

## **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	1/7/2015	5.950	101.124	101.124	101.124	101.096	100.909	100.723	100.538	100.354
12/13/2004	12/15/2014	12/15/2014	3.320	100.415	100.415	100.415	100.397	100.273	100.149	100.026	99.903
9/1/2005	9/1/2015	12/1/2014	4.130	103.499	103.499	103.499	103.206	102.366	101.539	100.726	99.925
9/30/2005	9/30/2015	12/31/2014	4.440	104.119	104.119	104.119	103.780	102.857	101.951	101.061	100.186
10/26/2005	10/26/2015	1/26/2015	4.540	104.540	104.540	104.540	104.153	103.159	102.184	101.228	100.290
1/17/2006	1/19/2016	1/20/2015	4.080	105.043	105.043	105.043	104.436	103.212	102.049	101.042	100.302
4/24/2006	4/25/2016	1/26/2015	4.440	106.684	106.684	106.684	105.713	104.224	102.830	101.601	100.655
5/5/2006	5/5/2016	11/5/2014	4.350	106.670	106.670	106.670	105.657	104.147	102.745	101.533	100.616
5/5/2006	5/5/2016	11/5/2014	4.530	106.946	106.946	106.946	105.932	104.416	102.998	101.751	100.767
5/15/2006	5/16/2016	11/17/2014	4.350	106.803	106.803	106.803	105.742	104.203	102.776	101.541	100.600
5/15/2006	5/16/2016	11/17/2014	4.520	107.068	107.068	107.068	106.006	104.461	103.018	101.749	100.748
5/19/2006	5/19/2016	11/19/2014	4.510	107.090	107.090	107.090	106.015	104.463	103.013	101.739	100.737
6/12/2006	6/13/2016	12/12/2014	4.620	107.584	107.584	107.584	106.396	104.776	103.266	101.940	100.880
6/26/2006	6/27/2016	12/26/2014	4.730	107.949	107.949	107.949	106.695	105.034	103.480	102.110	100.995
7/24/2006	7/25/2016	1/26/2015	4.660	108.193	108.193	108.193	106.809	105.081	103.481	102.079	100.964
7/28/2006	7/28/2016	1/28/2015	4.490	107.932	107.932	107.932	106.536	104.808	103.220	101.849	100.780
8/25/2006	8/25/2016	11/25/2014	4.350	108.023	108.023	108.023	106.496	104.711	103.088	101.709	100.667
11/24/2006	11/25/2016	11/24/2014	4.190	108.798	108.798	108.798	106.831	104.845	103.085	101.642	100.588
12/1/2006	12/1/2016	12/1/2014	4.090	108.657	108.657	108.657	106.666	104.684	102.945	101.543	100.548
12/4/2006	12/5/2016	12/4/2014	4.080	108.681	108.681	108.681	106.669	104.679	102.933	101.530	100.537
12/5/2006	12/5/2016	12/5/2014	4.260	109.064	109.064	109.064	107.045	105.033	103.251	101.780	100.700
12/8/2006	12/8/2016	12/8/2014	3.990	108.523	108.523	108.523	106.499	104.513	102.784	101.403	100.456
12/12/2006	12/12/2016	12/12/2014	3.990	108.567	108.567	108.567	106.523	104.527	102.789	101.400	100.451
12/12/2006	12/12/2016	12/12/2014	4.050	108.696	108.696	108.696	106.648	104.645	102.892	101.484	100.502
12/19/2006	12/19/2016	12/19/2014	4.190	109.078	109.078	109.078	106.987	104.949	103.151	101.684	100.621
12/28/2006	12/28/2016	12/29/2014	4.250	109.314	109.314	109.314	107.173	105.106	103.278	101.774	100.672
12/28/2006	12/28/2016	12/29/2014	4.400	109.643	109.643	109.643	107.496	105.411	103.555	101.999	100.823
1/12/2007	1/12/2017	1/12/2015	4.420	109.871	109.871	109.848	107.643	105.528	103.649	102.080	100.895
1/16/2007	1/17/2017	1/16/2015	4.790	110.764	110.764	110.732	108.493	106.327	104.368	102.694	101.369
2/2/2007	2/2/2017	11/2/2014	4.690	110.747	110.747	110.684	108.366	106.071	103.836	101.660	99.541
2/20/2007	2/21/2017	11/20/2014	4.850	111.370	111.370	111.253	108.873	106.516	104.223	101.991	99.818
2/20/2007	2/21/2017	11/20/2014	4.390	110.292	110.292	110.175	107.841	105.638	103.693	102.087	100.874
2/23/2007	2/23/2017	11/24/2014	4.250	109.987	109.987	109.865	107.534	105.343	103.428	101.862	100.716
2/23/2007	2/23/2017	11/24/2014	4.350	110.222	110.222	110.100	107.762	105.559	103.618	102.021	100.823
3/16/2007	3/16/2017	12/16/2014	4.090	109.849	109.849	109.661	107.289	105.083	103.179	101.659	100.588
3/21/2007	3/21/2017	12/22/2014	4.220	110.221	110.221	110.017	107.621	105.382	103.438	101.856	100.709
3/23/2007	3/23/2017	12/23/2014	4.290	110.415	110.415	110.204	107.798	105.543	103.578	101.967	100.781
3/23/2007	3/23/2017	12/23/2014	4.290	110.415	110.415	110.204	107.798	105.543	103.578	101.967	100.781
4/9/2007	4/10/2017	1/9/2015	4.150	110.282	110.282	110.013	107.573	105.310	103.358	101.794	100.686
4/12/2007	4/12/2017	1/12/2015	4.250	110.554	110.554	110.277	107.824	105.539	103.560	101.950	100.785
4/13/2007	4/13/2017	1/13/2015	4.450	111.063	111.063	110.782	108.311	105.996	103.961	102.283	101.014
4/27/2007	4/27/2017	1/27/2015	4.250	110.731	110.731	110.404	107.909	105.590	103.581	101.950	100.767
5/18/2007	5/18/2017	11/18/2014	4.190	110.823	110.823	110.422	107.881	105.535	103.516	101.893	100.724
5/22/2007	5/22/2017	11/24/2014	4.750	112.323	112.323	111.904	109.310	106.867	104.696	102.872	101.443
5/29/2007	5/30/2017	12/1/2014	4.250	111.120	111.120	110.675	108.097	105.713	103.653	101.994	100.798
6/7/2007	6/7/2017	12/8/2014	4.820	112.719	112.719	112.241	109.603	107.120	104.916	103.059	101.598
6/8/2007	6/8/2017	12/8/2014	4.490	111.860	111.860	111.381	108.765	106.330	104.202	102.453	101.123
6/11/2007	6/12/2017	12/11/2014	4.490	111.910	111.910	111.416	108.789	106.344	104.209	102.453	101.120
6/18/2007	6/19/2017	12/18/2014	4.500	112.024	112.024	111.504	108.856	106.393	104.242	102.471	101.124
6/19/2007	6/19/2017	12/19/2014	4.650	112.425	112.425	111.903	109.244	106.758	104.567	102.743	101.337
6/22/2007	6/22/2017	12/22/2014	4.500	112.062	112.062	111.530	108.875	106.404	104.247	102.471	101.118
6/28/2007	6/28/2017	12/29/2014	4.500	112.137	112.137	111.584	108.911	106.426	104.257	102.471	101.109
7/13/2007	7/13/2017	1/13/2015	4.290	111.749	111.749	111.142	108.454	105.984	103.862	102.145	100.889
7/20/2007	7/20/2017	1/20/2015	4.290	111.833	111.833	111.198	108.491	106.006	103.871	102.145	100.880
7/27/2007	7/27/2017	1/27/2015	4.250	111.805	111.805	111.143	108.423	105.929	103.794	102.074	100.828
7/30/2007	1/30/2019	1/30/2015	3.990	117.200	117.200	114.002	110.151	106.868	104.225	102.207	100.819
7/31/2007	7/31/2017	2/2/2015	3.990	111.127	111.127	110.455	107.757	105.324	103.274	101.677	100.583
7/31/2007	7/31/2017	2/2/2015	3.990	111.127	111.127	110.455	107.757	105.324	103.274	101.677	100.583

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
7/31/2007	7/31/2017	2/2/2015	4.060	111.322	111.322	110.649	107.944	105.491	103.419	101.788	100.658
8/2/2007	8/2/2017	2/2/2015	4.050	111.317	111.317	110.637	107.931	105.480	103.413	101.792	100.667
8/2/2007	8/2/2017	2/2/2015	4.150	111.596	111.596	110.915	108.197	105.723	103.622	101.955	100.774
8/9/2007	8/9/2017	11/10/2014	3.990	111.227	111.227	110.520	107.803	105.353	103.293	101.690	100.584
8/16/2007	8/16/2017	11/17/2014	3.990	111.304	111.304	110.570	107.835	105.369	103.297	101.683	100.563
8/17/2007	8/17/2017	11/17/2014	4.000	111.344	111.344	110.605	107.866	105.396	103.318	101.699	100.573
9/4/2007	9/5/2017	12/4/2014	3.890	111.237	111.237	110.427	107.666	105.194	103.138	101.562	100.510
9/10/2007	9/11/2017	12/10/2014	3.690	110.721	110.721	109.894	107.147	104.720	102.734	101.249	100.312
9/11/2007	9/11/2017	12/11/2014	3.590	110.430	110.430	109.606	106.878	104.479	102.533	101.098	100.220
9/13/2007	9/13/2017	12/15/2014	3.990	111.615	111.615	110.771	107.973	105.460	103.352	101.716	100.593
9/27/2007	9/27/2017	12/29/2014	3.650	110.767	110.767	109.879	107.099	104.650	102.652	101.166	100.235
10/11/2007	10/11/2017	1/12/2015	3.990	111.925	111.925	110.973	108.110	105.548	103.411	101.751	100.621
10/15/2007	10/16/2017	1/15/2015	3.990	111.980	111.980	111.008	108.132	105.559	103.415	101.750	100.617
10/26/2007	10/26/2017	1/26/2015	3.390	110.273	110.273	109.286	106.496	104.091	102.187	100.823	100.041
11/2/2007	11/3/2014	11/3/2014	3.990	100.033	100.033	100.033	100.032	100.024	100.015	100.007	99.999
11/2/2007	11/3/2014	11/3/2014	4.190	100.035	100.035	100.035	100.034	100.025	100.017	100.009	100.000
11/5/2007	11/5/2014	11/5/2014	3.990	100.055	100.055	100.055	100.053	100.039	100.026	100.012	99.998
11/5/2007	11/6/2017	11/5/2014	4.390	113.437	113.437	112.370	109.390	106.686	104.377	102.515	101.134
11/6/2007	11/6/2017	11/6/2014	3.480	110.652	110.652	109.620	106.795	104.351	102.404	100.993	100.196
11/9/2007	11/10/2014	11/10/2014	4.330	100.120	100.120	100.120	100.116	100.088	100.061	100.033	100.005
11/13/2007	11/13/2014	11/13/2014	3.350	100.121	100.121	100.121	100.116	100.080	100.043	100.007	99.971
11/19/2007	11/19/2014	11/19/2014	3.750	100.198	100.198	100.198	100.190	100.137	100.085	100.032	99.979
11/19/2007	11/19/2014	11/19/2014	4.270	100.225	100.225	100.225	100.218	100.165	100.112	100.059	100.006
11/19/2007	11/20/2017	11/19/2014	4.290	113.298	113.298	112.142	108.987	105.906	102.930	100.055	97.277
11/20/2007	11/20/2017	11/20/2014	3.740	111.593	111.593	110.490	107.578	105.018	102.931	101.362	100.335
11/23/2007	11/24/2017	11/19/2014	3.990	112.413	112.413	111.241	108.086	105.009	102.036	99.165	96.391
11/23/2007	11/24/2017	11/24/2014	3.990	112.413	112.413	111.241	108.086	105.009	102.036	99.165	96.391
11/29/2007	11/29/2017	12/1/2014	2.950	109.218	109.218	108.131	105.393	103.122	101.427	100.371	99.940
11/30/2007	11/30/2017	12/1/2014	3.190	109.977	109.977	108.867	106.056	103.680	101.849	100.617	100.029
12/10/2007	12/11/2017	12/10/2014	3.450	110.895	110.895	109.724	106.835	104.349	102.380	100.960	100.138
12/24/2007	12/26/2017	12/24/2014	3.990	112.767	112.767	111.452	108.206	105.044	101.993	99.047	96.202
1/3/2008	1/5/2015	1/5/2015	3.650	100.669	100.669	100.669	100.642	100.461	100.282	100.102	99.924
1/4/2008	1/4/2018	1/5/2015	3.360	110.835	110.835	109.575	106.663	104.183	102.241	100.864	100.091
1/7/2008	1/7/2015	1/7/2015	3.490	100.659	100.659	100.659	100.631	100.445	100.260	100.075	99.892
1/7/2008	1/8/2018	1/7/2015	2.590	108.381	108.381	107.191	104.527	102.405	100.915	100.090	99.745
1/8/2008	1/8/2018	1/8/2015	2.570	108.316	108.316	107.129	104.473	102.361	100.885	100.077	99.736
1/8/2008	1/8/2018	1/8/2015	2.640	108.543	108.543	107.345	104.659	102.510	100.989	100.117	99.754
1/11/2008	1/11/2018	1/12/2015	2.720	108.824	108.824	107.603	104.880	102.684	101.108	100.169	99.760
1/14/2008	1/16/2018	1/14/2015	3.240	110.556	110.556	109.254	106.349	103.898	102.002	100.706	100.002
1/16/2008	1/16/2018	1/16/2015	2.380	107.754	107.754	106.566	103.979	101.971	100.618	99.957	99.652
1/17/2008	1/17/2018	1/20/2015	2.250	107.337	107.337	106.170	103.648	101.716	100.475	99.880	99.599
1/18/2008	1/20/2015	1/20/2015	2.350	100.529	100.529	100.529	100.494	100.274	100.054	99.835	99.618
1/18/2008	1/18/2018	1/20/2015	2.290	107.473	107.473	106.295	103.751	101.793	100.517	99.900	99.609
2/14/2008	2/14/2018	11/14/2014	3.190	110.650	110.650	109.107	105.755	102.502	99.367	96.344	93.430
2/25/2008	2/26/2018	11/25/2014	2.420	108.160	108.160	106.808	104.146	102.072	100.664	100.021	99.881
3/7/2008	3/9/2015	12/8/2014	2.890	101.035	101.035	101.035	100.962	100.604	100.250	99.996	99.871
3/7/2008	3/7/2018	12/8/2014	3.550	112.059	112.059	110.519	107.435	104.797	102.697	101.172	100.246
3/14/2008	3/14/2018	12/15/2014	2.400	108.199	108.199	106.793	104.127	102.058	100.664	100.005	99.792
3/17/2008	3/19/2018	12/17/2014	3.300	111.320	111.320	109.750	106.711	104.155	102.177	100.793	100.055
4/14/2008	4/14/2015	1/14/2015	2.750	101.260	101.260	101.260	101.144	100.688	100.237	99.789	99.345
4/28/2008	4/28/2015	1/28/2015	3.250	101.616	101.616	101.616	101.482	100.987	100.504	100.095	99.809
4/28/2008	4/30/2018	1/28/2015	2.150	107.626	107.626	106.109	103.514	101.577	100.376	99.811	99.533
4/30/2008	4/30/2018	1/30/2015	3.740	113.266	113.266	111.343	107.751	104.270	100.921	97.700	94.601
5/2/2008	5/4/2015	2/2/2015	3.990	102.050	102.050	102.050	101.909	101.397	100.891	100.417	100.081
5/5/2008	5/5/2015	11/5/2014	3.170	101.638	101.638	101.638	101.496	100.982	100.486	100.093	99.986
5/19/2008	5/19/2015	11/21/2014	4.700	102.611	102.611	102.611	102.452	101.897	101.349	100.806	100.269
5/23/2008	5/23/2018	11/24/2014	3.270	111.807	111.807	109.950	106.806	104.183	102.167	100.769	100.078
6/24/2008	6/24/2015	12/24/2014	3.830	102.511	102.511	102.511	102.309	101.657	101.017	100.429	100.030

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
6/30/2008	7/2/2018	12/30/2014	3.690	113.734	113.734	111.478	107.711	104.069	100.572	97.213	93.985
7/11/2008	7/11/2018	1/11/2015	3.750	114.051	114.051	111.744	107.950	104.281	100.758	97.375	94.126
7/14/2008	7/14/2015	1/14/2015	4.900	103.484	103.484	103.484	103.257	102.547	101.847	101.157	100.476
7/14/2008	7/16/2018	1/14/2015	2.500	109.402	109.402	107.481	104.600	102.371	100.851	100.045	99.696
7/14/2008	7/16/2018	1/14/2015	3.250	112.223	112.223	110.126	106.900	104.231	102.192	100.793	100.032
7/17/2008	7/17/2018	1/17/2015	3.750	114.114	114.114	111.774	107.963	104.279	100.742	97.346	94.084
8/15/2008	8/15/2018	11/17/2014	3.830	114.723	114.723	112.392	108.919	105.942	103.547	101.754	100.550
5/11/2010	5/11/2015	5/11/2015	3.700	101.973	101.973	101.973	101.824	101.293	100.744	100.097	99.017
5/24/2010	5/26/2015	11/26/2014	2.250	101.294	101.294	101.294	101.127	100.558	99.996	99.439	98.889
6/15/2010	6/15/2015	11/15/2014	2.280	101.438	101.438	101.438	101.248	100.624	100.008	99.399	98.798
10/8/2010	10/8/2015	10/9/2012	2.250	102.137	102.137	102.137	101.787	100.853	99.936	99.036	98.152
12/27/2011	12/27/2021	12/29/2014	3.550	125.775	121.588	114.117	107.009	100.397	88.250	76.966	66.480
4/27/2012	4/27/2016	4/27/2013	1.430	102.161	102.161	102.161	101.195	99.718	98.270	96.849	95.456
4/30/2012	5/2/2016	4/30/2013	1.380	102.104	102.104	102.104	101.118	99.628	98.168	96.736	95.331
5/15/2012	5/15/2017	5/15/2014	1.950	105.021	105.021	104.626	102.073	99.581	97.163	94.815	92.535
5/15/2012	5/15/2017	11/17/2014	-0.226	106.371	106.371	105.975	103.409	100.899	99.926	99.878	99.831
6/20/2012	6/20/2017	6/22/2015	1.630	104.360	104.360	103.832	101.190	97.015	92.652	88.432	84.350
7/16/2012	7/17/2017	7/16/2014	1.720	104.729	104.729	104.098	101.381	98.736	96.173	93.689	91.281
7/18/2012	7/18/2018	7/20/2015	-0.219	108.106	108.106	105.778	102.430	100.462	99.588	99.177	98.927
7/19/2012	7/19/2017	7/21/2014	1.690	104.656	104.656	104.017	101.295	98.647	96.080	93.593	91.182
10/1/2012	10/1/2019	4/1/2015	-0.127	110.236	110.236	105.406	101.475	99.990	99.604	99.421	99.254
10/5/2012	10/5/2017	10/6/2014	1.630	104.844	104.844	103.892	100.965	98.123	95.376	92.720	90.150
3/8/2013	3/8/2018	3/9/2015	-0.037	105.403	105.403	103.769	100.929	99.965	99.755	99.643	99.535
5/7/2014	5/7/2018	5/7/2015	0.017	105.247	105.247	103.313	100.683	99.967	99.843	99.821	99.807
10/16/2014	10/16/2018	10/17/2016	0.009	104.640	104.640	102.056	100.377	99.529	99.036	98.703	98.450
10/24/2014	10/24/2018	10/26/2015	0.003	105.113	105.113	102.327	100.330	99.619	99.288	99.047	98.825
10/24/2014	10/24/2018	10/26/2015	0.004	105.113	105.113	102.327	100.330	99.619	99.289	99.047	98.826