	112.014	109.264	106.665	104.355	102.436	100.992
1/12/2007	1/12/2017	4/14/2014	4.420	112.498	112.498	112.197	109.411	106.782	104.452	102.518	101.063
1/16/2007	1/17/2017	4/16/2014	4.790	113.611	113.611	113.288	110.454	107.754	105.320	103.241	101.605
2/2/2007	2/2/2017	5/2/2014	4.690	113.535	113.535	113.144	110.205	107.308	104.504	101.788	99.816
2/20/2007	2/21/2017	5/20/2014	4.850	114.253	114.253	113.789	110.784	107.824	104.960	102.188	99.505
2/20/2007	2/21/2017	5/20/2014	4.390	112.901	112.901	112.450	109.561	106.854	104.470	102.500	101.028
2/23/2007	2/23/2017	5/23/2014	4.250	112.513	112.513	112.056	109.178	106.494	104.148	102.235	100.842
2/23/2007	2/23/2017	5/23/2014	4.350	112.808	112.808	112.349	109.459	106.755	104.379	102.420	100.966
3/16/2007	3/16/2017	6/16/2014	4.090	112.281	112.281	111.744	108.840	106.155	103.839	101.985	100.689
3/21/2007	3/21/2017	6/23/2014	4.220	112.730	112.730	112.170	109.234	106.509	104.139	102.217	100.822
3/23/2007	3/23/2017	6/23/2014	4.290	112.965	112.965	112.396	109.444	106.699	104.302	102.346	100.912
3/23/2007	3/23/2017	6/23/2014	4.290	112.965	112.965	112.396	109.444	106.699	104.302	102.346	100.912
4/9/2007	4/10/2017	4/9/2014	4.150	112.749	112.749	112.114	109.141	106.398	104.032	102.130	100.781
4/12/2007	4/12/2017	4/14/2014	4.250	113.080	113.080	112.433	109.440	106.670	104.265	102.314	100.889
4/13/2007	4/13/2017	4/14/2014	4.450	113.708	113.708	113.052	110.030	107.211	104.740	102.698	101.168
4/23/2007	4/23/2014	4/23/2014	4.620	100.295	100.295	100.295	100.287	100.223	100.159	100.095	100.031
4/27/2007	4/27/2017	4/28/2014	4.250	113.257	113.257	112.550	109.515	106.711	104.278	102.306	100.868
5/2/2007	5/2/2014	5/2/2014	4.590	100.408	100.408	100.408	100.396	100.307	100.219	100.130	100.041
5/4/2007	5/5/2014	5/5/2014	4.550	100.442	100.442	100.442	100.429	100.332	100.235	100.139	100.042
5/18/2007	5/18/2017	5/19/2014	4.190	113.314	113.314	112.515	109.444	106.620	104.185	102.227	100.824
5/22/2007	5/22/2017	5/22/2014	4.750	115.146	115.146	114.315	111.155	108.194	105.568	103.355	101.634
5/29/2007	5/30/2017	5/29/2014	4.250	113.646	113.646	112.791	109.680	106.816	104.343	102.348	100.895
6/1/2007	6/2/2014	6/2/2014	4.500	100.787	100.787	100.787	100.762	100.590	100.417	100.246	100.075
6/7/2007	6/7/2017	6/9/2014	4.820	115.584	115.584	114.676	111.472	108.471	105.806	103.557	101.799
6/8/2007	6/8/2017	6/9/2014	4.490	114.529	114.529	113.626	110.462	107.532	104.969	102.859	101.273
6/11/2007	6/12/2017	6/11/2014	4.490	114.579	114.579	113.657	110.482	107.544	104.974	102.858	101.269
6/18/2007	6/19/2017	6/18/2014	4.500	114.699	114.699	113.743	110.549	107.592	105.006	102.876	101.273
6/19/2007	6/19/2017	6/19/2014	4.650	115.189	115.189	114.228	111.013	108.020	105.385	103.188	101.508
6/22/2007	6/22/2017	6/23/2014	4.500	114.737	114.737	113.767	110.564	107.600	105.009	102.874	101.267
6/28/2007	6/28/2017	6/30/2014	4.500	114.812	114.812	113.814	110.595	107.617	105.015	102.872	101.256
7/13/2007	7/13/2017	4/14/2014	4.290	114.299	114.299	113.237	110.022	107.077	104.539	102.490	100.992
7/20/2007	7/20/2017	4/21/2014	4.290	114.383	114.383	113.286	110.053	107.093	104.543	102.485	100.979

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	114.331	114.331	113.202	109.957	106.995	104.449	102.400	100.909
7/30/2007	1/30/2019	4/30/2014	3.990	119.572	119.572	115.277	111.063	107.447	104.514	102.271	100.750
7/31/2007	7/31/2017	4/30/2014	3.990	113.499	113.499	112.366	109.169	106.285	103.846	101.927	100.601
7/31/2007	7/31/2017	4/30/2014	3.990	113.499	113.499	112.366	109.169	106.285	103.846	101.927	100.601
7/31/2007	7/31/2017	4/30/2014	4.060	113.735	113.735	112.598	109.388	106.480	104.013	102.055	100.684
8/2/2007	8/4/2014	5/2/2014	4.490	101.571	101.571	101.571	101.502	101.156	100.812	100.471	100.154
8/2/2007	8/2/2017	5/2/2014	4.150	114.063	114.063	112.913	109.683	106.750	104.247	102.255	100.845
8/2/2007	8/2/2017	5/2/2014	4.050	113.724	113.724	112.580	109.370	106.466	104.007	102.068	100.720
8/9/2007	8/9/2017	5/9/2014	3.990	113.598	113.598	112.421	109.206	106.309	103.863	101.951	100.643
8/16/2007	8/16/2017	5/16/2014	3.990	113.676	113.676	112.461	109.230	106.320	103.862	101.942	100.631
8/17/2007	8/17/2017	5/19/2014	4.000	113.721	113.721	112.501	109.265	106.350	103.887	101.960	100.641
8/20/2007	8/20/2014	5/20/2014	4.250	101.676	101.676	101.676	101.589	101.200	100.814	100.431	100.051
8/28/2007	8/28/2014	5/28/2014	4.350	101.812	101.812	101.812	101.717	101.306	100.899	100.497	100.138
8/30/2007	9/2/2014	5/30/2014	3.890	101.675	101.675	101.675	101.574	101.150	100.730	100.319	100.009
9/4/2007	9/5/2017	6/4/2014	3.890	113.549	113.549	112.243	109.002	106.097	103.672	101.802	100.568
9/10/2007	9/11/2017	6/10/2014	3.690	112.914	112.914	111.593	108.390	105.548	103.209	101.456	100.345
9/11/2007	9/11/2017	6/11/2014	3.590	112.564	112.564	111.253	108.077	105.273	102.986	101.291	100.246
9/12/2007	9/12/2014	6/12/2014	3.690	101.691	101.691	101.691	101.578	101.127	100.680	100.267	99.953
9/13/2007	9/15/2014	6/13/2014	3.990	101.862	101.862	101.862	101.746	101.285	100.830	100.389	100.037
9/13/2007	9/13/2017	6/13/2014	3.990	113.986	113.986	112.629	109.344	106.392	103.906	101.966	100.652
9/27/2007	9/29/2014	9/27/2010	4.490	102.270	102.270	102.270	102.137	101.637	101.142	100.652	100.166
9/27/2007	9/27/2017	6/27/2014	3.650	112.936	112.936	111.539	108.308	105.451	103.111	101.363	100.258
10/11/2007	10/14/2014	4/11/2014	4.180	102.287	102.287	102.287	102.137	101.597	101.063	100.550	100.125
10/11/2007	10/11/2017	4/11/2014	3.990	114.297	114.297	112.798	109.455	106.461	103.950	101.993	100.659
10/15/2007	10/16/2017	4/15/2014	3.990	114.352	114.352	112.826	109.471	106.468	103.952	101.991	100.652
10/25/2007	10/27/2014	4/25/2014	4.360	102.543	102.543	102.543	102.378	101.802	101.233	100.683	100.192
10/26/2007	10/26/2017	4/28/2014	3.390	112.288	112.288	110.781	107.576	104.795	102.569	100.968	100.119
11/2/2007	11/3/2014	5/2/2014	3.990	102.405	102.405	102.405	102.232	101.637	101.053	100.500	100.084
11/2/2007	11/3/2014	5/2/2014	4.190	102.525	102.525	102.525	102.352	101.758	101.172	100.612	100.157
11/5/2007	11/5/2014	5/5/2014	3.990	102.427	102.427	102.427	102.251	101.652	101.062	100.504	100.084
11/5/2007	11/6/2017	5/5/2014	4.390	116.047	116.047	114.374	110.887	107.725	105.014	102.828	101.215
11/6/2007	11/6/2017	5/6/2014	3.480	112.720	112.720	111.149	107.904	105.080	102.807	101.154	100.187
11/9/2007	11/10/2014	5/9/2014	4.330	102.694	102.694	102.694	102.512	101.898	101.292	100.710	100.220
11/13/2007	11/13/2014	5/13/2014	3.350	102.112	102.112	102.112	101.927	101.307	100.708	100.202	99.926
11/19/2007	11/19/2014	5/19/2014	4.270	102.763	102.763	102.763	102.571	101.931	101.301	100.698	100.199
11/19/2007	11/19/2014	5/19/2014	3.750	102.427	102.427	102.427	102.235	101.596	100.970	100.399	100.013
11/19/2007	11/20/2017	5/19/2014	4.290	115.848	115.848	113.992	110.220	106.554	103.032	99.648	96.396
11/20/2007	11/20/2017	5/20/2014	3.740	113.816	113.816	112.131	108.777	105.816	103.387	101.553	100.390
11/23/2007	11/24/2017	5/19/2014	3.990	114.784	114.784	112.907	109.140	105.483	101.971	98.597	95.354
11/23/2007	11/24/2017	5/24/2014	3.990	114.784	114.784	112.907	109.140	105.483	101.971	98.597	95.354
11/29/2007	11/29/2017	5/29/2014	2.950	110.971	110.971	109.373	106.288	103.691	101.719	100.454	99.878
11/30/2007	11/30/2017	5/30/2014	3.190	111.873	111.873	110.220	107.035	104.315	102.195	100.739	99.985
12/10/2007	12/11/2017	6/10/2014	3.450	112.946	112.946	111.196	107.904	105.049	102.764	101.114	100.145
12/24/2007	12/26/2017	6/24/2014	3.990	115.139	115.139	113.063	109.207	105.468	101.879	98.433	95.125
1/3/2008	1/5/2015	4/3/2014	3.650	102.839	102.839	102.839	102.587	101.822	101.081	100.435	100.051
1/4/2008	1/4/2018	4/4/2014	3.360	112.832	112.832	110.980	107.683	104.846	102.598	100.999	100.161
1/7/2008	1/7/2015	4/7/2014	3.490	102.734	102.734	102.734	102.479	101.710	100.970	100.343	100.005
1/7/2008	1/8/2018	4/7/2014	2.590	109.920	109.920	108.245	105.293	102.879	101.147	100.182	99.970
1/8/2008	1/8/2018	4/8/2014	2.570	109.844	109.844	108.175	105.232	102.830	101.113	100.171	99.965
1/8/2008	1/8/2018	4/8/2014	2.640	110.112	110.112	108.420	105.441	102.995	101.225	100.210	99.967
1/11/2008	1/11/2018	4/11/2014	2.720	110.441	110.441	108.710	105.683	103.182	101.353	100.253	99.957
1/14/2008	1/16/2018	4/14/2014	3.240	112.482	112.482	110.591	107.316	104.521	102.337	100.816	100.083
1/16/2008	1/16/2018	4/16/2014	2.380	109.169	109.169	107.527	104.680	102.394	100.812	100.064	99.922
1/17/2008	1/17/2018	4/17/2014	2.250	108.674	108.674	107.078	104.311	102.111	100.642	100.001	99.911
1/18/2008	1/20/2015	4/18/2014	2.350	101.925	101.925	101.925	101.654	100.873	100.226	99.961	99.911
1/18/2008	1/18/2018	4/18/2014	2.290	108.835	108.835	107.218	104.425	102.194	100.689	100.016	99.908
2/14/2008	2/14/2018	5/14/2014	3.190	112.546	112.546	110.169	106.222	102.411	98.760	95.259	91.903
2/25/2008	2/26/2018	5/27/2014	2.420	109.598	109.598	107.758	104.843	102.494	100.861	100.024	99.745
3/7/2008	3/9/2015	6/9/2014	2.890	102.753	102.753	102.753	102.408	101.483	100.657	100.079	99.783

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	114.169	114.169	111.954	108.481	105.480	103.073	101.317	100.249
3/14/2008	3/14/2018	6/16/2014	2.400	109.626	109.626	107.730	104.816	102.476	100.858	100.012	99.656
3/17/2008	3/19/2018	6/17/2014	3.300	113.281	113.281	111.058	107.661	104.769	102.501	100.912	100.037
4/14/2008	4/14/2015	4/14/2014	2.750	102.895	102.895	102.895	102.484	101.445	100.424	99.421	98.435
4/28/2008	4/28/2015	4/28/2014	3.250	103.548	103.548	103.548	103.109	102.038	101.053	100.281	99.932
4/28/2008	4/30/2018	4/28/2014	2.150	108.904	108.904	106.937	104.126	101.937	100.518	99.932	99.847
4/30/2008	4/30/2018	4/30/2014	3.740	115.489	115.489	112.626	108.432	104.386	100.517	96.815	93.273
5/2/2008	5/4/2015	5/2/2014	3.990	104.422	104.422	104.422	103.969	102.868	101.816	100.890	100.220
5/5/2008	5/5/2015	5/5/2014	3.170	103.522	103.522	103.522	103.069	101.984	101.005	100.271	99.930
5/19/2008	5/19/2015	5/21/2014	4.700	105.405	105.405	105.405	104.917	103.766	102.633	101.517	100.419
5/23/2008	5/23/2018	5/23/2014	3.270	113.751	113.751	111.196	107.708	104.761	102.470	100.871	100.037
6/24/2008	6/24/2015	6/24/2014	3.830	104.787	104.787	104.787	104.216	102.980	101.815	100.815	100.117
6/30/2008	7/2/2018	6/30/2014	3.690	115.927	115.927	112.646	108.281	104.081	100.070	96.238	92.578
7/10/2008	7/10/2014	4/10/2014	4.800	101.347	101.347	101.347	101.298	101.020	100.743	100.468	100.194
7/11/2008	7/11/2018	4/11/2014	3.750	116.280	116.280	112.934	108.540	104.313	100.276	96.421	92.739
7/14/2008	7/14/2015	4/15/2014	4.900	106.397	106.397	106.397	105.770	104.460	103.172	101.906	100.661
7/14/2008	7/16/2018	4/14/2014	2.500	110.888	110.888	108.399	105.278	102.789	101.049	100.138	99.937
7/14/2008	7/16/2018	4/14/2014	3.250	114.154	114.154	111.325	107.771	104.790	102.480	100.881	100.101
7/17/2008	7/17/2018	4/17/2014	3.750	116.343	116.343	112.955	108.545	104.303	100.253	96.386	92.692
8/15/2008	8/15/2018	5/15/2014	3.830	117.000	117.000	113.810	109.944	106.612	103.906	101.875	100.554
5/13/2009	5/13/2014	5/13/2014	4.000	100.478	100.478	100.478	100.461	100.343	100.224	100.106	99.989
5/11/2010	5/11/2015	5/11/2015	3.700	104.172	104.172	104.172	103.704	102.562	101.336	99.736	97.809
5/24/2010	5/26/2015	5/26/2014	2.250	102.631	102.631	102.631	102.133	100.980	99.846	98.729	97.630
6/15/2010	6/15/2015	5/15/2014	2.280	102.793	102.793	102.793	102.247	101.039	99.851	98.682	97.532
10/8/2010	10/8/2015	10/9/2012	2.250	103.475	103.475	103.475	102.605	101.086	99.598	98.138	96.707
12/27/2011	12/27/2021	12/29/2014	3.550	127.885	120.758	112.770	105.228	94.793	82.610	71.389	61.052
4/27/2012	4/27/2016	4/27/2013	1.430	103.010	103.010	103.010	101.398	99.353	97.359	95.414	93.518
4/30/2012	5/2/2016	4/30/2013	1.380	102.924	102.924	102.924	101.290	99.233	97.228	95.272	93.365
5/15/2012	5/15/2017	5/15/2014	-0.224	105.878	105.878	105.065	101.972	100.165	99.958	99.957	99.955
5/15/2012	5/15/2017	11/17/2014	-0.224	106.066	106.066	105.252	102.356	100.670	99.949	99.755	99.725
6/20/2012	6/20/2017	6/22/2015	1.630	105.328	105.328	104.344	100.781	95.756	90.934	86.308	81.868
7/16/2012	7/17/2017	7/16/2014	-0.213	105.107	105.107	103.985	101.046	99.999	99.902	99.897	99.896
7/18/2012	7/18/2018	7/20/2015	-0.213	107.697	107.697	104.343	101.408	100.140	99.564	99.362	99.299
7/19/2012	7/19/2017	7/21/2014	-0.213	105.149	105.149	104.017	101.051	99.993	99.889	99.883	99.880
10/1/2012	10/1/2019	4/1/2015	-0.113	109.909	108.696	103.320	100.669	99.820	99.615	99.597	99.583
10/5/2012	10/5/2017	10/6/2014	-0.107	104.807	104.807	103.247	100.658	99.942	99.803	99.777	99.762
3/8/2013	3/8/2018	3/9/2015	-0.035	105.239	105.239	102.761	100.532	99.701	99.370	99.157	98.975