

Parallel-Shift Sensitivity Analysis for HLB-Option and Knockout Advances

The Federal Home Loan Bank of Boston (Bank) is providing estimated valuations of the specific HLB-Option and Knockout advances set forth below for members' information and convenience only. The estimated valuations are generated by models obtained from external sources which are used for the Bank's own asset/liability management purposes. The models include the use of specific assumptions, for example, market volatility and discount curve adjusted for the Bank's spread, to estimate the value of the advance. The valuations represent theoretical market values only and should not be construed as a liquidation price for the HLB-Option or Knockout advance.

It is expressly understood that in providing this valuation information to members, the Bank is not performing any advisory service. The valuations are being provided without representation or warranty and the member shall be solely responsible for any decision it makes or actions it takes based on the valuations provided. It is recommended that institutions maintain independent capabilities to value their asset/liability positions, including HLB-Option and Knockout advances.

The table depicts valuation estimates resulting from immediate parallel interest-rate movements of plus/minus 400 basis points in 100 basis point increments. In order to rule out negative interest rates, our model applies an effective floor of plus ten basis points to the yield curve for all down-rate scenarios. As a result, large down-rate shocks will reflect valuation at the floor rate of ten basis points in place of any negative interest rates that would otherwise be produced by the indicated basis point shocks. Please note that the valuation estimates are from the Federal Home Loan Bank of Boston's perspective. Since the advance is held by the member as a liability, positive price changes in the table correspond to the advance having a negative impact on the member's estimated market value of portfolio equity (and vice versa). The theoretical argument follows that as interest rates rise, the value of the advance to the Bank falls. In the case of an HLB-Option advance, the Bank would be likely to exercise its option to cancel the advance as the value falls below 100. In the case of a Knockout advance, the Bank would automatically terminate the advance on any specified cancellation date if LIBOR is equal to or greater than a predetermined "strike rate" four London Business days prior to the scheduled cancellation date. In either case, the member's cost to prepay the advance increases as interest rates fall.

To identify your advance, locate the appropriate maturity date and then verify the coupon rate. The report is sorted in ascending order by start date, followed by coupon. Once the appropriate structure is determined, read across to view the sensitivity analysis that has been performed on the advance.

If you have any questions or would like further explanation of this analysis, contact the Money Desk at 1-800-357-3452.

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
2/27/1997	2/27/2012	8/27/2008	6.580	121.021	117.025	113.194	109.589	106.360	103.681	101.705	100.479
4/8/1998	4/8/2013	7/8/2008	5.490	120.256	115.156	110.530	106.563	103.482	101.394	100.283	99.909
6/1/1998	6/4/2008	6/4/2008	5.520	100.061	100.059	100.047	100.036	100.025	100.014	100.003	99.992
6/16/1998	6/16/2008	6/16/2008	5.470	100.243	100.232	100.188	100.143	100.098	100.054	100.010	99.965
6/16/1998	6/16/2008	6/16/2008	5.700	100.253	100.242	100.198	100.153	100.109	100.064	100.020	99.975
6/24/1998	6/24/2008	6/24/2008	5.450	100.363	100.347	100.280	100.213	100.146	100.080	100.013	99.947
7/31/1998	7/30/2008	7/30/2008	5.390	100.898	100.848	100.678	100.508	100.339	100.171	100.003	99.836
7/31/1998	7/30/2008	7/30/2008	5.610	100.935	100.885	100.714	100.545	100.376	100.207	100.039	99.872
8/19/1998	8/19/2013	8/19/2008	5.490	121.376	115.938	111.029	106.865	103.655	101.485	100.304	99.887
8/19/1998	8/19/2013	8/19/2008	5.490	121.376	115.938	111.029	106.865	103.655	101.485	100.304	99.887
8/25/1998	8/19/2013	7/25/2008	5.490	121.375	115.936	111.025	106.858	103.644	101.468	100.301	99.887
8/27/1998	8/19/2013	7/28/2008	5.490	121.375	115.936	111.025	106.858	103.644	101.468	100.301	99.887
9/30/1998	9/30/2013	6/30/2008	5.220	120.369	114.897	110.002	105.954	102.949	101.036	100.145	99.915
10/30/1998	10/30/2008	10/30/2003	4.990	102.107	101.915	101.488	101.065	100.645	100.229	99.816	99.406
11/25/1998	11/25/2008	11/25/2003	5.200	102.571	102.319	101.822	101.330	100.843	100.361	99.883	99.411
12/14/1998	12/16/2013	6/16/2008	4.890	118.987	113.385	108.544	104.715	102.062	100.540	100.005	99.940
12/14/1998	12/16/2013	12/15/2008	5.390	121.717	115.979	110.876	106.626	103.417	101.308	100.119	99.428
12/15/1998	12/16/2013	6/16/2008	4.880	118.932	113.333	108.498	104.680	102.038	100.528	100.002	99.939
1/15/1999	1/15/2009	1/15/2004	5.160	103.282	102.875	102.233	101.601	100.977	100.361	99.753	99.152
1/19/1999	1/20/2009	1/21/2003	4.980	103.237	102.826	102.171	101.525	100.887	100.258	99.637	99.024
1/19/1999	1/20/2009	1/21/2003	4.980	103.237	102.826	102.171	101.525	100.887	100.258	99.637	99.024
1/29/1999	1/29/2009	1/29/2003	4.980	103.361	102.944	102.264	101.592	100.930	100.276	99.631	98.994
2/18/1999	2/18/2009	8/18/2008	5.080	103.711	103.211	102.484	101.767	101.061	100.397	99.753	99.152
2/18/1999	2/18/2009	8/18/2008	5.430	103.967	103.466	102.738	102.020	101.313	100.627	100.091	99.811
4/23/1999	4/27/2009	7/23/2008	5.190	104.772	104.048	103.126	102.221	101.333	100.521	100.018	99.811
4/23/1999	4/27/2009	7/23/2008	5.500	105.057	104.332	103.409	102.502	101.612	100.766	100.145	99.862
4/26/1999	4/27/2009	7/28/2008	5.190	104.772	104.048	103.126	102.221	101.333	100.521	100.018	99.811
4/26/1999	4/27/2009	7/28/2008	5.500	105.057	104.332	103.409	102.502	101.612	100.766	100.145	99.862
5/6/1999	5/6/2009	8/6/2008	5.310	105.015	104.181	103.234	102.305	101.399	100.586	100.050	99.795
6/7/1999	6/8/2009	6/9/2008	5.700	105.876	104.928	103.891	102.874	101.877	100.941	100.236	99.988
6/7/1999	6/8/2009	6/9/2008	6.040	106.229	105.279	104.240	103.221	102.221	101.260	100.456	100.052
7/1/1999	7/1/2009	7/1/2008	6.110	106.661	105.600	104.496	103.412	102.351	101.342	100.504	100.041
7/23/1999	7/23/2009	7/23/2008	5.400	106.210	105.137	103.974	102.833	101.725	100.740	100.109	99.853
9/8/1999	9/8/2009	6/9/2008	5.620	107.139	105.847	104.558	103.294	102.064	100.967	100.220	99.986
10/8/1999	10/8/2009	7/8/2008	5.580	107.522	106.113	104.740	103.393	102.089	100.952	100.203	99.914
11/1/1999	11/2/2009	8/1/2008	5.540	107.821	106.304	104.866	103.456	102.095	100.931	100.186	99.853
11/8/1999	11/9/2009	8/8/2008	5.960	108.544	107.018	105.555	104.119	102.720	101.443	100.484	99.967
11/9/1999	11/9/2009	8/11/2008	5.570	107.973	106.451	104.992	103.561	102.179	100.989	100.208	99.847
12/10/1999	12/10/2009	6/10/2008	5.710	108.567	106.954	105.404	103.887	102.427	101.157	100.291	99.985
12/17/1999	12/17/2009	6/17/2008	5.910	108.992	107.371	105.799	104.258	102.767	101.432	100.451	100.021
12/20/1999	12/21/2009	6/20/2008	5.810	108.900	107.277	105.694	104.144	102.648	101.324	100.381	99.989
12/22/1999	12/22/2009	6/23/2008	5.840	108.963	107.340	105.753	104.200	102.699	101.365	100.405	99.996
1/7/2000	1/7/2010	7/7/2008	5.950	127.741	120.853	114.789	109.669	105.625	102.718	100.912	100.094
1/13/2000	1/13/2010	7/14/2008	5.910	109.333	107.625	105.977	104.365	102.814	101.444	100.451	99.981
1/25/2000	1/25/2010	7/25/2008	5.970	109.630	107.913	106.229	104.582	102.994	101.579	100.525	99.991
1/27/2000	1/27/2010	7/28/2008	6.080	109.849	108.128	106.437	104.783	103.181	101.738	100.633	100.036
1/27/2000	1/27/2010	7/28/2008	6.210	110.067	108.345	106.652	104.996	103.389	101.919	100.759	100.093
2/7/2000	2/8/2010	8/7/2008	5.950	109.735	107.948	106.235	104.562	102.953	101.534	100.507	99.970
2/16/2000	2/8/2010	8/1/2008	5.950	109.735	107.948	106.235	104.562	102.953	101.534	100.507	99.970
2/16/2000	2/16/2010	8/18/2008	6.470	110.771	108.971	107.227	105.521	103.863	102.324	101.059	100.241
2/16/2000	2/16/2010	8/18/2008	6.690	111.153	109.350	107.602	105.893	104.228	102.659	101.329	100.395
3/6/2000	3/8/2010	6/6/2008	6.390	110.883	109.000	107.195	105.430	103.726	102.172	100.936	100.213
3/13/2000	3/15/2010	6/13/2008	6.090	110.464	108.580	106.759	104.980	103.276	101.766	100.641	100.089
3/14/2000	3/15/2010	8/14/2008	6.090	110.464	108.580	106.759	104.982	103.284	101.781	100.656	100.029
3/15/2000	3/15/2010	6/16/2008	5.950	110.210	108.329	106.510	104.734	103.041	101.567	100.507	100.037
3/21/2000	3/22/2010	6/23/2008	6.120	110.638	108.748	106.905	105.106	103.381	101.845	100.687	100.098
3/22/2000	3/22/2010	6/23/2008	5.960	110.344	108.457	106.617	104.822	103.109	101.613	100.530	100.035
4/5/2000	4/5/2010	7/7/2008	5.950	110.457	108.495	106.621	104.794	103.056	101.561	100.501	100.005
4/11/2000	4/12/2010	7/11/2008	5.950	110.573	108.605	106.711	104.863	103.107	101.593	100.514	99.999
4/11/2000	4/12/2010	7/11/2008	6.050	110.762	108.792	106.896	105.046	103.280	101.737	100.609	100.038
4/11/2000	4/12/2010	7/11/2008	6.470	111.555	109.579	107.675	105.816	104.020	102.382	101.068	100.248
4/11/2000	4/12/2010	7/11/2008	6.560	111.725	109.747	107.842	105.981	104.181	102.525	101.179	100.303
4/11/2000	4/12/2010	7/11/2008	6.750	112.084	110.103	108.194	106.330	104.521	102.835	101.421	100.440
4/12/2000	4/12/2010	7/14/2008	5.990	110.648	108.680	106.785	104.937	103.176	101.650	100.551	100.014
4/13/2000	4/13/2010	7/14/2008	6.560	111.743	109.765	107.856	105.993	104.190	102.532	101.182	100.304
4/24/2000	4/26/2010	7/24/2008	6.450	111.768	109.782	107.836	105.937	104.104	102.432	101.088	100.243
5/3/2000	5/3/2010	8/4/2008	6.240	111.380	109.324	107.364	105.454	103.633	102.020	100.806	100.110
5/3/2000	5/3/2010	8/4/2008	6.360	111.614	109.555	107.593	105.680	103.849	102.210	100.942	100.179
5/15/2000	5/17/2010	8/15/2008	6.990	113.112	111.031	109.015	107.047	105.140	103.357	101.825	100.695
5/30/2000	6/1/2010	9/2/2008	6.490	112.270	110.121	108.077	106.085	104.176	102.457	101.101	100.249
8/8/2000	8/9/2010	8/8/2008	5.990	112.155	109.829	107.599	105.442	103.437	101.763	100.593	99.996
8/18/2000	8/18/2010	8/18/2008	6.090	112.529	110.194	107.934	105.747	103.701	101.965	100.718	100.039
10/5/2000	10/5/2010	7/7/2008	5.710	112.193	109.697	107.318	105.034	102.975	101.351	100.336	99.943
10/10/2000	10/12/2010	7/10/2008	5.840	112.615	110.110	107.706	105.392	103.283	101.582	100.461	99.970
10/13/2000	10/13/2010	7/14/2008	5.750	112.415	109.913	107.508	105.198	103.108	101.443	100.379	99.938
10/23/2000	10/25/2010	7/23/2008	5.640	112.340	109.831	107.395	105.060	102.963	101.323	100.310	99.899
12/5/2000	12/6/2010	6/5/2008	5.410	112.130	109.465	106.928	104.533	102.471	100.966	100.177	99.986
12/11/2000	12/13/2010	6/11/2008	5.170	111.620	108.958	106.411	104.036	102.053	100.692	100.077	99.961
12/12/2000	12/13/2010	6/12/2008	5.110	111.466	108.806	106.262	103.898	101.944	100.625	100.054	99.959
12/15/2000	12/15/2010	6/16/2008	5.120	111.521	108.858	106.308	103.937	101.972	100.641	10	

Start Date	Maturity		Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
	Date	Date										
2/7/2001	2/7/2011	8/7/2008	4.820	111.166	108.351	105.693	103.305	101.463	100.355	99.903	99.699	
2/26/2001	2/28/2011	8/26/2008	4.790	111.365	108.534	105.817	103.384	101.500	100.362	99.903	99.699	
2/26/2001	2/28/2011	8/26/2008	5.060	112.113	109.273	106.531	104.022	101.985	100.631	100.120	99.997	
2/26/2001	2/28/2011	8/26/2008	5.450	113.194	110.339	107.573	104.982	102.763	101.131	100.201	99.997	
2/27/2001	2/28/2011	8/27/2008	4.760	111.281	108.452	105.737	103.314	101.451	100.337	99.903	99.699	
2/27/2001	2/28/2011	8/27/2008	5.020	112.002	109.163	106.426	103.925	101.911	100.586	99.903	99.699	
3/1/2001	3/1/2011	9/2/2008	5.270	112.548	109.632	106.882	104.345	102.246	100.798	100.120	99.997	
3/14/2001	3/14/2011	6/16/2008	4.860	111.586	108.677	105.923	103.460	101.554	100.392	99.985	99.946	
4/23/2001	4/25/2011	4/24/2006	5.350	113.429	110.404	107.479	104.649	101.910	99.259	96.693	94.208	
6/1/2001	6/1/2011	9/2/2008	4.990	112.578	109.412	106.454	103.820	101.780	100.504	100.031	99.996	
12/13/2001	12/13/2011	6/13/2008	4.920	114.095	110.400	106.964	104.005	101.805	100.482	100.006	99.952	
6/3/2002	6/4/2012	9/3/2008	4.490	113.678	109.534	105.867	102.978	101.085	100.145	99.766	99.504	
6/4/2002	6/4/2012	9/4/2008	4.490	113.678	109.534	105.867	102.978	101.085	100.145	99.766	99.504	
12/5/2002	12/5/2012	6/5/2008	3.790	111.625	107.217	103.725	101.423	100.267	99.994	99.980	99.966	
3/6/2003	3/6/2013	6/6/2008	2.990	108.241	104.183	101.575	100.304	99.996	99.979	99.962	99.946	
1/27/2004	1/27/2009	7/28/2008	2.890	101.935	101.521	100.852	100.226	99.927	99.768	99.608	99.450	
2/5/2004	12/18/2008	12/19/2005	5.150	102.875	102.552	101.988	101.432	100.881	100.337	99.799	99.268	
2/5/2004	4/26/2010	7/24/2008	6.200	111.286	109.304	107.363	105.471	103.661	102.049	100.822	100.119	
2/5/2004	12/14/2010	6/16/2008	5.820	113.301	110.618	108.040	105.576	103.360	101.599	100.459	100.012	
2/9/2004	2/9/2009	8/11/2008	3.110	102.194	101.704	101.007	100.339	99.946	99.747	99.554	99.362	
2/17/2004	2/17/2009	8/18/2008	2.910	102.118	101.622	100.904	100.236	99.896	99.679	99.464	99.250	
3/4/2004	3/4/2009	9/4/2008	2.970	102.285	101.694	100.929	100.248	99.882	99.620	99.360	99.103	
3/12/2004	3/12/2009	6/12/2008	2.690	102.130	101.534	100.750	100.118	99.981	99.948	99.915	99.882	
4/1/2004	4/1/2009	7/1/2008	2.770	102.347	101.647	100.812	100.142	99.942	99.855	99.767	99.679	
5/24/2004	5/26/2009	8/25/2008	3.580	103.580	102.738	101.742	100.794	100.114	99.807	99.567	99.328	
5/28/2004	5/28/2009	8/28/2008	3.700	103.721	102.877	101.875	100.912	100.179	99.834	99.587	99.343	
6/11/2004	6/11/2009	6/11/2008	3.750	103.887	102.945	101.911	100.922	100.188	99.985	99.954	99.924	
6/18/2004	6/20/2011	6/18/2008	4.120	110.165	107.038	104.197	101.962	100.570	100.024	99.937	99.882	
7/2/2004	7/2/2014	7/2/2008	3.990	114.677	109.091	104.818	101.983	100.477	99.977	99.868	99.778	
8/5/2004	8/5/2009	8/5/2008	3.470	104.064	102.900	101.721	100.670	100.055	99.826	99.643	99.461	
12/13/2004	12/15/2014	6/13/2008	3.320	111.217	106.048	102.587	100.716	100.039	99.961	99.920	99.878	
12/17/2004	12/17/2009	6/17/2008	3.710	105.541	103.944	102.409	101.044	100.189	99.975	99.928	99.880	
5/5/2005	5/5/2010	5/5/2006	4.190	107.413	105.392	103.479	101.766	100.555	100.041	99.832	99.695	
5/17/2005	5/17/2010	8/18/2008	4.070	107.314	105.287	103.346	101.637	100.468	99.949	99.713	99.499	
6/6/2005	6/7/2010	6/6/2008	3.890	107.065	104.964	102.993	101.332	100.303	99.993	99.974	99.954	
7/18/2005	7/19/2010	7/18/2008	4.160	107.980	105.777	103.674	101.835	100.569	100.005	99.832	99.695	
9/1/2005	9/1/2015	9/2/2008	4.130	116.957	110.562	105.723	102.479	100.687	99.970	99.676	99.426	
9/19/2005	9/19/2012	6/19/2008	3.820	111.544	107.302	103.838	101.501	100.291	99.977	99.925	99.872	
9/26/2005	9/26/2012	6/26/2008	3.890	111.920	107.652	104.114	101.674	100.363	99.974	99.902	99.831	
9/30/2005	9/30/2015	9/30/2008	4.440	119.423	112.746	107.435	103.641	101.304	100.171	99.697	99.363	
10/26/2005	10/26/2015	10/27/2008	4.540	120.211	113.395	107.943	103.994	101.504	100.234	99.649	99.238	
10/28/2005	10/28/2015	7/28/2008	4.140	117.448	110.957	105.985	102.629	100.743	100.006	99.802	99.640	
10/28/2005	10/28/2015	10/28/2008	4.310	118.626	111.985	106.793	103.169	101.023	100.025	99.539	99.134	
11/4/2005	11/4/2010	8/4/2008	4.520	109.625	107.078	104.675	102.537	100.972	100.139	99.838	99.657	
11/21/2005	11/21/2012	8/21/2008	4.290	113.918	109.411	105.527	102.626	100.845	100.044	99.539	99.134	
12/22/2005	12/22/2008	8/31/2008	4.750	102.705	102.379	101.805	101.237	100.677	100.123	99.838	99.657	
1/6/2006	1/6/2016	7/7/2008	4.020	116.717	110.191	105.356	102.203	100.535	99.973	99.857	99.756	
1/17/2006	1/19/2016	7/17/2008	4.080	117.286	110.688	105.727	102.440	100.646	99.985	99.821	99.684	
3/20/2006	3/21/2011	6/21/2008	4.760	111.398	108.486	105.678	102.959	100.326	100.180	99.857	99.703	
4/1/2006	4/11/2011	7/11/2008	4.980	112.153	109.155	106.321	103.772	101.768	100.501	99.980	99.834	
4/19/2006	4/19/2013	7/21/2008	4.630	116.255	111.316	107.014	103.660	101.427	100.265	99.900	99.759	
4/24/2006	4/25/2016	7/24/2008	4.440	120.345	113.227	107.651	103.707	101.300	100.180	99.857	99.703	
4/28/2006	4/28/2011	7/28/2008	5.090	112.711	109.694	106.771	103.943	101.207	100.180	99.857	99.703	
5/5/2006	5/6/2013	8/5/2008	4.780	116.985	111.948	107.563	104.088	101.702	100.394	99.900	99.696	
5/5/2006	5/5/2016	8/5/2008	4.350	119.566	112.490	107.063	103.298	101.077	100.104	99.805	99.621	
5/5/2006	5/5/2016	8/5/2008	4.530	120.897	113.660	107.993	103.950	101.444	100.238	99.842	99.654	
5/5/2006	5/5/2016	5/5/2009	4.980	124.254	116.666	110.491	105.809	102.598	100.636	99.414	98.481	
5/9/2006	5/9/2011	8/11/2008	5.050	112.585	109.498	106.591	103.981	101.916	100.587	99.980	99.736	
5/15/2006	5/16/2016	8/15/2008	4.350	119.699	112.614	107.155	103.360	101.109	100.107	99.778	99.564	
5/15/2006	5/16/2016	8/15/2008	4.520	120.961	113.724	108.038	103.978	101.459	100.237	99.817	99.600	
5/19/2006	5/19/2016	8/19/2008	4.510	120.924	113.694	108.011	103.958	101.447	100.231	99.817	99.600	
6/12/2006	6/13/2016	6/12/2008	4.620	121.819	114.434	108.594	104.363	101.678	100.319	99.877	99.941	
6/26/2006	6/27/2016	6/26/2008	4.730	122.833	115.346	109.335	104.901	102.006	100.457	99.961	99.887	
6/28/2006	6/28/2013	12/28/2006	4.950	118.324	113.152	108.558	104.836	102.187	100.615	100.011	99.900	
6/28/2006	6/28/2013	6/30/2008	4.950	118.324	113.152	108.558	104.836	102.187	100.615	100.011	99.900	
6/30/2006	7/1/2013	6/30/2008	4.890	117.839	112.625	108.089	104.462	101.936	100.497	100.018	99.996	
7/14/2006	7/15/2013	7/14/2008	4.890	118.029	112.805	108.226	104.561	101.993	100.522	99.960	99.809	
7/19/2006	7/19/2011	7/21/2008	5.250	113.910	110.630	107.511	104.686	102.406	100.851	100.088	99.842	
7/20/2006	7/20/2011	7/21/2008	5.300	114.083	110.798	107.640	104.591	101.706	100.203	99.986	99.846	
7/24/2006	7/25/2016	7/24/2008	4.660	122.417	114.927	108.966	104.618	101.827	100.371	99.900	99.737	
7/28/2006	7/28/2016	7/28/2008	4.490	121.158	113.818	108.056	103.963	101.433	100.223	99.859	99.696	
8/1/2006	8/1/2016	8/3/2009	4.890	124.019	116.303	110.104	105.469	102.327	100.327	99.842	97.792	
8/11/2006	8/11/2011	8/11/2008	4.790	112.612	109.274	106.164	103.481	101.503	100.351	99.891	99.677	
8/21/2006	8/21/2013	8/21/2008	4.750	117.585	112.320	107.757	104.180	101.746	100.408	99.876	99.629	
8/25/2006	8/25/2016	8/25/2008	4.350	120.191	112.929	107.338	103.458	101.152	100.112	99.886	99.760	
8/28/2006	8/29/2011	8/28/2008	4.890	113.178	109.821	106.643	103.870	101.772	100.485	99.909	99.631	
9/22/2006	9/22/2011	9/22/2008	4.790	113.022	109.589	106.369	103.596	101.553	100.362	99.833	99.511	
9/29/2006	9/29/2011	9/29/2008	4.590	112.445	109.020	105.819	103.130	101.235	100.205	99.748	99.418	
10/10/2006	10/10/2013	7/10/2008	4.250	115.165	109.935	105.655	102.591	100.781	100.043	99.869	99.757	
10/12/2006	10/15/2013	7/14/2008	4.500	116.544	111.212	106.723	103.355	101.211	100.179	99.886	99.760	
10/20/2006	10/20/2009	7/20/2008	4.930									

Start Date	Maturity	Next Call	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
	Date	Date									
11/17/2006	11/18/2013	8/18/2008	4.350	115.946	110.602	106.177	102.948	100.978	100.083	99.793	99.588
11/24/2006	11/25/2016	8/25/2008	4.190	119.329	112.068	106.606	102.945	100.875	100.018	99.793	99.588
11/30/2006	12/2/2013	9/2/2008	4.350	115.881	110.490	106.083	102.886	100.949	100.075	99.732	99.477
12/1/2006	12/1/2016	9/2/2008	4.090	118.376	111.203	105.938	102.501	100.653	100.033	99.997	99.994
12/4/2006	12/5/2016	9/4/2008	4.080	118.344	111.181	105.920	102.489	100.647	100.028	99.984	99.970
12/5/2006	12/5/2016	12/7/2009	4.260	119.744	112.370	106.831	103.044	100.606	98.868	97.393	96.004
12/6/2006	12/6/2013	12/7/2009	4.400	116.197	110.777	106.308	103.005	100.743	99.056	97.592	96.202
12/8/2006	12/8/2016	6/9/2008	3.990	117.684	110.629	105.509	102.233	100.531	100.001	99.972	99.950
12/11/2006	12/11/2009	6/11/2008	4.690	107.000	105.397	103.858	102.370	101.073	100.231	99.983	99.952
12/12/2006	12/12/2016	6/12/2008	3.990	117.728	110.671	105.539	102.252	100.539	99.998	99.958	99.925
12/12/2006	12/12/2016	6/12/2008	4.050	118.191	111.059	105.828	102.430	100.619	100.015	99.960	99.927
12/13/2006	12/15/2008	6/13/2008	4.890	102.689	102.368	101.814	101.266	100.724	100.222	99.985	99.943
12/13/2006	12/14/2009	12/15/2008	4.830	107.258	105.651	104.101	102.592	101.240	100.272	99.639	99.108
12/19/2006	12/19/2011	6/19/2008	4.490	112.643	108.977	105.626	102.903	101.065	100.159	99.960	99.907
12/19/2006	12/19/2016	12/19/2008	4.190	119.362	112.056	106.583	102.917	100.846	99.866	99.273	98.737
12/20/2006	12/20/2013	12/22/2008	4.500	116.913	111.442	106.854	103.422	101.240	100.097	99.447	98.903
12/21/2006	12/21/2011	6/23/2008	4.530	112.811	109.140	105.772	103.016	101.134	100.181	99.958	99.900
12/27/2006	12/27/2013	12/29/2008	4.500	117.000	111.525	106.916	103.465	101.264	100.102	99.433	98.871
12/28/2006	12/28/2016	6/30/2008	4.250	119.938	112.557	106.966	103.170	100.981	100.091	99.923	99.845
12/28/2006	12/28/2016	12/29/2008	4.400	121.120	113.581	107.765	103.712	101.274	100.052	99.374	98.809
1/8/2007	1/9/2012	7/8/2008	4.750	113.671	109.907	106.454	103.562	101.502	100.345	99.937	99.816
1/12/2007	1/12/2017	1/12/2009	4.420	121.208	113.605	107.771	103.711	101.268	100.026	99.308	98.708
1/16/2007	1/17/2017	1/17/2012	4.790	124.230	116.262	109.822	104.695	100.488	96.862	93.584	90.533
1/23/2007	1/23/2014	7/23/2008	4.490	117.042	111.506	106.874	103.425	101.238	100.181	99.868	99.720
1/23/2007	1/23/2017	7/23/2008	4.460	121.662	114.008	108.086	103.927	101.392	100.206	99.864	99.716
1/29/2007	1/29/2014	1/29/2009	4.790	118.785	113.138	108.281	104.497	101.916	100.413	99.542	98.872
2/2/2007	2/2/2017	8/4/2008	4.690	123.396	115.482	109.282	104.790	101.919	100.431	99.897	99.696
2/9/2007	2/9/2012	8/11/2008	4.750	113.914	110.067	106.541	103.595	101.505	100.331	99.884	99.678
2/9/2007	2/9/2012	8/11/2008	4.750	113.914	110.067	106.541	103.595	101.505	100.331	99.884	99.678
2/9/2007	2/9/2017	8/11/2008	4.470	121.714	114.004	108.072	103.916	101.391	100.207	99.820	99.624
2/12/2007	2/13/2012	2/12/2009	4.880	114.449	110.588	107.021	103.991	101.770	100.409	99.566	98.881
2/15/2007	2/15/2012	2/17/2009	4.990	114.886	111.014	107.420	104.329	102.015	100.555	99.656	98.953
2/20/2007	2/21/2017	8/20/2008	4.390	121.221	113.586	107.737	103.679	101.259	100.149	99.566	98.881
2/20/2007	2/21/2017	2/21/2012	4.850	124.777	116.391	109.704	104.569	100.415	96.816	93.542	90.462
2/23/2007	2/23/2017	8/25/2008	4.250	120.125	112.642	107.001	103.181	100.989	100.053	99.996	99.990
2/23/2007	2/23/2017	8/25/2008	4.350	120.924	113.332	107.537	103.543	101.181	99.918	99.097	98.362
2/28/2007	3/1/2010	6/1/2008	4.890	108.100	106.244	104.483	102.761	101.077	100.151	99.996	99.990
3/2/2007	3/2/2012	9/2/2008	4.490	113.049	109.149	105.660	102.874	101.029	100.151	99.996	99.990
3/9/2007	3/10/2014	3/9/2009	4.450	116.934	111.302	106.665	103.255	101.118	99.918	99.097	98.362
3/16/2007	3/16/2017	6/16/2008	4.090	118.854	111.525	106.132	102.607	100.696	100.027	99.949	99.904
3/20/2007	3/20/2012	6/20/2008	4.550	113.503	109.585	106.031	103.159	101.214	100.207	99.961	99.906
3/21/2007	3/21/2017	6/23/2008	4.220	119.950	112.457	106.843	103.068	100.920	100.078	99.940	99.882
3/23/2007	3/23/2017	3/23/2009	4.290	120.536	112.962	107.231	103.325	101.032	99.792	98.940	98.173
3/23/2007	3/23/2017	3/23/2009	4.290	120.536	112.962	107.231	103.325	101.032	99.792	98.940	98.173
3/23/2007	3/23/2017	6/23/2009	4.290	120.536	112.962	107.231	103.325	101.032	99.792	98.940	98.173
3/30/2007	3/30/2012	6/30/2008	4.670	114.090	110.135	106.334	102.690	100.775	100.023	99.858	99.746
4/2/2007	4/2/2012	4/2/2009	4.590	113.649	109.655	106.066	103.164	101.184	99.984	99.115	98.331
4/9/2007	4/9/2009	7/9/2008	4.750	104.130	103.420	102.551	101.698	100.869	100.200	99.929	99.816
4/9/2007	4/10/2017	7/9/2008	4.150	119.375	111.922	106.419	102.782	100.775	100.023	99.858	99.746
4/12/2007	4/12/2017	7/14/2008	4.250	120.203	112.630	106.960	103.136	100.953	100.068	99.863	99.746
4/13/2007	4/13/2017	4/13/2009	4.450	121.836	114.037	108.057	103.882	101.335	99.925	98.985	98.164
4/18/2007	4/20/2009	7/18/2008	4.940	104.446	103.727	102.827	101.942	101.078	100.330	99.947	99.797
4/23/2007	4/23/2012	7/23/2008	4.650	114.151	110.137	106.473	103.480	101.409	100.286	99.899	99.744
4/23/2007	4/23/2014	4/23/2010	4.620	118.221	112.438	107.577	103.854	101.143	99.036	97.201	95.481
4/27/2007	4/27/2012	4/27/2009	4.550	113.811	109.803	106.155	103.213	101.205	99.962	99.036	98.188
4/27/2007	4/27/2017	7/28/2008	4.250	120.380	112.796	107.082	103.217	100.994	100.068	99.822	99.664
5/2/2007	5/2/2014	5/3/2010	4.590	117.925	112.110	107.296	103.623	100.940	98.829	96.979	95.241
5/4/2007	5/5/2014	5/4/2009	4.550	117.732	111.932	107.147	103.588	101.293	99.922	98.945	98.076
5/14/2007	5/16/2011	8/14/2008	4.500	111.044	107.979	105.129	102.717	101.027	100.142	99.809	99.596
5/18/2007	5/18/2017	8/18/2008	4.190	119.898	112.344	106.726	102.983	100.880	100.023	99.049	98.136
5/22/2007	5/22/2012	5/22/2009	4.690	114.505	110.402	106.663	103.602	101.449	100.067	99.049	98.136
5/22/2007	5/22/2012	5/22/2009	4.690	114.505	110.402	106.663	103.602	101.449	100.067	99.049	98.136
5/22/2007	5/22/2012	5/22/2009	4.710	114.585	110.480	106.734	103.659	101.489	100.092	99.069	98.155
5/22/2007	5/22/2017	5/22/2012	4.750	124.550	116.375	109.767	104.451	100.026	96.165	92.657	89.385
5/25/2007	5/25/2012	8/25/2008	4.650	114.385	110.284	106.550	103.509	101.412	100.275	99.899	99.744
5/29/2007	5/30/2017	8/29/2008	4.250	120.525	112.890	107.140	103.252	101.007	100.049	99.069	98.155
6/1/2007	6/1/2010	9/2/2008	4.990	109.230	107.111	105.100	103.183	101.547	100.444	100.024	99.996
6/1/2007	6/2/2014	9/2/2008	4.500	117.543	111.705	106.931	103.415	101.216	100.188	99.996	99.990
6/7/2007	6/7/2012	6/9/2008	4.940	115.524	111.323	107.489	104.263	101.913	100.519	100.020	99.974
6/7/2007	6/7/2017	6/8/2009	4.820	125.081	116.804	110.262	105.461	102.284	100.369	99.128	98.128
6/8/2007	6/9/2014	6/9/2008	4.730	118.978	113.029	108.046	104.244	101.718	100.371	99.987	99.962
6/8/2007	6/8/2017	6/9/2008	4.490	122.353	114.408	108.320	104.051	101.446	100.232	99.983	99.961
6/11/2007	6/12/2017	6/11/2008	4.490	122.403	114.455	108.355	104.075	101.459	100.235	99.975	99.941
6/18/2007	6/19/2017	6/18/2008	4.500	122.574	114.608	108.474	104.157	101.506	100.247	99.961	99.908
6/18/2007	6/19/2017	6/18/2009	4.840	125.409	117.104	110.501	105.635	102.392	100.424	99.140	98.106
6/19/2007	6/19/2017	6/19/2008	4.650	123.821	115.700	109.353	104.786	101.881	100.385	99.968	99.916
6/20/2007	6/20/2012	6/20/2008	4.890	115.500	111.294	107.435	104.204	101.864	100.487	99.993	99.925
6/20/2007	6/20/2012	6/20/2008	4.960	115.784	111.570	107.693	104.419	102.016	100.566	100.015	99.929
6/22/2007	6/22/2017	6/23/2008	4.500	122.611	114.643	108.500	104.175	101.516	100.249	99.954	99.894
6/26/2007	6/26/2012	6/26/2009	5.130	116.559	112.323	108.384	104.997	102.419	100.662	99.420	98.381
6/28/2007	6/28/2017	6/30/2008									

Start Date	Maturity		Coupon	-300	-200	-100	Base	+100	+200	+300	+400
	Date	Next Call Date									
7/19/2007	7/19/2012	7/20/2009	4.890	115.693	111.406	107.490	104.226	101.837	100.216	99.001	97.928
7/20/2007	7/20/2017	7/21/2008	4.290	120.954	113.181	107.333	103.363	101.066	100.093	99.847	99.707
7/24/2007	7/24/2012	7/24/2009	4.820	115.471	111.188	107.279	104.047	101.707	100.119	98.912	97.831
7/27/2007	7/27/2012	7/28/2008	4.590	114.555	110.300	106.464	103.392	101.311	100.229	99.878	99.717
7/27/2007	7/28/2014	7/28/2008	4.350	117.096	111.258	106.515	103.103	101.031	100.099	99.836	99.674
7/27/2007	7/27/2017	7/28/2008	4.180	120.127	112.482	106.794	103.006	100.879	100.034	99.811	99.652
7/27/2007	7/27/2017	7/28/2008	4.250	120.706	112.975	107.172	103.257	101.007	100.070	99.822	99.664
7/30/2007	1/30/2019	7/30/2008	3.990	120.240	112.074	106.257	102.568	100.636	99.956	99.771	99.604
7/31/2007	7/31/2017	7/31/2008	3.990	118.608	111.214	105.845	102.407	100.594	99.964	99.782	99.615
7/31/2007	7/31/2017	7/31/2008	3.990	118.608	111.214	105.845	102.407	100.594	99.964	99.782	99.615
7/31/2007	7/31/2017	7/31/2008	4.060	119.182	111.691	106.197	102.629	100.698	99.989	99.794	99.627
8/2/2007	8/4/2014	8/3/2009	4.490	117.764	111.815	106.977	103.430	101.120	99.601	98.407	97.310
8/2/2007	8/2/2017	8/4/2008	4.050	118.876	111.378	105.960	102.472	100.629	99.964	99.758	99.585
8/2/2007	8/2/2017	8/4/2008	4.150	119.698	112.064	106.473	102.800	100.784	100.008	99.776	99.602
8/6/2007	8/6/2012	8/6/2008	4.490	114.065	109.761	105.977	103.020	101.091	100.150	99.828	99.642
8/6/2007	8/6/2012	8/6/2008	4.490	114.065	109.761	105.977	103.020	101.091	100.150	99.828	99.642
8/9/2007	8/11/2014	8/9/2011	4.860	120.075	113.941	108.717	104.393	100.769	97.597	94.697	91.970
8/9/2007	8/9/2017	8/11/2008	3.990	118.463	111.044	105.712	102.321	100.561	99.940	99.724	99.531
8/9/2007	8/9/2017	8/11/2008	3.990	118.463	111.044	105.712	102.321	100.561	99.940	99.724	99.531
8/13/2007	8/13/2012	8/13/2009	4.590	114.572	110.248	106.399	103.335	101.194	99.709	98.504	97.387
8/16/2007	8/16/2017	8/18/2008	3.990	118.541	111.117	105.764	102.353	100.575	99.935	99.700	99.488
8/17/2007	8/17/2012	8/18/2008	4.150	112.772	108.522	104.883	102.214	100.635	99.250	98.076	96.953
8/17/2007	8/17/2012	8/18/2008	4.350	113.613	109.324	105.573	102.707	100.906	100.072	99.774	99.559
8/17/2007	8/17/2017	8/18/2008	4.000	118.634	111.195	105.822	102.389	100.590	99.250	98.076	96.953
8/20/2007	8/20/2010	8/20/2009	4.590	109.193	106.891	104.676	102.648	100.991	99.660	98.483	97.356
8/20/2007	8/20/2014	8/20/2009	4.250	116.503	110.642	105.948	102.641	100.619	99.250	98.076	96.953
8/20/2007	8/20/2014	8/20/2009	4.250	116.503	110.642	105.948	102.641	100.619	99.250	98.076	96.953
8/24/2007	8/24/2010	8/25/2008	4.460	108.950	106.649	104.429	102.428	100.926	100.112	99.783	99.549
8/24/2007	8/24/2012	8/25/2008	4.050	112.430	108.197	104.598	102.011	100.531	100.027	99.979	99.959
8/28/2007	8/28/2014	8/28/2009	4.350	117.219	111.328	106.553	103.117	100.900	99.409	98.184	97.034
8/30/2007	8/30/2012	8/31/2009	4.390	113.940	109.634	105.822	102.877	100.864	99.439	98.225	97.073
8/30/2007	9/2/2014	9/2/2008	3.890	114.278	108.666	104.453	101.736	100.356	99.873	99.600	99.339
8/31/2007	8/31/2012	8/31/2009	4.370	113.867	109.564	105.759	102.830	100.837	99.423	98.212	97.060
9/4/2007	9/4/2012	9/4/2008	4.190	112.956	108.632	104.952	102.245	100.643	99.974	99.683	99.425
9/4/2007	9/4/2012	9/4/2008	4.220	113.084	108.753	105.056	102.318	100.682	99.986	99.691	99.432
9/4/2007	9/5/2017	9/4/2008	3.890	117.695	110.377	105.211	102.011	100.419	99.873	99.600	99.339
9/6/2007	9/7/2010	6/6/2008	4.160	108.315	105.948	103.722	101.811	100.529	100.027	99.979	99.959
9/7/2007	9/7/2012	9/8/2008	4.090	112.565	108.261	104.634	102.026	100.533	99.934	99.647	99.380
9/10/2007	9/11/2017	6/10/2008	3.690	116.136	109.124	104.330	101.509	100.231	99.983	99.952	99.922
9/11/2007	9/13/2010	9/11/2009	4.430	109.009	106.631	104.365	102.331	100.704	99.372	98.153	96.974
9/11/2007	9/11/2017	6/11/2008	3.590	115.333	108.492	103.903	101.283	100.158	99.980	99.949	99.919
9/12/2007	9/12/2014	6/12/2008	3.690	113.198	107.743	103.769	101.335	100.200	99.981	99.948	99.915
9/13/2007	9/15/2014	9/14/2009	3.990	115.017	109.314	104.938	102.008	100.171	98.815	97.595	96.414
9/13/2007	9/13/2017	9/13/2010	3.990	118.604	111.132	105.719	101.981	99.245	96.963	94.872	92.873
9/14/2007	9/14/2011	9/15/2008	4.090	110.600	107.226	104.211	101.903	100.514	99.929	99.625	99.339
9/14/2007	9/14/2012	9/14/2010	4.390	113.928	109.557	105.718	102.597	100.049	97.815	95.728	93.721
9/17/2007	9/17/2012	9/17/2009	4.220	113.236	108.896	105.161	102.371	100.503	99.115	97.881	96.692
9/27/2007	9/27/2010	9/29/2008	4.250	108.758	106.374	104.082	102.077	100.677	99.988	99.636	99.316
9/27/2007	9/29/2014	9/27/2010	4.490	118.137	111.819	106.657	103.016	100.322	98.041	95.918	93.877
9/27/2007	9/27/2017	6/27/2008	3.650	115.976	109.020	104.261	101.477	100.215	99.955	99.881	99.806
9/28/2007	9/28/2010	9/29/2008	4.290	108.864	106.478	104.180	102.157	100.727	100.008	99.647	99.323
9/28/2007	9/28/2012	6/30/2008	3.850	111.769	107.512	103.998	101.601	100.331	99.969	99.892	99.814
10/3/2007	10/3/2012	7/3/2008	3.830	111.540	107.240	103.778	101.458	100.274	99.945	99.850	99.757
10/9/2007	10/9/2012	10/9/2009	4.400	114.075	109.561	105.462	102.469	100.607	99.220	97.943	96.700
10/11/2007	10/14/2014	4/13/2009	4.180	116.249	110.365	105.741	102.550	100.680	99.591	98.736	97.927
10/11/2007	10/11/2017	10/14/2008	3.990	118.668	111.156	105.763	102.337	100.558	99.849	99.464	99.106
10/15/2007	10/16/2017	10/15/2008	3.990	118.724	111.208	105.801	102.361	100.568	99.845	99.447	99.076
10/22/2007	10/22/2012	10/22/2008	3.990	112.442	108.080	104.436	101.876	100.451	99.828	99.426	99.039
10/25/2007	10/27/2014	10/25/2011	4.360	117.506	111.485	106.484	102.374	98.859	95.687	92.725	89.904
10/26/2007	10/26/2017	7/28/2008	3.390	113.953	107.428	103.209	100.936	100.058	99.849	99.692	99.536
10/29/2007	10/29/2009	10/29/2008	4.250	105.941	104.529	103.109	101.737	100.610	99.943	99.511	99.104
10/29/2007	10/29/2012	10/29/2009	3.990	112.519	108.153	104.488	101.868	100.090	98.664	97.339	96.050
11/2/2007	11/3/2014	11/2/2009	3.990	115.077	109.288	104.897	101.957	100.049	98.579	97.238	95.940
11/2/2007	11/3/2014	11/2/2010	4.190	116.299	110.365	105.694	102.188	99.448	97.077	94.878	92.772
11/5/2007	11/5/2014	11/5/2009	3.990	115.099	109.308	104.912	101.966	100.053	98.578	97.232	95.928
11/5/2007	11/6/2017	11/5/2012	4.390	122.089	113.938	107.464	102.191	97.684	93.654	89.943	86.459
11/6/2007	11/6/2017	8/6/2008	3.480	114.545	107.834	103.458	101.056	100.088	99.825	99.640	99.456
11/8/2007	11/9/2009	8/8/2008	4.100	105.822	104.313	102.871	101.493	100.443	99.954	99.745	99.552
11/9/2007	11/10/2014	11/9/2011	4.330	117.244	111.197	106.226	102.134	98.615	95.430	92.451	89.614
11/13/2007	11/14/2011	11/13/2008	3.760	109.848	106.349	103.375	101.306	100.217	99.675	99.226	98.785
11/13/2007	11/13/2012	11/13/2008	3.680	111.122	106.803	103.409	101.232	100.165	99.639	99.194	98.755
11/13/2007	11/13/2014	8/13/2008	3.350	111.335	106.160	102.668	100.762	100.023	99.784	99.579	99.376
11/19/2007	11/19/2014	11/19/2009	3.750	113.789	108.192	104.073	101.422	99.661	98.211	96.844	95.511
11/19/2007	11/19/2014	11/19/2009	3.750	113.789	108.192	104.073	101.422	99.661	98.211	96.844	95.511
11/19/2007	11/19/2014	11/21/2011	4.270	116.980	110.965	106.015	101.940	98.426	95.236	92.245	89.395
11/19/2007	11/20/2017	11/19/2012	4.290	121.141	112.910	106.549	101.448	97.086	93.147	89.471	86.002
11/20/2007	11/20/2017	11/22/2010	3.740	116.793	109.614	104.559	101.053	98.357	95.999	93.790	91.662
11/23/2007	11/24/2017	11/23/2011	3.990	118.461	110.561	104.987	100.864	97.426	94.295	91.333	88.500
11/23/2007	11/24/2017	11/23/2011	3.990	118.461	110.561	104.987	100.864	97.426	94.295	91.333	88.500
11/29/2007	11/29/2017	8/29/2008	2.950	110.665	105.052	101.817	100.342	98.790	97.369	95.988	94.635
11/30/2007	11/30/2017	11/30/2009	3.190	112.489	10						

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
12/11/2007	12/11/2012	12/11/2009	3.760	111.552	107.145	103.650	101.244	99.522	98.037	96.621	95.237
12/14/2007	12/14/2010	12/15/2008	3.690	107.839	105.229	102.871	101.106	100.124	99.541	99.015	98.497
12/20/2007	12/20/2012	12/21/2009	3.600	110.925	106.579	103.212	100.940	99.270	97.781	96.347	94.943
12/20/2007	12/20/2012	12/21/2009	3.750	111.585	107.001	103.350	101.101	99.482	98.007	96.572	95.167
12/24/2007	12/26/2017	12/24/2012	3.990	118.702	110.835	104.797	99.884	95.599	91.669	87.982	84.490
12/26/2007	12/26/2012	12/26/2008	3.460	110.353	106.071	102.843	100.906	99.980	99.391	98.834	98.284
12/26/2007	12/26/2012	12/27/2010	3.960	112.615	108.124	104.330	101.272	98.669	96.277	93.996	91.791
1/2/2008	1/2/2013	1/4/2010	3.490	110.343	106.009	102.777	100.605	98.949	97.442	95.982	94.554
1/3/2008	1/5/2015	1/3/2011	3.650	113.162	107.588	103.443	100.323	97.708	95.313	93.027	90.818
1/4/2008	1/4/2018	1/4/2011	3.360	113.682	107.118	102.714	99.573	96.980	94.600	92.327	90.129
1/7/2008	1/7/2013	1/7/2009	2.990	108.146	104.156	101.573	100.289	99.620	99.029	98.447	97.873
1/7/2008	1/7/2013	1/7/2011	3.590	110.844	106.446	102.906	100.046	97.524	95.154	92.872	90.662
1/7/2008	1/7/2015	1/7/2011	3.490	112.210	106.803	102.845	99.847	97.288	94.911	92.629	90.422
1/7/2008	1/8/2018	7/7/2008	2.590	108.015	103.280	100.936	100.074	99.914	99.807	99.700	99.593
1/8/2008	1/8/2013	1/8/2010	3.150	108.868	104.748	101.887	99.982	98.400	96.897	95.429	93.990
1/8/2008	1/8/2018	7/8/2008	2.570	107.882	103.202	100.901	100.067	99.912	99.805	99.698	99.591
1/8/2008	1/8/2018	7/8/2008	2.640	108.353	103.487	101.025	100.094	99.919	99.812	99.705	99.599
1/10/2008	1/10/2011	1/12/2009	3.100	106.401	103.767	101.643	100.379	99.687	99.087	98.496	97.914
1/11/2008	1/11/2018	1/12/2009	2.720	108.927	103.851	101.193	100.086	99.450	98.850	98.258	97.673
1/14/2008	1/16/2018	1/14/2011	3.240	112.844	106.514	102.287	99.240	96.664	94.275	91.982	89.762
1/16/2008	1/16/2013	7/16/2008	2.550	106.291	102.776	100.833	100.063	99.895	99.765	99.636	99.508
1/16/2008	1/16/2013	1/16/2009	2.690	106.896	103.207	101.046	100.060	99.424	98.810	98.205	97.608
1/16/2008	1/16/2015	1/16/2009	2.640	107.382	103.233	100.997	100.026	99.392	98.779	98.174	97.577
1/16/2008	1/16/2018	7/16/2008	2.380	106.711	102.552	100.644	100.013	99.873	99.744	99.615	99.486
1/17/2008	1/17/2018	7/17/2008	2.250	105.931	102.144	100.492	99.988	99.854	99.722	99.590	99.459
1/18/2008	1/18/2013	1/20/2009	2.550	106.305	102.789	100.840	99.964	99.332	98.713	98.103	97.501
1/18/2008	1/20/2015	7/18/2008	2.350	105.903	102.327	100.600	100.006	99.859	99.719	99.579	99.440
1/18/2008	1/18/2018	7/18/2008	2.290	106.174	102.274	100.539	99.995	99.856	99.722	99.587	99.453
1/24/2008	1/24/2012	7/24/2009	2.440	105.443	102.422	100.641	99.455	98.352	97.271	96.210	95.168
1/24/2008	1/24/2013	1/25/2010	2.500	106.133	102.673	100.554	98.906	97.340	95.810	94.311	92.843
1/25/2008	1/25/2013	1/26/2009	2.250	104.786	101.256	100.420	99.767	99.122	98.486	97.858	97.238
1/25/2008	1/25/2011	1/25/2011	2.650	106.709	102.936	100.100	97.559	95.124	92.766	90.479	88.261
1/28/2008	1/28/2010	1/28/2009	2.630	104.052	102.374	100.848	100.021	99.366	98.721	98.084	97.456
1/28/2008	1/28/2013	1/28/2011	2.990	108.268	104.163	101.074	98.453	95.989	93.611	91.306	89.070
1/30/2008	1/30/2013	2/1/2010	2.670	106.913	103.236	100.874	99.096	97.439	95.825	94.246	92.700
2/7/2008	2/7/2013	2/8/2010	2.490	106.013	102.551	100.445	98.777	97.186	95.632	94.111	92.622
2/8/2008	2/8/2011	8/8/2008	1.990	103.520	101.329	100.247	99.921	99.728	99.537	99.347	99.158
2/8/2008	2/8/2013	8/8/2008	1.990	103.999	101.371	100.248	99.921	99.728	99.537	99.347	99.158
2/13/2008	2/13/2013	2/14/2011	2.920	107.949	103.906	100.798	98.140	95.647	93.245	90.919	88.663
2/14/2008	2/14/2018	2/14/2012	3.190	111.884	105.554	101.142	97.492	94.144	90.968	87.927	85.008
2/15/2008	2/16/2010	2/17/2009	2.350	103.613	101.870	100.533	99.793	99.100	98.417	97.744	97.081
2/19/2008	2/19/2013	2/19/2010	2.590	106.367	102.678	100.633	98.954	97.333	95.747	94.196	92.677
2/22/2008	2/22/2011	2/23/2009	2.500	104.973	102.254	100.655	99.904	99.195	98.496	97.807	97.128
2/25/2008	2/25/2013	2/25/2011	3.090	108.771	104.541	101.325	98.617	96.085	93.649	91.290	89.004
2/25/2008	2/26/2018	2/25/2009	2.420	107.057	102.767	100.740	99.850	99.128	98.418	97.719	97.030
3/7/2008	3/8/2010	6/9/2008	1.990	102.997	101.268	100.238	99.994	99.972	99.950	99.929	99.906
3/7/2008	3/9/2015	3/7/2011	2.890	108.765	104.049	100.682	97.903	95.337	92.878	90.498	88.195
3/7/2008	3/7/2018	3/7/2013	3.550	115.332	108.038	102.302	97.463	93.143	89.151	85.401	81.852
3/10/2008	3/11/2013	3/10/2010	2.390	105.623	102.280	100.191	98.451	96.778	95.143	93.545	91.981
3/11/2008	3/11/2011	3/11/2009	2.090	103.814	101.512	100.289	99.502	98.745	98.000	97.268	96.546
3/12/2008	3/12/2013	3/12/2009	2.010	104.094	101.420	100.222	99.439	98.680	97.933	97.197	96.474
3/14/2008	3/14/2011	9/15/2008	1.990	103.562	101.347	100.251	99.877	99.587	99.299	99.013	98.729
3/14/2008	3/14/2018	3/15/2010	2.400	106.858	102.597	100.261	98.474	96.789	95.147	93.541	91.970
3/17/2008	3/18/2013	3/17/2011	2.690	106.979	103.079	100.041	97.350	94.793	92.324	89.934	87.618
3/17/2008	3/17/2015	3/17/2011	2.620	106.841	102.740	99.805	97.152	94.606	92.143	89.758	87.446
3/17/2008	3/19/2018	3/18/2013	3.300	113.397	106.462	100.970	96.269	92.016	88.054	84.320	80.780
3/25/2008	3/27/2023	3/25/2013	3.150	113.229	105.642	100.140	95.524	91.320	87.385	83.661	80.126
3/26/2008	3/26/2018	3/26/2012	2.980	110.389	104.496	100.243	96.591	93.187	89.945	86.840	83.861
3/28/2008	3/28/2013	3/28/2011	2.800	107.471	103.453	100.378	97.662	95.078	92.582	90.166	87.825
3/28/2008	3/28/2013	3/28/2011	2.820	107.563	103.526	100.436	97.718	95.132	92.635	90.218	87.877
3/28/2008	3/28/2018	3/30/2009	2.020	104.745	101.592	100.268	99.438	98.635	97.846	97.069	96.304
3/28/2008	3/28/2018	3/28/2011	2.770	109.470	104.090	100.490	97.624	95.006	92.504	90.087	87.748
3/31/2008	3/31/2011	3/31/2009	1.990	103.655	101.427	100.246	99.417	98.609	97.814	97.033	96.263
4/14/2008	4/14/2015	4/14/2011	2.750	107.562	103.188	100.097	97.357	94.743	92.219	89.776	87.411
4/28/2008	4/28/2015	4/28/2011	3.250	111.099	105.849	101.974	98.889	96.140	93.544	91.047	88.633
4/28/2008	4/30/2018	7/28/2008	2.150	105.477	101.940	100.428	99.976	99.807	99.640	99.472	99.306
4/30/2008	4/30/2018	4/30/2013	3.740	116.900	109.207	103.231	98.250	93.813	89.711	85.860	82.215
5/1/2008	5/1/2013	8/1/2008	2.190	104.771	101.763	100.387	99.960	99.787	99.615	99.444	99.273
5/5/2008	5/5/2015	5/5/2011	3.170	110.452	105.284	101.506	98.455	95.709	93.109	90.605	88.186
5/8/2008	5/8/2015	5/10/2010	2.960	109.230	104.456	101.430	99.303	97.441	95.658	93.921	92.224
5/19/2008	5/21/2018	5/20/2013	3.890	118.184	110.202	103.993	98.865	94.322	90.152	86.242	82.552
5/23/2008	5/23/2018	5/23/2011	3.270	113.351	106.811	102.301	98.924	96.035	93.359	90.804	88.341
5/27/2008	5/27/2010	5/27/2009	2.790	104.850	102.840	101.102	99.993	99.033	98.096	97.177	96.275
5/27/2008	5/27/2011	5/27/2010	3.220	107.327	104.357	101.870	99.824	97.931	96.098	94.311	92.566
5/27/2008	5/28/2013	5/27/2011	3.490	110.890	106.221	102.506	99.420	96.617	93.953	91.387	88.907
5/29/2008	5/29/2018	5/31/2011	3.460	114.085	106.971	102.577	99.365	96.538	93.868	91.300	88.819