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: 5/31/2010 **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	8/27/2010	6.5800	111.6425	111.6425	111.3447	109.5336	107.7491	106.0336	104.4302	103.0013
4/8/1998	4/8/2013	7/8/2010	5.4900	115.9050	115.9050	114.0224	111.0843	108.3509	105.9267	103.8759	102.2426
8/19/1998	8/19/2013	8/19/2010	5.4900	117.9331	117.9331	115.2870	112.0082	109.0094	106.3773	104.1721	102.4193
8/19/1998	8/19/2013	8/19/2010	5.4900	117.9331	117.9331	115.2870	112.0082	109.0094	106.3773	104.1721	102.4193
8/25/1998	8/19/2013	7/26/2010	5.4900	117.9331	117.9331	115.2864	112.0071	109.0047	106.3710	104.1618	102.4062
8/27/1998	8/19/2013	7/27/2010	5.4900	117.9331	117.9331	115.2863	112.0063	109.0032	106.3683	104.1576	102.4013
9/30/1998	9/30/2013	6/30/2010	5.2200	117.6601	117.6601	114.7607	111.4161	108.3914	105.7793	103.6273	101.9600
12/14/1998	12/16/2013	6/14/2010	5.3900	119.3880	119.3360	115.9751	112.4291	109.2371	106.4772	104.1968	102.4047
12/14/1998	12/16/2013	6/14/2010	4.8900	117.5894	117.5374	114.2077	110.7419	107.6748	105.0914	103.0306	101.4941
12/15/1998	12/16/2013	6/15/2010	4.8800	117.5535	117.5014	114.1721	110.7071	107.6424	105.0619	103.0053	101.4743
1/7/2000	1/7/2015	7/7/2010	5.9500	127.7984	125.8228	121.1248	116.6965	112.7695	109.3815	106.5337	104.2266
5/30/2000	6/1/2010	6/1/2010	6.4900	100.0180	100.0180	100.0180	100.0174	100.0146	100.0118	100.0090	100.0062
8/8/2000	8/9/2010	8/9/2010	5.9900	101.1647	101.1647	101.1647	101.1113	100.9157	100.7210	100.5270	100.3338
8/18/2000	8/18/2010	8/18/2010	6.0900	101.3364	101.3364	101.3364	101.2740	101.0532	100.8334	100.6146	100.3968
10/5/2000	10/5/2010	7/6/2010	5.7100	102.0143	102.0143	102.0143	101.8879	101.5329	101.1803	100.8302	100.4829
10/10/2000	10/12/2010	7/12/2010	5.8400	102.1737	102.1737	102.1737	102.0345	101.6597	101.2877	100.9184	100.5521
10/13/2000	10/13/2010	7/13/2010	5.7500	102.1562	102.1562	102.1562	102.0151	101.6376	101.2629	100.8910	100.5227
10/23/2000	10/25/2010	7/23/2010	5.6400	102.3029	102.3029	102.3029	102.1399	101.7289	101.3212	100.9167	100.5183
12/5/2000	12/6/2010	6/7/2010	5.4100	102.8401	102.8401	102.8401	102.5838	102.0555	101.5327	101.0172	100.5289
12/11/2000	12/13/2010	6/11/2010	5.1700	102.8146	102.8146	102.8146	102.5411	101.9937	101.4522	100.9192	100.4324
12/12/2000	12/13/2010	6/14/2010	5.1100	102.7820	102.7820	102.7820	102.5085	101.9612	101.4198	100.8871	100.4051
12/15/2000	12/15/2010	6/15/2010	5.1200	102.8159	102.8159	102.8159	102.5374	101.9846	101.4377	100.8996	100.4122
12/20/2000	12/20/2010	6/21/2010	4.9500	102.7911	102.7911	102.7911	102.5005	101.9339	101.3737	100.8267	100.3379
12/21/2000	12/21/2010	6/21/2010	4.8600	102.7539	102.7539	102.7539	102.4608	101.8917	101.3289	100.7815	100.2958
1/11/2001	1/11/2011	7/11/2010	5.3700	103.3561	103.3561	103.3561	103.0086	102.3799	101.7589	101.1455	100.5395
1/12/2001	1/12/2011	7/12/2010	5.3000	103.3271	103.3271	103.3271	102.9770	102.3457	101.7221	101.1061	100.4977
2/5/2001	2/7/2011	8/5/2010	4.8200	103.3738	103.3738	103.3738	102.9532	102.2506	101.5589	100.9015	100.3564
2/7/2001	2/7/2011	8/9/2010	4.8200	103.3738	103.3738	103.3738	102.9532	102.2506	101.5589	100.9008	100.3541
2/26/2001	2/28/2011	8/26/2010	5.0600	103.8370	103.8370	103.8370	103.3543	102.5928	101.8435	101.1243	100.5001
2/26/2001	2/28/2011	8/26/2010	5.4500	104.1327	104.1327	104.1327	103.6495	102.8867	102.1357	101.4049	100.7410
2/26/2001	2/28/2011	8/26/2010	4.7900	103.6322	103.6322	103.6322	103.1500	102.3893	101.6412	100.9333	100.3493
2/27/2001	2/28/2011	8/27/2010	5.0200	103.8066	103.8066	103.8066	103.3240	102.5626	101.8135	101.0954	100.4769
2/27/2001	2/28/2011	8/27/2010	4.7600	103.6095	103.6095	103.6095	103.1273	102.3667	101.6188	100.9121	100.3311
3/1/2001	3/1/2011	9/1/2010	5.2700	104.0109	104.0109	104.0109	103.5249	102.7599	102.0076	101.2823	100.6440
3/14/2001	3/14/2011	6/14/2010	4.8600	103.8743	103.8743	103.8743	103.3503	102.5506	101.7656	101.0265	100.4123
4/23/2001	4/25/2011	4/24/2006	5.3500	104.8891	104.8891	104.8891	104.2337	103.3156	102.4137	101.5276	100.6569
6/1/2001	6/1/2011	9/1/2010	4.9900	105.0729	105.0729	105.0727	104.2949	103.2764	102.2865	101.3742	100.6229
12/13/2001	12/13/2011	6/14/2010	4.9200	107.6666	107.6666	107.5837	106.0127	104.4701	103.0249	101.7654	100.7871
6/3/2002	6/4/2012	6/3/2010	4.4900	109.1666	109.1666	108.5891	106.5256	104.5010	102.5257	100.5983	98.7173
6/4/2002	6/4/2012	6/4/2010	4.4900	109.1666	109.1666	108.5891	106.5256	104.5010	102.5257	100.5983	98.7173
12/5/2002	12/5/2012	6/7/2010	3.7900	109.6744	109.6744	108.4062	105.8387	103.3371	100.9084	98.5499	96.2593
3/6/2003	3/6/2013	6/7/2010	2.9900	108.3879	108.3879	106.7253	104.1908	102.1752	100.7986	100.1058	99.9757
2/5/2004	12/14/2010	6/14/2010	5.8200	103.1847	103.1847	103.1847	102.9083	102.3570	101.8116	101.2729	100.7560
6/18/2004	6/20/2011	6/18/2010	4.1200	104.4058	104.4058	104.4008	103.5478	102.4823	101.4374	100.4126	99.4073
7/2/2004	7/2/2014	7/4/2010	3.9900	116.5463	115.7549	111.5379	107.3826	103.4012	99.5929	97.1402	96.5610
12/13/2004	12/15/2014	6/14/2010	3.3200	115.2984	113.6422	109.6475	106.2057	103.5280	101.6183	100.4453	99.9767
6/6/2005	6/7/2010	6/7/2010	3.8900	100.0756	100.0756	100.0756	100.0709	100.0515	100.0320	100.0125	99.9931
7/18/2005	7/19/2010	7/19/2010	4.1600	100.5662	100.5662	100.5662	100.5312	100.3947	100.2587	100.1230	99.9876
9/1/2005	9/1/2015	6/1/2010	4.1300	122.0137	118.1397	112.6843	107.4161	102.4265	97.7055	97.0965	96.0514
9/19/2005	9/19/2012	6/21/2010	3.8200	108.9339	108.9339	107.9610	105.6578	103.5913	101.9205	100.7282	100.1062
9/26/2005	9/26/2012	6/28/2010	3.8900	109.1733	109.1733	108.1737	105.8464	103.7505	102.0417	100.8053	100.1292
9/30/2005	9/30/2015	6/30/2010	4.4400	124.0238	119.8907	114.3201	108.9378	103.8427	99.0249	96.7030	96.4830
10/26/2005	10/26/2015	7/26/2010	4.5400	124.8928	120.5318	114.8757	109.4142	104.2472	99.3645	96.8314	96.7200
10/28/2005	10/28/2015	7/28/2010	4.3100	123.6556	119.7279	114.8803	110.6251	107.1154	104.3404	102.2708	100.8607
10/28/2005	10/28/2015	7/28/2010	4.1400	122.7225	118.8352	114.0594	109.8929	106.4867	103.8303	101.8888	100.6287
11/4/2005	11/4/2010	8/4/2010	4.5200	101.9711	101.9711	101.9711	101.7885	101.3508	100.9168	100.4919	100.1304
11/21/2005	11/21/2012	8/23/2010	4.2900	110.7839	110.7839	109.5719	107.0721	104.7940	102.8791	101.4153	100.4393
1/6/2006	1/6/2016	7/6/2010	4.0200	122.8059	118.4893	113.6830	109.5302	106.1686	103.5802	101.7241	100.5520
1/17/2006	1/19/2016	7/19/2010	4.0800	123.2803	118.8564	114.0002	109.7986	106.3849	103.7409	101.8259	100.5974
3/20/2006	3/21/2011	6/21/2010	4.7600	103.8871	103.8871	103.8871	103.3425	102.5237	101.7180	100.9250	100.1443
4/11/2006	4/11/2011	7/12/2010	4.9800	104.3573	104.3573	104.3573	103.7474	102.8697	102.0105	101.2030	100.5261
4/19/2006	4/19/2013	7/19/2010	4.6300	113.5548	113.5548	111.6336	108.7357	106.1206	103.9064	102.1579	100.9039
4/24/2006	4/25/2016	7/26/2010	4.4400	126.4312	121.2439	116.0862	111.5898	107.8804	104.9309	102.6996	101.1372
4/28/2006	4/28/2011	7/28/2010	5.0900	104.6939	104.6939	104.6939	104.0296	103.1043	102.1956	101.3029	100.4259
5/5/2006	5/6/2013	8/5/2010	4.7800	114.2197	114.2197	112.2137	109.2609	106.5893	104.3105	102.4886	101.1504
5/5/2006	5/5/2016	8/5/2010	4.9800	129.7925	124.3724	118.9697	114.1887	110.1610	106.8620	104.2598	102.3084
5/5/2006	5/5/2016	8/5/2010	4.3500	126.0023	120.7906	115.6701	111.2235	107.5728	104.6933	102.5340	101.0549
5/5/2006	5/5/2016	8/5/2010	4.5300	127.0852	121.8086	116.6033	112.0562	108.2905	105.2837	102.9936	101.3681
5/9/2006	5/9/2011	8/9/2010	5.0500	104.8113	104.8113	104.8113	104.1108	103.1553	102.2230	101.3506	100.6216
5/15/2006	5/16/2016	8/16/2010	4.3500	126.1233	120.8345	115.6947	111.2330	107.5710	104.6812	102.5138	101.0248
5/15/2006	5/16/2016	8/16/2010	4.5200	127.1512	121.7996	116.5791	112.0218	108.2503	105.2397	102.9468	101.3204
5/19/2006	5/19/2016	8/19/2010	4.5100	127.1251	121.7559	116.5346	111.9777	108.2087	105.2011	102.9092	101.2880

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
6/12/2006	6/13/2016	6/14/2010	4.6200	128.0078	122.5048	117.1995	112.5615	108.7087	105.6166	103.2426	101.5342
6/26/2006	6/27/2016	6/28/2010	4.7300	128.7694	123.1979	117.8141	113.0970	109.1607	105.9817	103.5160	101.7134
6/28/2006	6/28/2013	6/28/2010	4.9500	115.4542	115.4542	113.1479	110.0464	107.2379	104.8255	102.8709	101.4006
6/30/2006	7/1/2013	6/30/2010	4.8900	115.3076	115.3076	112.9850	109.8865	107.0864	104.6917	102.7568	101.3090
7/14/2006	7/15/2013	7/14/2010	4.8900	115.4977	115.4977	113.0880	109.9588	107.1366	104.7323	102.7983	101.3538
7/19/2006	7/19/2011	7/19/2010	5.2500	106.0372	106.0372	106.0249	105.0475	103.8961	102.7797	101.7468	100.8739
7/20/2006	7/20/2011	7/20/2010	5.3000	106.1094	106.1094	106.0968	105.1151	103.9599	102.8269	101.7153	100.6246
7/24/2006	7/25/2016	7/26/2010	4.6600	128.5223	122.9219	117.5324	112.8256	108.9152	105.7694	103.3461	101.5893
7/28/2006	7/28/2016	7/28/2010	4.4900	127.4829	121.9423	116.6290	112.0146	108.2070	105.1746	102.8726	101.2429
8/1/2006	8/1/2016	8/2/2010	4.8900	130.0089	124.3202	118.8218	113.9927	109.9484	106.6588	104.0807	102.1715
8/11/2006	8/11/2011	8/11/2010	4.7900	105.8142	105.8142	105.7961	104.7256	103.5166	102.3620	101.3404	100.5482
8/21/2006	8/21/2013	8/22/2010	4.7500	115.5422	115.5422	112.8830	109.5466	106.3182	103.2046	100.2009	98.6095
8/25/2006	8/25/2016	8/25/2010	4.3500	126.7987	121.2490	115.9713	111.4152	107.6855	104.7451	102.5400	101.0214
8/28/2006	8/29/2011	6/1/2010	4.8900	106.1801	106.1801	106.1574	105.0117	103.7499	102.5121	101.2978	100.1063
9/22/2006	9/22/2011	6/22/2010	4.7900	106.3730	106.3730	106.3442	105.0994	103.7772	102.5235	101.4237	100.5755
9/29/2006	9/29/2011	6/29/2010	4.5900	106.1962	106.1962	106.1656	104.8931	103.5560	102.2968	101.2171	100.4111
10/10/2006	10/10/2013	7/12/2010	4.2500	114.4963	114.4963	111.5870	108.3731	105.5963	103.3525	101.6763	100.5692
10/12/2006	10/15/2013	7/12/2010	4.5000	115.4116	115.4116	112.4548	109.1839	106.3217	103.9603	102.1390	100.8677
10/30/2006	10/31/2011	7/30/2010	4.8500	106.9782	106.9782	106.9395	105.5318	104.0976	102.6912	101.3118	99.9587
11/3/2006	11/3/2011	5/8/2010	4.6900	106.7871	106.7871	106.7476	105.3286	103.8879	102.4752	101.0896	99.7304
11/6/2006	11/6/2013	8/6/2010	4.2900	114.9545	114.9545	111.8800	108.6057	105.7808	103.4969	101.7785	100.6421
11/10/2006	11/13/2012	8/10/2010	4.3900	110.9378	110.9378	109.7550	107.2710	104.9966	103.0694	101.5712	100.5609
11/17/2006	11/18/2013	8/17/2010	4.3500	115.3086	115.3086	112.1558	108.8422	105.9757	103.6461	101.8800	100.6918
11/24/2006	11/25/2016	8/24/2010	4.1900	126.3090	120.6605	115.3535	110.8232	107.1512	104.2918	102.1944	100.8030
11/30/2006	12/2/2013	6/1/2010	4.3500	115.4778	115.4713	112.1665	108.5623	105.0867	101.7438	99.8840	99.7182
12/1/2006	12/1/2016	9/1/2010	4.0900	125.7010	120.1005	114.8552	110.3969	106.8060	104.0380	102.0302	100.7265
12/4/2006	12/5/2016	9/7/2010	4.0800	125.6510	120.0514	114.8072	110.3524	106.7652	104.0014	101.9977	100.6963
12/5/2006	12/5/2016	6/7/2010	4.2600	126.8248	121.1314	115.7808	111.2050	107.4866	104.5767	102.4271	100.9708
12/6/2006	12/6/2013	6/7/2010	4.4000	115.7046	115.6851	112.4337	109.0804	106.1788	103.8152	102.0167	100.7857
12/8/2006	12/8/2016	6/8/2010	3.9900	125.0767	119.5176	114.3274	109.9280	106.4064	103.7121	101.7881	100.5607
12/12/2006	12/12/2016	6/14/2010	3.9900	125.0912	119.5264	114.3314	109.9282	106.4021	103.7040	101.7761	100.5435
12/12/2006	12/12/2016	6/14/2010	4.0500	125.4836	119.8864	114.6518	110.2077	106.6366	103.8912	101.9092	100.6293
12/19/2006	12/19/2011	6/21/2010	4.4900	107.0713	107.0713	106.9717	105.3881	103.8433	102.4244	101.2527	100.4081
12/19/2006	12/19/2016	6/21/2010	4.1900	126.4309	120.7479	115.4164	110.8694	107.1871	104.3219	102.2173	100.8151
12/20/2006	12/20/2013	6/21/2010	4.5000	116.2365	116.1715	112.8536	109.4504	106.4930	104.0629	102.1955	100.8849
12/21/2006	12/21/2011	6/21/2010	4.5300	107.1595	107.1595	107.0542	105.4646	103.9130	102.4859	101.3016	100.4410
12/27/2006	12/27/2013	6/28/2010	4.5000	116.3240	116.2363	112.8891	109.4719	106.5017	104.0632	102.1868	100.8700
12/28/2006	12/28/2016	6/28/2010	4.2500	126.8686	121.1359	115.7553	111.1567	107.4207	104.5017	102.3422	100.8837
12/28/2006	12/28/2016	6/28/2010	4.4000	127.8574	122.0488	116.5802	111.8832	108.0418	105.0072	102.7234	101.1304
1/8/2007	1/9/2012	7/8/2010	4.7500	107.7579	107.7579	107.5992	105.9524	104.3268	102.7346	101.1751	99.6472
1/12/2007	1/12/2017	7/12/2010	4.4200	128.0764	122.2409	116.7490	112.0332	108.1755	105.1273	102.8314	101.2249
1/16/2007	1/17/2017	1/17/2012	4.7900	130.5662	124.5446	118.8417	113.8871	109.7592	106.3635	103.5550	101.1881
1/23/2007	1/23/2014	7/23/2010	4.4900	116.6245	116.4488	112.9962	109.5358	106.5409	104.0848	102.1962	100.8760
1/23/2007	1/23/2017	7/23/2010	4.4600	128.4074	122.5245	116.9910	112.2360	108.3370	105.2475	102.9099	101.2607
1/29/2007	1/29/2014	7/29/2010	4.7900	117.8151	117.6198	114.0307	110.2380	106.5855	103.0773	100.8562	99.1048
2/2/2007	2/2/2017	8/2/2010	4.6900	129.8017	122.7791	115.8133	109.2053	103.0287	101.8423	100.5910	98.8821
2/9/2007	2/9/2012	8/9/2010	4.7500	108.1669	108.1669	107.9210	106.1873	104.5051	102.9656	101.6643	100.6929
2/9/2007	2/9/2017	8/9/2010	4.4700	128.5858	122.6678	117.1132	112.3421	108.4308	105.3336	102.9914	101.3412
2/12/2007	2/13/2012	8/12/2010	4.8800	108.4447	108.4447	108.1874	106.4404	104.7428	103.1788	101.8398	100.8194
2/15/2007	2/15/2012	8/16/2010	4.9900	108.6627	108.6627	108.3998	106.6441	104.9129	103.2190	101.5614	99.9390
2/20/2007	2/21/2017	8/20/2010	4.3900	128.1279	122.2141	116.6891	111.9534	108.0885	105.0428	102.7476	101.1566
2/20/2007	2/21/2017	2/21/2012	4.8500	130.9983	123.9030	117.2607	111.8197	107.6814	104.5917	102.1667	100.1192
2/23/2007	2/23/2017	8/23/2010	4.2500	127.2019	121.3561	115.9090	111.2640	107.5009	104.5585	102.3858	100.9196
2/23/2007	2/23/2017	8/23/2010	4.3500	127.8736	121.9724	116.4672	111.7547	107.9166	104.9007	102.6377	101.0794
3/2/2007	3/2/2012	9/2/2010	4.4900	107.9942	107.9942	107.6866	105.8956	104.1747	102.6306	101.3807	100.4965
3/9/2007	3/10/2014	6/9/2010	4.4500	117.0449	116.7211	113.0967	109.5706	106.5430	104.0740	102.1943	100.8883
3/16/2007	3/16/2017	6/16/2010	4.0900	126.2316	120.4477	115.0781	110.5342	106.8799	104.0667	102.0259	100.6934
3/20/2007	3/20/2012	6/20/2010	4.5500	108.3286	108.3286	107.9700	106.1228	104.3051	102.5282	100.7909	99.9771
3/21/2007	3/21/2017	6/21/2010	4.2200	127.1329	121.2650	115.8052	111.1634	107.4060	104.4805	102.3259	100.8793
3/23/2007	3/23/2017	6/23/2010	4.2900	127.6171	121.7069	116.2001	111.5060	107.6959	104.7112	102.4971	100.9869
3/23/2007	3/23/2017	6/23/2010	4.2900	127.6171	121.7069	116.2001	111.5060	107.6959	104.7112	102.4971	100.9869
3/30/2007	3/30/2012	6/21/2010	4.6700	108.6779	108.6779	108.2910	106.4135	104.5664	102.7611	100.9965	99.2715
4/2/2007	4/2/2012	7/2/2010	4.5900	108.5675	108.5675	108.1722	106.2918	104.4883	102.8739	101.5526	100.5981
4/9/2007	4/10/2017	7/9/2010	4.1500	126.7576	120.9072	115.4765	110.8728	107.1635	104.2923	102.1963	100.8085
4/12/2007	4/12/2017	7/12/2010	4.2500	127.4509	121.5370	116.0380	111.3604	107.5722	104.6194	102.4362	100.9598
4/13/2007	4/13/2017	7/13/2010	4.4500	128.8245	122.7961	117.1715	112.3560	108.4183	105.3085	102.9582	101.3059
4/23/2007	4/23/2012	7/25/2010	4.6500	108.9508	108.9508	108.4959	106.5499	104.6371	102.7689	100.9440	99.1610
4/23/2007	4/23/2014	7/23/2010	4.6200	118.2608	117.7921	113.9676	110.3216	107.1690	104.5751	102.5590	101.1103
4/27/2007	4/27/2012	7/27/2010	4.5500	108.8088	108.8088	108.3427	106.3920	104.5267	102.8648	101.5104	100.5465
4/27/2007	4/27/2017	7/27/2010	4.2500	127.5329	121.5815	116.0589	111.3620	107.5586	104.5922	102.3984	100.9123
5/2/2007	5/2/2014	8/2/2010	4.5900	118.2569	117.7591	113.9080	110.2604	107.1175	104.5445	102.5523	101.1368
5/4/2007	5/5/2014	8/4/2010	4.5500	118.1357	117.6282	113.7707	110.1262	106.9950	104.4372	102.4635	101.0729

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
5/14/2007	5/16/2011	8/16/2010	4.5000	104.3748	104.3748	104.3748	103.6525	102.6808	101.7415	100.9005	100.2745
5/18/2007	5/18/2017	8/18/2010	4.1900	127.2502	121.2910	115.7852	111.1175	107.3535	104.4277	102.2864	100.8610
5/22/2007	5/22/2012	8/23/2010	4.6900	109.4055	109.4055	108.8682	106.8442	104.9106	103.1823	101.7531	100.7080
5/22/2007	5/22/2012	8/23/2010	4.6900	109.4055	109.4055	108.8682	106.8442	104.9106	103.1823	101.7531	100.7080
5/22/2007	5/22/2012	8/23/2010	4.7100	109.4456	109.4456	108.9083	106.8838	104.9490	103.2170	101.7815	100.7274
5/22/2007	5/22/2017	5/22/2012	4.7500	131.1556	124.8784	119.0136	113.9569	109.7390	106.2231	103.2456	100.6702
5/25/2007	5/25/2012	8/25/2010	4.6500	109.3641	109.3641	108.8183	106.7867	104.8478	103.1201	101.6975	100.6682
5/29/2007	5/30/2017	8/30/2010	4.2500	127.7416	121.7136	116.1507	111.4239	107.6034	104.6185	102.4141	100.9237
6/1/2007	6/1/2010	6/1/2010	4.9900	100.0139	100.0139	100.0139	100.0132	100.0104	100.0076	100.0048	100.0021
6/1/2007	6/1/2012	6/2/2008	5.2300	110.6338	110.6338	110.0662	108.0021	106.0152	104.2025	102.6465	101.4246
6/1/2007	6/2/2014	9/1/2010	4.5000	118.2864	117.6831	113.7282	110.0494	106.9106	104.3534	102.3953	101.0219
6/7/2007	6/7/2012	6/7/2010	4.9400	110.1265	110.1265	109.5370	107.4620	105.4768	103.6811	102.1758	101.0234
6/7/2007	6/7/2017	6/7/2010	4.8200	131.7562	125.4192	119.4977	114.3907	110.1591	106.7516	104.0968	102.1454
6/8/2007	6/8/2012	6/9/2008	5.3000	110.8792	110.8792	110.2852	108.1996	106.1909	104.3534	102.7674	101.5111
6/8/2007	6/9/2014	6/8/2010	4.7300	119.3131	118.6663	114.6603	110.9112	107.6668	104.9904	102.8950	101.3698
6/8/2007	6/8/2017	6/8/2010	4.4900	129.4604	123.2909	117.5713	112.6811	108.6813	105.5153	103.1193	101.4235
6/11/2007	6/12/2017	6/11/2010	4.4900	129.4800	123.3045	117.5789	112.6842	108.6807	105.5106	103.1109	101.4102
6/15/2007	6/16/2014	6/16/2008	5.5500	122.7693	122.0770	117.9541	114.0114	110.4999	107.4867	104.9922	103.0117
6/18/2007	6/19/2017	6/18/2010	4.5000	129.5866	123.3910	117.6468	112.7356	108.7178	105.5333	103.1201	101.4054
6/18/2007	6/19/2017	6/18/2010	4.8400	131.9686	125.5966	119.6420	114.5048	110.2451	106.8104	104.1295	102.1504
6/19/2007	6/19/2017	6/21/2010	4.6500	130.6371	124.3588	118.5220	113.5072	109.3813	106.0826	103.5504	101.7170
6/20/2007	6/20/2012	6/21/2010	4.8900	110.2005	110.2005	109.5626	107.4523	105.4370	103.6222	102.1050	100.9520
6/20/2007	6/20/2012	6/21/2010	4.9600	110.3466	110.3466	109.7085	107.5962	105.5762	103.7495	102.2149	101.0350
6/22/2007	6/22/2017	6/22/2010	4.5000	129.6033	123.3999	117.6492	112.7329	108.7117	105.5250	103.1095	101.3942
6/26/2007	6/26/2012	6/28/2010	5.1300	110.7867	110.7867	110.1258	107.9921	105.9448	104.0781	102.4879	101.2419
6/28/2007	6/28/2017	6/28/2010	4.5000	129.6358	123.4191	117.6579	112.7335	108.7065	105.5148	103.0943	101.3747
7/13/2007	7/13/2012	7/13/2010	4.6900	110.0829	110.0829	109.3596	107.1917	105.1414	103.3285	101.8468	100.7651
7/13/2007	7/13/2017	7/13/2010	4.2900	128.2465	122.1371	116.4996	111.7163	107.8453	104.8223	102.5776	101.0472
7/13/2007	7/13/2017	7/13/2011	4.9000	132.5542	126.1085	120.0869	114.8873	110.5713	107.0707	104.2786	102.0596
7/18/2007	7/18/2017	7/19/2010	4.7800	131.7383	125.3392	119.3811	114.2528	110.0146	106.6067	103.9642	102.0258
7/19/2007	7/19/2012	7/19/2010	4.8900	110.5944	110.5944	109.8481	107.6572	105.5738	103.7100	102.1574	100.9808
7/20/2007	7/20/2017	7/20/2010	4.2900	128.2851	122.1582	116.5089	111.7170	107.8380	104.8097	102.5585	101.0241
7/23/2007	7/23/2012	7/23/2010	5.0500	110.9972	110.9972	110.2355	108.0299	105.9287	104.0387	102.4492	101.2238
7/24/2007	7/24/2012	7/26/2010	4.8200	110.5097	110.5097	109.7449	107.5420	105.4524	103.5913	102.0513	100.8965
7/27/2007	7/27/2012	7/27/2010	4.5900	110.0464	110.0464	109.2711	107.0678	104.9939	103.1718	101.7007	100.6461
7/27/2007	7/28/2014	7/27/2010	4.3500	118.3534	117.4225	113.3727	109.6498	106.5005	103.9689	102.0636	100.7651
7/27/2007	7/27/2017	7/27/2010	4.2500	128.0414	121.9206	116.2874	111.5163	107.6610	104.6587	102.4382	100.9323
7/27/2007	7/27/2017	7/27/2010	4.1800	127.5469	121.4694	115.8840	111.1646	107.3660	104.4198	102.2631	100.8269
7/30/2007	1/30/2019	7/30/2010	3.9900	129.0263	122.0798	116.0030	111.0121	107.0893	104.1200	102.0156	100.6671
7/31/2007	7/31/2017	8/2/2010	3.9900	126.2331	120.2731	114.8172	110.2375	106.5897	103.8111	101.8391	100.6079
7/31/2007	7/31/2017	8/2/2010	3.9900	126.2331	120.2731	114.8172	110.2375	106.5897	103.8111	101.8391	100.6079
7/31/2007	7/31/2017	8/2/2010	4.0600	126.7267	120.7212	115.2145	110.5803	106.8765	104.0353	102.0011	100.7057
8/2/2007	8/4/2014	8/2/2010	4.4900	119.0315	118.0589	113.9751	110.2095	107.0042	104.4082	102.4218	101.0369
8/2/2007	8/2/2017	8/2/2010	4.1500	127.3757	121.3190	115.7589	111.0667	107.3010	104.3885	102.2676	100.8699
8/2/2007	8/2/2017	8/2/2010	4.0500	126.6684	120.6768	115.1879	110.5728	106.8853	104.0588	102.0232	100.7221
8/6/2007	8/6/2012	8/6/2010	4.4900	109.9523	109.9523	109.1400	106.9153	104.8350	103.0297	101.5957	100.6007
8/6/2007	8/6/2012	8/6/2010	4.4900	109.9523	109.9523	109.1400	106.9153	104.8350	103.0297	101.5957	100.6007
8/9/2007	8/11/2014	8/9/2011	4.8600	120.6943	119.6754	115.5097	111.6234	108.2595	105.4520	103.1560	101.2699
8/9/2007	8/9/2017	8/9/2010	3.9900	126.2829	120.3127	114.8537	110.2776	106.6314	103.8530	101.8657	100.6140
8/13/2007	8/13/2012	8/13/2010	4.5900	110.2632	110.2632	109.4243	107.1764	105.0692	103.2271	101.7436	100.6876
8/16/2007	8/16/2017	8/16/2010	3.9900	126.3224	120.3318	114.8598	110.2766	106.6234	103.8401	101.8473	100.5914
8/17/2007	8/17/2012	8/17/2010	4.3500	109.7748	109.7748	108.9220	106.6732	104.5841	102.7924	101.3967	100.4551
8/17/2007	8/17/2012	8/17/2010	4.1500	109.3254	109.3254	108.4735	106.2336	104.1744	102.4360	101.1196	100.2757
8/17/2007	8/17/2017	8/17/2010	4.0000	126.3989	120.3993	114.9181	110.3256	106.6634	103.8703	101.8676	100.6019
8/20/2007	8/20/2010	8/20/2010	4.5900	101.0327	101.0327	101.0327	100.9685	100.7426	100.5178	100.2941	100.0713
8/20/2007	8/20/2014	8/20/2010	4.2500	118.2030	117.1125	113.0038	109.2396	106.0585	103.5175	101.5565	100.3877
8/24/2007	8/24/2010	8/24/2010	4.4600	101.0530	101.0530	101.0530	100.9848	100.7479	100.5121	100.2774	100.0438
8/24/2007	8/24/2012	8/24/2010	4.0500	109.1794	109.1794	108.3019	106.0489	103.9919	102.2707	100.9862	100.1845
8/28/2007	8/28/2014	8/30/2010	4.3500	118.7280	117.6254	113.5089	109.7415	106.5639	104.0079	102.0860	100.7773
8/30/2007	8/30/2012	8/30/2010	4.3900	110.0232	110.0232	109.1218	106.8359	104.7109	102.8852	101.4533	100.4746
8/30/2007	9/2/2014	8/30/2010	3.8900	116.8015	115.6876	111.6697	108.0648	105.1013	102.8190	101.2032	100.2646
8/31/2007	8/31/2012	8/31/2010	4.3700	109.9897	109.9897	109.0846	106.7969	104.6724	102.8498	101.4254	100.4546
9/4/2007	9/4/2012	9/7/2010	4.1900	109.6248	109.6248	108.7057	106.4180	104.3214	102.5526	101.2108	100.3275
9/4/2007	9/4/2012	9/7/2010	4.2200	109.6937	109.6937	108.7745	106.4852	104.3836	102.6057	101.2529	100.3548
9/4/2007	9/5/2017	9/7/2010	3.8900	125.7210	119.7678	114.3570	109.8408	106.2677	103.5657	101.6669	100.4742
9/6/2007	9/7/2010	6/7/2010	4.1600	101.1439	101.1439	101.1439	101.0591	100.7833	100.5089	100.2361	100.0229
9/7/2007	9/7/2012	6/7/2010	4.0900	109.4291	109.4291	108.4993	106.2094	104.1239	102.3804	101.0789	100.2518
9/10/2007	9/11/2017	6/10/2010	3.6900	124.3195	118.5024	113.2400	108.8805	105.4745	102.9523	101.2284	100.2627
9/11/2007	9/13/2010	6/11/2010	4.4300	101.2920	101.2920	101.2920	101.1988	100.9061	100.6150	100.3257	100.0669
9/11/2007	9/11/2017	6/11/2010	3.5900	123.6048	117.8689	112.6846	108.4094	105.0944	102.6605	101.0365	100.1896
9/12/2007	9/12/2014	6/14/2010	3.6900	116.0401	114.8767	110.9001	107.3704	104.5213	102.3741	100.9194	100.1584
9/13/2007	9/15/2014	6/14/2010	3.9900	117.3775	116.1840	112.1215	108.4673	105.4475	103.1026	101.4265	100.3647

Start Date	Maturity Date	Next Call Date	Coupon	-300	-200	-100	Base	+100	+200	+300	+400
9/13/2007	9/13/2017	9/13/2010	3.9900	126.4643	120.4266	114.9251	110.3228	106.6580	103.8654	101.8695	100.5917
9/14/2007	9/14/2011	6/14/2010	4.0900	105.3507	105.3507	105.3240	104.1170	102.8310	101.6551	100.7141	100.1364
9/14/2007	9/14/2012	9/14/2010	4.3900	110.2061	110.2061	109.2485	106.9233	104.7715	102.9291	101.4933	100.5050
9/17/2007	9/17/2012	6/17/2010	4.2200	109.8461	109.8461	108.8781	106.5529	104.4205	102.6183	101.2454	100.3327
9/27/2007	9/27/2010	6/28/2010	4.2500	101.4048	101.4048	101.4048	101.2921	100.9605	100.6310	100.3037	100.0432
9/27/2007	9/29/2014	9/27/2010	4.4900	119.7299	118.3872	113.8791	109.4433	105.2792	102.1658	100.6363	100.0877
9/27/2007	9/27/2017	6/28/2010	3.6500	124.0837	118.2727	113.0184	108.6774	105.2955	102.7970	101.1058	100.1939
9/28/2007	9/28/2010	6/28/2010	4.2900	101.4299	101.4299	101.4299	101.3158	100.9814	100.6491	100.3191	100.0517
9/28/2007	9/28/2012	6/28/2010	3.8500	109.1004	109.1004	108.0937	105.7639	103.6718	101.9750	100.7558	100.1100
10/3/2007	10/3/2012	7/6/2010	3.8300	109.1063	109.1063	108.0814	105.7439	103.6563	101.9741	100.7757	100.1049
10/9/2007	10/9/2012	10/9/2009	4.4000	110.5349	110.5349	109.4826	107.0592	104.6920	102.3902	100.1515	97.9739
10/11/2007	10/14/2014	7/12/2010	4.1800	118.5417	117.1711	113.0073	109.2420	106.1044	103.6282	101.8098	100.6201
10/11/2007	10/11/2017	7/12/2010	3.9900	126.5895	120.5146	114.9867	110.3631	106.6856	103.8826	101.8814	100.6153
10/15/2007	10/16/2017	7/15/2010	3.9900	126.6130	120.5278	114.9931	110.3639	106.6818	103.8740	101.8694	100.6028
10/22/2007	10/22/2012	7/22/2010	3.9900	109.6973	109.6973	108.5999	106.1986	104.0362	102.2609	100.9567	100.1772
10/25/2007	10/27/2014	10/25/2011	4.3600	119.4977	118.0438	113.8047	109.9513	106.7015	104.0340	101.8489	100.0094
10/26/2007	10/26/2017	7/26/2010	3.3900	122.3346	116.6995	111.6403	107.5096	104.3567	102.1039	100.6723	99.9903
10/29/2007	10/29/2012	7/29/2010	3.9900	109.7749	109.7749	108.6513	106.2310	104.0533	102.2658	100.9517	100.1659
11/2/2007	11/3/2014	8/2/2010	3.9900	117.9205	116.4480	112.2980	108.5857	105.5312	103.1668	101.4787	100.4329
11/2/2007	11/3/2014	11/2/2010	4.1900	118.8189	117.3346	113.1310	109.3393	106.1849	103.6958	101.8624	100.6116
11/5/2007	11/5/2014	8/5/2010	3.9900	117.9427	116.4592	112.3044	108.5887	105.5304	103.1624	101.4712	100.4225
11/5/2007	11/6/2017	11/5/2012	4.3900	129.6460	123.2519	117.4050	112.4240	108.2558	104.7175	101.6327	98.8770
11/6/2007	11/6/2017	8/6/2010	3.4800	123.0346	117.3130	112.1744	107.9636	104.7301	102.3904	100.8706	100.0736
11/9/2007	11/10/2014	11/9/2011	4.3300	119.5319	118.0012	113.7451	109.8891	106.6455	103.9789	101.7865	99.9253
11/13/2007	11/14/2011	8/13/2010	3.7600	105.5561	105.5561	105.5139	104.0580	102.6321	101.3902	100.4865	99.9812
11/13/2007	11/13/2012	8/13/2010	3.6800	109.1687	109.1687	107.9924	105.5657	103.4370	101.7630	100.6165	100.0080
11/13/2007	11/13/2014	8/13/2010	3.3500	115.1389	113.6590	109.6986	106.2682	103.5856	101.6647	100.4838	99.9060
11/19/2007	11/19/2014	8/19/2010	3.7500	117.0092	115.4644	111.3487	107.7149	104.7766	102.5529	101.0206	100.1390
11/19/2007	11/19/2014	8/19/2010	3.7500	117.0092	115.4644	111.3487	107.7149	104.7766	102.5529	101.0206	100.1390
11/19/2007	11/19/2014	11/21/2011	4.2700	119.3680	117.7903	113.5260	109.6759	106.4472	103.7946	101.6119	99.7484
11/19/2007	11/20/2017	11/19/2012	4.2900	128.4148	120.8067	114.8502	110.0018	106.2224	103.0776	100.3253	97.8217
11/20/2007	11/20/2017	11/22/2010	3.7400	124.9833	119.0092	113.6335	109.1830	105.6990	103.1026	101.2992	100.1301
11/23/2007	11/24/2017	11/23/2011	3.9900	126.1649	118.3623	111.7663	107.1310	104.1443	101.9978	100.2780	98.7580
11/23/2007	11/24/2017	11/23/2011	3.9900	126.1649	118.3623	111.7663	107.1310	104.1443	101.9978	100.2780	98.7580
11/29/2007	11/29/2017	8/30/2010	2.9500	119.3269	114.0509	109.3713	105.6392	102.9138	101.1092	100.1728	99.9964
11/30/2007	11/30/2017	8/30/2010	3.1900	121.0519	115.5371	110.6317	106.6644	103.6912	101.6251	100.3963	99.9971
12/6/2007	12/6/2017	6/7/2010	3.2500	121.5035	115.9348	110.9736	106.9570	103.9331	101.8175	100.5304	100.0099
12/7/2007	12/7/2012	6/7/2010	3.4500	108.8256	108.8256	107.5566	105.1007	103.0081	101.4208	100.4050	99.9901
12/10/2007	12/10/2010	6/10/2010	3.8700	102.0746	102.0746	102.0746	101.8094	101.2725	100.7430	100.2687	99.9975
12/10/2007	12/11/2017	12/10/2010	3.4500	122.9658	117.2103	112.0603	107.8561	104.6341	102.3133	100.7701	99.7696
12/11/2007	12/11/2012	6/11/2010	3.7600	109.6604	109.6604	108.3682	105.8677	103.6737	101.9374	100.7230	100.1083
12/14/2007	12/14/2010	6/14/2010	3.6900	102.0191	102.0191	102.0191	101.7441	101.1965	100.6581	100.1880	99.9785
12/20/2007	12/20/2012	6/21/2010	3.6000	109.3393	109.3393	108.0068	105.5013	103.3360	101.6586	100.5410	100.0223
12/20/2007	12/20/2012	6/21/2010	3.7500	109.7285	109.7285	108.3888	105.7806	103.2407	100.7757	98.3830	96.0600
12/24/2007	12/26/2017	12/24/2012	3.9900	126.2904	118.7935	113.2345	108.7180	105.0892	102.0260	99.3152	96.8177
12/26/2007	12/26/2012	6/28/2010	3.4600	109.0338	109.0338	107.6754	105.1746	103.0438	101.4254	100.3835	99.9476
12/26/2007	12/26/2012	12/27/2010	3.9600	110.3393	110.3393	108.9734	106.4144	104.1427	102.2983	100.9332	99.9705
1/2/2008	1/2/2013	7/2/2010	3.4900	109.1800	109.1800	107.7893	105.2753	103.1349	101.5083	100.4557	99.9943
1/3/2008	1/5/2015	1/3/2011	3.6500	117.0321	115.2081	111.0622	107.4361	104.5359	102.3687	100.8613	99.8251
1/4/2008	1/4/2018	1/4/2011	3.3600	122.3835	116.6898	111.6052	107.4716	104.3310	102.0939	100.6007	99.5960
1/7/2008	1/7/2013	7/7/2010	2.9900	107.9062	107.9062	106.5048	104.0685	102.1132	100.7715	100.0728	99.8753
1/7/2008	1/7/2013	1/7/2011	3.5900	109.4929	109.4929	108.0766	105.5367	103.3545	101.6691	100.4713	99.6105
1/7/2008	1/7/2015	1/7/2011	3.4900	116.3048	114.4847	110.3968	106.8465	104.0437	101.9928	100.5940	99.6292
1/7/2008	1/8/2018	7/7/2010	2.5900	116.8231	111.9420	107.6323	104.2696	101.9394	100.5460	99.9831	99.8307
1/8/2008	1/8/2013	7/8/2010	3.1500	108.3381	108.3381	106.9270	104.4564	102.4302	100.9882	100.1709	99.8921
1/8/2008	1/8/2018	7/8/2010	2.5700	116.6796	111.8223	107.5351	104.1942	101.8865	100.5157	99.9725	99.8238
1/8/2008	1/8/2018	7/8/2010	2.6400	117.1800	112.2377	107.8734	104.4556	102.0688	100.6177	100.0015	99.8323
1/10/2008	1/10/2011	7/12/2010	3.1000	101.9287	101.9287	101.9287	101.5861	100.9654	100.3862	100.0132	99.8666
1/11/2008	1/11/2018	7/12/2010	2.7200	117.7589	112.7178	108.2635	104.7588	102.2799	100.7337	100.0308	99.8258
1/14/2008	1/16/2018	1/14/2011	3.2400	121.5446	115.9422	110.9576	106.9260	103.8946	101.7711	100.3653	99.4108
1/16/2008	1/16/2013	7/16/2010	2.6900	107.1801	107.1801	105.7494	103.3719	101.5576	100.4172	99.9543	99.8016
1/16/2008	1/16/2013	7/16/2010	2.5500	106.8064	106.8064	105.3838	103.0490	101.3142	100.2857	99.9170	99.7838
1/16/2008	1/16/2015	7/16/2010	2.6400	112.3994	110.6606	106.9746	103.9451	101.7943	100.4902	99.9607	99.7952
1/16/2008	1/16/2018	7/16/2010	2.3800	115.3401	110.7157	106.6403	103.5073	101.4179	100.2732	99.8965	99.7622
1/17/2008	1/17/2018	7/19/2010	2.2500	114.4229	109.9702	106.0533	103.0700	101.1394	100.1546	99.8679	99.7290
1/18/2008	1/18/2013	7/19/2010	2.5500	106.8206	106.8206	105.3890	103.0511	101.3148	100.2860	99.9111	99.7696
1/18/2008	1/20/2015	7/19/2010	2.3500	111.0634	109.3707	105.8731	103.0711	101.1922	100.1922	99.8821	99.7425
1/18/2008	1/18/2018	7/19/2010	2.2900	114.7060	110.1977	106.2306	103.2006	101.2185	100.1873	99.8744	99.7344
1/24/2008	1/24/2012	7/26/2010	2.4400	104.0866	104.0866	103.8867	102.2645	100.9363	100.1468	99.8761	99.7195
1/24/2008	1/24/2013	7/26/2010	2.5000	106.7285	106.7285	105.2734	102.9427	101.2307	100.2392	99.8884	99.7288
1/25/2008	1/25/2013	1/25/2011	2.6500	107.1396	107.1396	105.6368	103.0196	101.1401	100.1334	99.4302	98.7856
1/25/2008	1/25/2013	1/25/2011	2.2500	106.0618	106.0618	104.5626	101.9043	99.3229	96.8204	94.3940	92.0408

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
1/28/2008	1/28/2013	1/28/2011	2.9900	108.0806	108.0806	106.5605	103.8870	101.7439	100.4713	99.6735	98.9983
1/30/2008	1/30/2013	7/30/2010	2.6700	107.2306	107.2306	105.7384	103.3408	101.5308	100.3994	99.9301	99.7376
2/7/2008	2/7/2013	8/9/2010	2.4900	106.7984	106.7984	105.2853	102.9458	101.2356	100.2516	99.8645	99.6579
2/13/2008	2/13/2013	2/14/2011	2.9200	108.0212	108.0212	106.4554	103.9714	102.0087	100.6329	99.6661	98.8908
2/14/2008	2/14/2018	2/14/2012	3.1900	120.2646	112.6408	107.7742	104.5109	102.1792	100.3040	98.5945	96.9704
2/19/2008	2/19/2013	8/19/2010	2.5900	107.1578	107.1578	105.5364	102.7990	100.1417	97.5672	95.0725	92.6547
2/22/2008	2/22/2011	2/23/2009	2.5000	101.8540	101.8540	101.8540	101.3927	100.6556	99.9292	99.2133	98.5076
2/25/2008	2/25/2013	2/25/2011	3.0900	108.5912	108.5912	106.9362	104.1907	101.9851	100.5951	99.6961	98.9360
2/25/2008	2/26/2018	8/25/2010	2.4200	115.7357	110.9963	106.8424	103.6523	101.5039	100.3071	99.8186	99.5612
3/7/2008	3/9/2015	3/7/2011	2.8900	113.9911	111.9218	108.0396	104.8087	102.4216	100.7981	99.6706	98.7916
3/7/2008	3/7/2018	3/7/2013	3.5500	124.0545	118.0757	112.7427	108.2555	104.4711	101.1666	98.1945	95.4563
3/10/2008	3/11/2013	6/10/2010	2.3900	106.7378	106.7378	105.0970	102.7486	101.0900	100.1680	99.9764	99.9486
3/11/2008	3/11/2011	6/11/2010	2.0900	101.6486	101.6486	101.6486	101.1383	100.4017	100.0002	99.9649	99.9344
3/12/2008	3/12/2013	6/14/2010	2.0100	105.6719	105.6719	104.0783	101.9190	100.5570	100.0025	99.9522	99.9134
3/14/2008	3/14/2018	6/14/2010	2.4000	115.6102	110.8990	106.7675	103.5997	101.4745	100.2967	99.9673	99.9285
3/17/2008	3/18/2013	3/17/2011	2.6900	107.6359	107.6359	105.9368	103.4653	101.5899	100.2985	99.3482	98.5312
3/17/2008	3/17/2015	3/17/2011	2.6200	112.7421	110.2453	105.4992	102.4100	100.9281	100.0206	99.2229	98.4562
3/17/2008	3/19/2018	3/18/2013	3.3000	122.2189	116.4629	111.3417	107.0389	103.3957	100.1954	97.2912	94.5946
3/25/2008	3/27/2023	3/25/2013	3.1500	122.4838	113.9639	109.0422	105.0886	101.8608	99.0239	96.3670	93.8312
3/26/2008	3/26/2018	3/26/2012	2.9800	118.6816	111.2092	106.9772	103.9469	101.7234	99.8011	98.0204	96.3134
3/28/2008	3/28/2013	3/28/2011	2.8200	108.0833	108.0833	106.2829	103.5285	101.5015	100.2851	99.3695	98.5582
3/28/2008	3/28/2013	3/28/2011	2.8000	108.0259	108.0259	106.2258	103.4753	101.4696	100.2608	99.3521	98.5416
3/28/2008	3/28/2018	6/28/2010	2.0200	112.9006	108.7344	105.0798	102.3611	100.7094	100.0192	99.9053	99.8278
3/28/2008	3/28/2018	3/28/2011	2.7700	118.3114	113.1179	108.5554	104.9670	102.4065	100.6944	99.5082	98.5784
3/31/2008	3/31/2011	6/30/2010	1.9900	101.6802	101.6802	101.6802	101.1116	100.3420	99.9792	99.8961	99.8131
4/14/2008	4/14/2015	4/14/2011	2.7500	113.5883	110.8841	106.0664	102.8183	101.1586	100.1241	99.2403	98.4003
4/28/2008	4/28/2015	4/28/2011	3.2500	116.1855	113.7331	109.6003	106.0920	103.3923	101.4356	100.0293	98.9265
4/28/2008	4/30/2018	7/28/2010	2.1500	113.8771	109.4810	105.6465	102.7592	100.9412	100.0677	99.8242	99.6631
4/30/2008	4/30/2018	4/30/2013	3.7400	124.7918	117.5278	112.3169	107.8479	104.1824	100.9626	98.0314	95.2927
5/2/2008	5/4/2015	5/2/2011	3.9900	119.9376	117.3201	112.8701	108.9579	105.6823	102.8514	100.2933	98.1671
5/5/2008	5/5/2015	5/5/2011	3.1700	115.8487	113.3808	109.2899	105.8345	103.2024	101.3021	99.9186	98.8165
5/8/2008	5/8/2015	8/9/2010	2.9600	114.8233	112.3899	108.4075	105.0923	102.6294	100.9973	100.1231	99.7704
5/19/2008	5/19/2015	5/21/2012	4.7000	123.6814	120.6826	115.6179	111.1160	107.1246	103.1823	99.1182	95.3659
5/19/2008	5/21/2018	5/20/2013	3.8900	126.0651	118.6983	113.2590	108.6091	104.7889	101.4565	98.4309	95.6146
5/23/2008	5/23/2013	5/23/2011	4.0400	112.2090	112.2090	110.1400	107.2264	104.5917	102.1464	99.8346	97.8647
5/23/2008	5/23/2018	5/23/2011	3.2700	122.2350	116.4055	111.2764	107.1517	104.0420	101.7997	100.1799	98.9285
5/27/2008	5/27/2011	8/27/2010	3.2200	103.2287	103.2287	103.2287	102.4739	101.4785	100.5024	99.5451	98.6060
5/27/2008	5/28/2013	5/27/2011	3.4900	110.5952	110.5952	108.4929	105.5049	103.0092	101.2750	99.9823	98.9263
5/29/2008	5/29/2018	5/31/2011	3.4600	122.6271	114.3741	107.6182	103.9386	102.0523	100.8205	99.7922	98.8289
6/6/2008	6/6/2013	6/6/2011	3.9900	112.2130	112.2130	110.0506	106.9848	104.2411	101.9607	99.9956	98.0676
6/10/2008	6/11/2012	6/10/2010	3.9400	108.1202	108.1202	107.5178	105.4277	103.2232	100.8079	100.0193	99.9915
6/16/2008	6/17/2013	6/16/2011	4.0700	112.5823	112.5823	110.3490	107.2525	104.5172	102.4030	100.8020	99.5532
6/24/2008	6/24/2015	6/24/2011	3.8300	119.6805	116.7489	112.2791	108.3929	105.2614	102.8430	100.9974	99.5387
6/30/2008	7/1/2013	6/30/2010	2.9200	109.1404	109.1404	106.9220	104.2121	102.1190	100.7211	100.0556	99.8903
6/30/2008	7/1/2013	6/30/2010	3.4500	110.7996	110.7996	108.5376	105.6746	103.3129	101.5559	100.4324	99.9560
6/30/2008	6/30/2015	6/30/2010	3.3700	117.3728	114.5002	110.2397	106.6162	103.7995	101.7796	100.5089	99.9687
6/30/2008	7/2/2018	6/30/2011	3.6900	124.5927	116.1891	109.1606	104.9421	102.5662	101.1399	99.9821	98.9231
7/1/2008	7/1/2015	7/1/2011	4.6000	123.7269	120.3735	115.0589	110.1628	106.1689	103.0983	100.3785	97.9034
7/7/2008	7/8/2013	7/7/2011	4.5900	114.4577	114.4577	112.0823	108.8936	105.9176	103.2020	100.6238	98.1609
7/8/2008	7/8/2013	7/8/2011	4.2500	113.3867	113.3867	111.0174	107.8561	104.9850	102.5633	100.3653	98.3163
7/10/2008	7/10/2014	7/10/2012	4.8000	120.0122	119.1694	114.9404	110.9747	107.3845	103.7982	99.9935	96.1100
7/11/2008	7/11/2018	7/11/2012	3.7500	125.1129	117.0203	111.3521	107.1188	103.9877	101.4495	99.2149	97.1520
7/14/2008	7/14/2015	7/15/2013	4.9000	125.4513	122.0137	117.0254	112.2318	107.5833	102.7957	97.7160	92.5996
7/14/2008	7/16/2018	7/14/2010	2.5000	116.5741	111.6189	107.3135	103.9933	101.7335	100.4230	99.9360	99.7872
7/14/2008	7/16/2018	7/14/2011	3.2500	122.2531	116.3906	111.2469	107.1149	104.0024	101.7197	100.0138	98.6408
7/17/2008	7/17/2018	7/17/2013	3.7500	125.1450	118.0089	112.6511	108.0484	104.1924	100.7818	97.6670	94.7554
7/21/2008	7/22/2013	7/21/2010	3.0000	109.5658	109.5658	107.1310	103.9631	101.1288	100.1264	99.9642	99.8236
8/15/2008	8/15/2018	8/15/2011	3.8300	126.9061	120.4139	114.6761	109.9676	106.2750	103.4470	101.2802	99.5561
8/19/2008	8/19/2013	8/19/2010	3.4400	111.2365	111.2365	108.6172	105.3520	102.2846	100.5543	100.0483	99.8167
9/8/2008	9/9/2013	6/8/2010	2.8900	109.6084	109.6084	107.0189	104.2397	102.1253	100.7323	100.0773	99.9700
5/13/2009	5/13/2014	5/13/2013	4.0000	116.0323	115.5013	111.5876	107.4874	102.9852	97.9620	92.9944	88.6788
9/28/2009	9/30/2013	9/28/2012	2.9200	109.8785	109.8785	107.0613	103.2122	98.8352	94.8932	91.6027	88.9690
5/11/2010	5/11/2015	5/11/2015	3.7000	118.5603	115.4592	109.5556	103.4948	97.2960	90.8823	84.4574	78.5778
5/24/2010	5/26/2015	5/24/2011	2.2500	111.3799	108.3776	103.3713	98.5729	94.4568	94.1275	94.0242	93.9773