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: 5/31/2009 **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	8/27/2009	6.580	118.314	118.262	115.794	112.948	110.253	107.797	105.611	103.746
4/8/1998	4/8/2013	7/8/2009	5.490	121.471	119.397	115.534	111.941	108.783	106.101	103.902	102.191
8/19/1998	8/19/2013	8/19/2009	5.490	123.499	120.391	116.233	112.428	109.116	106.320	104.037	102.261
8/19/1998	8/19/2013	8/19/2009	5.490	123.499	120.391	116.233	112.428	109.116	106.320	104.037	102.261
8/25/1998	8/19/2013	7/27/2009	5.490	123.499	120.389	116.231	112.423	109.106	106.307	104.021	102.245
8/27/1998	8/19/2013	7/27/2009	5.490	123.499	120.388	116.229	112.421	109.103	106.304	104.017	102.241
9/30/1998	9/30/2013	6/30/2009	5.220	122.953	119.528	115.344	111.559	108.299	105.584	103.410	101.762
12/14/1998	12/16/2013	3/16/2009	5.390	124.783	120.764	116.392	112.448	109.051	106.217	103.921	102.161
12/14/1998	12/16/2013	6/15/2009	4.890	122.477	118.532	114.291	110.534	107.361	104.766	102.745	101.270
12/14/1998	12/16/2013	6/15/2009	5.390	124.783	120.764	116.392	112.448	109.051	106.217	103.921	102.161
12/15/1998	12/16/2013	6/15/2009	4.880	122.431	118.487	114.249	110.494	107.325	104.736	102.720	101.251
6/7/1999	6/8/2009	6/8/2009	5.700	100.127	100.127	100.127	100.121	100.099	100.077	100.055	100.032
6/7/1999	6/8/2009	6/8/2009	6.040	100.134	100.134	100.134	100.129	100.107	100.084	100.062	100.040
7/1/1999	7/1/2009	7/1/2009	6.110	100.526	100.526	100.526	100.506	100.420	100.333	100.247	100.161
7/23/1999	7/23/2009	7/23/2009	5.400	100.795	100.795	100.795	100.759	100.611	100.464	100.317	100.170
9/8/1999	9/8/2009	6/8/2009	5.620	101.561	101.561	101.561	101.480	101.200	100.923	100.646	100.371
10/8/1999	10/8/2009	7/8/2009	5.580	102.015	102.015	102.015	101.888	101.525	101.164	100.806	100.450
11/1/1999	11/2/2009	8/3/2009	5.540	102.385	102.385	102.385	102.210	101.777	101.347	100.921	100.506
11/8/1999	11/9/2009	8/10/2009	5.960	102.682	102.682	102.682	102.490	102.036	101.587	101.142	100.702
11/9/1999	11/9/2009	8/10/2009	5.570	102.506	102.506	102.506	102.315	101.862	101.413	100.968	100.535
12/10/1999	12/10/2009	6/10/2009	5.710	103.061	103.061	103.061	102.794	102.254	101.720	101.192	100.684
12/17/1999	12/17/2009	6/17/2009	5.910	103.283	103.283	103.283	102.998	102.438	101.884	101.337	100.807
12/20/1999	12/21/2009	6/22/2009	5.810	103.292	103.292	103.292	102.997	102.426	101.862	101.304	100.766
12/22/1999	12/22/2009	6/22/2009	5.840	103.325	103.325	103.325	103.028	102.454	101.887	101.326	100.785
1/7/2000	1/7/2015	7/7/2009	5.950	131.188	125.756	120.575	115.958	111.983	108.630	105.871	103.665
1/13/2000	1/13/2010	7/13/2009	5.910	103.726	103.726	103.726	103.371	102.735	102.108	101.489	100.896
1/25/2000	1/25/2010	7/27/2009	5.970	103.963	103.963	103.963	103.575	102.906	102.246	101.594	100.970
1/27/2000	1/27/2010	7/27/2009	6.080	104.070	104.070	104.070	103.677	103.002	102.335	101.678	101.046
1/27/2000	1/27/2010	7/27/2009	6.210	104.157	104.157	104.157	103.763	103.088	102.421	101.764	101.128
2/7/2000	2/8/2010	8/7/2009	5.950	104.181	104.181	104.181	103.754	103.046	102.347	101.660	101.007
2/16/2000	2/8/2010	8/3/2009	5.950	104.181	104.181	104.181	103.754	103.046	102.347	101.660	101.009
2/16/2000	2/16/2010	8/17/2009	6.470	104.691	104.691	104.691	104.240	103.507	102.786	102.075	101.383
2/16/2000	2/16/2010	8/17/2009	6.690	104.850	104.850	104.850	104.399	103.666	102.943	102.232	101.538
3/6/2000	3/8/2010	6/8/2009	6.390	104.988	104.988	104.988	104.479	103.691	102.915	102.153	101.418
3/13/2000	3/15/2010	6/15/2009	6.090	104.872	104.872	104.872	104.344	103.537	102.743	101.964	101.225
3/14/2000	3/15/2010	8/14/2009	6.090	104.872	104.872	104.872	104.344	103.537	102.743	101.964	101.226
3/15/2000	3/15/2010	6/15/2009	5.950	104.760	104.760	104.760	104.233	103.426	102.633	101.855	101.124
3/21/2000	3/22/2010	6/22/2009	6.120	105.015	105.015	105.015	104.467	103.641	102.827	102.030	101.271
3/22/2000	3/22/2010	6/22/2009	5.960	104.884	104.884	104.884	104.336	103.511	102.698	101.902	101.153
4/5/2000	4/5/2010	7/6/2009	5.950	105.107	105.107	105.107	104.519	103.654	102.804	101.973	101.200
4/11/2000	4/12/2010	7/13/2009	5.950	105.223	105.223	105.223	104.614	103.729	102.860	102.012	101.221
4/11/2000	4/12/2010	7/13/2009	6.050	105.310	105.310	105.310	104.702	103.817	102.947	102.096	101.299
4/11/2000	4/12/2010	7/13/2009	6.470	105.679	105.679	105.679	105.069	104.183	103.311	102.457	101.638
4/11/2000	4/12/2010	7/13/2009	6.560	105.758	105.758	105.758	105.148	104.261	103.389	102.534	101.713
4/11/2000	4/12/2010	7/13/2009	6.750	105.925	105.925	105.925	105.315	104.427	103.554	102.698	101.872
4/12/2000	4/12/2010	7/13/2009	5.990	105.258	105.258	105.258	104.649	103.764	102.895	102.046	101.252
4/13/2000	4/13/2010	7/13/2009	6.560	105.776	105.776	105.776	105.163	104.273	103.399	102.541	101.718
4/24/2000	4/26/2010	7/24/2009	6.450	105.912	105.912	105.912	105.261	104.335	103.425	102.535	101.681
5/3/2000	5/3/2010	8/3/2009	6.240	105.841	105.841	105.841	105.169	104.225	103.297	102.392	101.538
5/3/2000	5/3/2010	8/3/2009	6.360	105.953	105.953	105.953	105.281	104.336	103.408	102.502	101.642
5/15/2000	5/17/2010	8/17/2009	6.990	106.815	106.815	106.815	106.098	105.110	104.141	103.192	102.278
5/30/2000	6/1/2010	8/31/2009	6.490	106.598	106.598	106.597	105.835	104.807	103.800	102.819	101.884
8/8/2000	8/9/2010	8/10/2009	5.990	107.238	107.238	107.195	106.140	104.924	103.739	102.606	101.589
8/18/2000	8/18/2010	8/18/2009	6.090	107.511	107.511	107.463	106.368	105.127	103.916	102.759	101.708
10/5/2000	10/5/2010	7/6/2009	5.710	107.803	107.803	107.726	106.428	105.058	103.732	102.499	101.431
10/10/2000	10/12/2010	7/10/2009	5.840	108.095	108.095	108.013	106.684	105.293	103.945	102.683	101.580
10/13/2000	10/13/2010	7/13/2009	5.750	107.986	107.986	107.904	106.571	105.178	103.830	102.574	101.483
10/23/2000	10/25/2010	7/23/2009	5.640	108.021	108.021	107.932	106.548	105.124	103.747	102.472	101.380
12/5/2000	12/6/2010	6/5/2009	5.410	108.325	108.325	108.191	106.636	105.102	103.636	102.316	101.219
12/11/2000	12/13/2010	6/11/2009	5.170	108.056	108.056	107.895	106.323	104.775	103.311	102.006	100.961
12/12/2000	12/13/2010	6/12/2009	5.110	107.963	107.963	107.801	106.230	104.684	103.223	101.927	100.897
12/15/2000	12/15/2010	6/15/2009	5.120	108.007	108.007	107.838	106.260	104.709	103.243	101.942	100.907
12/20/2000	12/20/2010	6/22/2009	4.950	107.810	107.810	107.622	106.032	104.471	103.006	101.727	100.738
12/21/2000	12/21/2010	6/22/2009	4.860	107.681	107.681	107.489	105.897	104.337	102.877	101.617	100.659
1/11/2001	1/11/2011	7/13/2009	5.370	108.800	108.800	108.529	106.873	105.248	103.716	102.355	101.246
1/12/2001	1/12/2011	7/13/2009	5.300	108.700	108.700	108.425	106.767	105.142	103.613	102.261	101.169
2/5/2001	2/7/2011	8/5/2009	4.820	108.261	108.261	107.884	106.157	104.482	102.949	101.643	100.674
2/7/2001	2/7/2011	8/7/2009	4.820	108.261	108.261	107.884	106.157	104.482	102.948	101.640	100.670
2/26/2001	2/28/2011	8/26/2009	4.790	108.489	108.489	108.030	106.246	104.523	102.949	101.620	100.636
2/26/2001	2/28/2011	8/26/2009	5.060	108.967	108.967	108.509	106.720	104.982	103.379	101.984	100.896
2/26/2001	2/28/2011	8/26/2009	5.450	109.658	109.658	109.199	107.404	105.652	104.005	102.550	101.352
2/27/2001	2/28/2011	8/27/2009	4.760	108.435	108.435	107.977	106.194	104.472	102.902	101.587	100.614
2/27/2001	2/28/2011	8/27/2009	5.020	108.896	108.896	108.438	106.649	104.914	103.316	101.932	100.859
3/1/2001	3/1/2011	9/1/2009	5.270	109.354	109.354	108.891	107.097	105.352	103.727	102.312	101.170
3/14/2001	3/14/2011	6/15/2009	4.860	108.802	108.802	108.289	106.464	104.704	103.100	101.741	100.725
4/23/2001	4/25/2011	4/24/2006	5.350	110.313	110.313	109.637	107.679	105.754	103.873	102.035	100.240
6/1/2001	6/1/2011	9/1/2009	4.990	110.132	110.132	109.310	107.261	105.306	103.551	102.066	100.942
12/13/2001	12/13/2011	6/15/2009	4.920	112.655	112.647	110.717	108.171	105.840	103.830	102.185	100.968
6/3/2002	6/4/2012	9/3/2009	4.490	113.719	113.591	110.578	107.738	105.259	103.235	101.676	100.617
6/4/2002	6/4/2012	9/4/2009	4.490	113.719	113.591	110.578	107.738	105.259	103.235	101.676	100.616
12/5/2002	12/5/2012	6/5/2009	3.790	113.517	112.408	109.089	106.164	103.780	101.980	100.748	100.115
3/6/2003	3/6/2013	6/8/2009	2.990	111.419	109.777	106.597	103.974	102.013	100.700	100.066	99.972
2/5/2004	4/26/2010	7/24/2009	6.200	105.683	105.683	105.683	105.045	104.120	103.211	102.325	101.489

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Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
2/5/2004	12/14/2010	6/15/2009	5.820	109.085	109.085	108.920	107.338	105.775	104.272	102.883	101.692
6/11/2004	6/11/2009	6/11/2009	3.750	100.115	100.115	100.115	100.107	100.077	100.046	100.016	99.985
6/18/2004	6/20/2011	6/18/2009	4.120	108.583	108.583	107.660	105.598	103.706	102.119	100.923	100.190
7/2/2004	7/2/2014	7/2/2009	3.990	119.607	115.195	111.057	107.568	104.783	102.657	101.173	100.293
8/5/2004	8/5/2009	8/5/2009	3.470	100.636	100.636	100.636	100.589	100.405	100.222	100.042	99.989
12/13/2004	12/15/2014	6/15/2009	3.320	116.575	112.301	108.428	105.302	102.932	101.270	100.270	99.962
12/17/2004	12/17/2009	6/17/2009	3.710	102.061	102.061	102.061	101.784	101.228	100.681	100.210	99.978
5/5/2005	5/5/2010	5/5/2006	4.190	103.945	103.945	103.945	103.283	102.342	101.436	100.653	100.128
5/17/2005	5/17/2010	8/17/2009	4.070	103.968	103.968	103.968	103.265	102.293	101.361	100.571	100.052
6/6/2005	6/7/2010	6/8/2009	3.890	104.019	104.019	104.015	103.236	102.209	101.244	100.467	100.049
7/18/2005	7/19/2010	7/20/2009	4.160	104.784	104.784	104.755	103.797	102.659	101.591	100.701	100.124
9/1/2005	9/1/2015	9/1/2009	4.130	122.075	116.982	112.377	108.553	105.502	103.169	101.507	100.455
9/19/2005	9/19/2012	6/19/2009	3.820	112.807	112.083	108.911	106.072	103.731	101.933	100.700	100.081
9/26/2005	9/26/2012	6/26/2009	3.890	113.117	112.351	109.152	106.278	103.897	102.058	100.774	100.104
9/30/2005	9/30/2015	6/30/2009	4.440	124.045	118.713	113.884	109.822	106.535	103.970	102.056	100.765
10/26/2005	10/26/2015	7/27/2009	4.540	124.760	119.341	114.433	110.289	106.927	104.281	102.294	100.923
10/28/2005	10/28/2015	7/28/2009	4.140	122.120	116.977	112.355	108.511	105.443	103.094	101.414	100.365
10/28/2005	10/28/2015	7/28/2009	4.310	123.153	117.903	113.171	109.209	106.021	103.547	101.737	100.561
11/4/2005	11/4/2010	8/4/2009	4.520	106.554	106.554	106.459	105.041	103.611	102.282	101.168	100.377
11/21/2005	11/21/2012	8/21/2009	4.290	115.133	114.044	110.658	107.587	104.995	102.916	101.386	100.391
1/6/2006	1/6/2016	7/6/2009	4.020	121.624	116.489	111.902	108.116	105.122	102.855	101.258	100.303
1/17/2006	1/19/2016	7/17/2009	4.080	122.030	116.834	112.194	108.355	105.307	102.988	101.340	100.333
3/20/2006	3/21/2011	6/21/2009	4.760	108.713	108.713	108.174	106.326	104.507	102.729	100.990	99.290
4/11/2006	4/11/2011	7/13/2009	4.980	109.406	109.406	108.785	106.878	105.043	103.371	101.953	100.865
4/19/2006	4/19/2013	7/20/2009	4.630	118.249	116.137	112.394	109.020	106.156	103.834	102.048	100.805
4/24/2006	4/25/2016	7/24/2009	4.440	124.653	119.087	114.119	109.965	106.614	104.003	102.060	100.747
4/28/2006	4/28/2011	7/28/2009	5.090	109.854	109.854	109.167	107.205	105.276	103.392	101.552	99.754
5/5/2006	5/6/2013	8/5/2009	4.780	119.066	116.829	113.025	109.583	106.651	104.248	102.381	101.041
5/5/2006	5/5/2016	8/5/2009	4.350	124.124	118.612	113.703	109.614	106.332	103.789	101.920	100.694
5/5/2006	5/5/2016	8/5/2009	4.530	125.287	119.658	114.625	110.408	106.994	104.318	102.308	100.936
5/5/2006	5/5/2016	8/5/2009	4.980	128.226	122.318	116.999	112.473	108.742	105.746	103.420	101.718
5/9/2006	5/9/2011	8/10/2009	5.050	109.931	109.931	109.201	107.214	105.307	103.575	102.108	100.973
5/15/2006	5/16/2016	8/17/2009	4.350	124.164	118.629	113.709	109.612	106.321	103.773	101.899	100.668
5/15/2006	5/16/2016	8/17/2009	4.520	125.267	119.620	114.580	110.361	106.947	104.275	102.264	100.890
5/19/2006	5/19/2016	8/19/2009	4.510	125.215	119.568	114.529	110.312	106.903	104.238	102.235	100.868
6/12/2006	6/13/2016	6/12/2009	4.620	126.049	120.297	115.160	110.853	107.355	104.601	102.512	101.055
6/26/2006	6/27/2016	6/26/2009	4.730	126.828	120.979	115.750	111.348	107.760	104.916	102.746	101.197
6/28/2006	6/28/2013	3/30/2009	4.950	120.473	117.826	113.875	110.300	107.241	104.716	102.727	101.261
6/28/2006	6/28/2013	6/29/2009	4.950	120.473	117.826	113.875	110.300	107.241	104.716	102.727	101.261
6/30/2006	7/1/2013	6/30/2009	4.890	120.265	117.601	113.660	110.101	107.062	104.565	102.601	101.164
7/14/2006	7/15/2013	7/14/2009	4.890	120.456	117.678	113.714	110.142	107.095	104.597	102.637	101.206
7/19/2006	7/19/2011	7/20/2009	5.250	111.360	111.360	110.267	108.081	106.000	104.119	102.517	101.262
7/20/2006	7/20/2011	7/20/2009	5.300	111.483	111.483	110.384	108.180	106.019	103.913	101.861	99.860
7/24/2006	7/25/2016	7/24/2009	4.660	126.494	120.649	115.439	111.068	107.518	104.714	102.589	101.092
7/28/2006	7/28/2016	7/28/2009	4.490	125.373	119.635	114.541	110.292	106.863	104.187	102.185	100.825
8/1/2006	8/1/2016	8/3/2009	4.890	128.084	122.086	116.729	112.196	108.482	105.517	103.235	101.578
8/11/2006	8/11/2011	8/11/2009	4.790	110.671	110.671	109.452	107.225	105.146	103.328	101.835	100.751
8/21/2006	8/21/2013	8/21/2009	4.750	120.358	117.358	113.355	109.784	106.763	104.305	102.412	101.057
8/25/2006	8/25/2016	8/25/2009	4.350	124.574	118.889	113.872	109.710	106.376	103.797	101.904	100.658
8/28/2006	8/29/2011	8/28/2009	4.890	111.138	111.138	109.825	107.548	105.424	103.560	102.026	100.881
9/22/2006	9/22/2011	6/22/2009	4.790	111.229	111.229	109.775	107.442	105.280	103.398	101.867	100.757
9/29/2006	9/29/2011	6/29/2009	4.590	110.850	110.850	109.358	107.019	104.874	103.028	101.569	100.543
10/10/2006	10/10/2013	7/10/2009	4.250	118.805	115.435	111.503	108.082	105.272	103.067	101.460	100.432
10/12/2006	10/15/2013	7/13/2009	4.500	119.974	116.522	112.503	108.969	106.026	103.678	101.909	100.705
10/20/2006	10/20/2009	7/20/2009	4.930	101.945	101.945	101.945	101.795	101.399	101.005	100.615	100.228
10/30/2006	10/31/2011	7/31/2009	4.850	111.895	111.895	110.216	107.729	105.301	102.942	100.648	98.418
11/3/2006	11/3/2011	8/3/2009	4.690	111.542	111.542	109.847	107.356	104.925	102.562	100.266	98.033
11/6/2006	11/6/2013	8/6/2009	4.290	119.304	115.722	111.740	108.275	105.425	103.188	101.550	100.494
11/10/2006	11/13/2012	8/10/2009	4.390	115.389	114.340	110.961	107.877	105.252	103.142	101.561	100.517
11/17/2006	11/18/2013	8/17/2009	4.350	119.719	116.033	112.008	108.500	105.607	103.326	101.642	100.538
11/24/2006	11/25/2016	8/24/2009	4.190	123.857	118.172	113.194	109.105	105.863	103.379	101.601	100.466
11/30/2006	12/2/2013	8/31/2009	4.350	119.879	116.149	112.103	108.584	105.685	103.410	101.722	100.612
12/1/2006	12/1/2016	9/1/2009	4.090	123.221	117.621	112.723	108.719	105.563	103.163	101.469	100.403
12/4/2006	12/5/2016	9/4/2009	4.080	123.166	117.568	112.674	108.672	105.522	103.130	101.440	100.381
12/5/2006	12/5/2016	12/7/2009	4.260	124.391	118.644	113.607	109.461	106.161	103.624	101.783	100.510
12/6/2006	12/6/2013	12/7/2009	4.400	120.139	116.334	112.268	108.724	105.797	103.482	101.759	100.543
12/8/2006	12/8/2016	6/8/2009	3.990	122.564	117.035	112.208	108.277	105.201	102.885	101.262	100.282
12/11/2006	12/11/2009	6/11/2009	4.690	102.527	102.527	102.527	102.262	101.721	101.186	100.668	100.228
12/12/2006	12/12/2016	6/12/2009	3.990	122.574	117.039	112.208	108.273	105.192	102.875	101.250	100.273
12/12/2006	12/12/2016	6/12/2009	4.050	122.980	117.394	112.515	108.531	105.402	103.032	101.360	100.317
12/13/2006	12/14/2009	6/15/2009	4.830	102.643	102.643	102.643	102.366	101.817	101.273	100.741	100.270
12/19/2006	12/19/2011	6/19/2009	4.490	111.624	111.613	109.652	107.133	104.874	102.971	101.501	100.491
12/19/2006	12/19/2016	6/19/2009	4.190	123.953	118.240	113.238	109.137	105.887	103.397	101.613	100.464
12/20/2006	12/20/2013	6/22/2009	4.500	120.712	116.819	112.696	109.089	106.097	103.717	101.923	100.706
12/21/2006	12/21/2011	6/22/2009	4.530	111.752	111.740	109.765	107.237	104.967	103.050	101.560	100.531
12/27/2006	12/27/2013	6/29/2009	4.500	120.769	116.843	112.708	109.094	106.094	103.709	101.910	100.689
12/28/2006	12/28/2016	6/29/2009	4.250	124.394	118.614	113.552	109.393	106.089	103.549	101.715	100.518
12/28/2006	12/28/2016	6/29/2009	4.400	125.432	119.529	114.348	110.070	106.643	103.989	102.030	100.724
1/8/2007	1/9/2012	7/8/2009	4.750	112.574	112.551	110.462	107.877	105.541	103.558	101.974	100.832
1/12/2007	1/12/2017	7/13/2009	4.420	125.650	119.714	114.509	110.208	106.763	104.094	102.118	100.794
1/16/2007	1/17/2017	1/17/2012	4.790	128.262	122.040	116.539	111.860	107.883	104.433	101.363	98.568
1/23/2007	1/23/2014	7/23/2009	4.490	120.942	116.901	112.734	109.104	106.097	103.708	101.910	100.686
1/23/2007	1/23/2017	7/23/2009	4.460	125.973	119.982	114.732	110.386	106.901	104.194	102.181	100.821

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
1/29/2007	1/29/2014	7/29/2009	4.790	122.414	118.326	114.050	110.282	107.120	104.552	102.576	101.154
2/2/2007	2/2/2017	8/3/2009	4.690	128.061	121.787	116.273	111.693	107.995	105.083	102.888	101.338
2/9/2007	2/9/2012	8/10/2009	4.750	112.983	112.942	110.638	107.985	105.597	103.578	101.962	100.806
2/9/2007	2/9/2017	8/10/2009	4.470	126.135	120.113	114.843	110.481	106.986	104.272	102.248	100.878
2/12/2007	2/13/2012	8/12/2009	4.880	113.392	113.349	111.015	108.338	105.918	103.849	102.182	100.955
2/15/2007	2/15/2012	8/17/2009	4.990	113.722	113.678	111.338	108.649	106.211	104.107	102.412	101.142
2/20/2007	2/21/2017	8/20/2009	4.390	125.630	119.642	114.416	110.107	106.667	104.011	102.046	100.745
2/20/2007	2/21/2017	2/21/2012	4.850	127.451	120.620	115.105	110.559	106.785	103.550	100.663	97.997
2/23/2007	2/23/2017	8/24/2009	4.250	124.656	118.780	113.664	109.470	106.141	103.589	101.743	100.554
2/23/2007	2/23/2017	8/24/2009	4.350	125.358	119.396	114.199	109.923	106.513	103.885	101.955	100.685
2/28/2007	3/1/2010	6/1/2009	4.890	103.722	103.722	103.722	103.236	102.472	101.720	100.978	100.248
3/2/2007	3/2/2012	9/2/2009	4.490	112.546	112.493	110.061	107.400	105.048	103.084	101.582	100.559
3/9/2007	3/10/2014	6/9/2009	4.450	121.128	116.911	112.702	109.053	106.043	103.665	101.885	100.691
3/16/2007	3/16/2017	6/16/2009	4.090	123.622	117.864	112.861	108.790	105.592	103.165	101.445	100.364
3/20/2007	3/20/2012	6/22/2009	4.550	112.942	112.878	110.334	107.627	105.230	103.243	101.691	100.625
3/21/2007	3/21/2017	6/22/2009	4.220	124.549	118.668	113.548	109.365	106.052	103.514	101.692	100.509
3/23/2007	3/23/2017	6/23/2009	4.290	125.053	119.103	113.926	109.679	106.306	103.714	101.832	100.597
3/23/2007	3/23/2017	6/23/2009	4.290	125.053	119.103	113.926	109.679	106.306	103.714	101.832	100.597
3/30/2007	3/30/2012	6/30/2009	4.670	113.413	113.343	110.683	107.780	104.959	102.229	99.585	97.025
4/2/2007	4/2/2012	7/2/2009	4.590	113.221	113.150	110.512	107.770	105.347	103.325	101.753	100.664
4/9/2007	4/10/2017	7/9/2009	4.150	124.145	118.301	113.226	109.091	105.830	103.351	101.581	100.471
4/12/2007	4/12/2017	7/13/2009	4.250	124.859	118.920	113.758	109.537	106.194	103.629	101.778	100.583
4/13/2007	4/13/2017	7/13/2009	4.450	126.287	120.175	114.854	110.462	106.950	104.229	102.210	100.850
4/23/2007	4/23/2012	7/23/2009	4.650	113.665	113.581	110.811	108.020	105.549	103.494	101.877	100.738
4/23/2007	4/23/2014	4/23/2010	4.620	122.322	117.859	113.522	109.749	106.618	104.111	102.168	100.675
4/27/2007	4/27/2012	7/27/2009	4.550	113.422	113.336	110.536	107.745	105.288	103.252	101.671	100.585
4/27/2007	4/27/2017	7/27/2009	4.250	124.913	118.941	113.761	109.526	106.171	103.601	101.743	100.550
5/2/2007	5/2/2014	5/3/2010	4.590	122.250	117.764	113.433	109.675	106.562	104.077	102.143	100.645
5/4/2007	5/5/2014	8/4/2009	4.550	122.075	117.587	113.268	109.524	106.431	103.973	102.111	100.836
5/14/2007	5/16/2011	8/14/2009	4.500	108.937	108.937	108.181	106.189	104.311	102.659	101.347	100.439
5/18/2007	5/18/2017	8/18/2009	4.190	124.591	118.640	113.493	109.299	105.986	103.460	101.651	100.502
5/22/2007	5/22/2012	8/24/2009	4.690	114.161	114.060	111.092	108.230	105.700	103.598	101.931	100.756
5/22/2007	5/22/2012	8/24/2009	4.690	114.161	114.060	111.092	108.230	105.700	103.598	101.931	100.756
5/22/2007	5/22/2012	8/24/2009	4.710	114.221	114.120	111.151	108.286	105.751	103.641	101.966	100.778
5/22/2007	5/22/2017	5/22/2012	4.750	128.658	122.234	116.574	111.747	107.591	103.929	100.633	97.607
5/25/2007	5/25/2012	8/25/2009	4.650	114.079	113.976	110.992	108.130	105.604	103.513	101.862	100.712
5/29/2007	5/30/2017	8/31/2009	4.250	125.077	119.046	113.831	109.572	106.203	103.626	101.772	100.564
6/1/2007	6/1/2010	9/1/2009	4.990	105.073	105.073	105.072	104.314	103.295	102.301	101.368	100.599
6/1/2007	6/2/2014	9/1/2009	4.500	122.051	117.472	113.133	109.392	106.309	103.874	102.034	100.793
6/7/2007	6/7/2012	6/8/2009	4.940	115.135	114.988	111.931	109.001	106.397	104.188	102.420	101.107
6/7/2007	6/7/2017	6/8/2009	4.820	129.274	122.775	117.085	112.358	108.527	105.491	103.177	101.507
6/8/2007	6/9/2014	6/8/2009	4.730	123.250	118.584	114.144	110.282	107.071	104.491	102.503	101.090
6/8/2007	6/8/2017	6/8/2009	4.490	126.859	120.618	115.204	110.740	107.171	104.403	102.339	100.933
6/11/2007	6/12/2017	6/11/2009	4.490	126.876	120.628	115.208	110.740	107.167	104.395	102.330	100.925
6/18/2007	6/19/2017	6/18/2009	4.500	126.977	120.706	115.267	110.783	107.196	104.411	102.335	100.920
6/18/2007	6/19/2017	6/18/2009	4.840	129.483	122.939	117.212	112.454	108.595	105.537	103.198	101.511
6/19/2007	6/19/2017	6/19/2009	4.650	128.077	121.685	116.114	111.509	107.800	104.894	102.698	101.154
6/20/2007	6/20/2012	6/22/2009	4.890	115.158	114.937	111.848	108.899	106.281	104.078	102.313	101.018
6/20/2007	6/20/2012	6/22/2009	4.960	115.375	115.154	112.061	109.100	106.466	104.236	102.444	101.111
6/22/2007	6/22/2017	6/22/2009	4.500	126.988	120.710	115.265	110.778	107.189	104.403	102.327	100.910
6/26/2007	6/26/2012	6/26/2009	5.130	115.988	115.731	112.612	109.613	106.930	104.628	102.765	101.350
6/28/2007	6/28/2017	6/29/2009	4.500	127.012	120.721	115.268	110.774	107.181	104.390	102.312	100.894
7/13/2007	7/13/2012	7/13/2009	4.690	114.838	114.483	111.356	108.401	105.812	103.664	101.982	100.796
7/13/2007	7/13/2017	7/13/2009	4.290	125.565	119.436	114.152	109.826	106.408	103.786	101.885	100.640
7/13/2007	7/13/2017	7/13/2011	4.900	130.074	123.435	117.635	112.790	108.789	105.443	102.579	100.060
7/18/2007	7/18/2017	7/19/2010	4.780	129.203	122.648	116.935	112.198	108.368	105.333	102.959	101.081
7/19/2007	7/19/2012	7/20/2009	4.890	115.552	115.163	112.004	109.001	106.350	104.117	102.341	101.033
7/20/2007	7/20/2017	7/20/2009	4.290	125.592	119.447	114.153	109.821	106.398	103.773	101.868	100.625
7/24/2007	7/24/2012	7/24/2009	4.820	115.397	114.979	111.812	108.811	106.171	103.955	102.204	100.931
7/27/2007	7/27/2012	7/27/2009	4.590	114.700	114.266	111.112	108.149	105.570	103.446	101.798	100.653
7/27/2007	7/28/2014	7/27/2009	4.350	121.533	116.910	112.569	108.857	105.827	103.453	101.699	100.553
7/27/2007	7/27/2017	7/27/2009	4.180	124.817	118.758	113.547	109.310	105.974	103.438	101.622	100.475
7/27/2007	7/27/2017	7/27/2009	4.250	125.327	119.203	113.933	109.631	106.237	103.640	101.765	100.561
7/30/2007	1/30/2019	7/30/2009	3.990	125.939	119.097	113.471	109.041	105.645	103.117	101.370	100.318
7/31/2007	7/31/2017	7/31/2009	3.990	123.461	117.576	112.530	108.468	105.305	102.931	101.285	100.289
7/31/2007	7/31/2017	7/31/2009	3.990	123.461	117.576	112.530	108.468	105.305	102.931	101.285	100.289
7/31/2007	7/31/2017	7/31/2009	4.060	123.969	118.015	112.905	108.779	105.555	103.122	101.415	100.364
8/2/2007	8/4/2014	8/3/2009	4.490	122.296	117.619	113.219	109.435	106.327	103.874	102.030	100.780
8/2/2007	8/2/2017	8/3/2009	4.050	123.920	117.988	112.894	108.778	105.559	103.132	101.429	100.388
8/2/2007	8/2/2017	8/3/2009	4.150	124.648	118.618	113.438	109.229	105.920	103.413	101.625	100.505
8/6/2007	8/6/2012	8/6/2009	4.490	114.505	114.014	110.851	107.901	105.346	103.264	101.671	100.600
8/6/2007	8/6/2012	8/6/2009	4.490	114.505	114.014	110.851	107.901	105.346	103.264	101.671	100.600
8/9/2007	8/11/2014	8/9/2011	4.860	124.266	119.451	114.887	110.884	107.453	104.483	101.853	99.471
8/9/2007	8/9/2017	8/10/2009	3.990	123.511	117.623	112.573	108.506	105.337	102.958	101.300	100.302
8/9/2007	8/9/2017	8/10/2009	3.990	123.511	117.623	112.573	108.506	105.337	102.958	101.300	100.302
8/13/2007	8/13/2012	8/13/2009	4.590	114.917	114.387	111.196	108.210	105.613	103.485	101.831	100.693
8/16/2007	8/16/2017	8/17/2009	3.990	123.538	117.634	112.574	108.500	105.329	102.947	101.284	100.284
8/17/2007	8/17/2012	8/17/2009	4.150	113.533	112.984	109.834	106.942	104.502	102.554	101.134	100.253
8/17/2007	8/17/2012	8/17/2009	4.350	114.185	113.635	110.460	107.521	105.004	102.963	101.440	100.440
8/17/2007	8/17/2017	8/17/2009	4.000	123.615	117.699	112.628	108.545	105.363	102.972	101.302	100.292
8/20/2007	8/20/2010	8/20/2009	4.590	105.686	105.686	105.637	104.542	103.311	102.139	101.117	100.359
8/20/2007	8/20/2014	8/20/2009	4.250	121.027	116.402	112.042	108.327	105.324	102.980	101.233	100.259
8/20/2007	8/20/2014	8/20/2009	4.250	121.027	116.402	112.042	108.327	105.324	102.980	101.233	100.259

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
8/24/2007	8/24/2010	8/24/2009	4.460	105.575	105.575	105.523	104.412	103.173	102.001	100.989	100.267
8/24/2007	8/24/2012	8/24/2009	4.050	113.286	112.702	109.548	106.672	104.255	102.360	100.982	100.159
8/28/2007	8/28/2014	8/28/2009	4.350	121.694	117.016	112.640	108.906	105.858	103.474	101.719	100.563
8/30/2007	8/30/2012	8/31/2009	4.390	114.474	113.855	110.640	107.669	105.124	103.055	101.508	100.471
8/30/2007	9/2/2014	8/31/2009	3.890	119.303	114.814	110.659	107.191	104.439	102.378	100.935	100.164
8/31/2007	8/31/2012	8/31/2009	4.370	114.420	113.796	110.580	107.613	105.075	103.014	101.477	100.450
9/4/2007	9/4/2012	9/4/2009	4.190	113.873	113.229	110.033	107.108	104.640	102.668	101.225	100.304
9/4/2007	9/4/2012	9/4/2009	4.220	113.972	113.328	110.128	107.194	104.717	102.729	101.271	100.333
9/4/2007	9/5/2017	9/4/2009	3.890	122.909	117.082	112.096	108.104	105.011	102.721	101.136	100.235
9/6/2007	9/7/2010	6/8/2009	4.160	105.362	105.362	105.302	104.133	102.864	101.691	100.735	100.136
9/7/2007	9/7/2012	6/8/2009	4.090	113.576	112.916	109.727	106.825	104.387	102.469	101.073	100.227
9/10/2007	9/11/2017	6/10/2009	3.690	121.475	115.840	111.055	107.244	104.326	102.204	100.800	100.113
9/11/2007	9/13/2010	9/11/2009	4.430	105.783	105.783	105.720	104.524	103.233	102.023	100.993	100.265
9/11/2007	9/11/2017	6/11/2009	3.590	120.760	115.235	110.546	106.827	104.005	101.965	100.661	100.058
9/12/2007	9/12/2014	6/12/2009	3.690	118.281	113.894	109.852	106.510	103.892	101.956	100.681	100.071
9/13/2007	9/15/2014	9/14/2009	3.990	119.869	115.326	111.114	107.582	104.763	102.623	101.110	100.190
9/13/2007	9/13/2017	9/13/2010	3.990	123.658	117.715	112.624	108.534	105.340	102.871	100.927	99.322
9/13/2007	9/13/2017	9/13/2010	3.990	123.658	117.715	112.624	108.534	105.340	102.871	100.927	99.322
9/14/2007	9/14/2011	6/15/2009	4.090	109.497	109.497	108.097	105.837	103.811	102.144	100.902	100.171
9/14/2007	9/14/2012	9/14/2010	4.390	114.657	113.952	110.704	107.713	105.150	103.019	101.253	99.736
9/17/2007	9/17/2012	9/17/2009	4.220	114.125	113.404	110.173	107.216	104.718	102.721	101.251	100.302
9/27/2007	9/27/2010	6/29/2009	4.250	105.714	105.714	105.642	104.387	103.063	101.833	100.819	100.162
9/27/2007	9/29/2014	9/27/2010	4.490	122.422	116.894	111.699	107.600	104.735	102.643	101.014	99.612
9/27/2007	9/27/2017	6/29/2009	3.650	121.220	115.603	110.841	107.054	104.168	102.074	100.708	100.052
9/28/2007	9/28/2010	6/29/2009	4.290	105.779	105.779	105.707	104.448	103.120	101.885	100.860	100.178
9/28/2007	9/28/2012	6/29/2009	3.850	113.004	112.227	109.030	106.166	103.802	101.983	100.725	100.082
10/3/2007	10/3/2012	7/3/2009	3.830	112.989	112.185	108.988	106.132	103.782	101.980	100.740	100.080
10/9/2007	10/9/2012	10/9/2009	4.400	114.996	114.131	110.676	107.258	104.055	101.704	100.589	100.060
10/11/2007	10/14/2014	7/13/2009	4.180	120.985	116.318	111.987	108.323	105.369	103.087	101.444	100.409
10/11/2007	10/11/2017	7/13/2009	3.990	123.768	117.780	112.670	108.561	105.366	102.974	101.302	100.306
10/15/2007	10/16/2017	7/15/2009	3.990	123.786	117.788	112.671	108.558	105.360	102.965	101.294	100.299
10/22/2007	10/22/2012	7/22/2009	3.990	113.743	112.825	109.558	106.618	104.174	102.273	100.920	100.143
10/25/2007	10/27/2014	10/25/2011	4.360	122.008	117.234	112.788	108.941	105.637	102.730	100.107	97.685
10/26/2007	10/26/2017	7/27/2009	3.390	119.450	114.090	109.567	106.026	103.379	101.517	100.387	99.905
10/29/2007	10/29/2009	7/29/2009	4.250	101.783	101.783	101.783	101.616	101.195	100.778	100.367	100.037
10/29/2007	10/29/2012	10/29/2009	3.990	113.820	112.863	109.579	106.628	104.176	102.271	100.908	100.053
11/2/2007	11/3/2014	11/2/2009	3.990	120.049	115.444	111.199	107.641	104.809	102.653	101.135	100.157
11/2/2007	11/3/2014	11/2/2010	4.190	121.128	116.429	112.077	108.398	105.415	103.022	101.056	99.373
11/5/2007	11/5/2014	11/5/2009	3.990	120.058	115.448	111.200	107.639	104.806	102.649	101.129	100.147
11/5/2007	11/6/2017	11/5/2012	4.390	126.889	120.451	114.788	109.911	105.635	101.802	98.295	95.035
11/6/2007	11/6/2017	8/6/2009	3.480	120.150	114.676	110.061	106.424	103.689	101.742	100.534	99.951
11/8/2007	11/9/2009	8/10/2009	4.100	101.845	101.845	101.845	101.654	101.202	100.755	100.322	100.003
11/9/2007	11/10/2014	11/9/2011	4.330	121.918	117.138	112.697	108.851	105.537	102.614	99.968	97.520
11/13/2007	11/14/2011	8/13/2009	3.760	109.368	109.368	107.638	105.284	103.256	101.654	100.564	99.992
11/13/2007	11/13/2012	8/13/2009	3.680	112.900	111.873	108.627	105.771	103.458	101.714	100.566	99.979
11/13/2007	11/13/2014	8/13/2009	3.350	116.655	112.391	108.521	105.383	102.999	101.320	100.306	99.850
11/19/2007	11/19/2014	11/19/2009	3.750	118.823	114.310	110.179	106.762	104.079	102.091	100.740	99.881
11/19/2007	11/19/2014	11/21/2011	4.270	121.637	116.867	112.439	108.611	105.303	102.384	99.733	97.271
11/19/2007	11/20/2017	11/19/2012	4.290	124.663	118.599	113.089	108.425	104.379	100.748	97.390	94.250
11/20/2007	11/20/2017	11/22/2010	3.740	122.083	116.290	111.387	107.487	104.468	102.119	100.196	98.537
11/23/2007	11/24/2017	11/23/2011	3.990	121.824	115.230	110.648	106.858	103.810	101.128	98.664	96.338
11/23/2007	11/24/2017	11/23/2011	3.990	121.824	115.230	110.648	106.858	103.810	101.128	98.664	96.338
11/29/2007	11/29/2017	8/31/2009	2.950	116.469	111.620	107.548	104.440	102.218	100.759	100.019	99.676
11/30/2007	11/30/2017	11/30/2009	3.190	118.153	112.989	108.653	105.294	102.827	101.151	100.107	99.437
12/6/2007	12/6/2017	12/7/2009	3.250	118.603	113.370	108.964	105.550	103.025	101.289	100.179	99.461
12/7/2007	12/7/2012	12/7/2009	3.450	112.323	111.178	107.946	105.156	102.952	101.348	100.271	99.561
12/10/2007	12/10/2010	12/10/2009	3.870	105.998	105.998	105.849	104.299	102.810	101.507	100.513	99.784
12/10/2007	12/11/2017	12/10/2010	3.450	120.052	114.569	109.945	106.317	103.542	101.347	99.523	97.905
12/11/2007	12/11/2012	12/11/2009	3.760	113.473	112.282	108.963	106.048	103.677	101.875	100.633	99.790
12/14/2007	12/14/2010	6/15/2009	3.690	105.760	105.760	105.596	104.038	102.553	101.286	100.391	99.988
12/20/2007	12/20/2012	12/21/2009	3.600	112.989	111.746	108.451	105.585	103.292	101.579	100.413	99.615
12/20/2007	12/20/2012	12/21/2009	3.750	113.530	112.220	108.582	105.075	102.399	100.963	100.199	99.608
12/24/2007	12/26/2017	12/24/2012	3.990	122.519	116.824	111.489	107.008	103.037	99.423	96.064	92.895
12/26/2007	12/26/2012	6/26/2009	3.460	112.542	111.267	108.002	105.187	102.960	101.338	100.318	99.944
12/26/2007	12/26/2012	12/27/2010	3.960	114.354	113.051	109.660	106.648	104.122	102.022	100.197	98.552
1/2/2008	1/2/2013	1/4/2010	3.490	112.718	111.397	108.122	105.295	103.057	101.415	100.289	99.498
1/3/2008	1/5/2015	1/3/2011	3.650	118.409	113.914	109.819	106.448	103.765	101.580	99.716	98.046
1/4/2008	1/4/2018	1/4/2011	3.360	119.469	114.064	109.526	105.977	103.247	101.069	99.222	97.566
1/7/2008	1/7/2013	7/7/2009	2.990	110.938	109.626	106.520	103.930	101.985	100.685	100.046	99.874
1/7/2008	1/7/2013	1/7/2011	3.590	113.133	111.770	108.458	105.579	103.204	101.211	99.460	97.847
1/7/2008	1/7/2015	1/7/2011	3.490	117.539	113.138	109.145	105.882	103.296	101.187	99.373	97.728
1/7/2008	1/8/2018	7/7/2009	2.590	114.075	109.703	106.056	103.317	101.437	100.329	99.941	99.832
1/8/2008	1/8/2013	1/8/2010	3.150	111.532	110.197	107.028	104.355	102.309	100.873	99.926	99.221
1/8/2008	1/8/2018	7/8/2009	2.570	113.940	109.598	105.974	103.256	101.395	100.307	99.936	99.825
1/8/2008	1/8/2018	7/8/2009	2.640	114.411	109.966	106.260	103.467	101.537	100.381	99.953	99.832
1/10/2008	1/10/2011	7/10/2009	3.100	105.072	105.072	104.804	103.190	101.737	100.636	100.047	99.875
1/11/2008	1/11/2018	7/13/2009	2.720	114.960	110.395	106.587	103.713	101.699	100.470	99.968	99.820
1/14/2008	1/16/2018	1/14/2011	3.240	118.630	113.354	108.937	105.501	102.856	100.737	98.915	97.265
1/16/2008	1/16/2013	7/16/2009	2.550	109.392	108.084	105.178	102.839	101.190	100.228	99.916	99.786
1/16/2008	1/16/2013	7/16/2009	2.690	109.907	108.577	105.598	103.175	101.424	100.347	99.940	99.803
1/16/2008	1/16/2015	7/16/2009	2.640	112.957	109.202	105.851	103.253	101.429	100.332	99.932	99.797
1/16/2008	1/16/2018	7/16/2009	2.380	112.685	108.621	105.227	102.713	101.038	100.150	99.893	99.764
1/17/2008	1/17/2018	7/17/2009	2.250	111.837	107.975	104.752	102.375	100.831	100.063	99.871	99.742

As of: 5/31/2009 **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
1/18/2008	1/18/2013	7/20/2009	2.550	109.406	108.086	105.179	102.839	101.189	100.227	99.908	99.767
1/18/2008	1/20/2015	7/20/2009	2.350	111.419	107.947	104.857	102.512	100.937	100.114	99.878	99.739
1/18/2008	1/18/2018	7/20/2009	2.290	112.097	108.170	104.895	102.477	100.892	100.087	99.869	99.731
1/24/2008	1/24/2012	7/24/2009	2.440	106.560	106.529	104.527	102.454	100.965	100.140	99.882	99.732
1/24/2008	1/24/2013	1/25/2010	2.500	109.263	107.917	105.032	102.724	101.105	100.075	99.337	98.687
1/25/2008	1/25/2013	7/25/2009	2.250	108.343	106.782	103.109	99.542	96.115	92.824	89.665	86.630
1/25/2008	1/25/2013	1/25/2011	2.650	109.826	108.263	105.131	102.797	100.925	99.248	97.655	96.110
1/28/2008	1/28/2010	7/28/2009	2.630	101.768	101.768	101.768	101.376	100.706	100.046	99.394	98.751
1/28/2008	1/28/2013	1/28/2011	2.990	111.112	109.525	106.194	103.619	101.587	99.839	98.207	96.639
1/30/2008	1/30/2013	2/1/2010	2.670	109.938	108.530	105.548	103.133	101.390	100.248	99.449	98.764
2/7/2008	2/7/2013	2/8/2010	2.490	109.323	107.909	105.021	102.718	101.105	100.057	99.282	98.594
2/13/2008	2/13/2013	2/14/2011	2.920	110.982	109.461	106.342	103.729	101.590	99.733	98.024	96.399
2/14/2008	2/14/2018	2/14/2012	3.190	115.755	111.062	107.342	104.072	101.181	98.517	95.987	93.559
2/15/2008	2/16/2010	8/16/2009	2.350	101.704	101.704	101.704	101.258	100.538	99.828	99.128	98.438
2/19/2008	2/19/2013	2/19/2010	2.590	109.784	108.041	104.342	101.929	100.782	100.004	99.290	98.591
2/22/2008	2/22/2011	8/22/2009	2.500	104.389	104.389	103.956	102.215	100.505	98.833	97.197	95.596
2/25/2008	2/25/2013	2/25/2011	3.090	111.724	109.934	106.554	103.896	101.764	99.930	98.218	96.578
2/25/2008	2/26/2018	8/25/2009	2.420	113.028	108.869	105.391	102.825	101.107	100.169	99.807	99.565
3/7/2008	3/9/2015	3/7/2011	2.890	114.400	110.394	106.801	103.935	101.636	99.668	97.876	96.185
3/7/2008	3/7/2018	3/7/2013	3.550	121.086	115.228	110.003	105.422	101.314	97.549	94.040	90.735
3/10/2008	3/11/2013	3/10/2010	2.390	109.161	107.616	104.752	102.506	100.948	99.904	99.083	98.325
3/11/2008	3/11/2011	6/11/2009	2.090	103.767	103.767	103.282	101.673	100.511	100.005	99.965	99.935
3/12/2008	3/12/2013	6/12/2009	2.010	107.710	106.277	103.685	101.719	100.476	99.993	99.959	99.926
3/14/2008	3/14/2018	3/15/2010	2.400	112.915	108.782	105.329	102.783	101.069	99.945	99.081	98.302
3/17/2008	3/18/2013	3/17/2011	2.690	110.363	108.700	105.650	103.127	101.026	99.154	97.404	95.723
3/17/2008	3/17/2015	3/17/2011	2.620	111.952	106.986	104.749	102.595	100.714	98.949	97.246	95.586
3/17/2008	3/19/2018	3/18/2013	3.300	119.259	113.662	108.608	104.161	100.144	96.437	92.967	89.687
3/25/2008	3/27/2023	3/25/2013	3.150	119.191	112.923	107.490	103.038	99.143	95.551	92.168	88.952
3/26/2008	3/26/2018	3/26/2012	2.980	114.280	110.213	106.558	103.319	100.410	97.683	95.083	92.581
3/28/2008	3/28/2013	3/28/2011	2.800	110.865	108.856	105.664	103.171	101.117	99.259	97.505	95.808
3/28/2008	3/28/2013	3/28/2011	2.820	110.942	108.933	105.724	103.219	101.160	99.297	97.541	95.844
3/28/2008	3/28/2018	6/29/2009	2.020	110.448	106.924	103.973	101.834	100.512	99.985	99.903	99.822
3/28/2008	3/28/2018	3/28/2011	2.770	115.453	110.737	106.818	103.800	101.413	99.379	97.533	95.794
3/31/2008	3/31/2011	6/30/2009	1.990	103.698	103.698	103.139	101.523	100.409	99.980	99.897	99.814
4/14/2008	4/14/2015	4/14/2011	2.750	112.651	107.629	105.208	102.906	100.925	99.074	97.295	95.566
4/28/2008	4/28/2015	4/28/2011	3.250	116.453	112.110	108.221	105.059	102.487	100.284	98.302	96.449
4/28/2008	4/30/2018	7/28/2009	2.150	111.306	107.541	104.416	102.132	100.680	100.020	99.825	99.666
4/30/2008	4/30/2018	4/30/2013	3.740	121.393	115.671	110.294	105.618	101.454	97.638	94.068	90.701
5/2/2008	5/4/2015	5/2/2011	3.990	120.818	115.936	111.505	107.784	104.441	100.849	97.173	93.868
5/5/2008	5/5/2015	5/5/2011	3.170	116.030	111.749	107.926	104.817	102.277	100.088	98.105	96.244
5/8/2008	5/8/2015	5/10/2010	2.960	114.865	110.758	107.097	104.214	102.106	100.605	99.471	98.494
5/19/2008	5/19/2015	5/21/2012	4.700	124.617	119.069	113.941	109.177	104.520	99.462	94.317	89.604
5/19/2008	5/21/2018	5/20/2013	3.890	122.742	116.745	111.155	106.346	102.055	98.138	94.495	91.063
5/23/2008	5/23/2013	5/23/2011	4.040	116.305	114.060	110.372	107.111	104.048	100.598	96.990	93.716
5/23/2008	5/23/2018	5/23/2011	3.270	119.237	113.748	109.192	105.629	102.796	100.408	98.296	96.346
5/27/2008	5/27/2010	8/27/2009	2.790	102.798	102.798	102.798	102.063	101.069	100.095	99.140	98.202
5/27/2008	5/27/2011	5/27/2010	3.220	106.493	106.493	105.698	103.709	101.992	100.672	99.608	98.636
5/27/2008	5/28/2013	5/27/2011	3.490	114.134	111.677	108.084	105.108	102.669	100.511	98.526	96.643
5/29/2008	5/29/2018	5/31/2011	3.460	117.923	111.133	107.630	104.690	102.384	100.325	98.388	96.525
6/6/2008	6/6/2013	6/6/2011	3.990	116.258	113.772	109.956	106.685	103.838	100.939	97.868	94.638
6/10/2008	6/11/2012	6/10/2010	3.940	112.115	111.948	108.846	105.843	103.120	100.663	98.410	96.323
6/16/2008	6/17/2013	6/16/2011	4.070	116.709	114.074	110.239	106.943	104.208	101.828	99.686	97.691
6/24/2008	6/24/2015	6/24/2011	3.830	119.899	115.097	110.767	107.160	104.173	101.625	99.358	97.274
6/30/2008	7/1/2013	6/30/2009	2.920	112.101	109.746	106.484	103.833	101.875	100.593	100.013	99.891
6/30/2008	7/1/2013	6/30/2010	3.450	114.297	111.818	108.306	105.347	103.033	101.285	99.911	98.746
6/30/2008	6/30/2015	6/30/2010	3.370	117.265	112.785	108.774	105.543	103.085	101.265	99.855	98.673
6/30/2008	7/2/2018	6/30/2011	3.690	120.070	112.889	108.718	105.496	102.938	100.725	98.685	96.738
7/1/2008	7/1/2015	7/1/2011	4.600	124.116	117.920	112.973	108.904	105.463	101.860	97.950	94.149
7/7/2008	7/8/2013	7/7/2011	4.590	119.111	116.332	112.302	108.731	105.471	102.037	98.249	94.455
7/8/2008	7/8/2013	7/8/2011	4.250	117.696	114.923	110.986	107.562	104.549	101.500	98.240	94.940
7/10/2008	7/10/2014	7/10/2012	4.800	123.762	118.797	114.033	109.533	105.120	100.488	95.506	90.523
7/11/2008	7/11/2018	7/11/2012	3.750	121.083	115.349	110.286	106.185	102.640	99.454	96.497	93.698
7/14/2008	7/14/2015	7/15/2013	4.900	126.126	120.593	114.801	109.085	103.412	97.557	91.445	85.445
7/14/2008	7/16/2018	7/14/2009	2.500	113.779	109.376	105.766	103.081	101.267	100.244	99.915	99.789
7/14/2008	7/16/2018	7/14/2011	3.250	119.248	113.720	109.151	105.545	102.632	100.146	97.921	95.854
7/17/2008	7/17/2018	7/17/2013	3.750	122.030	115.974	110.376	105.490	101.127	97.131	93.400	89.888
7/21/2008	7/22/2013	7/21/2009	3.000	112.607	109.687	105.498	101.624	100.270	100.107	99.966	99.826
8/15/2008	8/15/2018	8/15/2011	3.830	123.879	117.546	112.278	108.061	104.652	101.785	99.277	96.999
8/19/2008	8/19/2013	8/19/2010	3.440	114.724	111.555	107.457	104.412	102.358	100.849	99.567	98.381
9/8/2008	9/9/2013	9/8/2009	2.890	112.538	109.760	106.457	103.803	101.855	100.596	99.959	99.623
5/13/2009	5/13/2014	5/13/2013	4.000	119.385	114.941	110.312	105.787	101.078	96.102	90.898	85.812