

# Quant Briefing: Valuation Database

Yardeni Research, Inc.

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*thinking outside the box*

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**Table 1: S&P 500 Forward Earnings (weekly as of Friday, dollars per share)**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019												
1/4	102.8	1/2	77.07	1/1	77.79	1/7	96.35	1/6	107.45	1/3	113.2	1/2	121.1	1/1	126.78	1/7	126.92	1/6	132.91	1/5	148.31	1/3	174.00
1/11	102.9	1/9	74.74	1/8	78.26	1/4	96.86	1/13	107.29	1/10	113.5	1/9	121.3	1/8	126.53	1/14	126.18	1/13	133.26	1/12	150.73	1/10	172.78
1/18	102.0	1/16	74.33	1/15	76.67	1/21	97.97	1/20	107.23	1/17	113.7	1/16	121.37	1/15	125.52	1/21	125.7	1/20	133.65	1/19	152.68	1/17	172.44
1/25	101.9	1/23	71.96	1/22	79.23	1/28	98.3	1/27	107.4	1/24	113.2	1/23	121.4	1/22	124.64	1/28	124.6	1/27	133.89	1/26	154.61	1/24	172.14
2/1	101.4	1/30	69.26	1/29	79.89	2/4	98.59	2/3	107.2	1/31	113.3	1/30	121.13	1/29	123.77	2/4	124.33	2/3	133.42	2/2	156.77	1/31	171.51
2/8	101.0	2/6	66.72	2/5	80.51	2/11	98.72	2/10	107.28	2/7	113.5	2/6	121.16	2/5	122.92	2/11	124.0	2/10	133.36	2/9	158.70	2/7	171.37
2/15	100.9	2/13	65.96	2/12	80.82	2/18	99.09	2/17	107.39	2/14	113.7	2/13	121.2	2/12	122.77	2/18	124.09	2/17	133.49	2/16	157.60	2/14	171.53
2/22	101.2	2/20	66.22	2/19	81.10	2/25	99.50	2/24	107.68	2/21	113.8	2/20	121.23	2/19	122.8	2/25	124.0	2/24	133.78	2/23	160.35	2/21	171.44
2/29	101.3	2/27	66.19	2/26	81.74	3/4	99.79	3/2	108.18	2/28	114.7	2/27	121.42	2/26	123.37	3/4	123.82	3/3	133.81	3/2	160.71	2/28	171.57
3/7	100.5	3/6	66.04	3/5	82.05	3/11	100.34	3/9	108.55	3/7	114.8	3/6	122.0	3/5	123.67	3/11	123.87	3/10	133.99	3/9	161.11	3/7	171.81
3/14	99.9	3/13	65.3	3/12	82.31	3/18	100.9	3/16	108.73	3/14	115.0	3/13	122.14	3/12	123.91	3/18	124.0	3/17	134.3	3/16	161.51	3/14	172.19
3/21	100.2	3/20	64.73	3/19	82.54	3/25	101.23	3/23	109.15	3/21	115.2	3/20	122.28	3/19	123.52	3/25	124.0	3/24	134.46	3/23	161.50	3/21	172.15
3/28	101.0	3/27	64.23	3/26	82.94	4/1	101.39	3/30	109.37	3/28	115.6	3/27	122.38	3/26	124.76	4/1	124.13	3/31	134.88	3/30	161.99	3/28	172.35
4/4	99.8	4/3	63.39	4/2	82.59	4/8	101.79	4/6	109.26	4/4	115.4	4/3	122.23	4/2	124.85	4/8	124.23	4/7	135.14	4/6	162.26	4/4	172.96
4/11	99.8	4/10	63.03	4/9	83.27	4/15	102.53	4/13	109.74	4/11	115.3	4/10	122.73	4/9	123.89	4/15	124.39	4/14	135.78	4/13	162.60	4/11	172.88
4/18	99.6	4/17	63.12	4/16	83.55	4/22	103.0	4/20	110.33	4/18	115.6	4/17	122.81	4/16	124.32	4/22	124.53	4/21	135.9	4/20	163.11	4/18	172.97
4/25	99.2	4/24	63.30	4/23	84.96	4/29	103.69	4/27	110.72	4/25	115.3	4/24	123.11	4/23	124.0	4/29	124.0	4/28	136.3	4/27	163.86	4/25	173.94
5/2	99.1	5/1	63.02	4/30	86.00	5/6	104.34	5/4	110.79	5/2	115.2	5/1	124.1	4/30	124.27	5/6	124.37	5/5	136.86	5/4	165.45	5/2	174.13
5/9	99.3	5/8	62.92	5/7	86.79	5/13	104.9	5/11	111.0	5/9	115.5	5/8	124.46	5/7	124.68	5/13	124.59	5/12	137.25	5/11	166.0	5/9	174.47
5/16	99.5	5/15	63.03	5/14	87.41	5/20	105.09	5/18	111.0	5/16	115.8	5/15	124.79	5/14	124.89	5/20	125.19	5/19	137.42	5/18	167.21	5/16	174.81
5/23	99.8	5/22	63.36	5/21	87.86	5/27	105.45	5/24	111.17	5/23	116.0	5/22	125.08	5/21	125.2	5/27	125.49	5/26	137.9	5/25	167.21	5/23	174.99
5/30	99.7	5/29	63.67	5/28	88.00	6/3	105.74	5/31	111.27	5/30	116.1	5/29	125.41	5/28	125.55	6/3	125.86	6/2	138.12	6/1	167.62	5/30	175.39
6/6	99.9	6/5	65.49	6/4	88.24	6/10	106.0	6/7	111.12	6/6	116.4	6/5	125.58	6/4	125.81	6/10	126.21	6/9	138.35	6/8	167.86	6/6	175.51
6/13	100.5	6/12	65.97	6/11	88.51	6/17	106.08	6/14	111.25	6/13	116.8	6/12	125.89	6/11	125.84	6/17	126.47	6/16	138.85	6/15	168.40	6/13	175.72
6/20	100.5	6/19	65.98	6/18	88.70	6/24	106.24	6/21	111.26	6/20	117.1	6/19	126.2	6/18	126.12	6/24	126.58	6/23	138.97	6/22	168.58	6/20	175.82
6/27	100.3	6/26	66.63	6/25	88.88	7/1	106.0	6/28	111.24	6/27	117.2	6/26	126.22	6/25	126.32	7/1	126.76	6/30	139.26	6/29	169.03	6/27	176.18
7/4	100.5	7/3	66.94	7/2	89.18	7/8	106.0	7/5	111.49	7/4	117.3	7/3	126.62	7/2	126.52	7/8	126.97	7/7	139.59	7/6	169.43	7/4	175.83
7/11	100.7	7/10	67.34	7/9	89.40	7/15	106.1	7/12	111.24	7/11	117.8	7/10	126.88	7/9	126.8	7/15	127.05	7/14	139.67	7/13	169.79	7/11	176.00
7/18	100.3	7/17	67.64	7/16	89.73	7/22	106.67	7/19	111.0	7/18	118.0	7/17	127.21	7/16	126.91	7/22	127.39	7/21	139.64	7/20	170.21	7/18	176.27
7/25	100.1	7/24	68.40	7/23	90.06	7/29	107.5	7/26	110.49	7/25	118.3	7/24	127.59	7/23	127.1	7/29	127.68	7/28	139.69	7/27	170.91	7/25	176.28
8/1	99.6	7/31	68.81	7/30	90.65	8/5	107.85	8/2	110.79	8/1	118.8	7/31	128.0	7/30	127.4	8/5	127.67	8/4	140.31	8/3	171.93	8/1	176.53
8/8	99.5	8/7	68.90	8/6	91.12	8/12	108.0	8/9	110.81	8/8	118.2	8/7	128.22	8/6	127.3	8/12	127.99	8/11	140.56	8/10	172.26	8/8	176.47
8/15	98.7	8/14	69.31	8/13	91.41	8/19	108.07	8/16	111.05	8/15	118.5	8/14	125.51	8/13	127.44	8/19	128.30	8/18	140.8	8/17	172.65	8/15	176.69
8/22	98.7	8/21	69.79	8/20	91.63	8/26	107.79	8/23	111.22	8/22	118.8	8/21	128.58	8/20	127.72	8/26	128.65	8/25	141.08	8/24	172.95	8/22	177.08
8/29	98.9	8/28	70.28	8/27	91.86	9/2	108.0	8/30	111.52	8/29	118.8	8/28	128.77	8/27	127.77	9/2	128.93	9/1	141.33	8/31	173.36	8/29	177.22
9/5	99.1	9/4	70.49	9/3	91.98	9/8	108.0	9/6	111.76	9/5	119.0	9/4	129.1	9/3	127.86	9/8	129.99	9/8	141.57	9/7	173.78	9/5	176.26
9/12	99.6	9/11	70.86	9/10	92.22	9/16	107.84	9/13	112.0	9/12	119.3	9/11	129.29	9/10	127.94	9/16	129.30	9/15	141.58	9/14	174.06	9/12	177.55
9/19	99.2	9/18	71.02	9/17	92.18	9/23	107.77	9/20	112.1	9/19	119.6	9/18	129.56	9/17	127.87	9/23	129.2	9/22	141.59	9/21	174.37	9/19	177.72
9/26	98.7	9/25	71.53	9/24	92.15	9/30	107.69	9/27	112.24	9/26	119.5	9/25	129.36	9/24	127.71	9/30	129.45	9/29	141.96	9/28	174.30	9/26	177.48
10/3	97.7	10/2	72.00	10/1	92.37	10/7	107.59	10/4	112.82	10/3	119.6	10/2	129.53	10/1	127.68	10/7	129.98	10/6	142.18	10/5	174.62	10/3	177.68
10/10	94.4	10/9	72.19	10/8	92.60	10/14	107.0	10/11	112.57	10/10	119.7	10/9	129.57	10/8	127.42	10/14	129.91	10/13	142.36	10/12	174.95		
10/17	94.2	10/16	72.86	10/15	92.85	10/21	106.8	10/18	112.82	10/17	119.7	10/16	129.37	10/15	127.09	10/21	130.16	10/20	142.99	10/19	175.23		
10/24	91.8	10/23	73.81	10/22	93.3	10/28	106.59	10/25	112.41	10/24	119.9	10/23	128.73	10/22	126.79	10/28	130.39	10/27	143.07	10/26	175.48		
10/31	89.6	10/30	74.41	10/29	93.67	11/4	106.6	11/1	112.22	10/31	120.2	10/30	128.65	10/29	127.11	11/4	130.49	11/3	143.56	11/2	175.38		
11/7	87.8	11/6	75.00	11/5	93.91	11/11	106.84	11/8	112.19	11/7	120.3	11/6	128.5	11/5	127.19	11/11	130.69	11/10	144.14	11/9	175.28		
11/14	86.1	11/13	75.61	11/12	94.05	11/18	107.0	11/15	112.24	11/14	120.5	11/13	128.61	11/12	127.19	11/18	130.90	11/17	144.29	11/16	175.24		
11/21	84.9	11/20	75.98	11/19	94.3	11/25	107.09	11/22	112.3	11/21	120.6	11/20	128.71	11/19	127.28	11/25	131.23	11/24	144.81	11/23	175.04		
11/28	83.2	11/27	76.34	11/26	94.57	12/2	107.18	11/29	112.45	11/28	120.7	11/27	128.72	11/26	127.32	12/2	131.57	12/1	145.06	11/30	175.12		
12/5	82.2	12/4	76.69	12/3	94.77	12/9	107.39	12/6	112.6	12/5	121.1	12/4	128.16	12/3	127.43	12/9	131.8	12/8	145.39	12/7	175.47		
12/12	80.6	12/11	77.07	12/10	95.15	12/16	107.32	12/13	112.77	12/12	121.3	12/11	127.77	12/10	127.54	12/16	132.2	12/15	145.69	12/14	175.10		
12/19	78.2	12/18	77.4	12/17	95.59	12/23	107.1	12/20	112.8	12/19	121.5	12/18	126.66	12/17	127.23	12/23	132.39	12/22	146.49	12/21	174.38		
12/26	77.4	12/25	77.51	12/24	95.75	12/30	107.27	12/27	113.0	12/26	120.9	12/25	126.5										

**Table 2: 10-Year Treasury Note Yield (weekly)**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019												
1/4	3.94	1/2	2.24	1/1	3.83	1/7	3.40	1/6	1.99	1/3	1.87	1/2	3.01	1/1	2.18	1/7	2.19	1/6	2.43	1/5	2.46	1/4	2.65
1/11	3.85	1/9	2.48	1/8	3.83	1/14	3.38	1/13	1.95	1/10	1.90	1/9	2.96	1/8	2.00	1/14	2.10	1/13	2.38	1/12	2.54	1/11	2.72
1/18	3.72	1/16	2.3	1/15	3.77	1/21	3.42	1/20	1.96	1/17	1.87	1/16	2.86	1/15	1.88	1/21	2.04	1/20	2.43	1/19	2.59	1/18	2.74
1/25	3.58	1/23	2.56	1/22	3.66	1/28	3.40	1/27	2.01	1/24	1.90	1/23	2.82	1/22	1.85	1/28	2.00	1/27	2.48	1/26	2.65	1/25	2.75
2/1	3.67	1/30	2.75	1/29	3.66	2/4	3.54	2/3	1.88	1/31	2.02	1/30	2.73	1/29	1.77	2/4	1.89	2/3	2.48	2/2	2.75	2/1	2.70
2/8	3.66	2/6	2.92	2/5	3.66	2/11	3.68	2/10	1.99	2/7	2.00	2/6	2.68	2/5	1.81	2/11	1.71	2/10	2.39	2/9	2.82	2/8	2.68
2/15	3.72	2/13	2.88	2/12	3.69	2/18	3.60	2/17	1.97	2/14	2.01	2/13	2.75	2/12	2.00	2/18	1.78	2/17	2.46	2/16	2.87	2/15	2.67
2/22	3.85	2/20	2.75	2/19	3.74	2/25	3.46	2/24	2.01	2/21	2.00	2/20	2.73	2/19	2.11	2/25	1.75	2/24	2.39	2/23	2.91	2/22	2.66
2/29	3.78	2/27	2.91	2/26	3.69	3/4	3.47	3/2	1.97	2/28	1.88	2/27	2.69	2/26	2.01	3/4	1.82	3/3	2.43	3/2	2.86	3/1	2.70
3/7	3.61	3/6	2.90	3/5	3.63	3/11	3.46	3/9	2.00	3/7	1.96	3/6	2.71	3/5	2.13	3/11	1.91	3/10	2.55	3/9	2.88	3/8	2.68
3/14	3.51	3/13	2.92	3/12	3.72	3/18	3.29	3/16	2.21	3/14	2.04	3/13	2.72	3/12	2.14	3/18	1.93	3/17	2.55	3/16	2.84	3/15	2.62
3/21	3.39	3/20	2.75	3/19	3.68	3/25	3.38	3/23	2.32	3/21	1.94	3/20	2.74	3/19	2.00	3/25	1.91	3/24	2.42	3/23	2.86	3/22	2.55
3/28	3.52	3/27	2.74	3/26	3.79	4/1	3.47	3/30	2.22	3/28	1.90	3/27	2.72	3/26	1.94	4/1	1.82	3/31	2.4	3/30	2.79	3/29	2.41
4/4	3.55	4/3	2.76	4/2	3.89	4/8	3.54	4/6	2.21	4/4	1.81	4/3	2.77	4/2	1.91	4/8	1.74	4/7	2.36	4/6	2.73	4/5	2.50
4/11	3.54	4/10	2.93	4/9	3.94	4/15	3.51	4/13	2.04	4/11	1.79	4/10	2.68	4/9	1.93	4/15	1.77	4/14	2.3	4/13	2.8	4/12	2.52
4/18	3.67	4/17	2.87	4/16	3.85	4/22	3.41	4/20	2.00	4/18	1.73	4/17	2.67	4/16	1.90	4/22	1.84	4/21	2.23	4/20	2.88	4/19	2.58
4/25	3.81	4/24	2.96	4/23	3.81	4/29	3.36	4/27	1.98	4/25	1.73	4/24	2.71	4/23	1.94	4/29	1.88	4/28	2.31	4/27	2.99	4/26	2.55
5/2	3.83	5/1	3.10	4/30	3.76	5/6	3.24	5/4	1.95	5/2	1.70	5/1	2.66	4/30	2.03	5/6	1.81	5/5	2.33	5/4	2.96	5/3	2.53
5/9	3.85	5/8	3.23	5/7	3.56	5/13	3.20	5/11	1.88	5/9	1.83	5/8	2.62	5/7	2.19	5/13	1.75	5/12	2.39	5/11	2.97	5/10	2.47
5/16	3.86	5/15	3.14	5/14	3.54	5/20	3.15	5/18	1.74	5/16	1.93	5/15	2.57	5/14	2.24	5/20	1.82	5/19	2.27	5/18	3.07	5/17	2.40
5/23	3.84	5/22	3.29	5/21	3.33	5/27	3.10	5/25	1.76	5/23	1.99	5/22	2.54	5/21	2.23	5/27	1.85	5/26	2.26	5/25	3.01	5/24	2.37
5/30	4.03	5/29	3.59	5/28	3.25	6/3	3.01	6/1	1.61	5/30	2.14	5/29	2.47	5/28	2.13	6/3	1.80	6/2	2.20	6/1	2.83	5/31	2.22
6/6	3.98	6/5	3.70	6/4	3.31	6/10	3.00	6/8	1.61	6/6	2.12	6/5	2.59	6/4	2.31	6/10	1.70	6/9	2.18	6/8	2.94	6/7	2.10
6/13	4.15	6/12	3.89	6/11	3.22	6/17	2.99	6/15	1.62	6/13	2.20	6/12	2.62	6/11	2.42	6/17	1.61	6/16	2.18	6/15	2.95	6/14	2.12
6/20	4.20	6/19	3.75	6/18	3.26	6/24	2.96	6/22	1.64	6/20	2.33	6/19	2.63	6/18	2.32	6/24	1.68	6/23	2.16	6/22	2.91	6/21	2.05
6/27	4.09	6/26	3.63	6/25	3.17	7/1	3.11	6/29	1.64	6/27	2.55	6/26	2.57	6/25	2.41	7/1	1.47	6/30	2.23	6/29	2.85	6/28	2.02
7/4	4.00	7/3	3.53	7/2	2.99	7/8	3.12	7/6	1.61	7/4	2.56	7/3	2.60	7/2	2.38	7/8	1.38	7/7	2.36	7/6	2.84	7/5	2.00
7/11	3.90	7/10	3.42	7/9	3.02	7/15	2.94	7/12	1.52	7/11	2.64	7/10	2.57	7/9	2.31	7/15	1.51	7/14	2.35	7/13	2.85	7/12	2.07
7/18	3.98	7/17	3.55	7/16	3.05	7/22	2.97	7/19	1.52	7/18	2.54	7/17	2.53	7/16	2.38	7/22	1.58	7/21	2.27	7/20	2.86	7/19	2.09
7/25	4.11	7/24	3.62	7/23	2.97	7/29	2.97	7/26	1.47	7/25	2.57	7/24	2.49	7/23	2.32	7/29	1.53	7/28	2.30	7/27	2.96	7/26	2.07
8/1	4.04	7/31	3.67	7/30	3.02	8/5	2.62	8/2	1.54	8/1	2.64	7/31	2.53	7/30	2.25	8/5	1.54	8/4	2.27	8/3	2.97	8/2	1.98
8/8	3.99	8/7	3.77	8/6	2.94	8/12	2.27	8/9	1.65	8/8	2.62	8/7	2.47	8/6	2.22	8/12	1.54	8/11	2.24	8/10	2.94	8/9	1.73
8/15	3.91	8/14	3.67	8/13	2.76	8/19	2.17	8/16	1.76	8/15	2.73	8/14	2.41	8/13	2.18	8/19	1.56	8/18	2.22	8/17	2.87	8/16	1.60
8/22	3.83	8/21	3.48	8/20	2.61	8/26	2.19	8/23	1.74	8/22	2.86	8/21	2.41	8/20	2.12	8/26	1.57	8/25	2.19	8/24	2.83	8/23	1.58
8/29	3.79	8/28	3.46	8/27	2.56	9/2	2.17	8/30	1.63	8/29	2.76	8/28	2.37	8/27	2.14	9/2	1.58	9/1	2.14	8/31	2.87	8/30	1.50
9/5	3.69	9/4	3.37	9/3	2.59	9/9	1.99	9/6	1.64	9/5	2.92	9/4	2.44	9/3	2.18	9/9	1.59	9/8	2.07	9/7	2.91	9/6	1.52
9/12	3.66	9/11	3.41	9/10	2.71	9/16	2.03	9/13	1.76	9/12	2.92	9/11	2.54	9/10	2.21	9/16	1.70	9/15	2.18	9/14	2.97	9/13	1.76
9/19	3.54	9/18	3.46	9/17	2.74	9/23	1.87	9/20	1.81	9/19	2.79	9/18	2.61	9/17	2.22	9/23	1.66	9/22	2.26	9/21	3.05	9/20	1.80
9/26	3.84	9/25	3.43	9/24	2.61	9/30	1.97	9/27	1.68	9/26	2.66	9/25	2.55	9/24	2.16	9/30	1.58	9/29	2.28	9/28	3.07	9/27	1.70
10/3	3.70	10/2	3.28	10/1	2.52	10/7	1.93	10/4	1.67	10/3	2.64	10/2	2.47	10/1	2.05	10/7	1.70	10/6	2.34	10/5	3.14	10/4	1.60
10/10	3.69	10/9	3.28	10/8	2.45	10/14	2.22	10/11	1.71	10/10	2.68	10/9	2.36	10/8	2.09	10/14	1.78	10/13	2.33	10/12	3.18		
10/17	4.02	10/16	3.43	10/15	2.50	10/21	2.2	10/18	1.79	10/17	2.66	10/16	2.19	10/15	2.03	10/21	1.76	10/20	2.33	10/19	3.18		
10/24	3.74	10/23	3.43	10/22	2.54	10/28	2.28	10/25	1.81	10/24	2.55	10/23	2.25	10/22	2.06	10/28	1.81	10/27	2.42	10/26	3.14		
10/31	3.92	10/30	3.49	10/29	2.67	11/4	2.07	11/1	1.74	10/31	2.57	10/30	2.32	10/29	2.11	11/4	1.82	11/3	2.36	11/2	3.14		
11/7	3.82	11/6	3.53	11/5	2.61	11/11	2.05	11/8	1.68	11/7	2.68	11/6	2.38	11/5	2.26	11/11	1.98	11/10	2.34	11/9	3.21		
11/14	3.78	11/13	3.48	11/12	2.68	11/18	2.02	11/15	1.59	11/14	2.74	11/13	2.36	11/12	2.32	11/18	2.26	11/17	2.37	11/16	3.11		
11/21	3.38	11/20	3.35	11/19	2.89	11/25	1.94	11/22	1.67	11/21	2.74	11/20	2.33	11/19	2.26	11/25	2.34	11/24	2.35	11/23	3.06		
11/28	3.10	11/27	3.30	11/26	2.84	12/2	2.04	11/29	1.63	11/28	2.74	11/27	2.25	11/26	2.24	12/2	2.37	12/1	2.36	11/30	3.05		
12/5	2.66	12/4	3.34	12/3	2.93	12/9	2.04	12/6	1.62	12/5	2.84	12/4	2.27	12/3	2.23	12/9	2.4	12/8	2.36	12/7	2.9		
12/12	2.67	12/11	3.47	12/10	3.18	12/16	1.94	12/13	1.69	12/12	2.86	12/11	2.19	12/10	2.21	12/16	2.54	12/15	2.37	12/14	2.89		
12/19	2.26	12/18	3.56	12/17	3.42	12/23	1.95	12/20	1.80	12/19	2.89	12/18	2.14	12/17	2.25	12/23	2.55	12/22	2.46	12/21	2.81		
12/26	2.18	12/25	3.76	12/24	3.37	12/30	1.94	12/27	1.76	12/26	2.99	12/25	2.24	12/24	2.24	12/30	2.51	12/29	2.43	12/28	2.76		
					12/31	3.38							12/31	2.29									

Source: Board of Governors of the Federal Reserve System.

**Table 3: S&P 500 Fair Value Price\* (weekly)**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019												
1/4	2609.4	1/2	3440.6	1/1	2033.7	1/7	2833.8	1/6	5399.5	1/3	6055.1	1/2	4022.6	1/1	5815.6	1/7	5795.4	1/6	5469.5	1/5	6028.9	1/4	6566.0
1/11	2671.7	1/9	3079.3	1/8	2043.3	1/14	2882.7	1/13	5502.1	1/10	5971.1	1/9	4098.0	1/8	6326.5	1/14	6008.6	1/13	5599.2	1/12	5934.3	1/11	6352.2
1/18	2741.7	1/16	3231.7	1/15	2086.7	1/21	2864.6	1/20	5470.9	1/17	6079.1	1/16	4243.7	1/15	6748.3	1/21	6159.8	1/20	5500.0	1/19	5894.2	1/18	6293.4
1/25	2845.3	1/23	2810.9	1/22	2164.8	1/28	2891.18	1/27	5343.3	1/24	5958.9	1/23	4303.9	1/22	6737.3	1/28	6230.0	1/27	5398.8	1/26	5834.3	1/25	6293.6
2/1	2763.2	1/30	2516.5	1/29	2182.8	2/4	2785.0	2/3	5702.1	1/31	5607.9	1/30	4437.0	1/29	6992.7	2/4	6578.3	2/3	5379.8	2/2	5700.7	2/1	6252.2
2/8	2759.3	2/6	2284.9	2/5	2199.7	2/11	2682.6	2/10	5391.0	2/7	5675.5	2/6	4520.9	2/5	6791.2	2/11	7249.7	2/10	5579.9	2/9	5827.7	2/8	6294.4
2/15	2711.3	2/13	2290.3	2/12	2190.2	2/18	2752.5	2/17	5451.3	2/14	4407.2	2/13	4407.2	2/12	6138.5	2/18	6971.3	2/17	5426.4	2/16	5861.0	2/15	6424.3
2/22	2628.6	2/20	2408.0	2/19	2168.4	2/25	2875.7	2/24	5357.2	2/21	5691.5	2/20	4440.7	2/19	5819.9	2/25	7082.9	2/24	5597.5	2/23	5510.3	2/22	6445.1
2/29	2679.9	2/27	2274.8	2/26	2215.2	3/4	2875.8	3/2	5491.4	2/28	6098.9	2/27	4513.7	2/26	6127.8	3/4	6803.3	3/3	5506.6	3/2	5819.2	3/1	6354.4
3/7	2783.9	3/6	2277.2	3/5	2260.3	3/11	2900.0	3/9	5427.5	3/7	5857.1	3/6	4500.4	3/5	5806.1	3/11	6485.3	3/10	5254.5	3/9	5534.1	3/8	6410.8
3/14	2846.4	3/13	2236.3	3/12	2212.6	3/18	3066.9	3/16	4919.9	3/14	5639.2	3/13	4490.4	3/12	5790.2	3/18	6422.8	3/17	5266.7	3/16	5687.0	3/15	6572.1
3/21	2956.9	3/20	2353.8	3/19	2242.9	3/25	2995.0	3/23	4704.7	3/21	5939.7	3/20	4462.8	3/19	6178.0	3/25	6491.6	3/24	5556.2	3/23	5646.9	3/22	6751.0
3/28	2870.2	3/27	2344.2	3/26	2188.4	4/1	2921.9	3/30	4926.6	3/28	6083.7	3/27	4499.3	3/26	6430.9	4/1	6820.3	3/31	5620.3	3/30	5806.1	3/29	7151.5
4/4	2812.4	4/3	2296.7	4/2	2123.1	4/8	2875.4	4/6	4943.9	4/4	6374.6	4/3	4412.6	4/2	6536.6	4/8	7139.7	4/7	5750.6	4/6	5836.7	4/5	6394.8
4/11	2818.1	4/10	2151.2	4/9	2113.5	4/15	2921.1	4/13	5379.4	4/11	6443.6	4/10	4579.5	4/9	6419.2	4/15	7027.7	4/14	5903.5	4/13	5807.1	4/12	6852.4
4/18	2713.4	4/17	2199.3	4/16	2170.1	4/22	3020.2	4/20	5516.5	4/18	6679.2	4/17	4599.6	4/16	6543.2	4/22	6767.9	4/21	6094.2	4/20	5863.5	4/19	6704.3
4/25	2602.6	4/24	2138.5	4/23	2229.9	4/29	3086.0	4/27	5591.9	4/25	6654.9	4/24	4542.8	4/23	6391.8	4/29	6593.1	4/28	5900.4	4/27	5480.3	4/26	6812.1
5/2	2586.9	5/1	2032.9	4/30	2287.2	5/6	3220.4	5/4	5681.5	5/2	6778.8	5/1	4665.4	4/30	6121.7	5/6	6871.3	5/5	5873.8	5/4	5583.5	5/3	6882.6
5/9	2578.4	5/8	1948.8	5/7	2437.9	5/13	3278.1	5/11	5903.2	5/9	6312.0	5/8	4750.4	5/7	5693.2	5/13	7119.4	5/12	5742.7	5/11	5883.2	5/10	7063.6
5/16	2577.0	5/15	2007.3	5/14	2469.2	5/20	3336.3	5/18	6379.3	5/16	5998.4	5/15	4855.6	5/14	5575.4	5/20	6878.5	5/19	6057.7	5/18	5446.6	5/17	7283.8
5/23	2597.9	5/22	1925.8	5/21	2635.4	5/27	3401.8	5/25	6316.5	5/23	5827.6	5/22	4924.4	5/21	5614.4	5/27	6783.2	5/26	6101.8	5/25	5555.2	5/24	7383.5
5/30	2472.6	5/29	1773.5	5/28	2707.7	6/3	3513.0	6/1	6911.2	5/30	5427.1	5/29	5077.3	5/28	5894.4	6/3	6992.2	6/2	6278.2	6/1	5923.0	5/31	7905.5
6/6	2510.6	6/5	1770.2	6/4	2665.9	6/10	3532.3	6/8	6901.9	6/6	5419.0	6/5	4848.6	6/4	5446.3	6/10	7424.1	6/9	6346.3	6/8	5709.5	6/7	8357.6
6/13	2421.2	6/12	1695.9	6/11	2748.8	6/17	3547.8	6/15	6867.3	6/13	5310.9	6/12	4805.0	6/11	5200.0	6/17	7855.3	6/16	6369.3	6/15	5708.5	6/14	8288.7
6/20	2393.1	6/19	1759.5	6/18	2720.9	6/24	3589.2	6/22	6784.1	6/20	5025.3	6/19	4798.5	6/18	5436.5	6/24	7534.5	6/23	6433.8	6/22	5792.4	6/21	8576.6
6/27	2451.1	6/26	1835.5	6/25	2803.8	7/1	3409.5	6/29	6782.9	6/27	4595.3	6/26	4911.3	6/25	5241.5	7/1	8623.1	6/30	6244.8	6/29	5330.9	6/28	8721.8
7/4	2531.5	7/3	1896.3	7/2	2982.6	7/8	3396.8	7/6	6924.8	7/4	4582.4	7/3	4870.0	7/2	5316.0	7/8	9200.7	7/7	6914.8	7/6	5965.8	7/5	8719.5
7/11	2581.8	7/10	1969.0	7/9	2960.3	7/15	3608.8	7/12	7318.4	7/11	4462.7	7/10	4937.0	7/9	5489.2	7/15	8413.9	7/14	5943.4	7/13	5957.5	7/12	8421.1
7/18	2520.6	7/17	1905.4	7/16	2942.0	7/22	3601.0	7/19	7300.7	7/18	4647.2	7/17	5028.1	7/16	5332.4	7/22	8062.7	7/21	6151.5	7/20	5351.4	7/19	8515.5
7/25	2434.7	7/24	1889.5	7/23	3032.3	7/29	3619.5	7/26	7516.3	7/25	4601.6	7/24	5124.1	7/23	5478.4	7/29	8345.1	7/28	6073.5	7/27	5774.0	7/26	8515.3
8/1	2465.1	7/31	1874.9	7/30	3001.7	8/5	4116.4	8/2	7194.2	8/1	4501.5	7/31	5058.1	7/30	5662.2	8/5	8303.2	8/4	6181.1	8/3	5786.9	8/2	8915.7
8/8	2494.0	8/7	1827.6	8/6	3099.3	8/12	4759.0	8/9	6715.8	8/8	4511.8	8/7	5191.1	8/6	5734.2	8/12	8311.0	8/11	6275.0	8/10	5859.2	8/9	10200.6
8/15	2525.3	8/14	1888.6	8/13	3312.0	8/19	4980.2	8/16	6309.7	8/15	4339.2	8/14	5332.4	8/13	5845.9	8/19	8224.4	8/18	6342.3	8/17	6015.7	8/16	10434.4
8/22	2578.1	8/21	2005.5	8/20	3510.7	8/26	4921.9	8/23	6392.0	8/22	4152.1	8/21	5335.3	8/20	6024.5	8/26	8194.3	8/25	6442.0	8/24	6111.3	8/23	10027.6
8/29	2608.4	8/28	2031.2	8/27	3588.3	9/2	4977.9	8/30	6841.7	8/29	4303.6	8/28	5433.3	8/27	5970.6	9/2	8160.1	9/1	6604.2	8/31	6040.4	8/30	11814.7
9/5	2685.9	9/4	2091.7	9/3	3551.4	9/9	5428.1	9/6	6814.6	9/5	4074.7	9/4	5291.0	9/3	5865.1	9/9	8131.4	9/8	6839.1	9/7	5971.1	9/6	11661.4
9/12	2720.8	9/11	2078.0	9/10	3403.0	9/16	5312.3	9/13	6363.1	9/12	4085.3	9/11	5090.2	9/10	5789.1	9/16	7605.9	9/15	6494.5	9/14	5860.6	9/13	10008.1
9/19	2802.0	9/18	2052.6	9/17	3364.2	9/23	5763.1	9/20	6193.4	9/19	4286.0	9/18	4964.0	9/17	5759.5	9/23	7783.1	9/22	6265.0	9/21	5717.0	9/20	9873.3
9/26	2571.1	9/25	2085.4	9/24	3530.7	9/30	5466.5	9/27	6681.0	9/26	4492.9	9/25	5072.9	9/24	5912.5	9/30	8193.0	9/29	6226.3	9/28	5677.5	9/27	10440.0
10/3	2641.6	10/2	2195.12	10/1	3665.5	10/7	5574.6	10/4	6755.7	10/3	4529.9	10/2	5244.1	10/1	6228.3	10/7	7645.9	10/6	6076.1	10/5	5561.1	10/4	1105.0
10/10	2613.6	10/9	2200.9	10/8	3779.6	10/14	4821.6	10/11	6583.0	10/10	4467.5	10/9	5490.3	10/8	6096.7	10/14	7298.3	10/13	6109.9	10/12	5501.6		
10/17	2342.3	10/16	2124.2	10/15	3714.0	10/21	4852.3	10/18	6302.8	10/17	4500.8	10/16	5907.3	10/15	6260.6	10/21	7395.5	10/20	6136.9	10/19	5510.4		
10/24	2453.2	10/23	2151.9	10/22	3673.2	10/28	4675.0	10/25	6210.5	10/24	4701.2	10/23	5721.3	10/22	6154.9	10/28	7203.9	10/27	5912.0	10/26	5586.5		
10/31	2286.0	10/30	2132.1	10/29	3508.2	11/4	5151.7	11/1	6449.4	10/31	4675.1	10/30	5545.3	10/29	6024.2	11/4	7169.7	11/3	6083.1	11/2	5585.4		
11/7	2298.4	11/6	2124.6	11/5	3598.1	11/11	5211.7	11/8	6678.0	11/7	4489.6	11/6	5444.9	11/5	5627.9	11/11	6600.5	11/10	6159.8	11/9	5460.4		
11/14	2278.3	11/13	2172.7	11/12	3509.3	11/18	5297.5	11/15	7059.1	11/14	4396.0	11/13	5449.6	11/12	5482.3	11/18	5792.0	11/17	6088.2	11/16	5634.7		
11/21	2311.8	11/20	2268.1	11/19	3263.0	11/25	5520.1	11/22	6724.6	11/21	4399.6	11/20	5524.0	11/19	5631.9	11/25	5608.1	11/24	6162.1	11/23	5720.3		
11/28	2685.2	11/27	2313.3	11/26	3329.9	12/2	5253.9	11/29	6898.8	11/28	4406.6	11/27	5720.9	11/26	5683.9	12/2	5551.5	12/1	6146.6	11/30	5741.6		
12/5	3090.2	12/4	2296.1	12/3	3234.5	12/9	5264.2	12/6	6947.5	12/5	4263.0	12/4	5645.8	12/3	5714.4	12/9	5491.7	12/8	6160.6	12/7	6050.7		
12/12	3019.1	12/11	2221.0	12/10	2992.1	12/16	5531.96	12/13	6672.8	12/12	4241.3	12/11	5834.2	12/10	5771.0	12/16	5204.7	12/15	6147.3	12/14	6058.8		
12/19	3459.3	12/18	2174.2	12/17	2795.0	12/23</																	

**Table 4: S&P 500 Index (weekly)**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019												
1/4	1443.6	1/2	898.8	1/1	1123.9	1/7	1272.8	1/6	1278.3	1/3	1453.6	1/2	1838.2	1/1	2072.0	1/7	1977.0	1/6	2268.6	1/5	2719.0	1/4	2498.18
1/11	1407.4	1/9	913.8	1/8	1138.7	1/14	1281.4	1/13	1290.0	1/10	1464.9	1/9	1836.5	1/8	2031.2	1/14	1911.0	1/13	2271.6	1/12	2780.2	1/11	2580.39
1/18	1365.8	1/16	855.71	1/15	1142.7	1/21	1285.1	1/20	1307.9	1/17	1476.5	1/16	1838.2	1/15	2044.9	1/21	1879.1	1/20	2268.7	1/19	2786.83	1/18	2623.14
1/25	1333.0	1/23	826.23	1/22	1124.1	1/28	1290.9	1/27	1318.3	1/24	1496.3	1/23	1826.9	1/22	2042.4	1/28	1899.5	1/27	2287.0	1/26	2844.35	1/25	2644.67
2/1	1369.2	1/30	845.48	1/29	1089.0	2/4	1303.1	2/3	1324.0	1/31	1504.3	1/30	1785.0	1/29	2021.0	2/4	1910.1	2/3	2283.5	2/2	2816.78	2/1	2675.11
2/8	1342.4	2/6	842.1	2/5	1083.8	2/11	1323.1	2/10	1347.2	2/7	1509.3	2/6	1763.8	2/5	2046.1	2/11	1850.3	2/10	2300.9	2/9	2645.26	2/8	2721.62
2/15	1350.8	2/13	838.56	2/12	1069.9	2/18	1336.0	2/17	1353.0	2/14	1519.6	2/13	1821.5	2/12	2073.9	2/18	1944.5	2/17	2342.7	2/16	2836.2	2/15	2745.76
2/22	1351.1	2/20	781.65	2/19	1102.6	2/25	1312.2	2/24	1362.3	2/21	1515.2	2/20	1836.4	2/19	2101.9	2/25	1939.3	2/24	2364.8	2/23	2717.21	2/22	2783.00
2/29	1366.3	2/27	753.86	2/26	1103.1	3/4	1318.8	3/2	1369.8	2/28	1506.7	2/27	1850.3	2/26	2100.9	3/4	1978.1	3/3	2378.9	3/2	2721.33	3/1	2794.11
3/7	1317.9	3/6	695.19	3/5	1122.9	3/11	1310.3	3/9	1359.4	3/7	1540.4	3/6	1869.7	3/5	2099.2	3/11	1996.4	3/10	2368.8	3/9	2740.28	3/8	2769.18
3/14	1301.3	3/13	725.0	3/12	1145.0	3/18	1277.6	3/16	1393.6	3/14	1557.4	3/13	1860.1	3/12	2056.6	3/18	2030.6	3/17	2376.8	3/16	2759.43	3/15	2803.34
3/21	1308.8	3/20	775.8	3/19	1160.4	3/25	1302.6	3/23	1401.6	3/21	1552.4	3/20	1866.1	3/19	2090.5	3/25	2043.5	3/24	2351.2	3/23	2674.74	3/22	2829.07
3/28	1337.0	3/27	818.3	3/26	1168.0	4/1	1323.2	3/30	1409.3	3/28	1561.9	3/27	1856.5	3/26	2074.8	4/1	2057.7	3/31	2358.4	3/30	2629.28	3/29	2834.41
4/4	1360.0	4/3	814.7	4/2	1173.5	4/8	1332.5	4/6	1407.4	4/4	1559.9	4/3	1880.5	4/2	2070.2	4/8	2053.5	4/7	2357.0	4/6	2621.67	4/5	2875.99
4/11	1357.2	4/10	833.2	4/9	1188.0	4/15	1317.5	4/13	1373.5	4/11	1580.3	4/10	1843.6	4/9	2086.4	4/15	2069.9	4/14	2346.2	4/13	2646.50	4/12	2891.58
4/18	1356.7	4/17	857.4	4/16	1201.7	4/22	1321.4	4/20	1380.2	4/18	1555.2	4/17	1850.2	4/16	2096.2	4/22	2096.1	4/21	2346.8	4/20	2691.23	4/19	2904.53
4/25	1386.1	4/24	848.8	4/23	1207.3	4/29	1352.5	4/27	1386.6	4/25	1577.5	4/24	1873.8	4/23	2107.3	4/29	2083.2	4/28	2384.6	4/27	2658.22	4/26	2926.99
5/2	1399.2	5/1	867.3	4/30	1196.1	5/6	1348.1	5/4	1393.3	5/2	1597.2	5/1	1879.3	4/30	2104.9	5/6	2060.7	5/5	2391.3	5/4	2646.33	5/3	2935.15
5/9	1400.9	5/8	913.4	5/7	1156.2	5/13	1346.4	5/11	1359.9	5/9	1627.3	5/8	1876.9	5/7	2097.6	5/13	2063.1	5/12	2396.3	5/11	2698.63	5/10	2889.61
5/16	1412.8	5/15	895.5	5/14	1156.1	5/20	1335.2	5/18	1318.8	5/16	1652.2	5/15	1886.3	5/14	2019.4	5/20	2050.8	5/19	2381.5	5/18	2719.43	5/17	2846.82
5/23	1400.2	5/22	899.3	5/21	1106.4	5/27	1322.2	5/25	1318.0	5/23	1658.2	5/22	1887.8	5/21	2128.0	5/27	2080.8	5/26	2405.5	5/25	2727.97	5/24	2841.83
5/30	1393.7	5/29	907.3	5/28	1081.6	6/3	1318.2	6/1	1308.5	5/30	1648.4	5/29	1916.3	5/28	2144.0	6/3	2100.2	6/2	2423.5	6/1	2713.44	5/31	2761.58
6/6	1381.1	6/5	940.4	6/4	1084.2	6/10	1282.1	6/8	1303.9	6/6	1629.3	6/5	1933.4	6/4	2104.8	6/10	2110.4	6/9	2432.8	6/8	2763.48	6/7	2816.14
6/13	1351.1	6/12	942.4	6/11	1069.3	6/17	1272.9	6/15	1324.0	6/13	1628.9	6/12	1942.4	6/11	2093.5	6/17	2075.0	6/16	2434.7	6/15	2781.33	6/14	2886.18
6/20	1341.9	6/19	917.2	6/18	1110.6	6/24	1282.6	6/22	1343.8	6/20	1620.1	6/19	1951.8	6/18	2102.5	6/24	2081.7	6/23	2438.8	6/22	2761.68	6/21	2927.70
6/27	1303.2	6/26	905.7	6/25	1090.2	7/1	1308.9	6/29	1331.4	6/27	1596.8	6/26	1958.1	6/25	2111.9	7/1	2061.8	6/30	2428.5	6/29	2714.89	6/28	2928.84
7/4	1272.3	7/3	916.6	7/2	1039.3	7/8	1343.5	7/6	1365.5	7/4	1619.1	7/3	1973.4	7/2	2068.7	7/8	2104.0	7/7	2424.1	7/6	2734.09	7/5	2880.89
7/11	1252.7	7/10	884.2	7/9	1059.1	7/15	1315.2	7/12	1345.4	7/11	1660.1	7/10	1969.3	7/9	2064.9	7/15	2153.4	7/14	2440.6	7/13	2790.33	7/12	2932.47
7/18	1241.9	7/17	924.1	7/16	1086.1	7/22	1329.4	7/19	1365.9	7/18	1684.2	7/17	1973.7	7/16	2113.4	7/22	2168.8	7/21	2467.9	7/20	2805.96	7/19	2994.30
7/25	1265.9	7/24	963.9	7/23	1084.1	7/29	1313.4	7/26	1354.5	7/25	1691.2	7/24	1982.1	7/23	2108.7	7/29	2169.6	7/28	2474.5	7/27	2825.94	7/26	3007.92
8/1	1261.9	7/31	982.2	7/30	1107.6	8/5	1240.2	8/2	1379.2	8/1	1694.7	7/31	1955.0	7/30	2096.4	8/5	2167.8	8/4	2474.6	8/3	2819.96	8/2	2980.03
8/8	1277.1	8/7	1003.7	8/6	1124.2	8/12	1152.8	8/9	1401.3	8/8	1696.9	8/7	1924.1	8/6	2090.5	8/12	2181.6	8/11	2461.9	8/10	2890.68	8/9	2893.45
8/15	1294.4	8/14	1004.8	8/13	1100.2	8/19	1171.1	8/16	1409.5	8/15	1677.2	8/14	1945.5	8/13	2089.9	8/19	2184.3	8/18	2450.8	8/17	2834.22	8/16	2877.39
8/22	1278.0	8/21	999.9	8/20	1082.7	8/26	1160.0	8/23	1411.6	8/22	1652.3	8/21	1984.1	8/20	2057.1	8/26	2177.3	8/25	2441.4	8/24	2862.70	8/23	2903.73
8/29	1280.7	8/28	1028.3	8/27	1057.3	9/2	1204.1	8/30	1407.3	8/29	1628.7	8/28	1999.6	8/27	1935.6	9/2	2175.7	9/1	2459.3	8/31	2902.19	8/30	2897.30
9/5	1257.9	9/4	1006.6	9/3	1074.6	9/8	1176.0	9/6	1419.6	9/5	1650.8	9/4	2002.1	9/3	1941.5	9/9	2170.4	9/8	2462.5	9/7	2883.76	9/6	2949.89
9/12	1245.0	9/11	1036.4	9/10	1101.1	9/16	1189.8	9/13	1445.0	9/12	1683.3	9/11	1993.7	9/10	1956.2	9/16	2139.7	9/15	2495.8	9/14	2892.62	9/13	2895.14
9/19	1204.9	9/18	1060.9	9/17	1123.7	9/23	1167.8	9/20	1460.4	9/19	1712.0	9/18	2001.3	9/17	1974.9	9/23	2158.8	9/22	2504.3	9/21	2912.30	9/20	3001.85
9/26	1200.7	9/25	1058.5	9/24	1138.1	9/30	1156.2	9/27	1443.9	9/26	1696.5	9/25	1984.8	9/24	1942.4	9/30	2159.4	9/29	2506.0	9/28	2913.78	9/27	2976.53
10/3	1129.5	10/2	1047.2	10/1	1144.4	10/7	1137.5	10/4	1452.7	10/3	1687.9	10/2	1962.1	10/1	1912.2	10/7	2157.2	10/6	2540.6	10/5	2912.14	10/4	2933.45
10/10	969.44	10/9	1058.0	10/8	1156.2	10/14	1205.2	10/11	1438.3	10/10	1676.8	10/9	1940.6	10/8	1998.2	10/14	2141.0	10/13	2550.9	10/12	2809.19		
10/17	959.24	10/16	1085.1	10/15	1172.6	10/21	1218.0	10/18	1449.3	10/17	1721.5	10/16	1872.8	10/15	2044.5	10/21	2138.6	10/20	2563.1	10/19	2781.30		
10/24	924.42	10/23	1088.6	10/22	1178.4	10/28	1259.0	10/25	1416.1	10/24	1751.5	10/23	1937.6	10/22	2042.2	10/28	2138.7	10/27	2566.6	10/26	2703.39		
10/31	928.47	10/30	1055.1	10/29	1184.2	11/4	1244.8	11/1	1418.0	10/31	1763.1	10/30	1988.3	10/29	2079.2	11/4	2101.9	11/3	2579.0	11/2	2699.61		
11/7	952.14	11/6	1054.1	11/5	1204.6	11/11	1253.9	11/8	1399.5	11/7	1763.8	11/6	2023.3	11/5	2103.1	11/11	2153.3	11/10	2588.6	11/9	2779.1		
11/14	891.0	11/13	1093.1	11/12	1213.6	11/18	1235.7	11/15	1364.7	11/14	1782.1	11/13	2039.1	11/12	2060.9	11/18	2178.1	11/17	2578.6	11/16	2723.3		
11/21	813.78	11/20	1103.1	11/19	1190.2	11/25	1175.4	11/22	1393.7	11/21	1792.3	11/20	2051.6	11/19	2071.5	11/25	2204.8	11/24	2595.2	11/23	2653.8		
11/28	873.28	11/27	1103.5	11/26	1191.6	12/2	1224.7	11/29	1409.5	11/28	1804.6	11/27	2069.2	11/26	2088.7	12/2	2197.6	12/1	2628.9	11/30	2719.5		
12/5	851.41	12/4	1103.9	12/3	1204.1	12/9	1253.2	12/6	1411.6	12/5	1795.8	12/4	2068.3	12/3	2080.8	12/9	2232.8	12/8	2637.4	12/7	2704.9		
12/12	890.19	12/11	1100.0	12/10	1229.7	12/16	1221.9	12/13	1421.6	12/12	1788.8	12/11	2036.8	12/10	2050.6	12/16	2260.4	12/15	2663.0	12/14	2635.2		
12/19	891.87	12/18</																					

**Table 5: S&P 500 Over/Under Valuation Ratio\* (weekly)**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019												
1/4	-44.7	1/2	-73.9	1/1	-44.7	1/7	-55.1	1/6	-76.33	1/3	-76.0	1/2	-54.3	1/1	-64.37	1/7	-65.9	1/6	-58.52	1/5	-54.90	1/4	-61.94
1/11	-47.3	1/9	-69.7	1/8	-44.27	1/14	-55.5	1/13	-76.55	1/10	-75.5	1/9	-55.18	1/8	-67.89	1/14	-68.2	1/13	-59.42	1/12	-53.48	1/11	-59.38
1/18	-50.2	1/16	-73.52	1/15	-45.2	1/21	-55.1	1/20	-76.09	1/17	-75.7	1/16	-56.68	1/15	-70.14	1/21	-69.49	1/20	-58.75	1/19	-52.54	1/18	-58.32
1/25	-53.2	1/23	-70.61	1/22	-48.1	1/28	-55.4	1/27	-75.33	1/24	-74.9	1/23	-57.55	1/22	-68.69	1/28	-69.51	1/27	-57.64	1/26	-51.24	1/25	-57.75
2/1	-50.5	1/30	-66.43	1/29	-50.1	2/4	-53.2	2/3	-76.78	1/31	-73.2	1/30	-59.77	1/29	-71.1	2/4	-71.0	2/3	-57.55	2/2	-50.58	2/1	-57.88
2/8	-51.3	2/6	-63.1	2/5	-50.7	2/11	-50.7	2/10	-75.0	2/7	-73.4	2/6	-61.0	2/5	-69.87	2/11	-74.5	2/10	-58.77	2/9	-52.99	2/8	-57.44
2/15	-50.2	2/13	-63.39	2/12	-51.2	2/18	-51.5	2/17	-75.18	2/14	-73.1	2/13	-58.57	2/12	-66.25	2/18	-72.54	2/17	-56.83	2/16	-51.51	2/15	-57.26
2/22	-48.6	2/20	-67.54	2/19	-49.2	2/25	-54.4	2/24	-74.57	2/21	-73.4	2/20	-58.65	2/19	-63.88	2/25	-72.62	2/24	-57.75	2/23	-50.68	2/22	-56.82
2/29	-49.0	2/27	-66.9	2/26	-50.2	3/4	-54.1	3/2	-75.05	2/28	-75.3	2/27	-59.0	2/26	-65.61	3/4	-70.9	3/3	-56.8	3/2	-51.57	3/1	-56.02
3/7	-52.7	3/6	-69.5	3/5	-50.3	3/11	-54.8	3/9	-75.0	3/7	-73.7	3/6	-58.45	3/5	-63.84	3/11	-69.22	3/10	-54.92	3/9	-51.01	3/8	-56.80
3/14	-53.3	3/13	-67.58	3/12	-48.3	3/18	-58.3	3/16	-71.67	3/14	-72.4	3/13	-58.58	3/12	-64.48	3/18	-68.38	3/17	-54.87	3/16	-51.48	3/15	-57.34
3/21	-55.7	3/20	-67.0	3/19	-48.3	3/25	-56.5	3/23	-70.21	3/21	-73.9	3/20	-58.19	3/19	-66.15	3/25	-68.52	3/24	-57.68	3/23	-52.63	3/22	-59.09
3/28	-53.4	3/27	-65.09	3/26	-46.6	4/1	-54.7	3/30	-71.39	3/28	-74.3	3/27	-58.74	3/26	-67.74	4/1	-69.83	3/31	-58.04	3/30	-54.72	3/29	-60.84
4/4	-51.6	4/3	-64.53	4/2	-44.7	4/8	-53.7	4/6	-71.53	4/4	-75.5	4/3	-57.38	4/2	-68.33	4/8	-71.24	4/7	-59.01	4/6	-56.08	4/5	-58.42
4/11	-51.8	4/10	-61.27	4/9	-43.8	4/15	-54.9	4/13	-74.47	4/11	-73.5	4/10	-59.74	4/9	-67.5	4/15	-70.55	4/14	-60.26	4/13	-54.43	4/12	-57.8
4/18	-50.0	4/17	-61.0	4/16	-44.6	4/22	-56.2	4/20	-75.0	4/18	-76.7	4/17	-59.78	4/16	-68.0	4/22	-69.0	4/21	-61.49	4/20	-52.48	4/19	-56.67
4/25	-46.7	4/24	-60.31	4/23	-45.9	4/29	-56.2	4/27	-75.2	4/25	-76.3	4/24	-58.75	4/23	-67.0	4/29	-68.4	4/28	-59.59	4/27	-51.53	4/26	-57.08
5/2	-45.9	5/1	-57.34	4/30	-47.7	5/6	-58.1	5/4	-75.48	5/2	-76.4	5/1	-59.72	4/30	-65.62	5/6	-70.0	5/5	-59.29	5/4	-52.66	5/3	-57.35
5/9	-45.7	5/8	-53.11	5/7	-52.6	5/13	-58.9	5/11	-77.0	5/9	-74.2	5/8	-60.49	5/7	-63.16	5/13	-71.01	5/12	-58.27	5/11	-52.71	5/10	-59.09
5/16	-45.2	5/15	-55.39	5/14	-53.2	5/20	-60.0	5/18	-79.3	5/16	-72.5	5/15	-61.15	5/14	-62.17	5/20	-70.19	5/19	-60.66	5/18	-50.07	5/17	-60.91
5/23	-46.1	5/22	-53.3	5/21	-58.0	5/27	-61.1	5/25	-79.13	5/23	-71.5	5/22	-61.66	5/21	-62.1	5/27	-69.32	5/26	-60.58	5/25	-50.89	5/24	-61.51
5/30	-43.6	5/29	-48.84	5/28	-60.1	6/3	-62.5	6/1	-81.07	5/30	-69.6	5/29	-62.26	5/28	-64.14	6/3	-69.96	6/2	-61.39	6/1	-54.19	5/31	-64.79
6/6	-45.0	6/5	-48.87	6/4	-59.3	6/10	-63.7	6/8	-81.07	6/6	-60.13	6/5	-60.13	6/4	-61.35	6/10	-71.57	6/9	-61.66	6/8	-51.60	6/7	-66.28
6/13	-44.2	6/12	-44.43	6/11	-61.1	6/17	-64.1	6/15	-80.72	6/13	-69.3	6/12	-59.57	6/11	-59.74	6/17	-73.58	6/16	-61.77	6/15	-51.28	6/14	-65.17
6/20	-43.9	6/19	-47.87	6/18	-59.2	6/24	-64.3	6/22	-80.19	6/20	-67.8	6/19	-59.32	6/18	-61.32	6/24	-72.37	6/23	-62.07	6/22	-52.32	6/21	-65.86
6/27	-46.8	6/26	-50.66	6/25	-61.1	7/1	-61.6	6/29	-80.37	6/27	-65.3	6/26	-60.13	6/25	-59.71	7/1	-76.09	6/30	-61.11	6/29	-54.22	6/28	-66.42
7/4	-49.4	7/3	-51.66	7/2	-65.2	7/8	-60.4	7/6	-80.28	7/4	-64.7	7/3	-59.48	7/2	-61.08	7/8	-77.13	7/7	-59.01	7/6	-54.17	7/5	-66.09
7/11	-51.5	7/10	-55.1	7/9	-64.2	7/15	-63.6	7/12	-81.85	7/11	-62.8	7/10	-60.11	7/9	-62.38	7/15	-74.41	7/14	-58.93	7/13	-53.16	7/12	-64.46
7/18	-50.7	7/17	-51.5	7/16	-63.1	7/22	-63.0	7/19	-81.29	7/18	-63.8	7/17	-60.75	7/16	-60.37	7/22	-73.10	7/21	-59.88	7/20	-52.85	7/19	-64.82
7/25	-48.0	7/24	-49.0	7/23	-63.2	7/29	-63.7	7/26	-82.0	7/25	-63.2	7/24	-61.32	7/23	-61.51	7/29	-74.00	7/28	-59.25	7/27	-51.06	7/26	-64.67
8/1	-48.8	7/31	-47.61	7/30	-64.1	8/5	-69.9	8/2	-80.83	8/1	-62.5	7/31	-61.35	7/30	-63.0	8/5	-73.89	8/4	-59.96	8/3	-51.29	8/2	-66.57
8/8	-48.8	8/7	-45.08	8/6	-63.7	8/12	-75.8	8/9	-79.13	8/8	-62.4	8/7	-62.93	8/6	-63.54	8/12	-73.75	8/11	-60.76	8/10	-51.35	8/9	-71.63
8/15	-48.7	8/14	-46.79	8/13	-66.8	8/19	-76.5	8/16	-77.66	8/15	-61.3	8/14	-63.51	8/13	-64.25	8/19	-73.44	8/18	-61.35	8/17	-52.89	8/16	-73.94
8/22	-50.4	8/21	-50.14	8/20	-69.2	8/26	-76.4	8/23	-77.92	8/22	-60.2	8/21	-62.81	8/20	-65.85	8/26	-73.43	8/25	-62.10	8/24	-53.16	8/23	-74.09
8/29	-50.9	8/28	-49.37	8/27	-70.5	9/2	-75.8	8/30	-79.43	8/29	-61.9	8/28	-63.2	8/27	-67.58	9/2	-73.34	9/1	-62.76	8/31	-51.95	8/30	-75.47
9/5	-53.2	9/4	-51.88	9/3	-69.7	9/9	-78.3	9/6	-79.17	9/5	-59.5	9/4	-62.16	9/3	-66.9	9/9	-73.31	9/8	-63.99	9/7	-51.70	9/6	-74.70
9/12	-54.2	9/11	-50.12	9/10	-67.6	9/16	-77.6	9/13	-77.29	9/12	-58.8	9/11	-60.83	9/10	-66.21	9/16	-71.87	9/15	-61.57	9/14	-50.64	9/13	-70.31
9/19	-57.0	9/18	-48.31	9/17	-66.6	9/23	-79.7	9/20	-76.42	9/19	-60.1	9/18	-59.68	9/17	-65.71	9/23	-72.28	9/22	-60.02	9/21	-49.06	9/20	-69.59
9/26	-53.3	9/25	-49.24	9/24	-67.8	9/30	-78.8	9/27	-78.39	9/26	-62.2	9/25	-60.87	9/24	-67.15	9/30	-73.64	9/29	-59.75	9/28	-48.68	9/27	-71.48
10/3	-57.2	10/2	-52.3	10/1	-68.8	10/7	-79.6	10/4	-78.5	10/3	-62.7	10/2	-62.59	10/1	-69.3	10/7	-71.78	10/6	-58.18	10/5	-47.63	10/4	-73.58
10/10	-62.9	10/9	-51.93	10/8	-69.4	10/14	-75.0	10/11	-78.15	10/10	-62.5	10/9	-64.65	10/8	-67.22	10/14	-70.66	10/13	-58.24	10/12	-48.94		
10/17	-59.0	10/16	-48.92	10/15	-68.4	10/21	-74.9	10/18	-77.0	10/17	-61.8	10/16	-68.3	10/15	-67.82	10/21	-71.08	10/20	-58.23	10/19	-49.426		
10/24	-62.3	10/23	-49.41	10/22	-67.9	10/28	-73.1	10/25	-77.2	10/24	-62.7	10/23	-66.13	10/22	-66.82	10/28	-70.31	10/27	-56.58	10/26	-51.63		
10/31	-59.4	10/30	-50.51	10/29	-66.2	11/4	-75.8	11/1	-78.0	10/31	-62.3	10/30	-64.14	10/29	-65.49	11/4	-70.68	11/3	-57.60	11/2	-51.66		
11/7	-58.6	11/6	-50.38	11/5	-66.5	11/11	-75.9	11/8	-79.0	11/7	-60.7	11/6	-62.84	11/5	-62.63	11/11	-67.37	11/10	-57.98	11/9	-49.10		
11/14	-60.9	11/13	-49.69	11/12	-65.4	11/18	-76.7	11/15	-80.67	11/14	-59.5	11/13	-62.58	11/12	-62.41	11/18	-62.39	11/17	-57.65	11/16	-51.67		
11/21	-67.6	11/20	-51.36	11/19	-63.5	11/25	-78.7	11/22	-79.27	11/21	-59.3	11/20	-62.86	11/19	-63.22	11/25	-60.68	11/24	-57.89	11/23	-53.61		
11/28	-67.5	11/27	-52.3	11/26	-64.2	12/2	-76.7	11/29	-79.57	11/28	-59.0	11/27	-63.83	11/26	-63.25	12/2	-60.41	12/1	-57.23	11/30	-52.54		
12/5	-72.4	12/4	-51.92	12/3	-62.8	12/9	-76.2	12/6	-79.68	12/5	-57.9	12/4	-63.37	12/3	-63.59	12/9	-59.34	12/8	-57.19	12/7	-56.30		
12/12	-70.5	12/11	-50.5	12/10	-58.9	12/16	-77.9	12/13	-78.7	12/12	-57.8	12/11	-65.09	12/10	-64.47	12/16	-56.57	12/15	-56.68	12/14	-56.51		
12/19	-74.2	12/18	-49.1	12/17	-55.6	12/23	-77.4	12/20	-77.06	12/19	-57.1	12/18	-65.85	12/17	-64.0	12/23	-56.38	12/22	-54.93	12/21	-59.77		
12/26	-75.5	12/25	-45.7	12/24	-55.9	12/30	-77.2	12/27	-77.93	12/26	-54.6	12/25	-63.12	12/24	-63.89	12/30	57.40	12/29	-55.74	12/28	-61.14		
			12/31	-55.7									12/31	-62.91									

\* Ratio of S&P 500 index for 52-week forward earnings divided by 10-year government bond yield minus 100.

Source: Board of Governors of the Federal Reserve System and I/B/E/S data by Refinitiv.





**Table 7: "Fair-Value" S&P 500 P/E =Reciprocal of 10-Year U.S. Treasury Note Yield (weekly)**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019												
1/4	23.4	1/2	44.64	1/1	26.11	1/7	29.41	1/6	50.25	1/3	53.48	1/2	33.22	1/1	45.87	1/7	45.66	1/6	41.15	1/5	40.65	1/4	37.74
1/11	26.0	1/9	40.32	1/8	26.11	1/14	29.76	1/13	51.28	1/10	52.63	1/9	33.78	1/8	50.00	1/14	47.619	1/13	42.02	1/12	39.37	1/11	36.76
1/18	26.9	1/16	43.48	1/15	26.53	1/21	29.24	1/20	51.02	1/17	53.48	1/16	34.97	1/15	53.76	1/21	49.02	1/20	41.15	1/19	38.61	1/18	36.5
1/25	27.9	1/23	39.06	1/22	27.32	1/28	29.41	1/27	49.75	1/24	52.63	1/23	35.46	1/22	54.05	1/28	50.00	1/27	40.32	1/26	37.74	1/25	36.36
2/1	27.3	1/30	36.36	1/29	27.32	2/4	28.25	2/3	53.19	1/31	49.50	1/30	36.63	1/29	56.50	2/4	52.91	2/3	40.32	2/2	36.36	2/1	37.04
2/8	27.3	2/6	34.25	2/5	27.32	2/11	27.17	2/10	50.25	2/7	50.00	2/6	37.31	2/5	55.25	2/11	58.48	2/10	41.84	2/9	35.46	2/8	37.31
2/15	26.9	2/13	34.72	2/12	27.10	2/18	27.78	2/17	50.76	2/14	49.75	2/13	36.36	2/12	50.00	2/18	56.179	2/17	40.65	2/16	34.84	2/15	37.45
2/22	26.0	2/20	36.36	2/19	26.74	2/25	28.90	2/24	49.75	2/21	50.00	2/20	36.63	2/19	47.39	2/25	57.14	2/24	41.84	2/23	34.36	2/22	37.59
2/29	26.5	2/27	34.36	2/26	27.10	3/4	28.82	3/2	50.76	2/28	53.19	2/27	37.17	2/26	49.75	3/4	54.95	3/3	41.15	3/2	34.97	3/1	37.04
3/7	27.7	3/6	34.48	3/5	27.55	3/11	28.90	3/9	50.00	3/7	51.02	3/6	36.90	3/5	46.95	3/11	52.36	3/10	39.22	3/9	34.72	3/8	37.31
3/14	28.5	3/13	34.25	3/12	26.88	3/18	30.40	3/16	42.25	3/14	49.02	3/13	36.76	3/12	46.73	3/18	51.81	3/17	39.22	3/16	35.21	3/15	38.17
3/21	29.5	3/20	36.36	3/19	27.17	3/25	29.59	3/23	43.10	3/21	51.55	3/20	36.50	3/19	50.00	3/25	52.36	3/24	41.32	3/23	34.97	3/22	39.22
3/28	28.4	3/27	36.50	3/26	26.39	4/1	28.82	3/30	45.05	3/28	52.63	3/27	36.76	3/26	51.55	4/1	54.95	3/31	41.67	3/30	35.84	3/29	41.49
4/4	28.2	4/3	36.23	4/2	25.71	4/8	28.25	4/6	45.25	4/4	55.25	4/3	36.10	4/2	52.36	4/8	57.47	4/7	42.55	4/6	35.97	4/5	40.000
4/11	28.2	4/10	34.13	4/9	25.38	4/15	28.49	4/13	49.02	4/11	55.87	4/10	37.31	4/9	51.81	4/15	56.5	4/14	43.48	4/13	35.71	4/12	39.68
4/18	27.2	4/17	34.84	4/16	25.97	4/22	29.33	4/20	50.00	4/18	57.80	4/17	37.45	4/16	52.63	4/22	54.3	4/21	44.84	4/20	34.72	4/19	38.76
4/25	26.3	4/24	33.78	4/23	26.25	4/29	29.76	4/27	50.51	4/25	57.80	4/24	36.9	4/23	51.55	4/29	53.19	4/28	43.29	4/27	33.44	4/26	39.22
5/2	26.1	5/1	32.26	4/30	26.60	5/6	30.86	5/4	51.28	5/2	58.82	5/1	37.59	4/30	49.26	5/6	55.25	5/5	42.92	5/4	33.78	5/3	39.53
5/9	26.0	5/8	30.96	5/7	28.09	5/13	31.25	5/11	53.19	5/9	54.64	5/8	38.17	5/7	45.66	5/13	57.14	5/12	41.84	5/11	33.67	5/10	40.49
5/16	25.9	5/15	31.85	5/14	28.25	5/20	31.75	5/18	57.47	5/16	51.81	5/15	38.91	5/14	44.64	5/20	54.95	5/19	44.05	5/18	32.57	5/17	41.67
5/23	26.0	5/22	30.40	5/21	30	5/27	32.26	5/25	56.82	5/23	50.25	5/22	39.37	5/21	44.84	5/27	54.05	5/26	44.25	5/25	33.22	5/24	42.19
5/30	24.8	5/29	27.86	5/28	30.77	6/3	33.22	6/1	62.11	5/30	46.73	5/29	40.49	5/28	46.94	6/3	55.56	6/2	45.45	6/1	35.33	6/1	45.05
6/6	25.1	6/5	27.03	6/4	30.21	6/10	33.33	6/8	62.11	6/6	47.17	6/5	38.61	6/4	43.29	6/10	58.82	6/9	45.87	6/8	34.01	6/7	47.62
6/13	24.1	6/12	25.71	6/11	31.06	6/17	33.44	6/15	61.73	6/13	45.45	6/12	38.17	6/11	41.32	6/17	62.11	6/16	45.87	6/15	33.89	6/14	47.17
6/20	23.8	6/19	26.66	6/18	30.67	6/24	33.78	6/22	60.98	6/20	42.92	6/19	38.02	6/18	43.1	6/24	59.52	6/23	46.3	6/22	34.36	6/21	48.780
6/27	24.4	6/26	27.55	6/25	31.55	7/1	32.15	6/29	60.98	6/27	39.22	6/26	38.91	6/25	41.49	7/1	68.03	6/30	44.84	6/29	35.08	6/28	49.504
7/4	25.0	7/3	28.33	7/2	33.44	7/8	32.05	7/6	62.11	7/4	39.06	7/3	38.46	7/2	42.02	7/8	72.46	7/7	42.37	7/6	35.21	7/5	50.000
7/11	25.6	7/10	29.24	7/9	33.11	7/15	34.01	7/12	65.79	7/11	37.88	7/10	38.91	7/9	43.29	7/15	66.23	7/14	42.55	7/13	35.08	7/12	47.85
7/18	25.1	7/17	28.17	7/16	32.79	7/22	33.67	7/19	65.79	7/18	39.37	7/17	39.53	7/16	42.02	7/22	63.291	7/21	44.05	7/20	34.96	7/19	48.31
7/25	24.3	7/24	27.62	7/23	33.67	7/29	33.67	7/26	68.02	7/25	38.91	7/24	40.16	7/23	43.10	7/29	65.359	7/28	43.48	7/27	33.78	7/26	48.31
8/1	24.8	7/31	27.25	7/30	33.11	8/5	38.17	8/2	64.94	8/1	37.87	7/31	39.53	7/30	44.44	8/5	64.94	8/4	44.05	8/3	33.67	8/2	50.51
8/8	25.1	8/7	26.53	8/6	34.01	8/12	44.05	8/9	60.61	8/8	38.16	8/7	40.49	8/6	45.05	8/12	64.94	8/11	44.64	8/10	34.01	8/9	57.8
8/15	25.6	8/14	27.25	8/13	36.23	8/19	46.08	8/16	56.82	8/15	36.63	8/14	41.49	8/13	45.87	8/19	64.1	8/18	45.05	8/17	34.84	8/16	62.500
8/22	26.1	8/21	28.74	8/20	38.31	8/26	45.66	8/23	57.47	8/22	34.97	8/21	41.49	8/20	47.17	8/26	63.69	8/25	45.66	8/24	35.33	8/23	63.29
8/29	26.4	8/28	28.90	8/27	39.06	9/2	46.08	8/30	61.35	8/29	36.23	8/28	42.19	8/27	46.73	9/2	63.29	9/1	46.73	8/31	34.84	8/30	66.67
9/5	27.1	9/4	29.67	9/3	38.61	9/9	50.25	9/6	60.98	9/5	34.25	9/4	40.98	9/3	45.87	9/9	62.89	9/8	48.31	9/7	34.36	9/6	65.79
9/12	27.3	9/11	29.33	9/10	36.90	9/16	49.26	9/13	56.82	9/12	34.25	9/11	39.37	9/10	45.25	9/16	58.82	9/15	45.87	9/14	33.67	9/13	56.82
9/19	28.2	9/18	28.90	9/17	36.50	9/23	53.48	9/20	55.25	9/19	35.84	9/18	38.31	9/17	45.05	9/23	60.240	9/22	44.25	9/21	32.78	9/20	55.56
9/26	26.0	9/25	29.15	9/24	38.31	9/30	50.76	9/27	59.52	9/26	37.59	9/25	39.22	9/24	46.30	9/30	63.291	9/29	43.86	9/28	32.57	9/27	58.82
10/3	27.0	10/2	30.49	10/1	39.68	10/7	51.81	10/4	59.88	10/3	37.88	10/2	40.49	10/1	48.78	10/7	58.82	10/6	42.74	10/5	31.84	10/4	62.500
10/10	27.1	10/9	30.49	10/8	40.82	10/14	45.05	10/11	58.48	10/10	37.31	10/9	42.37	10/8	47.85	10/14	56.18	10/13	42.92	10/12	31.45		
10/17	24.9	10/16	29.15	10/15	40.00	10/21	45.45	10/18	55.87	10/17	37.59	10/16	45.66	10/15	49.26	10/21	58.82	10/20	42.92	10/19	31.45		
10/24	26.7	10/23	29.15	10/22	39.37	10/28	43.85	10/25	55.24	10/24	39.22	10/23	44.44	10/22	48.54	10/28	55.25	10/27	41.32	10/26	31.85		
10/31	25.5	10/30	28.65	10/29	37.45	11/4	48.31	11/1	57.47	10/31	38.91	10/30	43.10	10/29	47.39	11/4	54.95	11/3	42.37	11/2	31.85		
11/7	26.2	11/6	28.33	11/5	38.31	11/11	48.78	11/8	59.52	11/7	37.31	11/6	42.37	11/5	44.25	11/11	50.51	11/10	42.74	11/9	31.15		
11/14	26.5	11/13	28.74	11/12	37.31	11/18	49.50	11/15	62.89	11/14	36.5	11/13	42.37	11/12	43.10	11/18	44.247	11/17	42.19	11/16	32.15		
11/21	29.6	11/20	29.85	11/19	34.6	11/25	51.54	11/22	59.88	11/21	36.5	11/20	42.92	11/19	44.25	11/25	42.74	11/24	42.55	11/23	32.68		
11/28	32.3	11/27	30.30	11/26	35.21	12/2	49.02	11/29	61.35	11/28	36.5	11/27	44.44	11/26	44.64	12/2	42.19	12/1	42.37	11/30	32.79		
12/5	37.6	12/4	29.94	12/3	34.13	12/9	49.02	12/6	61.73	12/5	35.21	12/4	44.05	12/3	44.84	12/9	41.67	12/8	42.37	12/7	34.48		
12/12	37.5	12/11	28.82	12/10	31.45	12/16	51.55	12/13	59.17	12/12	34.97	12/11	45.66	12/10	45.25	12/16	39.370	12/15	42.19	12/14	34.6		
12/19	44.2	12/18	28.09	12/17	29.24	12/23	51.28	12/20	55.56	12/19	34.6	12/18	46.73	12/17	44.44	12/23	39.22	12/22	40.65	12/21	35.59		
12/26	45.9	12/25	26.59	12/24	29.67	12/30	51.55	12/27	56.82	12/26	33.44	12/25	44.64	12/24	44.64	12/30	39.840	12/29	41.15	12/28	36.23		
			12/31	29.59									12/31	43.67									

Source: Board of Governors of the Federal Reserve System.

**Table 8: S&P 400 Forward Earnings (weekly as of Friday, dollars per share) --Analysts' Estimates**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019												
1/4	55.13	1/2	46.75	1/1	44.72	1/7	57.3	1/6	65.97	1/3	70.06	1/2	77.87	1/1	85.41	1/7	84.8	1/6	89.21	1/5	104.50	1/3	124.1
1/11	54.97	1/9	46.21	1/8	45.94	1/14	57.6	1/13	65.97	1/10	70.11	1/9	78.01	1/8	85.38	1/14	84.46	1/13	89.82	1/12	106.7	1/10	123.3
1/18	54.75	1/16	45.09	1/15	45.23	1/21	57.8	1/20	66.04	1/17	70.20	1/16	78.43	1/15	85.17	1/21	84.72	1/20	89.96	1/19	107.70	1/17	122.9
1/25	54.76	1/23	44.81	1/22	45.61	1/28	58.19	1/27	65.64	1/24	70.31	1/23	78.64	1/22	84.9	1/28	84.14	1/27	90.1	1/26	108.9	1/24	122.80
2/1	54.60	1/30	43.71	1/29	45.96	2/4	58.36	2/3	65.53	1/31	70.42	1/30	78.60	1/29	84.54	2/4	83.57	2/3	90.32	2/2	110.1	1/31	122.1
2/8	54.46	2/6	42.01	2/5	46.47	2/11	58.50	2/10	65.27	2/7	70.53	2/6	78.48	2/5	83.90	2/11	83.43	2/10	90.18	2/9	111.4	2/7	121.8
2/15	54.29	2/13	41.02	2/12	46.59	2/18	58.76	2/17	65.57	2/14	70.81	2/13	78.48	2/12	83.47	2/18	83.09	2/17	90.41	2/16	111.7	2/14	121.5
2/22	54.47	2/20	40.87	2/19	46.76	2/25	59.08	2/24	65.81	2/21	70.87	2/20	78.31	2/19	83.26	2/25	82.02	2/24	90.5	2/23	112.2	2/21	121.4
2/29	54.33	2/27	40.78	2/26	46.98	3/4	59.06	3/2	65.96	2/28	70.93	2/27	78.41	2/26	83.26	3/4	83.10	3/3	91.03	3/2	112.4	2/28	121.3
3/7	54.30	3/6	40.55	3/5	47.13	3/11	59.29	3/9	66.07	3/7	70.75	3/6	78.87	3/5	83.35	3/11	83.07	3/10	91.68	3/9	112.8	3/7	121.1
3/14	54.23	3/13	39.90	3/12	47.11	3/18	59.39	3/16	66.01	3/14	70.80	3/13	79.01	3/12	83.31	3/18	83.13	3/17	91.95	3/16	113.20	3/14	121.1
3/21	54.28	3/20	39.59	3/19	47.29	3/25	59.45	3/23	66.14	3/21	70.82	3/20	79.14	3/19	83.39	3/25	83.22	3/24	92	3/23	114.1	3/21	121.4
3/28	54.75	3/27	39.51	3/26	47.47	4/1	60.20	3/30	66.47	3/28	70.95	3/27	79.12	3/26	83.24	4/1	83.37	3/31	92.97	3/30	114.6	3/28	121.4
4/4	54.53	4/3	38.73	4/2	47.97	4/8	60.29	4/6	66.85	4/4	71.13	4/3	78.62	4/2	83.34	4/8	83.9	4/7	93.09	4/6	115.2	4/4	122.4
4/11	54.65	4/10	38.64	4/9	48.47	4/15	60.49	4/13	67.09	4/11	71.64	4/10	78.79	4/9	82.99	4/15	84.05	4/14	93.37	4/13	115.3	4/11	120.7
4/18	54.66	4/17	38.50	4/16	48.78	4/22	60.67	4/20	67.27	4/18	71.69	4/17	78.98	4/16	83.22	4/22	84.34	4/21	93.9	4/20	115.6	4/18	122.5
4/25	54.77	4/24	38.40	4/23	49.10	4/29	61.38	4/27	67.68	4/25	71.90	4/24	79.23	4/23	82.95	4/29	84.55	4/28	94.31	4/27	115.9	4/25	123.1
5/2	54.84	5/1	37.91	4/30	49.51	5/6	61.72	5/4	67.65	5/2	72.07	5/1	79.58	4/30	82.79	5/6	84.77	5/5	94.42	5/4	116.10	5/2	123.4
5/9	55.12	5/8	37.79	5/7	49.91	5/13	62.04	5/11	67.86	5/9	72.33	5/8	80.49	5/7	82.16	5/13	85.02	5/12	94.66	5/11	116.8	5/9	123.5
5/16	55.92	5/15	38.01	5/14	50.31	5/20	62.35	5/18	68.03	5/16	72.78	5/15	80.68	5/14	82.47	5/20	84.80	5/19	95.49	5/18	118.00	5/16	123.5
5/23	55.58	5/22	38.16	5/21	50.79	5/27	62.58	5/25	68.27	5/23	72.91	5/22	80.86	5/21	82.75	5/27	85.06	5/26	95.74	5/25	117.6	5/23	122.9
5/30	56.06	5/29	38.32	5/28	51.05	6/3	62.94	6/1	68.45	5/30	73.28	5/29	81.06	5/28	83.28	6/3	85.48	6/2	95.77	6/1	117.9	5/30	123.1
6/6	56.68	6/5	38.59	6/4	51.41	6/10	63.22	6/8	68.24	6/6	73.35	6/5	81.33	6/4	83.59	6/10	85.6	6/9	96.15	6/8	119.2	6/6	123.2
6/13	56.96	6/12	38.73	6/11	51.58	6/17	63.46	6/15	68.29	6/13	73.53	6/12	81.61	6/11	83.64	6/17	85.78	6/16	96.54	6/15	119.4	6/13	123.3
6/20	56.95	6/19	38.59	6/18	51.70	6/24	63.51	6/22	68.21	6/20	73.61	6/19	81.85	6/18	83.53	6/24	85.71	6/23	96.96	6/22	119.0	6/20	123.1
6/27	57.17	6/26	39.24	6/25	51.79	7/1	63.67	6/29	68.24	6/27	73.69	6/26	82.01	6/25	83.65	7/1	85.81	6/30	97.11	6/29	119.2	6/27	123.4
7/4	57.51	7/3	39.57	7/2	52.44	7/8	64.10	7/6	69.01	7/4	73.92	7/3	82.18	7/2	83.78	7/8	86.09	7/7	97.14	7/6	119.7	7/4	123.9
7/11	58.05	7/10	39.63	7/9	52.49	7/15	64.31	7/13	68.95	7/11	73.98	7/10	82.25	7/9	84.18	7/15	85.97	7/14	97.22	7/13	120.0	7/11	124
7/18	58.31	7/17	39.68	7/16	52.52	7/22	64.29	7/20	68.88	7/18	74.08	7/17	82.64	7/16	84.1	7/22	86.11	7/21	97.29	7/20	120.2	7/18	123.7
7/25	58.45	7/24	39.87	7/23	52.64	7/29	64.31	7/27	68.89	7/25	74.32	7/24	82.77	7/23	84.48	7/29	86.19	7/28	97.38	7/27	120.4	7/25	123.67
8/1	58.06	7/31	40.27	7/30	52.90	8/5	64.46	8/2	68.72	8/1	74.45	7/31	82.96	7/30	84.38	8/5	86.47	8/4	98.55	8/3	120.6	8/1	123.33
8/8	58.29	8/7	40.62	8/6	53.30	8/12	64.39	8/9	68.69	8/8	74.34	8/7	83.21	8/6	84.36	8/12	86.55	8/11	98.63	8/10	121.2	8/8	122.6
8/15	58.10	8/14	40.91	8/13	53.53	8/19	64.59	8/16	68.66	8/15	74.30	8/14	83.18	8/13	84.62	8/19	86.60	8/18	98.57	8/17	121.3	8/15	122.3
8/22	58.17	8/21	41.04	8/20	53.78	8/26	64.77	8/23	68.77	8/22	74.42	8/21	83.61	8/20	84.91	8/26	87.07	8/25	98.83	8/24	122.3	8/22	123.1
8/29	57.87	8/28	41.34	8/27	53.94	9/2	65.02	8/30	68.86	8/29	74.39	8/28	83.55	8/27	85.05	9/2	87.17	9/1	98.98	8/31	122.5	8/29	122.8
9/5	58.04	9/4	41.64	9/3	54.08	9/9	65.11	9/6	68.93	9/5	74.56	9/4	84.06	9/3	84.81	9/9	87.59	9/8	99.16	9/7	123.0	9/5	122.3
9/12	58.16	9/11	41.86	9/10	54.23	9/16	65.07	9/13	69.15	9/12	74.77	9/11	84.38	9/10	84.88	9/16	87.70	9/15	99.32	9/14	123.2	9/12	122
9/19	58.34	9/18	41.77	9/17	54.26	9/23	64.81	9/20	69.28	9/19	74.84	9/18	84.51	9/17	84.88	9/23	88	9/22	99.63	9/21	122.3	9/19	122.1
9/26	58.06	9/25	42.13	9/24	54.25	9/30	64.91	9/27	69.50	9/26	76.31	9/25	84.25	9/24	84.79	9/30	87.93	9/29	99.95	9/28	123.4	9/26	120.5
10/3	57.90	10/2	42.29	10/1	54.46	10/7	65.01	10/4	69.32	10/3	76.44	10/2	84.30	10/1	84.89	10/7	87.9	10/6	100.1	10/5	123.6	10/3	120.7
10/10	57.52	10/9	42.51	10/8	54.36	10/14	64.59	10/11	69.35	10/10	76.64	10/9	84.26	10/8	85.02	10/14	88.03	10/13	100.1	10/12	124		
10/17	56.22	10/16	42.59	10/15	54.46	10/21	64.78	10/18	69.40	10/17	76.85	10/16	84.16	10/15	85.01	10/21	88.04	10/20	100.40	10/19	124.6		
10/24	54.95	10/23	43.10	10/22	54.55	10/28	64.67	10/25	69.31	10/24	76.80	10/23	84.08	10/22	85.09	10/28	88.05	10/27	100.8	10/26	124.5		
10/31	53.47	10/30	43.18	10/29	54.81	11/4	64.80	11/1	69.14	10/31	76.93	10/30	84.15	10/29	84.50	11/4	88.01	11/3	101.1	11/2	124.4		
11/7	52.19	11/6	43.44	11/5	55.00	11/11	64.91	11/8	68.95	11/7	77.00	11/6	84.35	11/5	84.22	11/11	87.99	11/10	101.3	11/9	124.3		
11/14	51.48	11/13	43.85	11/12	55.28	11/18	65.19	11/15	69.14	11/14	77.17	11/13	84.6	11/12	84.19	11/18	87.94	11/17	101.4	11/16	124.4		
11/21	51.17	11/20	44.10	11/19	55.55	11/25	65.5	11/22	69.18	11/21	77.34	11/20	84.73	11/19	84.42	11/25	88.09	11/24	101.6	11/23	124.1		
11/28	50.29	11/27	44.33	11/26	55.79	12/2	65.59	11/29	69.27	11/28	77.48	11/27	84.89	11/26	84.37	12/2	88.17	12/1	102.1	11/30	124.2		
12/5	49.67	12/4	44.45	12/3	56.00	12/9	65.68	12/6	69.40	12/5	76.79	12/4	84.93	12/3	84.61	12/9	88.39	12/8	102.9	12/7	124.60		
12/12	48.59	12/11	44.85	12/10	56.21	12/16	65.84	12/13	69.71	12/12	77.02	12/11	85.17	12/10	84.70	12/16	88.71	12/15	103.1	12/14	124.1		
12/19	47.20	12/18	44.96	12/17	56.46	12/23	65.62	12/20	69.79	12/19	77.10	12/18	84.87	12/17	84.65	12/23	88.84	12/22	103.3	12/21	124.10		
12/26	46.61	12/25	44.75	12/24	56.92	12/30	65.75	12/27	69.84	12/26	77.63	12/25	84.71	12/24	84.36	12/30	89.00	12/29	103.8	12/28	123.9		
				12/31	57.08									12/31	84.27								

Source: I/B/E/S data by Refinitiv.

**Table 9: S&P 400 Forward Earnings (weekly as of Friday, dollars per share)--Market's Estimate**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019												
1/4	33.14	1/2	11.88	1/1	28.15	1/7	31.06	1/6	17.69	1/3	19.5	1/2	40.2	1/1	31.9	1/7	29.6	1/6	40.9	1/5	47.38	1/4	43.97
1/11	30.92	1/9	13.53	1/8	28.51	1/14	31.02	1/13	17.68	1/10	20.05	1/9	39.6	1/8	28.7	1/14	27.1	1/13	40.0	1/12	49.52	1/11	47.37
1/18	28.92	1/16	11.79	1/15	28.21	1/21	31.59	1/20	18.10	1/17	19.94	1/16	38.49	1/15	26.5	1/21	25.8	1/20	40.7	1/19	50.88	1/18	48.79
1/25	27.50	1/23	12.75	1/22	27.06	1/28	31.48	1/27	18.85	1/24	20.65	1/23	37.89	1/22	26.7	1/28	25.7	1/27	42.1	1/26	52.76	1/25	48.46
2/1	29.36	1/30	14.07	1/29	26.21	2/4	33.17	2/3	17.88	1/31	22.12	1/30	35.76	1/29	25.7	2/4	24.5	2/3	41.9	2/2	53.71	2/1	49.34
2/8	29.15	2/6	14.89	2/5	25.98	2/11	35.29	2/10	19.32	2/7	22.03	2/6	34.45	2/5	26.6	2/11	21.4	2/10	40.7	2/9	51.88	2/8	49.81
2/15	29.77	2/13	14.73	2/12	25.98	2/18	35.17	2/17	19.26	2/14	22.38	2/13	36.61	2/12	29.7	2/18	23.2	2/17	42.6	2/16	53.72	2/15	50.45
2/22	30.81	2/20	13.06	2/19	27.46	2/25	32.99	2/24	19.74	2/21	22.12	2/20	36.94	2/19	31.8	2/25	23.2	2/24	41.6	2/23	54.98	2/22	51.16
2/29	30.74	2/27	13.27	2/26	27.19	3/4	33.42	3/2	19.34	2/28	20.58	2/27	36.80	2/26	30.4	3/4	25.0	3/3	42.3	3/2	53.79	3/1	51.86
3/7	28.12	3/6	12.14	3/5	27.56	3/11	33.12	3/9	19.42	3/7	21.91	3/6	37.49	3/5	32.0	3/11	26.6	3/10	43.7	3/9	55.31	3/8	50.55
3/14	26.79	3/13	12.75	3/12	28.94	3/18	30.94	3/16	21.99	3/14	23.19	3/13	37.28	3/12	31.8	3/18	27.2	3/17	43.9	3/16	54.98	3/15	49.55
3/21	25.81	3/20	12.87	3/19	29.05	3/25	32.47	3/23	23.06	3/21	22.09	3/20	37.81	3/19	30.4	3/25	27.1	3/24	41.1	3/23	54.2	3/22	48.22
3/28	27.62	3/27	13.63	3/26	30.03	4/1	34.09	3/30	22.16	3/28	21.76	3/27	37.01	3/26	29.4	4/1	26.2	3/31	41.0	3/30	52.06	3/29	45.28
4/4	28.54	4/3	13.83	4/2	30.87	4/8	35.27	4/6	21.95	4/4	20.50	4/3	38.34	4/2	29.1	4/8	24.9	4/7	40.1	4/6	51.81	4/5	48.23
4/11	28.69	4/10	15.12	4/9	31.95	4/15	34.28	4/13	19.67	4/11	20.47	4/10	35.99	4/9	29.6	4/15	25.7	4/14	39.2	4/13	52.61	4/12	49.07
4/18	29.96	4/17	15.39	4/16	31.7	4/22	33.43	4/20	19.50	4/18	19.30	4/17	35.76	4/16	29.1	4/22	27.1	4/21	38.1	4/20	55.05	4/19	50.48
4/25	31.70	4/24	15.87	4/23	31.77	4/29	33.86	4/27	19.46	4/25	19.68	4/24	36.82	4/23	29.7	4/29	27.7	4/28	40.3	4/27	55.59	4/26	50.10
5/2	32.36	5/1	17.18	4/30	31.3	5/6	32.23	5/4	19.22	5/2	19.60	5/1	36.00	4/30	30.8	5/6	26.3	5/5	40.4	5/4	55.64	5/3	49.73
5/9	32.81	5/8	18.71	5/7	28.37	5/13	32.02	5/11	18.15	5/9	21.64	5/8	35.50	5/7	33.0	5/13	25.5	5/12	41.3	5/11	57.15	5/10	47.96
5/16	33.72	5/15	17.46	5/14	28.38	5/20	31.10	5/18	16.23	5/16	23.18	5/15	34.94	5/14	34.1	5/20	26.2	5/19	38.9	5/18	55.56	5/17	45.46
5/23	33.44	5/22	18.45	5/21	25.5	5/27	30.32	5/25	16.39	5/23	23.89	5/22	34.48	5/21	34.4	5/27	27.3	5/26	39.0	5/25	58.75	5/24	44.44
5/30	35.23	5/29	20.43	5/28	24.45	6/3	29.43	6/1	14.88	5/30	25.48	5/29	34.03	5/28	32.6	6/3	27.0	6/2	38.17	6/1	55.26	5/31	40.80
6/6	35.00	6/5	22.03	6/4	24.9	6/10	28.31	6/8	14.68	6/6	24.85	6/5	36.07	6/4	35.3	6/10	25.8	6/9	38.04	6/8	58.35	6/7	39.22
6/13	35.76	6/12	23.19	6/11	23.72	6/17	27.93	6/15	14.77	6/13	25.75	6/12	36.85	6/11	36.9	6/17	23.8	6/16	38.35	6/15	58.90	6/14	40.37
6/20	36.41	6/19	21.59	6/18	25.22	6/24	28.13	6/22	15.19	6/20	27.10	6/19	37.27	6/18	35.6	6/24	25.1	6/23	37.69	6/22	57.99	6/21	39.43
6/27	34.32	6/26	20.51	6/25	23.8	7/1	30.24	6/29	15.01	6/27	29.24	6/26	36.52	6/25	37.1	7/1	21.5	6/30	38.95	6/29	55.69	6/28	38.70
7/4	32.21	7/3	20.37	7/2	21.42	7/8	31.31	7/6	15.35	7/4	30.08	7/3	37.43	7/2	35.8	7/8	20.6	7/7	41.22	7/6	55.91	7/5	39.14
7/11	30.76	7/10	18.83	7/9	21.87	7/15	28.76	7/13	14.23	7/11	31.83	7/10	36.49	7/9	34.6	7/15	23.3	7/14	41.22	7/13	57.01	7/12	40.72
7/18	31.42	7/17	20.50	7/16	22.70	7/22	29.15	7/20	14.35	7/18	31.14	7/17	35.66	7/16	36.1	7/22	24.4	7/21	40.24	7/20	57.14	7/19	40.24
7/25	33.10	7/24	21.98	7/23	22.10	7/29	28.52	7/27	13.63	7/25	31.72	7/24	35.14	7/23	34.7	7/29	23.8	7/28	40.84	7/27	58.85	7/26	40.66
8/1	32.38	7/31	22.92	7/30	23.13	8/5	23.39	8/2	14.44	8/1	32.70	7/31	35.10	7/30	33.5	8/5	23.9	8/4	39.84	8/3	58.95	8/2	38.71
8/8	31.98	8/7	24.31	8/6	22.73	8/12	18.52	8/9	15.81	8/8	32.48	8/7	33.88	8/6	33.2	8/12	24.0	8/11	38.77	8/10	59.02	8/9	32.72
8/15	32.02	8/14	23.81	8/13	20.78	8/19	18.05	8/16	17.01	8/15	33.45	8/14	33.50	8/13	32.7	8/19	24.3	8/18	38.03	8/17	57.3	8/16	29.79
8/22	30.97	8/21	22.35	8/20	19.36	8/26	17.93	8/23	16.92	8/22	34.58	8/21	34.28	8/20	31.3	8/26	24.8	8/25	37.28	8/24	57.45	8/23	29.84
8/29	30.72	8/28	22.85	8/27	18.56	9/2	18.70	8/30	15.83	8/29	33.08	8/28	33.97	8/27	29.7	9/2	24.8	9/1	36.81	8/31	58.67	8/30	27.87
9/5	29.32	9/4	21.77	9/3	19.23	9/9	16.70	9/6	16.27	9/5	34.83	9/4	35.11	9/3	30.4	9/9	24.9	9/8	35.56	9/7	59.20	9/6	28.73
9/12	28.58	9/11	22.94	9/10	20.60	9/16	17.28	9/13	17.77	9/12	35.82	9/11	36.34	9/10	31.2	9/16	24.9	9/15	38.10	9/14	60.52	9/13	34.33
9/19	27.17	9/18	24.15	9/17	21.24	9/23	15.30	9/20	18.28	9/19	34.81	9/18	37.11	9/17	31.6	9/23	25.6	9/22	39.87	9/21	62.11	9/20	35.18
9/26	29.10	9/25	23.73	9/24	20.56	9/30	15.82	9/27	16.65	9/26	33.07	9/25	35.42	9/24	30.3	9/30	24.4	9/29	40.69	9/28	62.06	9/27	32.91
10/3	25.79	10/2	22.38	10/1	20.17	10/7	15.15	10/4	16.54	10/3	33.09	10/2	33.72	10/1	28.0	10/7	26.2	10/6	42.49	10/5	62.52	10/4	30.39
10/10	21.56	10/9	22.64	10/8	19.75	10/14	18.61	10/11	16.80	10/10	33.24	10/9	31.59	10/8	29.8	10/14	27.2	10/13	42.35	10/12	60.85		
10/17	22.91	10/16	24.27	10/15	20.45	10/21	18.60	10/18	17.79	10/17	33.83	10/16	28.56	10/15	29.1	10/21	26.9	10/20	42.47	10/19	60.21		
10/24	20.13	10/23	24.27	10/22	20.82	10/28	20.29	10/25	17.71	10/24	33.96	10/23	30.62	10/22	29.5	10/28	27.4	10/27	44.26	10/26	57.18		
10/31	20.80	10/30	23.59	10/29	22.11	11/4	18.31	11/1	17.24	10/31	33.23	10/30	32.46	10/29	30.4	11/4	27.1	11/3	43.23	11/2	57.51		
11/7	21.14	11/6	23.74	11/5	22.04	11/11	18.19	11/8	16.52	11/7	34.49	11/6	33.58	11/5	33.1	11/11	30.4	11/10	42.88	11/9	60.65		
11/14	19.27	11/13	24.26	11/12	22.89	11/18	17.67	11/15	15.21	11/14	35.63	11/13	33.84	11/12	33.3	11/18	36.1	11/17	43.38	11/16	57.69		
11/21	15.48	11/20	23.48	11/19	24.33	11/25	16.06	11/22	16.34	11/21	35.62	11/20	33.45	11/19	32.4	11/25	38.2	11/24	43.61	11/23	55.84		
11/28	15.36	11/27	22.85	11/26	24.32	12/2	17.65	11/29	16.19	11/28	35.79	11/27	32.65	11/26	32.7	12/2	38.6	12/1	44.46	11/30	56.70		
12/5	12.79	12/4	23.21	12/3	25.48	12/9	18.04	12/6	16.20	12/5	36.97	12/4	32.63	12/3	32.4	12/9	40.2	12/8	44.46	12/7	53.07		
12/12	13.56	12/11	24.29	12/10	28.30	12/16	16.55	12/13	17.02	12/12	37.05	12/11	31.16	12/10	31.2	12/16	42.5	12/15	44.60	12/14	50.87		
12/19	11.71	12/18	25.47	12/17	30.69	12/23	16.95	12/20	18.40	12/19	37.78	12/18	30.38	12/17	31.3	12/23	42.8	12/22	46.80	12/21	46.71		
12/26	11.12	12/25	27.55	12/24	30.64	12/30	17.08	12/27	17.81	12/26	39.88	12/25	32.74	12/24	31.4	12/30	41.9	12/29	46.31	12/28	44.86		
			12/31	30.79									12/31	32.3									

Source: I/B/E/S data by Refinitiv.

**Table 10: S&P 600 Forward Earnings (weekly as of Friday, dollars per share)--Analysts' Estimates**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2017	2017	2017	2017	2017	2017	2017	2019							
1/4	25.04	1/2	20.12	1/1	19.04	1/7	25.00	1/6	29.0	1/3	31.3	1/2	35.33	1/1	38.45	1/7	38.7	1/6	42.41	1/5	47.48	1/3	59.54	
1/11	25.02	1/9	19.87	1/8	19.14	1/14	25.13	1/13	29.0	1/10	31.5	1/9	35.46	1/8	38.48	1/14	38.6	1/13	42.23	1/12	48.55	1/10	59.11	
1/18	24.95	1/16	19.43	1/15	19.23	1/21	25.25	1/20	29.1	1/17	31.5	1/16	35.57	1/15	38.44	1/21	38.47	1/20	42.36	1/19	49.04	1/17	58.75	
1/25	25.01	1/23	19.19	1/22	19.38	1/28	25.32	1/27	29.2	1/24	31.6	1/23	35.66	1/22	38.26	1/28	38.52	1/27	42.45	1/26	49.52	1/24	58.68	
2/1	24.81	1/30	18.79	1/29	19.48	2/4	25.48	2/3	29.2	1/31	31.5	1/30	35.87	1/29	38.18	2/4	38.68	2/3	42.54	2/2	50.24	1/31	58.48	
2/8	24.62	2/6	17.87	2/5	19.53	2/11	25.57	2/10	29.2	2/7	31.6	2/6	35.82	2/5	37.92	2/11	38.61	2/10	43.00	2/9	50.7	2/7	58.05	
2/15	24.53	2/13	17.40	2/12	19.67	2/18	25.68	2/17	29.2	2/14	31.6	2/13	35.69	2/12	37.67	2/18	38.39	2/17	42.97	2/16	51.27	2/14	57.83	
2/22	24.53	2/20	17.30	2/19	19.69	2/25	25.80	2/24	29.2	2/21	31.7	2/20	35.67	2/19	37.55	2/25	38.14	2/24	42.91	2/23	51.64	2/21	57.56	
2/29	24.49	2/27	17.01	2/26	19.75	3/4	25.74	3/2	29.1	2/28	31.8	2/27	35.62	2/26	37.41	3/4	37.95	3/3	42.54	3/2	51.94	2/28	57.21	
3/7	24.63	3/6	16.68	3/5	19.73	3/11	25.65	3/9	29.2	3/7	31.7	3/6	35.37	3/5	37.17	3/11	37.74	3/10	42.40	3/9	52.46	3/7	56.97	
3/14	24.51	3/13	16.51	3/12	19.70	3/18	25.65	3/16	30.0	3/14	31.7	3/13	35.37	3/12	36.98	3/18	37.81	3/17	42.41	3/16	52.4	3/14	56.53	
3/21	24.50	3/20	16.46	3/19	19.66	3/25	25.69	3/23	29.3	3/21	31.7	3/20	35.41	3/19	37.09	3/25	37.79	3/24	42.62	3/23	54.17	3/21	56.23	
3/28	24.57	3/27	16.39	3/26	19.79	4/1	25.93	3/30	29.5	3/28	31.7	3/27	35.61	3/26	37.13	4/1	37.95	3/31	42.75	3/30	54.25	3/28	56.43	
4/4	24.66	4/3	16.28	4/2	19.83	4/8	26.05	4/6	29.5	4/4	31.8	4/3	35.84	4/2	37.15	4/8	38.08	4/7	42.67	4/6	54.47	4/4	56.75	
4/11	24.86	4/10	16.16	4/9	20.42	4/15	26.16	4/13	29.6	4/11	31.9	4/10	36.00	4/9	37.17	4/15	38.15	4/14	42.81	4/13	54.59	4/11	56.74	
4/18	24.86	4/17	16.07	4/16	20.52	4/22	26.2	4/20	29.7	4/18	31.9	4/17	36.12	4/16	37.28	4/22	38.32	4/21	42.96	4/20	54.63	4/18	57.11	
4/25	24.81	4/24	16.04	4/23	20.92	4/29	26.5	4/27	29.8	4/25	31.8	4/24	36.17	4/23	37.09	4/29	38.46	4/28	43.31	4/27	55.04	4/25	57.23	
5/2	24.49	5/1	15.73	4/30	21.13	5/6	26.7	5/4	29.9	5/2	31.8	5/1	36.24	4/30	37.06	5/6	39.03	5/5	43.6	5/4	55.55	5/2	57.39	
5/9	24.41	5/8	15.57	5/7	21.33	5/13	26.9	5/11	30.0	5/9	32.0	5/8	36.22	5/7	37.10	5/13	39.00	5/12	43.28	5/11	56.18	5/9	57.62	
5/16	24.41	5/15	15.59	5/14	21.54	5/20	27.1	5/18	29.9	5/16	32.21	5/15	36.12	5/14	37.17	5/20	39.14	5/19	43.45	5/18	56.56	5/16	57.45	
5/23	24.40	5/22	15.52	5/21	21.6	5/27	27.1	5/25	29.8	5/23	32.28	5/22	36.21	5/21	37.26	5/27	39.16	5/26	43.56	5/25	56.22	5/23	57.36	
5/30	24.59	5/29	15.66	5/28	21.8	6/3	27.2	6/1	29.9	5/30	32.40	5/29	36.31	5/28	37.35	6/3	39.33	6/2	43.71	6/1	56.36	5/30	57.40	
6/6	24.70	6/5	15.78	6/4	21.97	6/10	27.4	6/8	29.9	6/6	32.60	6/5	36.52	6/4	37.43	6/10	39.42	6/9	43.80	6/8	57.41	6/6	57.54	
6/13	24.87	6/12	15.85	6/11	21.99	6/17	27.5	6/15	30.0	6/13	32.75	6/12	36.68	6/11	37.53	6/17	39.51	6/16	44.26	6/15	57.63	6/13	57.73	
6/20	25.51	6/19	15.72	6/18	21.94	6/24	27.6	6/22	30.0	6/20	32.77	6/19	36.78	6/18	37.88	6/24	39.58	6/23	44.35	6/22	58.69	6/20	57.87	
6/27	25.58	6/26	16.00	6/25	22.04	7/1	27.7	6/29	30.0	6/27	32.88	6/26	36.90	6/25	37.74	7/1	39.69	6/30	44.67	6/29	58.98	6/27	58.05	
7/4	25.92	7/3	16.06	7/2	22.16	7/8	27.7	7/6	30.2	7/4	33.03	7/3	36.92	7/2	37.93	7/8	39.79	7/7	44.95	7/6	59.10	7/4	57.98	
7/11	25.96	7/10	16.12	7/9	22.25	7/15	27.8	7/13	30.3	7/11	33.17	7/10	37.06	7/9	38.58	7/15	39.88	7/14	45.02	7/13	59.25	7/11	57.95	
7/18	25.63	7/17	16.21	7/16	22.33	7/22	27.9	7/20	30.4	7/18	33.28	7/17	37.29	7/16	38.77	7/22	39.91	7/21	45.11	7/20	59.32	7/18	57.92	
7/25	25.73	7/24	16.32	7/23	22.44	7/29	28.0	7/27	30.3	7/25	33.40	7/24	37.57	7/23	38.85	7/29	40.04	7/28	45.08	7/27	59.60	7/25	57.69	
8/1	25.61	7/31	16.44	7/30	22.57	8/5	28.0	8/3	30.1	8/1	33.52	7/31	37.80	7/30	38.81	8/5	40.28	8/4	45.11	8/3	60.10	8/1	57.56	
8/8	25.31	8/7	16.45	8/6	22.73	8/12	27.8	8/10	30.1	8/8	33.77	8/7	37.72	8/6	39.03	8/12	40.29	8/11	44.68	8/10	60.08	8/8	57.53	
8/15	25.13	8/14	16.54	8/13	22.91	8/19	27.8	8/16	30.1	8/15	33.80	8/14	37.86	8/13	38.91	8/19	40.53	8/18	44.56	8/17	60.05	8/15	57.54	
8/22	25.21	8/21	16.67	8/20	23.01	8/26	28.0	8/23	30.2	8/22	33.90	8/21	37.88	8/20	38.88	8/26	40.45	8/25	44.57	8/24	59.80	8/22	57.72	
8/29	25.28	8/28	16.92	8/27	23.09	9/2	27.9	8/30	30.3	8/29	33.94	8/28	38.0	8/27	38.94	9/2	40.51	9/1	44.71	8/31	59.91	8/29	57.33	
9/5	25.34	9/4	16.92	9/3	22.95	9/9	27.9	9/6	30.4	9/5	34.09	9/4	38.16	9/3	39.01	9/9	40.95	9/8	44.83	9/7	60.11	9/5	55.00	
9/12	25.36	9/11	17.09	9/10	23.04	9/16	28.0	9/13	30.5	9/12	34.25	9/11	38.13	9/10	39.03	9/16	41.09	9/15	44.94	9/14	60.19	9/12	54.83	
9/19	25.44	9/18	17.13	9/17	23.09	9/23	28.1	9/20	30.6	9/19	34.35	9/18	38.21	9/17	39.02	9/23	41.20	9/22	45.08	9/21	60.70	9/19	54.9	
9/26	25.50	9/25	17.27	9/24	23.18	9/30	28.1	9/27	30.7	9/26	34.46	9/25	38.36	9/24	39.05	9/30	41.42	9/29	45.28	9/28	60.76	9/26	55.64	
10/3	25.35	10/2	17.41	10/1	23.2	10/7	28.0	10/4	30.7	10/3	34.57	10/2	38.34	10/1	39.34	10/7	41.94	10/6	45.30	10/5	61.28	10/3	56.16	
10/10	25.23	10/9	17.65	10/8	23.43	10/14	27.9	10/11	30.8	10/10	34.65	10/9	38.45	10/8	39.49	10/14	42.00	10/13	45.74	10/12	61.42	10/10	56.42	
10/17	24.81	10/16	17.86	10/15	23.49	10/21	28.0	10/18	30.8	10/17	34.78	10/16	38.51	10/15	39.04	10/21	41.77	10/20	45.92	10/19	61.35	10/17	56.42	
10/24	24.47	10/23	18.00	10/22	23.61	10/28	27.9	10/25	30.9	10/24	35.04	10/23	38.54	10/22	39.09	10/28	41.75	10/27	45.09	10/26	61.41	10/24	56.42	
10/31	23.41	10/30	18.04	10/29	23.78	11/4	27.9	11/1	31.0	10/31	35.05	10/30	38.52	10/29	38.97	11/4	41.64	11/3	46.12	11/2	61.02	10/31	56.42	
11/7	22.66	11/6	18.13	11/5	23.84	11/11	27.8	11/8	30.9	11/7	35.06	11/6	38.55	11/5	38.97	11/11	41.50	11/10	46.18	11/9	60.58	11/7	56.42	
11/14	22.01	11/13	18.22	11/12	23.9	11/18	27.9	11/15	30.7	11/14	34.93	11/13	38.43	11/12	38.65	11/18	41.52	11/17	46.06	11/16	60.21	11/14	56.42	
11/21	21.49	11/20	18.55	11/19	23.96	11/25	28.0	11/22	30.7	11/21	35.02	11/20	38.43	11/19	38.86	11/25	41.55	11/24	46.28	11/23	60.01	11/21	56.42	
11/28	21.2	11/27	18.70	11/26	24.07	12/2	28.1	11/29	30.9	11/28	35.15	11/27	38.42	11/26	38.9	12/2	41.74	12/1	46.36	11/30	60.02	11/28	56.42	
12/5	21.10	12/4	18.80	12/3	24.13	12/9	28.2	12/6	31.0	12/5	35.12	12/4	38.52	12/3	38.88	12/9	41.92	12/8	46.31	12/7	60.07	12/5	56.42	
12/12	20.83	12/11	18.91	12/10	24.30	12/16	28.2	12/13	31.1	12/12	35.26	12/11	38.74	12/10	38.86	12/16	42.12	12/15	46.42	12/14	59.62	12/12	56.42	
12/19	20.28	12/18	19.09	12/17	24.48	12/23	28.9	12/20	31.2	12/19	35.37	12/18	38.52	12/17	38.77	12/23	42.22	12/22	46.56	12/21	59.44	12/19	56.42	
12/26	20.05	12/25	19.06	12/24	24.73	12/30	29.0	12/27	31.3	12/26	35.24	12/25	38.33	12/24	38.68	12/30	42.24	12/29	47.00	12/28	59.37	12/26	56.42	
			12/31	24.84									12/31	38.67										

**Table 11: S&P 600 Forward Earnings (weekly as of Friday, dollars per share)--Market's Estimate**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019												
1/4	15.22	1/2	5.90	1/1	12.87	1/7	14.24	1/6	8.37	1/3	9.11	1/2	19.92	1/1	15.19	1/7	14.11	1/6	20.56	1/5	23.25	1/4	22.45
1/11	14.21	1/9	6.61	1/8	13.00	1/14	14.14	1/13	8.33	1/10	9.33	1/9	19.48	1/8	13.56	1/14	12.94	1/13	19.93	1/12	24.29	1/11	24.26
1/18	13.37	1/16	5.68	1/15	12.82	1/21	14.24	1/20	8.53	1/17	9.26	1/16	18.85	1/15	12.58	1/21	12.35	1/20	20.12	1/19	25.04	1/18	24.88
1/25	12.84	1/23	6.03	1/22	12.32	1/28	14.20	1/27	8.88	1/24	9.60	1/23	18.62	1/22	12.56	1/28	12.28	1/27	20.78	1/26	25.89	1/25	25.11
2/1	13.67	1/30	6.62	1/29	11.94	2/4	14.95	2/3	8.47	1/31	10.23	1/30	17.49	1/29	12.06	2/4	11.66	2/3	20.65	2/2	26.43	2/1	24.99
2/8	13.57	2/6	6.99	2/5	11.75	2/11	15.86	2/10	9.14	2/7	10.17	2/6	16.74	2/5	12.50	2/11	10.19	2/10	20.01	2/9	25.61	2/8	25.22
2/15	13.87	2/13	6.84	2/12	11.74	2/18	15.76	2/17	9.03	2/14	10.35	2/13	17.62	2/12	13.94	2/18	10.99	2/17	21.03	2/16	26.59	2/15	25.60
2/22	14.27	2/20	6.08	2/19	12.43	2/25	14.79	2/24	9.23	2/21	10.27	2/20	17.83	2/19	14.93	2/25	11.03	2/24	20.48	2/23	27.27	2/22	26.19
2/29	14.17	2/27	6.12	2/26	12.36	3/4	15.00	3/2	8.94	2/28	9.54	2/27	17.86	2/26	14.29	3/4	11.87	3/3	20.75	3/2	26.66	3/1	26.40
3/7	12.96	3/6	5.54	3/5	12.56	3/11	14.91	3/9	8.92	3/7	10.17	3/6	18.35	3/5	15.07	3/11	12.66	3/10	21.27	3/9	27.48	3/8	25.46
3/14	12.44	3/13	5.74	3/12	13.28	3/18	13.81	3/16	10.17	3/14	10.76	3/13	18.31	3/12	15.02	3/18	12.87	3/17	21.41	3/16	27.49	3/15	24.85
3/21	12.09	3/20	5.85	3/19	13.28	3/25	14.59	3/23	10.71	3/21	10.26	3/20	18.59	3/19	14.34	3/25	12.81	3/24	20.03	3/23	27.17	3/22	24.03
3/28	13.00	3/27	6.19	3/26	13.79	4/1	15.35	3/30	10.36	3/28	10.08	3/27	18.06	3/26	13.94	4/1	12.42	3/31	20.07	3/30	26.08	3/29	22.46
4/4	13.32	4/3	6.32	4/2	14.1	4/8	15.92	4/6	10.23	4/4	9.40	4/3	18.69	4/2	13.77	4/8	11.74	4/7	19.42	4/6	25.99	4/5	23.85
4/11	13.18	4/10	6.93	4/9	14.63	4/15	15.40	4/13	9.11	4/11	9.40	4/10	17.56	4/9	13.92	4/15	12.13	4/14	19.02	4/13	26.56	4/12	24.29
4/18	13.64	4/17	7.11	4/16	14.57	4/22	15.03	4/20	9.00	4/18	8.82	4/17	17.39	4/16	13.74	4/22	12.86	4/21	18.57	4/20	27.87	4/19	24.91
4/25	14.33	4/24	7.38	4/23	14.73	4/29	15.25	4/27	8.96	4/25	9.01	4/24	17.87	4/23	14.03	4/29	13.17	4/28	19.79	4/27	28.63	4/26	24.68
5/2	14.64	5/1	7.98	4/30	14.56	5/6	14.47	5/4	8.87	5/2	8.96	5/1	17.29	4/30	14.50	5/6	12.48	5/5	19.79	5/4	28.17	5/3	24.67
5/9	14.66	5/8	8.71	5/7	13.19	5/13	14.42	5/11	8.37	5/9	9.95	5/8	16.84	5/7	15.46	5/13	11.98	5/12	20.21	5/11	29.07	5/10	23.96
5/16	15.03	5/15	8.10	5/14	13.27	5/20	13.96	5/18	7.53	5/16	10.70	5/15	16.53	5/14	15.95	5/20	12.32	5/19	18.90	5/18	30.46	5/17	22.80
5/23	14.86	5/22	8.51	5/21	11.98	5/27	13.63	5/25	7.57	5/23	11.08	5/22	16.31	5/21	16.08	5/27	12.84	5/26	18.91	5/25	30.27	5/24	21.92
5/30	15.78	5/29	9.43	5/28	11.34	6/3	13.28	6/1	6.88	5/30	11.9	5/29	16.18	5/28	15.22	6/3	12.77	6/2	18.49	6/1	28.62	5/31	20.01
6/6	15.66	6/5	10.30	6/4	11.52	6/10	12.72	6/8	6.83	6/6	11.69	6/5	17.04	6/4	16.62	6/10	12.24	6/9	18.56	6/8	30.40	6/7	19.16
6/13	15.95	6/12	10.79	6/11	10.84	6/17	12.59	6/15	6.87	6/13	12.15	6/12	17.57	6/11	17.50	6/17	11.32	6/16	18.74	6/15	30.66	6/14	19.62
6/20	16.31	6/19	10.03	6/18	11.54	6/24	12.71	6/22	7.10	6/20	12.84	6/19	17.75	6/18	16.95	6/24	11.87	6/23	18.34	6/22	30.43	6/21	19.19
6/27	15.32	6/26	9.52	6/25	10.92	7/1	13.72	6/29	7.09	6/27	13.89	6/26	17.39	6/25	17.78	7/1	10.18	6/30	19.06	6/29	29.15	6/28	18.85
7/4	14.38	7/3	9.49	7/2	9.87	7/8	14.25	7/6	7.27	7/4	14.37	7/3	17.90	7/2	17.11	7/8	9.77	7/7	20.18	7/6	29.44	7/5	19.08
7/11	13.76	7/10	8.80	7/9	9.97	7/15	13.15	7/13	6.75	7/11	15.26	7/10	17.32	7/9	16.49	7/15	11.14	7/14	20.12	7/13	29.90	7/12	19.81
7/18	14.20	7/17	9.64	7/16	10.34	7/22	13.33	7/20	6.79	7/18	14.92	7/17	16.78	7/16	17.26	7/22	11.68	7/21	19.70	7/20	30.06	7/19	19.53
7/25	15.23	7/24	10.29	7/23	10.03	7/29	12.97	7/27	6.42	7/25	15.17	7/24	16.53	7/23	16.56	7/29	11.37	7/28	19.99	7/27	31.09	7/26	19.72
8/1	15.00	7/31	10.76	7/30	10.62	8/5	10.72	8/3	6.76	8/1	15.57	7/31	16.51	7/30	15.87	8/5	11.38	8/4	19.48	8/3	31.16	8/2	18.90
8/8	15.06	8/7	11.34	8/6	10.33	8/12	8.43	8/10	7.44	8/8	15.53	8/7	16.03	8/6	16.69	8/12	11.47	8/11	18.87	8/10	31.23	8/9	16.01
8/15	15.40	8/14	11.09	8/13	9.31	8/19	8.15	8/17	7.99	8/15	16.08	8/14	15.83	8/13	15.36	8/19	11.66	8/18	18.43	8/17	30.54	8/16	14.63
8/22	14.75	8/21	10.38	8/20	8.63	8/26	8.13	8/23	7.96	8/22	16.67	8/21	16.09	8/20	14.78	8/26	11.82	8/25	18.03	8/24	30.76	8/23	14.53
8/29	14.58	8/28	10.65	8/27	8.29	9/2	8.47	8/30	7.47	8/29	15.97	8/28	15.89	8/27	14.12	9/2	11.95	9/1	17.87	8/31	31.39	8/30	13.63
9/5	14.11	9/4	10.04	9/3	8.60	9/9	7.52	9/6	7.67	9/5	16.92	9/4	16.41	9/3	14.49	9/9	12.04	9/8	17.36	9/7	31.65	9/6	13.99
9/12	13.90	9/11	10.54	9/10	9.17	9/16	7.77	9/13	8.41	9/12	17.34	9/11	16.97	9/10	14.81	9/16	12.57	9/15	18.64	9/14	32.13	9/13	16.97
9/19	13.37	9/18	11.08	9/17	9.50	9/23	6.86	9/20	6.68	9/19	16.83	9/18	17.25	9/17	15.01	9/23	12.49	9/22	19.64	9/21	32.80	9/20	17.47
9/26	14.38	9/25	10.96	9/24	9.20	9/30	7.17	9/27	7.90	9/26	16.14	9/25	16.45	9/24	14.38	9/30	11.89	9/29	20.36	9/28	32.62	9/27	16.23
10/3	12.90	10/2	10.32	10/1	9.04	10/7	6.94	10/4	7.85	10/3	16.09	10/2	15.68	10/1	13.28	10/7	12.79	10/6	21.45	10/5	32.53	10/4	14.87
10/10	10.86	10/9	10.40	10/8	8.89	10/14	8.55	10/11	7.91	10/10	16.13	10/9	14.69	10/8	14.20	10/14	13.24	10/13	21.21	10/12	31.52		
10/17	11.62	10/16	11.18	10/15	9.30	10/21	8.49	10/18	8.31	10/17	16.54	10/16	13.57	10/15	13.86	10/21	12.96	10/20	21.19	10/19	31.11		
10/24	10.17	10/23	11.08	10/22	9.48	10/28	9.30	10/25	8.26	10/24	16.17	10/23	14.40	10/22	14.13	10/28	13.16	10/27	22.04	10/26	29.58		
10/31	10.40	10/30	10.71	10/29	9.99	11/4	8.41	11/1	8.00	10/31	16.27	10/30	15.41	10/29	14.55	11/4	12.92	11/3	21.38	11/2	29.98		
11/7	10.62	11/6	10.70	11/5	9.97	11/11	8.35	11/8	7.64	11/7	16.91	11/6	15.99	11/5	15.93	11/11	14.82	11/10	20.96	11/9	31.52		
11/14	9.62	11/13	10.84	11/12	10.40	11/18	8.16	11/15	7.00	11/14	17.45	11/13	16.09	11/12	16.00	11/18	18.01	11/17	21.3	11/16	29.70		
11/21	7.66	11/20	10.54	11/19	10.99	11/25	7.40	11/22	7.51	11/21	17.54	11/20	15.72	11/19	15.57	11/25	19.13	11/24	21.72	11/23	28.68		
11/28	7.59	11/27	10.28	11/26	11.01	12/2	8.17	11/29	7.48	11/28	17.90	11/27	15.37	11/26	15.78	12/2	19.24	12/1	22.11	11/30	29.07		
12/5	6.35	12/4	10.42	12/3	11.55	12/9	8.40	12/6	7.49	12/5	18.35	12/4	15.37	12/3	15.68	12/9	20.21	12/8	20.21	12/7	26.99		
12/12	6.70	12/11	10.97	12/10	12.94	12/16	7.79	12/13	7.84	12/12	18.28	12/11	14.75	12/10	15.02	12/16	21.45	12/15	21.92	12/14	25.86		
12/19	5.78	12/18	11.49	12/17	14.06	12/23	8.05	12/20	8.54	12/19	18.73	12/18	14.39	12/17	15.08	12/23	21.6	12/22	23.13	12/21	23.57		
12/26	5.54	12/25	12.54	12/24	14.12	12/30	8.10	12/27	8.28	12/26	19.88	12/25	15.56	12/24	15.16	12/30	21.13	12/29	22.83	12/28	22.78		
			12/31	14.19									12/31	15.57									

Source: I/B/E/S data by Refinitiv.

**Table 12: S&P 500 Forward Earnings**

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jan	27.12	29.03	31.64	37.67	42.52	46.38	50.98	51.37	58.09	59.51	52.27	54.84	61.98	73.60	85.9	94.74	101.23	73.45	77.7	97.18	106.51	113.0	120.62	124.65	125.57	132.73	151.76	171.34
Feb	27.00	29.01	32.05	38.14	42.66	46.80	50.78	51.85	59.43	59.12	54.05	54.48	63.22	74.50	86.5	94.86	100.16	64.97	80.3	96.36	106.72	113.08	120.31	121.68	123.27	132.68	158.79	170.50
Mar	27.27	29.30	32.34	38.50	42.71	47.03	50.61	52.16	59.30	58.14	54.75	55.13	64.15	75.48	87.25	95.61	99.27	63.66	81.79	100.3	108.13	114.46	121.42	122.47	123.22	133.59	160.80	171.28
Apr	27.50	29.30	32.72	38.92	42.83	47.57	50.76	53.01	60.45	56.53	55.17	55.41	65.46	76.17	88.13	96.48	98.84	62.19	82.93	102.0	109.58	114.82	122.0	124.21	123.75	134.99	162.20	171.83
May	27.91	29.66	33.32	39.81	43.34	48.09	51.25	54.06	61.24	56.56	55.51	56.03	67.62	77.19	89.22	98.00	98.58	62.16	87.02	104.4	110.35	115.13	124.1	124.14	124.32	136.63	166.42	173.79
Jun	28.25	30.05	33.62	40.14	43.67	48.40	51.41	54.75	61.83	56.60	56.08	56.61	68.67	77.83	90.33	99.4	99.31	64.97	88.06	105.48	110.67	116.28	125.33	125.16	125.71	138.15	167.69	174.57
Jul	28.58	30.30	34.00	40.56	43.90	48.86	51.68	55.28	62.32	55.62	55.28	57.27	69.44	79.18	91.24	100.8	99.16	66.70	89.19	105.53	110.26	117.32	126.4	126.09	126.40	138.77	169.29	175.18
Aug	28.62	30.45	34.75	41.14	44.19	49.45	51.83	56.19	62.52	55.38	55.59	58.15	70.25	80.93	92.39	102.16	97.60	68.71	91.00	107.34	110.43	117.83	127.77	126.77	127.46	140.06	171.81	175.71
Sep	28.82	30.74	35.26	41.58	44.49	49.74	52.18	58.54	62.69	55.12	55.52	59.00	70.77	82.32	92.90	102.62	97.91	70.01	91.62	107.25	111.34	118.78	128.61	127.07	128.56	140.93	173.30	176.84
Oct	28.87	30.99	35.94	41.97	44.81	50.15	51.78	57.18	62.55	52.77	54.84	59.67	71.53	84.19	93.17	103.1	93.23	71.92	92.39	106.1	112.15	119.0	128.56	126.43	129.25	142.11	174.27	
Nov	28.70	31.29	36.60	42.35	45.33	50.41	51.64	57.36	61.98	52.06	54.57	60.45	72.71	84.56	93.95	102.72	84.27	74.89	93.74	106.49	111.7	119.82	127.88	126.57	130.17	143.54	174.52	
Dec	28.77	31.46	37.06	42.68	45.87	50.65	51.20	57.46	60.81	52.26	54.56	60.84	73.32	85.23	94.68	101.86	77.87	76.35	95.08	106.88	112.12	120.71	126.24	126.59	131.55	145.03	173.80	

**Table 13: 10-Year Treasury Note Yield**

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jan	7.03	6.80	5.75	7.78	5.65	6.58	5.54	4.72	6.86	5.16	5.04	4.05	4.15	4.22	4.42	4.76	3.74	2.52	3.73	3.39	1.97	1.91	2.86	1.88	2.09	2.43	2.58	2.71
Feb	7.34	6.26	5.97	7.47	5.81	6.42	5.57	5.00	6.52	5.10	4.91	3.90	4.08	4.17	4.57	4.72	3.74	2.87	3.69	3.58	1.97	1.98	2.71	1.98	1.78	2.42	2.85	2.76
Mar	7.54	5.98	6.48	7.20	6.27	6.69	5.65	5.23	6.26	4.89	5.28	3.81	3.83	4.50	4.72	4.56	3.51	2.82	3.73	3.41	2.17	1.96	2.72	2.04	1.89	2.48	2.84	2.57
Apr	7.48	5.97	6.97	7.06	6.51	6.89	5.64	5.18	5.99	5.14	5.21	3.96	4.35	4.34	4.99	4.69	3.68	2.93	3.85	3.46	2.05	1.76	2.71	1.94	1.81	2.30	2.87	2.53
May	7.39	6.04	7.18	6.63	6.74	6.71	5.65	5.54	6.44	5.39	5.16	3.57	4.72	4.14	5.11	4.75	3.88	3.29	3.42	3.17	1.8	1.93	2.56	2.2	1.81	2.30	2.98	2.40
Jun	7.26	5.96	7.10	6.17	6.91	6.49	5.50	5.90	6.10	5.28	4.93	3.33	4.73	4.00	5.11	5.10	4.10	3.72	3.20	3.00	1.82	2.30	2.50	2.36	1.64	2.19	2.91	2.07
Jul	6.84	5.81	7.30	6.28	6.87	6.22	5.46	5.79	6.05	5.24	4.65	3.98	4.50	4.18	5.09	5.00	4.01	3.56	3.01	3.00	1.53	2.58	2.54	2.32	1.50	2.32	2.89	2.06
Aug	6.59	5.68	7.24	6.49	6.64	6.30	5.34	5.94	5.93	4.97	4.26	4.45	4.28	4.28	4.88	4.67	3.89	3.59	2.71	2.30	1.88	2.74	2.42	2.32	1.56	2.21	2.89	1.63
Sep	6.42	5.36	7.46	6.20	6.83	6.21	4.81	5.92	5.80	4.73	3.87	4.27	4.13	4.20	4.72	4.52	3.69	3.40	2.65	1.98	1.72	2.81	2.57	2.17	1.83	2.20	3.00	1.70
Oct	6.59	5.33	7.74	6.04	6.53	6.03	4.53	6.11	5.74	4.57	3.94	4.29	4.10	4.46	4.73	4.53	3.81	3.39	2.54	2.15	1.75	2.62	2.30	2.07	1.76	2.36	3.15	
Nov	6.87	5.72	7.96	5.93	6.20	5.88	4.83	6.03	5.72	4.65	4.05	4.30	4.19	4.54	4.60	4.15	3.51	3.40	2.74	2.01	1.65	2.72	2.33	2.26	2.14	2.35	3.12	
Dec	6.77	5.77	7.81	5.71	6.30	5.81	4.65	6.28	5.24	5.09	4.03	4.27	4.23	4.47	4.56	4.10	2.42	3.58	3.20	1.98	1.72	2.90	2.21	2.24	2.49	2.40	2.83	

**Table 14: "Fair Value" S&P 500 Price**

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jan	385.8	439.8	550.3	484.2	752.6	704.9	920.2	1088.3	872.22	1153.3	1037.1	1354.1	1493.5	1744.1	1943.4	1990.3	2706.7	2914.7	2063.1	2866.7	5406.6	5913.6	4217.5	6630.3	6008.1	5482.1	5882.2	6322.5
Feb	367.8	463.4	536.9	510.6	734.3	729.0	911.7	1037.0	911.5	1159.2	1100.8	1396.9	1549.5	1786.6	1893.4	2009.7	2678.0	2263.8	2175.1	2748.0	5417.3	5711.1	4439.5	6145.5	6925.3	5482.6	5552.1	6361.9
Mar	361.7	490.0	499.1	534.7	681.2	703.0	895.8	997.3	947.3	1189.0	1036.9	1447.0	1674.9	1677.6	1848.5	2096.7	2828.2	2257.4	2192.8	2941.3	4862.9	5839.9	4464.0	6003.4	6519.6	5386.7	5662.0	6664.6
Apr	367.6	490.8	469.4	551.3	657.9	690.4	900.0	1023.4	1009.2	1099.8	1058.9	1399.2	1504.8	1755.1	1796.1	2057.1	2680.4	2122.5	2154.0	2947.7	5345.4	6523.9	4502.6	6402.6	6837.0	5889.1	5551.6	6791.7
May	377.7	491.1	464.1	600.3	643.0	716.7	907.1	975.8	950.9	1049.4	1075.8	1599.5	1432.6	1844.5	1746.0	2063.2	2540.7	1889.4	2544.4	3293.4	6130.8	5965.3	4847.7	5642.7	6888.5	5940.4	5884.6	7241.2
Jun	389.1	504.2	473.5	650.6	632.0	745.8	934.7	928.0	1013.6	1072.0	1137.5	1700.0	1451.8	1948.8	1767.1	1949.0	2422.2	1746.5	2751.9	3516.0	6831.5	5055.7	4820.4	5304.2	7665.2	6308.2	5762.5	8433.3
Jul	417.8	521.5	465.8	645.9	639.0	785.5	946.5	954.7	1030.1	1061.5	1210.3	1438.9	1543.1	1894.3	1792.5	2016.0	2472.8	1873.6	2963.1	3517.7	7206.5	4547.3	4976.4	5434.9	8426.7	5981.5	5957.8	8503.8
Aug	434.3	536.1	480.0	633.9	665.5	784.9	970.6	945.9	1072.4	1114.3	1304.9	1306.7	1641.6	1899.8	1893.2	2187.6	2509.0	1913.9	3357.9	4667.0	6573.2	4300.4	5279.8	5841.9	8170.5	6337.6	9945.0	10779.8
Sep	448.9	573.5	472.7	670.6	651.4	801.0	1084.8	956.8	1080.9	1165.3	1434.6	1381.7	1713.6	1961.2	1968.2	2270.4	2653.4	2059.1	3457.4	5416.7	6473.3	4227.0	5083.4	5855.6	7887.1	6405.9	5778.7	10384.7
Oct	438.1	581.4	464.3	694.9	687.7	833.7	1143.0	935.8	1089.7	1158.0	1386.8	1390.9	1744.6	1897.7	1999.8	2275.9	2447.0	2121.5	3637.4	4934.9	6408.6	4541.2	5589.6	6107.7	7343.8	6021.6	5532.4	
Nov	417.8	547.0	459.8	714.2	731.1	857.3	1069.2	951.2	1083.6	1119.8	1347.4	1405.8	1735.2	1862.6	2042.4	2475.2	2387.3	2202.4	3396.4	5298.0	6769.7	4405.1	5488.4	5604.0	6082.8	6108.1	5936.6	
Dec	425.0	546.2	474.5	747.6	728.1	871.8	1101.1	814.8	1160.5	1026.7	1353.8	1427.2	1733.3	1906.7	2076.3	2484.4	3217.8	2126.7	2690.0	6398.0	6518.6	4162.4	5712.2	5651.3	5283.1	6042.9	6134.3	

\* Fair Value Price = Forward earnings divided by the 10-year government bond yield multiplied by 100.

**Table 15: S&P 500 Index**

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jan	416.1	435.2	473.0	465.3	614.4	766.2	963.4	1248.8	1425.6	1335.6	1140.2	895.8	1132.5	1181.4	1278.7	1424.2	1378.8	865.58	1123.6	1282.6	1300.6	1480.4	1822.4	2028.2	1918.6	2275.1	2789.8	2607.4
Feb	412.6	441.7	471.6	481.9	649.5	798.4	1023.7	1246.6	1388.9	1305																		

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