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.

As of: 7/31/2011 **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
2/27/1997	2/27/2012	8/29/2011	6.580	103.856	103.856	103.856	103.582	102.998	102.421	101.851	101.290
4/8/1998	4/8/2013	10/11/2011	5.490	109.409	109.409	109.409	107.940	106.223	104.588	103.105	101.845
8/19/1998	8/19/2013	8/19/2011	5.490	111.437	111.437	111.437	109.382	107.302	105.355	103.621	102.165
8/19/1998	8/19/2013	8/19/2011	5.490	111.437	111.437	111.437	109.382	107.302	105.355	103.621	102.165
8/25/1998	8/19/2013	10/25/2011	5.490	111.437	111.437	111.437	109.382	107.301	105.354	103.619	102.164
8/27/1998	8/19/2013	10/27/2011	5.490	111.437	111.437	111.437	109.382	107.302	105.355	103.621	102.165
9/30/1998	9/30/2013	9/30/2011	5.220	111.483	111.483	111.483	109.244	107.064	105.053	103.299	101.867
12/14/1998	12/16/2013	9/14/2011	5.390	113.010	113.010	112.875	110.405	108.012	105.813	103.892	102.310
12/14/1998	12/16/2013	9/14/2011	4.890	111.803	111.803	111.668	109.212	106.853	104.727	102.932	101.527
12/15/1998	12/16/2013	9/15/2011	4.880	111.779	111.779	111.644	109.188	106.830	104.704	102.911	101.509
1/7/2000	1/7/2015	10/7/2011	5.950	120.758	120.758	119.385	115.770	112.383	109.339	106.695	104.485
12/13/2001	12/13/2011	9/13/2011	4.920	101.845	101.845	101.845	101.699	101.329	100.962	100.597	100.252
6/3/2002	6/4/2012	9/3/2011	4.490	103.854	103.854	103.854	103.407	102.559	101.726	100.905	100.098
6/3/2002	6/4/2012	9/3/2011	4.490	103.854	103.854	103.854	103.407	102.559	101.726	100.905	100.098
6/4/2002	6/4/2012	9/6/2011	4.490	103.854	103.854	103.854	103.407	102.559	101.726	100.905	100.098
12/5/2002	12/5/2012	9/6/2011	3.790	105.190	105.190	105.190	104.231	102.875	101.544	100.235	98.950
3/6/2003	3/6/2013	9/6/2011	2.990	104.850	104.850	104.850	103.547	102.036	100.830	100.111	99.886
7/2/2004	7/2/2014	10/3/2011	3.990	111.825	111.825	111.219	108.201	105.261	102.417	99.665	97.003
12/13/2004	12/15/2014	9/13/2011	3.320	111.370	111.370	110.150	106.899	104.164	102.092	100.706	100.032
9/1/2005	9/1/2015	9/1/2011	4.130	117.127	117.127	114.423	110.179	106.101	102.199	98.466	94.892
9/19/2005	9/19/2012	9/19/2011	3.820	104.414	104.414	104.414	103.709	102.568	101.490	100.594	100.053
9/26/2005	9/26/2012	9/26/2011	3.890	104.570	104.570	104.570	103.845	102.683	101.583	100.660	100.069
9/30/2005	9/30/2015	9/30/2011	4.440	118.770	118.770	115.873	111.521	107.340	103.343	99.520	95.864
10/26/2005	10/26/2015	10/26/2011	4.540	119.521	119.521	116.445	112.012	107.755	103.688	99.801	96.086
10/28/2005	10/28/2015	10/28/2011	4.310	118.556	118.556	115.608	111.559	108.047	105.159	102.918	101.295
10/28/2005	10/28/2015	10/28/2011	4.140	117.824	117.824	114.893	110.887	107.438	104.642	102.496	100.996
11/21/2005	11/21/2012	8/22/2011	4.290	105.708	105.708	105.708	104.796	103.478	102.229	101.154	100.354
1/6/2006	1/6/2016	10/6/2011	4.020	118.089	118.089	114.747	110.668	107.202	104.428	102.333	100.920
1/17/2006	1/19/2016	10/17/2011	4.080	118.506	118.506	115.069	110.948	107.438	104.613	102.466	100.984
4/19/2006	4/19/2013	10/19/2011	4.630	108.076	108.076	108.076	106.569	104.845	103.248	101.877	100.820
4/24/2006	4/25/2016	10/24/2011	4.440	121.335	121.335	117.190	112.804	109.029	105.921	103.489	101.707
5/5/2006	5/6/2013	8/5/2011	4.780	108.564	108.564	108.564	106.981	105.208	103.566	102.149	101.034
5/5/2006	5/5/2016	8/5/2011	4.980	124.069	124.069	119.769	115.217	111.227	107.863	105.123	102.990
5/5/2006	5/5/2016	8/5/2011	4.350	121.024	121.024	116.833	112.466	108.729	105.674	103.306	101.589
5/5/2006	5/5/2016	8/5/2011	4.530	121.894	121.894	117.669	113.246	109.432	106.280	103.798	101.961
5/15/2006	5/16/2016	8/15/2011	4.350	121.157	121.157	116.885	112.497	108.743	105.672	103.291	101.560
5/15/2006	5/16/2016	8/15/2011	4.520	121.983	121.983	117.678	113.237	109.408	106.247	103.757	101.913
5/19/2006	5/19/2016	8/19/2011	4.510	121.972	121.972	117.647	113.203	109.373	106.211	103.722	101.876
6/12/2006	6/13/2016	9/12/2011	4.620	122.829	122.829	118.305	113.790	109.889	106.656	104.086	102.165
6/26/2006	6/27/2016	9/26/2011	4.730	123.557	123.557	118.904	114.327	110.357	107.048	104.393	102.381
6/28/2006	6/28/2013	9/28/2011	4.950	109.597	109.597	109.597	107.780	105.859	104.078	102.527	101.291
6/30/2006	7/1/2013	9/30/2011	4.890	109.521	109.521	109.521	107.692	105.767	103.992	102.456	101.234
7/14/2006	7/15/2013	10/14/2011	4.890	109.712	109.712	109.712	107.821	105.859	104.053	102.497	101.269
7/24/2006	7/25/2016	10/24/2011	4.660	123.570	123.500	118.724	114.126	110.156	106.861	104.234	102.259
7/28/2006	7/28/2016	10/28/2011	4.490	122.748	122.669	117.917	113.370	109.470	106.256	103.732	101.867
8/1/2006	8/1/2016	11/1/2011	4.890	124.829	124.735	119.889	115.217	111.154	107.755	105.005	102.887
8/11/2006	8/11/2011	8/11/2011	4.790	100.146	100.146	100.146	100.139	100.109	100.079	100.050	100.020
8/21/2006	8/21/2013	8/1/2011	4.750	109.922	109.922	109.922	107.868	105.779	103.741	101.753	99.813
8/25/2006	8/25/2016	8/25/2011	4.350	122.377	122.142	117.375	112.839	108.975	105.820	103.373	101.588
8/28/2006	8/29/2011	8/29/2011	4.890	100.394	100.394	100.394	100.374	100.295	100.217	100.139	100.062
9/22/2006	9/22/2011	9/22/2011	4.790	100.705	100.705	100.705	100.663	100.518	100.374	100.230	100.086
9/29/2006	9/29/2011	9/29/2011	4.590	100.765	100.765	100.765	100.717	100.552	100.388	100.225	100.062
10/10/2006	10/10/2013	10/11/2011	4.250	109.467	109.467	109.450	107.205	105.067	103.191	101.687	100.636
10/12/2006	10/15/2013	10/12/2011	4.500	110.087	110.087	110.061	107.795	105.622	103.687	102.092	100.905
10/30/2006	10/31/2011	10/31/2011	4.850	101.239	101.239	101.239	101.156	100.905	100.655	100.406	100.159
11/3/2006	11/3/2011	8/3/2011	4.690	101.238	101.238	101.238	101.150	100.890	100.632	100.376	100.120
11/6/2006	11/6/2013	8/8/2011	4.290	109.878	109.878	109.815	107.491	105.280	103.327	101.732	100.559
11/10/2006	11/13/2012	8/10/2011	4.390	105.743	105.743	105.743	104.859	103.562	102.327	101.254	100.450
11/10/2006	11/13/2012	8/10/2011	4.390	105.743	105.743	105.743	104.859	103.562	102.327	101.254	100.450
11/17/2006	11/18/2013	8/17/2011	4.350	110.161	110.161	110.078	107.717	105.473	103.502	101.904	100.754
11/24/2006	11/25/2016	8/24/2011	4.190	122.625	121.877	116.981	112.390	108.522	105.406	103.021	101.322
11/30/2006	12/2/2013	8/28/2011	4.350	110.331	110.331	110.222	107.814	105.447	103.144	100.903	98.722
12/1/2006	12/1/2016	9/1/2011	4.090	122.153	121.374	116.513	111.968	108.160	105.122	102.821	101.208
12/4/2006	12/5/2016	9/6/2011	4.080	122.144	121.341	116.475	111.930	108.124	105.089	102.792	101.182
12/5/2006	12/5/2016	9/6/2011	4.260	123.121	122.310	117.385	112.760	108.859	105.705	103.282	101.542
12/6/2006	12/6/2013	9/6/2011	4.400	110.498	110.498	110.382	107.969	105.680	103.671	102.041	100.852
12/8/2006	12/8/2016	9/8/2011	3.990	121.689	120.872	116.032	111.521	107.759	104.779	102.541	101.013
12/12/2006	12/12/2016	9/12/2011	3.990	121.733	120.893	116.044	111.526	107.760	104.776	102.534	101.002
12/12/2006	12/12/2016	9/12/2011	4.050	122.060	121.217	116.345	111.802	108.003	104.979	102.694	101.105

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
12/19/2006	12/19/2011	9/19/2011	4.490	101.758	101.758	101.758	101.603	101.217	100.834	100.456	100.125
12/19/2006	12/19/2016	9/19/2011	4.190	122.904	122.014	117.078	112.462	108.576	105.451	103.060	101.356
12/20/2006	12/20/2013	9/20/2011	4.500	110.912	110.912	110.769	108.313	105.976	103.914	102.224	100.962
12/21/2006	12/21/2011	9/21/2011	4.530	101.799	101.799	101.799	101.641	101.249	100.861	100.477	100.140
12/27/2006	12/27/2013	9/27/2011	4.500	110.999	110.999	110.843	108.367	106.012	103.934	102.229	100.956
12/28/2006	12/28/2016	9/28/2011	4.250	123.338	122.396	117.416	112.759	108.829	105.653	103.210	101.454
12/28/2006	12/28/2016	9/28/2011	4.400	124.162	123.211	118.184	113.463	109.457	106.186	103.639	101.772
1/8/2007	1/9/2012	10/8/2011	4.750	102.137	102.137	102.137	101.947	101.504	101.065	100.630	100.199
1/12/2007	1/12/2017	10/12/2011	4.420	124.456	123.414	118.359	113.618	109.597	106.315	103.759	101.887
1/16/2007	1/17/2017	1/17/2012	4.790	126.570	125.477	120.298	115.405	111.195	107.701	104.894	102.748
1/23/2007	1/23/2014	10/24/2011	4.490	111.312	111.312	111.100	108.548	106.132	104.010	102.278	100.989
1/23/2007	1/23/2017	10/24/2011	4.460	124.813	123.704	118.607	113.832	109.777	106.457	103.861	101.948
1/29/2007	1/29/2014	10/29/2011	4.790	112.147	112.147	111.923	109.337	106.798	104.332	101.937	99.609
2/2/2007	2/2/2017	8/2/2011	4.690	126.223	124.886	119.111	113.372	107.935	103.208	100.701	98.842
2/9/2007	2/9/2012	8/9/2011	4.750	102.546	102.546	102.546	102.304	101.775	101.253	100.743	100.291
2/9/2007	2/9/2017	8/9/2011	4.470	125.080	123.863	118.742	113.946	109.876	106.548	103.946	102.029
2/12/2007	2/13/2012	8/12/2011	4.880	102.670	102.670	102.670	102.421	101.881	101.346	100.823	100.352
2/15/2007	2/15/2012	8/15/2011	4.990	102.758	102.758	102.758	102.505	101.959	101.419	100.885	100.356
2/20/2007	2/21/2017	8/22/2011	4.390	124.778	123.486	118.367	113.588	109.543	106.248	103.687	101.814
2/20/2007	2/21/2017	2/21/2012	4.850	127.374	125.900	120.049	114.234	108.901	104.767	102.219	100.776
2/23/2007	2/23/2017	8/23/2011	4.250	124.011	122.716	117.643	112.921	108.948	105.739	103.273	101.498
2/23/2007	2/23/2017	8/23/2011	4.350	124.576	123.274	118.164	113.399	109.371	106.097	103.562	101.715
3/2/2007	3/2/2012	9/2/2011	4.490	102.681	102.681	102.681	102.402	101.811	101.227	100.671	100.217
3/16/2007	3/16/2017	9/16/2011	4.090	123.346	121.933	116.889	112.223	108.325	105.218	102.862	101.207
3/20/2007	3/20/2012	9/30/2011	4.550	102.945	102.945	102.945	102.635	101.995	101.364	100.740	100.124
3/21/2007	3/21/2017	9/21/2011	4.220	124.146	122.691	117.587	112.850	108.873	105.671	103.217	101.460
3/23/2007	3/23/2017	9/23/2011	4.290	124.571	123.097	117.962	113.190	109.173	105.921	103.413	101.601
3/23/2007	3/23/2017	9/23/2011	4.290	124.571	123.097	117.962	113.190	109.173	105.921	103.413	101.601
3/30/2007	3/30/2012	9/30/2011	4.670	103.152	103.152	103.152	102.826	102.158	101.500	100.850	100.209
4/2/2007	4/2/2012	10/3/2011	4.590	103.136	103.136	103.136	102.805	102.130	101.464	100.831	100.314
4/9/2007	4/10/2017	10/11/2011	4.150	123.976	122.410	117.296	112.579	108.632	105.475	103.074	101.372
4/12/2007	4/12/2017	10/12/2011	4.250	124.578	122.987	117.832	113.063	109.055	105.826	103.350	101.574
4/13/2007	4/13/2017	10/13/2011	4.450	125.747	124.128	118.899	114.035	109.919	106.559	103.938	102.009
4/23/2007	4/23/2012	10/25/2011	4.650	103.449	103.449	103.449	103.080	102.346	101.623	100.910	100.206
4/23/2007	4/23/2014	10/24/2011	4.620	112.794	112.794	112.382	109.563	106.919	104.606	102.718	101.296
4/27/2007	4/27/2012	10/27/2011	4.550	103.425	103.425	103.425	103.050	102.305	101.572	100.877	100.307
4/27/2007	4/27/2017	10/27/2011	4.250	124.755	123.070	117.878	113.087	109.060	105.814	103.322	101.530
5/2/2007	5/2/2014	11/2/2011	4.590	112.826	112.826	112.391	109.550	106.895	104.585	102.713	101.311
5/4/2007	5/5/2014	11/4/2011	4.550	112.752	112.752	112.309	109.461	106.804	104.499	102.634	101.243
5/18/2007	5/18/2017	8/18/2011	4.190	124.650	122.826	117.640	112.856	108.856	105.642	103.186	101.432
5/22/2007	5/22/2012	8/22/2011	4.690	103.856	103.856	103.856	103.434	102.621	101.822	101.062	100.422
5/22/2007	5/22/2012	8/22/2011	4.690	103.856	103.856	103.856	103.434	102.621	101.822	101.062	100.422
5/22/2007	5/22/2012	8/22/2011	4.710	103.872	103.872	103.872	103.451	102.637	101.839	101.077	100.434
5/22/2007	5/22/2017	5/22/2012	4.750	127.997	126.081	120.680	115.636	111.322	107.755	104.894	102.667
5/25/2007	5/25/2012	8/25/2011	4.650	103.862	103.862	103.862	103.434	102.613	101.807	101.041	100.398
5/29/2007	5/30/2017	8/29/2011	4.250	125.144	123.229	118.001	113.175	109.124	105.858	103.344	101.530
6/1/2007	6/1/2012	9/1/2011	5.230	104.445	104.445	104.445	104.004	103.161	102.333	101.518	100.715
6/1/2007	6/2/2014	9/1/2011	4.500	112.962	112.962	112.442	109.520	106.809	104.473	102.593	101.207
6/7/2007	6/7/2017	9/7/2011	4.820	128.624	126.591	121.148	116.059	111.703	108.095	105.198	102.977
6/8/2007	6/8/2012	9/8/2011	5.300	104.608	104.608	104.608	104.152	103.289	102.442	101.608	100.788
6/8/2007	6/9/2014	9/8/2011	4.730	113.716	113.716	113.176	110.221	107.461	105.046	103.067	101.561
6/8/2007	6/8/2017	9/8/2011	4.490	126.676	124.674	119.348	114.404	110.221	106.805	104.130	102.152
6/11/2007	6/12/2017	9/12/2011	4.490	126.726	124.697	119.361	114.412	110.225	106.805	104.127	102.145
6/15/2007	6/16/2014	9/15/2011	5.550	116.202	116.202	115.639	112.611	109.650	106.783	104.008	101.320
6/18/2007	6/19/2017	9/19/2011	4.500	126.873	124.796	119.439	114.475	110.272	106.838	104.144	102.148
6/18/2007	6/19/2017	9/19/2011	4.840	128.904	126.785	121.306	116.189	111.807	108.172	105.249	103.001
6/19/2007	6/19/2017	9/19/2011	4.650	127.769	125.673	120.261	115.225	110.941	107.417	104.617	102.509
6/20/2007	6/20/2012	9/20/2011	4.890	104.414	104.414	104.414	103.934	103.040	102.164	101.326	100.605
6/22/2007	6/22/2017	9/22/2011	4.500	126.911	124.813	119.449	114.480	110.272	106.831	104.133	102.134
6/26/2007	6/26/2012	9/26/2011	5.130	104.717	104.717	104.717	104.224	103.312	102.417	101.558	100.790
6/28/2007	6/28/2017	9/28/2011	4.500	126.986	124.850	119.469	114.490	110.275	106.827	104.124	102.118
7/13/2007	7/13/2012	10/13/2011	4.690	104.533	104.533	104.533	104.003	103.047	102.114	101.239	100.525
7/13/2007	7/13/2017	10/13/2011	4.900	129.589	127.302	121.755	116.584	112.152	108.468	105.500	103.202
7/13/2007	7/13/2017	10/13/2011	4.290	125.905	123.704	118.387	113.498	109.399	106.089	103.540	101.707
7/18/2007	7/18/2017	10/18/2011	4.780	128.931	126.623	121.107	115.980	111.602	107.982	105.084	102.872
7/19/2007	7/19/2012	10/19/2011	4.890	104.808	104.808	104.808	104.264	103.291	102.339	101.438	100.669
7/20/2007	7/20/2017	10/20/2011	4.290	125.989	123.740	118.408	113.509	109.401	106.083	103.527	101.686
7/23/2007	7/23/2012	10/24/2011	5.050	105.022	105.022	105.022	104.468	103.483	102.519	101.602	100.800
7/27/2007	7/27/2012	10/27/2011	4.590	104.615	104.615	104.615	104.053	103.060	102.092	101.192	100.468

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
7/27/2007	7/28/2014	10/27/2011	4.350	113.206	113.206	112.517	109.452	106.640	104.251	102.352	100.980
7/27/2007	7/27/2017	10/27/2011	4.250	125.829	123.540	118.208	113.321	109.226	105.928	103.398	101.577
7/30/2007	1/30/2019	10/31/2011	3.990	130.268	124.316	118.379	113.145	108.868	105.505	102.983	101.225
7/31/2007	7/31/2017	10/31/2011	3.990	124.293	122.027	116.810	112.054	108.115	104.999	102.655	101.042
7/31/2007	7/31/2017	10/31/2011	3.990	124.293	122.027	116.810	112.054	108.115	104.999	102.655	101.042
7/31/2007	7/31/2017	10/31/2011	4.060	124.719	122.439	117.192	112.397	108.415	105.248	102.851	101.170
8/2/2007	8/4/2014	11/2/2011	4.490	113.719	113.719	113.006	109.915	107.074	104.645	102.703	101.270
8/2/2007	8/2/2017	11/2/2011	4.150	125.290	122.985	117.698	112.866	108.841	105.627	103.186	101.453
8/2/2007	8/2/2017	11/2/2011	4.050	124.681	122.392	117.152	112.371	108.408	105.267	102.898	101.247
8/6/2007	8/6/2012	8/8/2011	4.490	104.639	104.639	104.639	104.053	103.032	102.039	101.136	100.426
8/9/2007	8/11/2014	8/9/2011	4.860	114.944	114.944	114.205	111.070	108.154	105.602	103.499	101.881
8/9/2007	8/9/2017	8/9/2011	3.990	124.393	122.063	116.841	112.084	108.148	105.043	102.713	101.108
8/13/2007	8/13/2012	8/15/2011	4.590	104.832	104.832	104.832	104.227	103.185	102.170	101.237	100.491
8/16/2007	8/16/2017	8/16/2011	3.990	124.470	122.089	116.858	112.091	108.146	105.033	102.695	101.084
8/17/2007	8/17/2012	8/17/2011	4.350	104.628	104.628	104.628	104.013	102.961	101.940	101.024	100.318
8/17/2007	8/17/2012	8/17/2011	4.150	104.415	104.415	104.415	103.801	102.750	101.735	100.843	100.204
8/17/2007	8/17/2017	8/17/2011	4.000	124.543	122.152	116.915	112.141	108.189	105.067	102.720	101.098
8/20/2007	8/20/2014	8/22/2011	4.250	113.174	113.174	112.405	109.268	106.381	103.934	101.986	100.568
8/24/2007	8/24/2012	8/24/2011	4.050	104.387	104.387	104.387	103.755	102.685	101.654	100.760	100.159
8/28/2007	8/28/2014	8/29/2011	4.350	113.581	113.581	112.785	109.640	106.768	104.332	102.402	100.997
8/30/2007	8/30/2012	8/30/2011	4.390	104.829	104.829	104.829	104.180	103.090	102.031	101.076	100.335
8/30/2007	9/2/2014	8/30/2011	3.890	112.199	112.199	111.388	108.273	105.494	103.220	101.525	100.402
8/31/2007	8/31/2012	8/31/2011	4.370	104.819	104.819	104.819	104.168	103.075	102.014	101.059	100.321
9/4/2007	9/4/2012	9/6/2011	4.220	104.700	104.700	104.700	104.038	102.935	101.873	100.945	100.282
9/4/2007	9/5/2017	9/6/2011	3.890	124.073	121.579	116.381	111.656	107.772	104.731	102.472	100.956
9/7/2007	9/7/2012	9/7/2011	4.090	104.590	104.590	104.590	103.919	102.809	101.744	100.831	100.199
9/10/2007	9/11/2017	9/12/2011	3.690	122.897	120.408	115.303	110.687	106.934	104.036	101.954	100.637
9/11/2007	9/11/2017	9/12/2011	3.590	122.276	119.814	114.760	110.205	106.523	103.705	101.714	100.495
9/12/2007	9/12/2014	9/12/2011	3.690	111.674	111.674	110.828	107.714	104.980	102.797	101.223	100.278
9/13/2007	9/15/2014	9/13/2011	3.990	112.656	112.656	111.797	108.642	105.822	103.502	101.753	100.597
9/13/2007	9/13/2017	9/13/2011	3.990	124.781	122.210	116.946	112.154	108.194	105.069	102.723	101.106
9/14/2007	9/14/2011	9/14/2011	4.090	100.511	100.511	100.511	100.477	100.354	100.232	100.110	99.988
9/14/2007	9/14/2012	9/14/2011	4.390	105.012	105.012	105.012	104.319	103.187	102.093	101.117	100.390
9/17/2007	9/17/2012	9/19/2011	4.220	104.853	104.853	104.853	104.152	103.013	101.917	100.961	100.275
9/27/2007	9/29/2014	9/27/2010	4.490	114.417	114.417	113.499	110.203	106.998	103.905	100.919	98.036
9/27/2007	9/27/2017	9/27/2011	3.650	122.811	120.235	115.113	110.501	106.759	103.874	101.817	100.530
9/28/2007	9/28/2012	9/28/2011	3.850	104.545	104.545	104.545	103.814	102.647	101.545	100.625	100.052
10/3/2007	10/3/2012	10/3/2011	3.830	104.574	104.574	104.574	103.828	102.649	101.545	100.639	100.075
10/9/2007	10/9/2012	10/9/2009	4.400	105.329	105.329	105.329	104.560	103.357	102.174	101.009	99.863
10/11/2007	10/14/2014	10/11/2011	4.180	113.596	113.596	112.622	109.378	106.463	104.039	102.158	100.855
10/11/2007	10/11/2017	10/11/2011	3.990	125.091	122.345	117.033	112.215	108.239	105.102	102.748	101.129
10/15/2007	10/16/2017	10/17/2011	3.990	125.146	122.365	117.045	112.221	108.240	105.099	102.739	101.113
10/22/2007	10/22/2012	10/24/2011	3.990	104.976	104.976	104.976	104.168	102.936	101.774	100.797	100.132
10/25/2007	10/27/2014	10/25/2011	4.360	114.339	114.339	113.310	110.015	107.032	104.517	102.531	101.087
10/26/2007	10/26/2017	10/26/2011	3.390	121.459	118.784	113.772	109.302	105.739	103.075	101.247	100.172
10/29/2007	10/29/2012	10/31/2011	3.990	105.054	105.054	105.054	104.223	102.972	101.794	100.802	100.123
11/2/2007	11/3/2014	11/2/2011	3.990	113.199	113.199	112.146	108.880	105.984	103.616	101.835	100.650
11/2/2007	11/3/2014	11/2/2011	4.190	113.861	113.861	112.805	109.515	106.568	104.123	102.225	100.906
11/5/2007	11/5/2014	8/5/2011	3.990	113.222	113.222	112.160	108.889	105.989	103.616	101.830	100.637
11/5/2007	11/6/2017	11/5/2012	4.390	127.923	124.907	119.374	114.316	110.074	106.614	103.841	101.598
11/6/2007	11/6/2017	8/8/2011	3.480	122.135	119.363	114.299	109.773	106.146	103.406	101.508	100.370
11/9/2007	11/10/2014	11/9/2011	4.330	114.408	114.408	113.321	109.997	107.003	104.491	102.515	101.091
11/13/2007	11/14/2011	8/15/2011	3.760	101.107	101.107	101.107	101.004	100.715	100.427	100.141	99.985
11/13/2007	11/13/2012	8/15/2011	3.680	104.814	104.814	104.814	103.933	102.649	101.471	100.545	100.065
11/13/2007	11/13/2014	8/15/2011	3.350	111.175	111.175	110.090	106.895	104.186	102.123	100.731	100.084
11/19/2007	11/19/2014	8/19/2011	3.750	112.572	112.572	111.454	108.181	105.323	103.032	101.373	100.330
11/19/2007	11/19/2014	8/19/2011	3.750	112.572	112.572	111.454	108.181	105.323	103.032	101.373	100.330
11/19/2007	11/19/2014	11/21/2011	4.270	114.315	114.315	113.190	109.850	106.850	104.342	102.379	100.973
11/19/2007	11/20/2017	11/19/2012	4.290	127.454	123.695	117.119	111.310	106.951	103.923	101.743	100.055
11/20/2007	11/20/2017	8/22/2011	3.740	123.934	120.978	115.750	111.041	107.208	104.237	102.082	100.674
11/23/2007	11/24/2017	11/23/2011	3.990	125.579	121.791	115.211	108.847	103.651	101.093	100.271	99.916
11/23/2007	11/24/2017	11/23/2011	3.990	125.579	121.791	115.211	108.847	103.651	101.093	100.271	99.916
11/29/2007	11/29/2017	8/29/2011	2.950	118.952	116.218	111.490	107.312	104.101	101.832	100.451	99.920
11/30/2007	11/30/2017	8/30/2011	3.190	120.503	117.666	112.770	108.418	104.997	102.500	100.843	100.074
12/7/2007	12/7/2012	9/7/2011	3.450	104.743	104.743	104.743	103.779	102.440	101.250	100.386	99.979
12/10/2007	12/11/2017	9/12/2011	3.450	122.279	119.282	114.210	109.674	106.052	103.324	101.432	100.329
12/11/2007	12/11/2012	9/12/2011	3.760	105.211	105.211	105.211	104.231	102.872	101.631	100.644	100.067
12/20/2007	12/20/2012	12/21/2009	3.750	105.291	105.291	105.291	104.277	102.882	101.511	100.165	98.843
12/20/2007	12/20/2012	9/20/2011	3.600	105.080	105.080	105.080	104.067	102.689	101.450	100.502	100.001

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
12/24/2007	12/26/2017	12/24/2012	3.990	125.933	121.855	115.277	109.763	105.806	103.070	101.064	99.416
12/26/2007	12/26/2012	9/26/2011	3.960	105.654	105.654	105.654	104.616	103.213	101.916	100.854	100.156
12/26/2007	12/26/2012	9/26/2011	3.460	104.940	104.940	104.940	103.906	102.519	101.286	100.392	99.940
1/2/2008	1/2/2013	10/3/2011	3.490	105.050	105.050	105.050	103.990	102.588	101.349	100.450	99.966
1/3/2008	1/5/2015	10/3/2011	3.650	112.713	112.713	111.390	108.041	105.160	102.890	101.277	100.301
1/4/2008	1/4/2018	10/4/2011	3.360	121.922	118.824	113.772	109.284	105.723	103.073	101.269	100.231
1/7/2008	1/7/2013	10/7/2011	2.990	104.368	104.368	104.368	103.293	101.907	100.776	100.083	99.785
1/7/2008	1/7/2013	10/7/2011	3.590	105.245	105.245	105.245	104.165	102.744	101.480	100.527	99.998
1/7/2008	1/7/2015	10/7/2011	3.490	112.175	112.175	110.847	107.523	104.694	102.511	100.990	100.125
1/7/2008	1/8/2018	10/7/2011	2.590	116.927	114.168	109.687	105.787	102.922	101.056	100.089	99.722
1/8/2008	1/8/2013	10/11/2011	3.150	104.611	104.611	104.611	103.530	102.130	100.953	100.184	99.811
1/8/2008	1/8/2018	10/11/2011	2.570	116.796	114.048	109.583	105.701	102.857	101.012	100.067	99.698
1/8/2008	1/8/2018	10/11/2011	2.640	117.254	114.467	109.943	106.000	103.083	101.162	100.126	99.718
1/11/2008	1/11/2018	10/11/2011	2.720	117.799	114.953	110.357	106.343	103.345	101.333	100.213	99.742
1/14/2008	1/16/2018	10/14/2011	3.240	121.247	118.121	113.130	108.715	105.241	102.694	100.989	100.072
1/16/2008	1/16/2013	10/17/2011	2.690	103.997	103.997	103.997	102.890	101.515	100.466	99.937	99.673
1/16/2008	1/16/2013	10/17/2011	2.550	103.789	103.789	103.789	102.684	101.327	100.347	99.878	99.641
1/16/2008	1/16/2015	10/17/2011	2.640	109.276	109.276	107.948	104.822	102.408	100.806	100.011	99.675
1/16/2008	1/16/2018	10/17/2011	2.380	115.607	112.928	108.629	104.909	102.263	100.635	99.919	99.613
1/17/2008	1/17/2018	10/17/2011	2.250	114.761	112.162	107.987	104.389	101.889	100.440	99.837	99.577
1/18/2008	1/18/2013	10/18/2011	2.550	103.803	103.803	103.803	102.691	101.330	100.347	99.876	99.636
1/18/2008	1/20/2015	10/18/2011	2.350	108.283	108.283	106.962	103.941	101.725	100.404	99.844	99.593
1/18/2008	1/18/2018	10/18/2011	2.290	115.030	112.399	108.183	104.545	101.999	100.495	99.858	99.582
1/24/2008	1/24/2012	10/24/2011	2.440	101.200	101.200	101.200	100.985	100.505	100.078	99.812	99.582
1/24/2008	1/24/2013	10/24/2011	2.500	103.770	103.770	103.770	102.636	101.271	100.304	99.843	99.597
1/25/2008	1/25/2013	1/26/2009	2.250	103.400	103.400	103.400	102.258	100.783	99.336	97.917	96.525
1/25/2008	1/25/2013	10/25/2011	2.650	104.004	104.004	104.004	102.860	101.380	99.928	98.505	97.108
1/28/2008	1/28/2013	10/28/2011	2.990	104.543	104.543	104.543	103.385	101.893	100.430	98.995	97.587
1/30/2008	1/30/2013	10/31/2011	2.670	104.071	104.071	104.071	102.911	101.508	100.446	100.001	99.996
2/7/2008	2/7/2013	8/8/2011	2.490	103.852	103.852	103.852	102.665	101.281	100.312	99.985	99.964
2/13/2008	2/13/2013	8/15/2011	2.920	104.566	104.566	104.566	103.348	101.889	100.727	100.088	99.950
2/14/2008	2/14/2018	2/14/2012	3.190	121.176	116.672	109.984	104.382	101.586	100.543	99.918	99.380
2/19/2008	2/19/2013	2/19/2010	2.590	104.093	104.093	104.093	102.850	101.299	99.779	98.289	96.828
2/25/2008	2/25/2013	8/25/2011	3.090	104.935	104.935	104.935	103.664	102.089	100.545	99.032	97.549
2/25/2008	2/26/2018	8/25/2011	2.420	116.145	113.206	108.859	105.083	102.378	100.684	100.000	99.882
3/7/2008	3/9/2015	9/7/2011	2.890	110.572	110.572	108.998	105.718	103.113	101.289	100.251	99.880
3/7/2008	3/7/2018	3/7/2013	3.550	123.773	120.191	114.959	110.296	106.524	103.518	101.087	99.031
3/10/2008	3/11/2013	9/12/2011	2.390	103.910	103.910	103.910	102.600	101.179	100.240	99.909	99.788
3/12/2008	3/12/2013	9/12/2011	2.010	103.294	103.294	103.294	101.998	100.686	100.022	99.858	99.742
3/14/2008	3/14/2018	9/14/2011	2.400	116.118	113.117	108.780	105.021	102.341	100.677	99.985	99.781
3/17/2008	3/18/2013	9/19/2011	2.690	104.453	104.453	104.453	103.107	101.611	100.496	99.977	99.793
3/17/2008	3/17/2015	9/17/2011	2.620	109.642	109.642	107.941	104.265	100.722	97.320	94.051	90.909
3/17/2008	3/19/2018	3/18/2013	3.300	122.209	118.660	113.575	109.074	105.478	102.642	100.327	98.358
3/25/2008	3/27/2023	3/25/2013	3.150	126.100	114.796	108.376	104.870	102.551	100.708	99.059	97.489
3/26/2008	3/26/2018	3/26/2012	2.980	120.113	115.258	108.527	103.608	101.422	100.428	99.736	99.102
3/28/2008	3/28/2013	9/28/2011	2.820	104.747	104.747	104.747	103.350	101.694	100.073	98.486	96.931
3/28/2008	3/28/2013	9/28/2011	2.800	104.713	104.713	104.713	103.316	101.661	100.040	98.453	96.899
3/28/2008	3/28/2018	9/28/2011	2.770	118.711	115.400	110.700	106.604	103.524	101.430	100.249	99.792
3/28/2008	3/28/2018	9/28/2011	2.020	113.644	110.879	106.916	103.527	101.290	100.135	99.808	99.643
4/14/2008	4/14/2015	10/14/2011	2.750	110.334	110.334	108.480	104.720	101.098	97.622	94.285	91.080
4/28/2008	4/28/2015	10/28/2011	3.250	112.340	112.340	110.494	107.027	104.172	102.040	100.648	99.922
4/28/2008	4/30/2018	10/28/2011	2.150	114.720	111.690	107.561	104.029	101.625	100.290	99.756	99.492
4/30/2008	4/30/2018	4/30/2013	3.740	125.607	120.401	113.838	108.775	105.211	102.522	100.365	98.494
5/2/2008	5/4/2015	11/2/2011	3.990	115.216	115.216	113.294	109.651	106.494	103.947	102.031	100.754
5/5/2008	5/5/2015	8/5/2011	3.170	112.098	112.098	110.227	106.780	103.971	101.901	100.589	100.040
5/8/2008	5/8/2015	8/8/2011	2.960	111.321	111.321	109.456	106.070	103.373	101.460	100.320	99.974
5/19/2008	5/19/2015	5/21/2012	4.700	118.120	118.120	116.042	112.056	108.253	104.868	101.999	99.407
5/23/2008	5/23/2013	8/23/2011	4.040	107.429	107.429	107.429	105.782	103.999	102.413	101.150	100.289
5/23/2008	5/23/2018	8/23/2011	3.270	122.597	118.653	113.523	109.003	105.443	102.823	101.055	100.162
5/27/2008	5/28/2013	5/27/2011	3.490	106.466	106.466	106.466	104.802	102.970	101.179	99.428	97.716
5/29/2008	5/29/2018	5/31/2011	3.460	123.968	118.505	111.484	104.769	98.503	92.663	87.219	82.140
6/6/2008	6/6/2013	9/6/2011	3.990	107.492	107.492	107.492	105.783	103.918	102.095	100.312	98.570
6/10/2008	6/11/2012	6/10/2010	3.940	103.458	103.458	103.458	102.998	102.133	101.283	100.447	99.624
6/16/2008	6/17/2013	9/16/2011	4.070	107.766	107.766	107.766	106.008	104.111	102.257	100.445	98.674
6/24/2008	6/24/2015	9/26/2011	3.830	115.149	115.149	112.963	109.255	106.084	103.554	101.701	100.515
6/30/2008	7/1/2013	9/30/2011	2.920	105.685	105.685	105.685	103.898	102.165	100.841	100.068	99.788
6/30/2008	7/1/2013	9/30/2011	3.450	106.717	106.717	106.717	104.914	103.096	101.584	100.509	99.961
6/30/2008	6/30/2015	9/30/2011	3.370	113.385	113.385	111.209	107.611	104.640	102.399	100.858	100.039
6/30/2008	7/2/2018	9/30/2011	3.690	125.910	120.123	112.971	106.126	99.744	93.800	88.262	83.100

As of: 7/31/2011 **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
7/1/2008	7/1/2015	10/1/2011	4.600	118.284	118.284	115.954	111.850	107.894	104.104	100.471	96.988
7/7/2008	7/8/2013	10/7/2011	4.590	109.026	109.026	109.026	107.170	105.204	103.285	101.410	99.579
7/8/2008	7/8/2013	10/8/2011	4.250	108.358	108.358	108.358	106.506	104.547	102.634	100.766	98.941
7/10/2008	7/10/2014	7/10/2012	4.800	114.333	114.333	113.699	110.627	107.650	104.877	102.368	100.084
7/11/2008	7/11/2018	7/11/2012	3.750	126.425	120.551	113.415	107.615	103.962	101.865	100.515	99.475
7/14/2008	7/14/2015	7/15/2013	4.900	119.653	119.653	117.241	113.151	109.444	106.010	102.463	98.821
7/14/2008	7/16/2018	10/14/2011	2.500	117.651	113.937	109.408	105.511	102.691	100.886	100.016	99.664
7/14/2008	7/16/2018	10/14/2011	3.250	122.947	118.697	113.518	108.981	105.422	102.811	101.058	100.095
7/17/2008	7/17/2018	7/17/2013	3.750	126.488	120.561	114.074	109.115	105.465	102.622	100.283	98.223
7/21/2008	7/22/2013	10/21/2011	3.000	106.016	106.016	106.016	104.121	102.152	100.569	99.980	99.725
8/15/2008	8/15/2018	8/15/2011	3.830	127.361	122.579	116.967	111.984	107.934	104.787	102.466	100.922
8/19/2008	8/19/2013	8/19/2010	3.440	107.166	107.166	107.166	105.143	103.087	101.082	99.127	97.218
9/8/2008	9/9/2013	9/8/2011	2.890	106.189	106.189	106.189	104.111	102.251	100.873	100.099	99.869
5/13/2009	5/13/2014	5/13/2013	4.000	111.299	111.299	110.835	107.994	105.227	102.112	98.531	94.912
9/28/2009	9/30/2013	9/28/2012	2.920	106.423	106.423	106.423	104.138	101.488	98.958	96.918	95.354
5/11/2010	5/11/2015	5/11/2015	3.700	114.182	114.182	112.162	107.926	103.497	98.639	93.441	87.983
5/24/2010	5/26/2015	8/24/2011	2.250	108.718	108.718	106.634	102.795	99.105	95.568	93.292	92.949
6/15/2010	6/15/2015	9/15/2011	2.280	108.961	108.961	106.762	102.867	99.126	98.705	95.542	94.361