

## **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	10/7/2014	5.950	102.132	102.132	102.132	102.057	101.702	101.350	100.999	100.652
12/13/2004	12/15/2014	9/15/2014	3.320	100.977	100.977	100.977	100.924	100.633	100.344	100.070	99.966
9/1/2005	9/1/2015	9/1/2014	4.130	104.199	104.199	104.199	103.790	102.782	101.793	100.822	99.871
9/30/2005	9/30/2015	9/30/2014	4.440	104.871	104.871	104.871	104.395	103.301	102.224	101.163	100.118
10/26/2005	10/26/2015	10/26/2014	4.540	105.309	105.309	105.309	104.761	103.592	102.442	101.310	100.195
1/17/2006	1/19/2016	10/17/2014	4.080	105.734	105.734	105.734	104.897	103.509	102.205	101.077	100.271
4/24/2006	4/25/2016	10/24/2014	4.440	107.437	107.437	107.437	106.177	104.525	102.982	101.630	100.595
5/5/2006	5/5/2016	11/5/2014	4.350	107.407	107.407	107.407	106.102	104.433	102.884	101.547	100.558
5/5/2006	5/5/2016	11/5/2014	4.530	107.713	107.713	107.713	106.406	104.727	103.159	101.781	100.714
5/15/2006	5/16/2016	11/17/2014	4.350	107.540	107.540	107.540	106.185	104.485	102.912	101.553	100.548
5/15/2006	5/16/2016	11/17/2014	4.520	107.834	107.834	107.834	106.476	104.769	103.175	101.779	100.696
5/19/2006	5/19/2016	11/19/2014	4.510	107.854	107.854	107.854	106.483	104.768	103.168	101.768	100.686
6/12/2006	6/13/2016	9/12/2014	4.620	108.367	108.367	108.367	106.874	105.090	103.427	101.969	100.821
6/26/2006	6/27/2016	9/26/2014	4.730	108.750	108.750	108.750	107.185	105.359	103.650	102.140	100.932
7/24/2006	7/25/2016	10/24/2014	4.660	108.983	108.983	108.983	107.285	105.391	103.632	102.099	100.884
7/28/2006	7/28/2016	10/28/2014	4.490	108.693	108.693	108.693	106.984	105.093	103.352	101.850	100.705
8/25/2006	8/25/2016	11/25/2014	4.350	108.760	108.760	108.760	106.918	104.970	103.196	101.696	100.597
11/24/2006	11/25/2016	11/24/2014	4.190	109.508	109.508	109.440	107.186	105.041	103.139	101.586	100.498
12/1/2006	12/1/2016	12/1/2014	4.090	109.350	109.350	109.264	107.003	104.864	102.987	101.481	100.442
12/4/2006	12/5/2016	9/4/2014	4.080	109.372	109.372	109.274	107.003	104.857	102.974	101.467	100.427
12/5/2006	12/5/2016	9/5/2014	4.260	109.786	109.786	109.688	107.404	105.233	103.305	101.721	100.596
12/8/2006	12/8/2016	9/8/2014	3.990	109.199	109.199	109.092	106.818	104.680	102.814	101.339	100.339
12/12/2006	12/12/2016	9/12/2014	3.990	109.243	109.243	109.124	106.840	104.692	102.816	101.335	100.331
12/12/2006	12/12/2016	9/12/2014	4.050	109.382	109.382	109.263	106.975	104.817	102.926	101.419	100.385
12/19/2006	12/19/2016	9/19/2014	4.190	109.788	109.788	109.648	107.331	105.134	103.195	101.616	100.505
12/28/2006	12/28/2016	9/29/2014	4.250	110.034	110.034	109.867	107.522	105.295	103.323	101.704	100.551
12/28/2006	12/28/2016	9/29/2014	4.400	110.388	110.388	110.221	107.866	105.621	103.611	101.938	100.707
1/12/2007	1/12/2017	10/14/2014	4.420	110.620	110.620	110.402	108.008	105.732	103.698	102.010	100.766
1/16/2007	1/17/2017	10/16/2014	4.790	111.575	111.575	111.340	108.913	106.580	104.455	102.635	101.220
2/2/2007	2/2/2017	11/2/2014	4.690	111.542	111.542	111.251	108.753	106.289	103.894	101.566	99.606
2/20/2007	2/21/2017	11/20/2014	4.850	112.192	112.192	111.827	109.267	106.743	104.291	101.909	99.594
2/20/2007	2/21/2017	11/20/2014	4.390	111.035	111.035	110.675	108.174	105.811	103.722	102.000	100.739
2/23/2007	2/23/2017	11/24/2014	4.250	110.707	110.707	110.340	107.844	105.500	103.442	101.769	100.595
2/23/2007	2/23/2017	11/24/2014	4.350	110.959	110.959	110.592	108.087	105.726	103.643	101.932	100.694
3/16/2007	3/16/2017	9/16/2014	4.090	110.542	110.542	110.104	107.569	105.213	103.175	101.559	100.450
3/21/2007	3/21/2017	9/22/2014	4.220	110.936	110.936	110.480	107.918	105.526	103.439	101.753	100.572
3/23/2007	3/23/2017	9/23/2014	4.290	111.141	111.141	110.678	108.105	105.696	103.582	101.864	100.643
3/23/2007	3/23/2017	9/23/2014	4.290	111.141	111.141	110.678	108.105	105.696	103.582	101.864	100.643
4/9/2007	4/10/2017	10/9/2014	4.150	110.985	110.985	110.456	107.854	105.438	103.348	101.682	100.535
4/12/2007	4/12/2017	10/14/2014	4.250	111.274	111.274	110.735	108.117	105.678	103.554	101.837	100.626
4/13/2007	4/13/2017	10/14/2014	4.450	111.817	111.817	111.272	108.633	106.156	103.970	102.174	100.847
4/27/2007	4/27/2017	10/27/2014	4.250	111.451	111.451	110.852	108.193	105.720	103.570	101.834	100.612
5/18/2007	5/18/2017	11/18/2014	4.190	111.533	111.533	110.856	108.151	105.651	103.490	101.768	100.581
5/22/2007	5/22/2017	11/24/2014	4.750	113.128	113.128	112.426	109.658	107.046	104.714	102.756	101.253
5/29/2007	5/30/2017	12/1/2014	4.250	111.840	111.840	111.115	108.372	105.830	103.630	101.872	100.655
6/7/2007	6/7/2017	9/8/2014	4.820	113.535	113.535	112.768	109.954	107.300	104.930	102.933	101.394
6/8/2007	6/8/2017	9/8/2014	4.490	112.621	112.621	111.855	109.068	106.469	104.189	102.317	100.937
6/11/2007	6/12/2017	9/11/2014	4.490	112.671	112.671	111.887	109.089	106.481	104.193	102.317	100.934
6/18/2007	6/19/2017	9/18/2014	4.500	112.787	112.787	111.973	109.155	106.529	104.224	102.334	100.936
6/19/2007	6/19/2017	9/19/2014	4.650	113.213	113.213	112.397	109.564	106.909	104.558	102.609	101.136
6/22/2007	6/22/2017	9/22/2014	4.500	112.824	112.824	111.997	109.172	106.539	104.228	102.333	100.930
6/28/2007	6/28/2017	9/29/2014	4.500	112.899	112.899	112.046	109.205	106.558	104.236	102.332	100.920
7/13/2007	7/13/2017	10/14/2014	4.290	112.476	112.476	111.568	108.715	106.087	103.817	101.997	100.711
7/20/2007	7/20/2017	10/20/2014	4.290	112.559	112.559	111.624	108.752	106.108	103.826	101.995	100.701
7/27/2007	7/27/2017	10/27/2014	4.250	112.525	112.525	111.563	108.676	106.027	103.747	101.925	100.648
7/30/2007	1/30/2019	10/30/2014	3.990	117.876	117.876	114.223	110.195	106.746	103.971	101.895	100.551
7/31/2007	7/31/2017	10/31/2014	3.990	111.803	111.803	110.834	107.979	105.393	103.211	101.524	100.414
7/31/2007	7/31/2017	10/31/2014	3.990	111.803	111.803	110.834	107.979	105.393	103.211	101.524	100.414

As of: **8/31/2014** 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	112.010	112.010	111.039	108.173	105.568	103.358	101.638	100.481
8/2/2007	8/2/2017	11/3/2014	4.050	112.003	112.003	111.025	108.159	105.555	103.350	101.639	100.506
8/2/2007	8/2/2017	11/3/2014	4.150	112.299	112.299	111.318	108.436	105.808	103.567	101.803	100.604
8/9/2007	8/9/2017	11/10/2014	3.990	111.903	111.903	110.898	108.022	105.419	103.228	101.540	100.434
8/16/2007	8/16/2017	11/17/2014	3.990	111.980	111.980	110.945	108.051	105.433	103.231	101.534	100.418
8/17/2007	8/17/2017	11/17/2014	4.000	112.021	112.021	110.982	108.083	105.461	103.253	101.550	100.428
8/30/2007	9/2/2014	9/2/2014	3.890	100.022	100.022	100.022	100.021	100.015	100.010	100.004	99.999
9/4/2007	9/5/2017	9/4/2014	3.890	111.896	111.896	110.782	107.862	105.245	103.063	101.416	100.342
9/10/2007	9/11/2017	9/10/2014	3.690	111.346	111.346	110.215	107.320	104.755	102.657	101.109	100.198
9/11/2007	9/11/2017	9/11/2014	3.590	111.038	111.038	109.913	107.040	104.509	102.459	100.967	100.150
9/12/2007	9/12/2014	9/12/2014	3.690	100.123	100.123	100.123	100.118	100.085	100.052	100.018	99.985
9/13/2007	9/15/2014	9/15/2014	3.990	100.166	100.166	100.166	100.161	100.119	100.077	100.035	99.994
9/13/2007	9/13/2017	9/15/2014	3.990	112.291	112.291	111.136	108.178	105.514	103.277	101.559	100.417
9/27/2007	9/29/2014	9/29/2014	4.490	100.362	100.362	100.362	100.351	100.270	100.189	100.109	100.028
9/27/2007	9/27/2017	9/29/2014	3.650	111.385	111.385	110.186	107.261	104.678	102.573	101.028	100.150
10/11/2007	10/14/2014	10/14/2014	4.180	100.511	100.511	100.511	100.494	100.372	100.251	100.131	100.010
10/11/2007	10/11/2017	10/14/2014	3.990	112.601	112.601	111.326	108.305	105.593	103.322	101.582	100.445
10/15/2007	10/16/2017	10/15/2014	3.990	112.656	112.656	111.360	108.326	105.603	103.324	101.580	100.442
10/25/2007	10/27/2014	10/27/2014	4.360	100.690	100.690	100.690	100.668	100.511	100.355	100.200	100.045
10/26/2007	10/26/2017	10/27/2014	3.390	110.847	110.847	109.552	106.628	104.100	102.102	100.707	100.000
11/2/2007	11/3/2014	11/3/2014	3.990	100.709	100.709	100.709	100.683	100.508	100.333	100.159	99.985
11/2/2007	11/3/2014	11/3/2014	4.190	100.745	100.745	100.745	100.719	100.543	100.368	100.194	100.020
11/5/2007	11/5/2014	11/5/2014	3.990	100.731	100.731	100.731	100.704	100.523	100.343	100.163	99.984
11/5/2007	11/6/2017	11/5/2014	4.390	114.181	114.181	112.775	109.625	106.752	104.289	102.320	100.906
11/6/2007	11/6/2017	11/6/2014	3.480	111.241	111.241	109.895	106.931	104.359	102.313	100.859	100.065
11/9/2007	11/10/2014	11/10/2014	4.330	100.854	100.854	100.854	100.824	100.629	100.434	100.241	100.048
11/13/2007	11/13/2014	11/13/2014	3.350	100.689	100.689	100.689	100.657	100.454	100.251	100.050	99.849
11/19/2007	11/19/2014	11/19/2014	3.750	100.833	100.833	100.833	100.798	100.578	100.359	100.141	99.924
11/19/2007	11/19/2014	11/19/2014	4.270	100.949	100.949	100.949	100.914	100.693	100.474	100.256	100.038
11/19/2007	11/20/2017	11/19/2014	4.290	114.025	114.025	112.511	109.181	105.939	102.811	99.794	96.882
11/20/2007	11/20/2017	11/20/2014	3.740	112.227	112.227	110.791	107.729	105.030	102.829	101.205	100.201
11/23/2007	11/24/2017	11/19/2014	3.990	113.089	113.089	111.557	108.229	104.991	101.869	98.857	95.951
11/23/2007	11/24/2017	11/24/2014	3.990	113.089	113.089	111.557	108.229	104.991	101.869	98.857	95.951
11/29/2007	11/29/2017	12/1/2014	2.950	109.718	109.718	108.326	105.479	103.113	101.363	100.279	99.755
11/30/2007	11/30/2017	12/1/2014	3.190	110.517	110.517	109.089	106.156	103.672	101.765	100.525	100.006
12/10/2007	12/11/2017	9/10/2014	3.450	111.480	111.480	109.978	106.953	104.342	102.276	100.824	100.099
12/24/2007	12/26/2017	9/24/2014	3.990	113.443	113.443	111.756	108.338	105.017	101.816	98.732	95.758
1/3/2008	1/5/2015	10/3/2014	3.650	101.288	101.288	101.288	101.215	100.867	100.522	100.184	99.968
1/4/2008	1/4/2018	10/6/2014	3.360	111.404	111.404	109.808	106.768	104.169	102.137	100.734	100.036
1/7/2008	1/7/2015	10/7/2014	3.490	101.250	101.250	101.250	101.176	100.823	100.472	100.142	99.939
1/7/2008	1/8/2018	10/7/2014	2.590	108.820	108.820	107.334	104.597	102.400	100.861	100.064	99.848
1/8/2008	1/8/2018	10/8/2014	2.570	108.751	108.751	107.272	104.542	102.356	100.833	100.055	99.841
1/8/2008	1/8/2018	10/8/2014	2.640	108.990	108.990	107.495	104.730	102.504	100.928	100.081	99.850
1/11/2008	1/11/2018	10/14/2014	2.720	109.285	109.285	107.760	104.952	102.673	101.043	100.125	99.839
1/14/2008	1/16/2018	10/14/2014	3.240	111.105	111.105	109.468	106.442	103.880	101.901	100.578	99.973
1/16/2008	1/16/2018	10/16/2014	2.380	108.157	108.157	106.692	104.044	101.972	100.588	99.968	99.782
1/17/2008	1/17/2018	10/17/2014	2.250	107.718	107.718	106.287	103.713	101.722	100.448	99.919	99.761
1/18/2008	1/20/2015	10/20/2014	2.350	100.927	100.927	100.927	100.838	100.451	100.097	99.898	99.760
1/18/2008	1/18/2018	10/20/2014	2.290	107.861	107.861	106.415	103.815	101.797	100.485	99.927	99.752
2/14/2008	2/14/2018	11/14/2014	3.190	111.191	111.191	109.249	105.731	102.324	99.047	95.893	92.858
2/25/2008	2/26/2018	11/25/2014	2.420	108.570	108.570	106.930	104.199	102.064	100.629	99.922	99.604
3/7/2008	3/9/2015	9/8/2014	2.890	101.525	101.525	101.525	101.378	100.856	100.359	100.029	99.972
3/7/2008	3/7/2018	9/8/2014	3.550	112.661	112.661	110.750	107.529	104.762	102.567	101.001	100.157
3/14/2008	3/14/2018	9/15/2014	2.400	108.606	108.606	106.910	104.181	102.050	100.629	100.006	99.928
3/17/2008	3/19/2018	9/17/2014	3.300	111.879	111.879	109.950	106.787	104.117	102.058	100.665	100.025
4/14/2008	4/14/2015	10/14/2014	2.750	101.726	101.726	101.726	101.536	100.914	100.300	99.693	99.093
4/28/2008	4/28/2015	10/28/2014	3.250	102.166	102.166	102.166	101.958	101.296	100.660	100.144	99.873
4/28/2008	4/30/2018	10/28/2014	2.150	107.990	107.990	106.210	103.567	101.579	100.354	99.865	99.692

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
4/30/2008	4/30/2018	10/30/2014	3.740	113.899	113.899	111.550	107.789	104.152	100.659	97.304	94.081
5/2/2008	5/4/2015	11/3/2014	3.990	102.726	102.726	102.726	102.510	101.830	101.163	100.544	100.080
5/5/2008	5/5/2015	11/5/2014	3.170	102.175	102.175	102.175	101.958	101.278	100.632	100.127	99.845
5/19/2008	5/19/2015	11/21/2014	4.700	103.407	103.407	103.407	103.171	102.448	101.735	101.033	100.340
5/23/2008	5/23/2018	11/24/2014	3.270	112.361	112.361	110.136	106.865	104.130	102.037	100.638	99.920
6/24/2008	6/24/2015	9/24/2014	3.830	103.160	103.160	103.160	102.872	102.053	101.255	100.530	100.066
6/30/2008	7/2/2018	9/30/2014	3.690	114.359	114.359	111.661	107.727	103.932	100.293	96.804	93.456
7/11/2008	7/11/2018	10/11/2014	3.750	114.686	114.686	111.938	107.975	104.153	100.489	96.977	93.608
7/14/2008	7/14/2015	10/15/2014	4.900	104.314	104.314	104.314	103.994	103.116	102.252	101.403	100.569
7/14/2008	7/16/2018	10/14/2014	2.500	109.825	109.825	107.591	104.641	102.344	100.786	100.028	99.808
7/14/2008	7/16/2018	10/14/2014	3.250	112.773	112.773	110.297	106.948	104.168	102.051	100.642	99.987
7/17/2008	7/17/2018	10/17/2014	3.750	114.749	114.749	111.968	107.989	104.152	100.474	96.948	93.568
8/15/2008	8/15/2018	11/17/2014	3.830	115.372	115.372	112.628	108.995	105.868	103.357	101.511	100.353
5/11/2010	5/11/2015	5/11/2015	3.700	102.600	102.600	102.600	102.375	101.674	100.946	100.025	98.881
5/24/2010	5/26/2015	11/26/2014	2.250	101.675	101.675	101.675	101.431	100.697	99.972	99.259	98.555
6/15/2010	6/15/2015	11/15/2014	2.280	101.824	101.824	101.824	101.552	100.763	99.987	99.223	98.470
10/8/2010	10/8/2015	10/9/2012	2.250	102.518	102.518	102.518	102.025	100.923	99.837	98.768	97.716
12/27/2011	12/27/2021	12/29/2014	3.550	126.376	122.338	114.666	107.383	100.451	88.207	76.862	66.345
4/27/2012	4/27/2016	4/27/2013	1.430	102.403	102.403	102.403	101.152	99.513	97.909	96.337	94.798
4/30/2012	5/2/2016	4/30/2013	1.380	102.338	102.338	102.338	101.064	99.413	97.796	96.214	94.663
5/15/2012	5/15/2017	5/15/2014	1.950	105.351	105.351	104.675	101.957	99.310	96.745	94.258	91.848
5/15/2012	5/15/2017	11/17/2014	-0.226	106.405	106.405	105.727	102.996	100.668	99.663	99.391	99.179
6/20/2012	6/20/2017	6/22/2015	1.630	104.636	104.636	103.814	101.009	96.317	91.825	87.490	83.303
7/16/2012	7/17/2017	7/16/2014	1.720	105.021	105.021	104.085	101.205	98.409	95.703	93.085	90.552
7/18/2012	7/18/2018	7/20/2015	-0.216	107.978	107.978	105.215	102.016	100.346	99.575	99.299	99.142
7/19/2012	7/19/2017	7/21/2014	1.690	104.943	104.943	103.999	101.115	98.315	95.606	92.985	90.448
10/1/2012	10/1/2019	4/1/2015	-0.125	110.120	109.931	104.784	101.211	99.995	99.681	99.577	99.496
10/5/2012	10/5/2017	10/6/2014	-0.118	105.008	105.008	103.727	100.853	99.952	99.839	99.740	99.641
3/8/2013	3/8/2018	3/9/2015	-0.039	105.286	105.286	103.247	100.676	99.949	99.813	99.784	99.765
5/7/2014	5/7/2018	5/7/2015	0.017	105.250	105.250	102.901	100.563	99.756	99.475	99.282	99.104