

An Examination of the relationship between Monday Effect and firm size

by

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A research project submitted in partial fulfillment of the requirements for the degree
of Master of Finance

Saint Mary's University

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Acknowledgements

I would like to thank Dr. Francis Boabang for all his help and advice in completing this project. I would also like to acknowledge the support I received from my friends through this process, even though I have missed every social event of the past year. Lastly, I would like to express my appreciation to my classmates and family for their support, encouragement, and especially their patience.

Abstract

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This paper discusses the possibility to obtain abnormal return base on the relationship between firm size and the Monday effect. Interested investors may consider invest in large-cap firm, especially Financials and Materials sectors cause they have high probability for Monday Effect.

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CHAPER ONE

INTRODUCTION

The objective of this paper is to examine the firm size on Monday Effect. The Monday effect, which claims that investment return, is significantly lower than the return on other day of the week. This claim was documented by a number of studies (French (1980), Keim and Stambaugh (1983) and Lakonishok and Smidt .J (1988)). However, Pettengill Documents those small-cap stocks have negative and significant Monday effect and large-cap stocks have positive and significant Monday effect. The mid-cap stocks have no significant Monday effect.

Statement of Problem

More recent research suggests the Monday effect depends on the size of the firm. If this is true, can institutional investors take advantage of this phenomenon to achieve abnormal returns in the stock market?

In this paper, we investigate the relationship between firm size and the Monday effect using an annual panel approach for different market capitalization stocks and for each year over the period 2000-2012 in Canada stock market for obtain abnormal return base on the relationship between firm size and the Monday Effect.

We examine the repetitions of these annual Monday returns base on diverse firm size. Using this method, we find that the Monday effect has disappear in

early 2000s for all sizes of stocks. However, at the middle 2000s, the Monday returns are generally positive and significant for the majority of big cap firm.

CHAPER TWO

LITERATURE REVIEW

Purpose and Scope of Literature Review

January effect was a form of seasonal effect to addressed by Persons (1919), he made a reference when he working on a equity securities research. Then, the Monday Effect, the observed tendency for Monday stock returns to be negative relative to other days of the week are found to be the focus of seasonal effect phenomenon as early as the late 1920s. In 1930, Kelly explored the stock return calculated base on Monday is the worst case compare to others over a three-year statistical period, due to the individual investors making abnormal decision at the weekend.

Along with the existence of the Monday effect, there is a long literature that has tried to explain the Monday effect. The explanations put forward include individual investors selling more on Friday than they buy on Monday (Lakonishok and Maberly (1990) and Dyl and Maberly (1992)); negative information disclosure on Fridays (which pushes down Monday returns) (Penman (1987) and Damodaran (1989)); short-selling speculators closing out their positions on Friday and re-opening on Monday (the reopening causes prices to fall on Monday) (Chen and Singal (2003); and transactions costs being too high to arbitrage away the effect (Kamara (1997).

After World War II, experts found out that stock return on Monday is significantly lower than the possibility of rising stock return on Friday. Merrill

(1966) reports the DJIA rose only 43.0 percent on Monday in contrast to over 64.6 percent on the Friday from 1952 to 1965. In Hirsch's Stockholder's Almanac (1968), it appearances a negative average returns on Monday over average weekday returns.

Siegel (1998) re-examine the Monday Effect from 1885 to 1997, he found the DJIA would be almost twice then reality if Monday Effect do not existed. This conclusion is base on the Calculation by replace Monday returns with average return for other weekdays over 1885 to 1997, Which shows negative and significant Monday Effect during the 1990s.

Further statically testing conducted by Matthew and Menahem (2012), who run an annual panel data test from 1966 to 2007 aimed to U.S. stock market, they found that the Monday effect has immoral for all sizes of stocks so much, that by the middle 1990s, the Monday returns are generally not significant from zero. Hence, unlike other investigation, Matthew and Menahem (2012) do not found much evidence of a positive and significant Monday Effect in big-cap stocks after the mid 1990s and much evidence of small-cap stocks displaying a significant negative Monday Effect after the late 1990s.

The Monday Effect has also been found in debt securities markets, emerging markets, and gold market.

Summary

Theoretical researchers have spent huge time attempting to keep record and find out the reason of Monday Effect. In recent years a new dimension has

arisen that presents both obstacles and opportunities for explaining the Monday effect. Monday returns for large-firm equities have become positive, and in some years these returns are significantly higher than returns for other weekdays.

CHAPTER THREE

METHODOLOGY

The purpose of this paper is to examine the relationship between the Monday Effect and firm size in Canada stock market. We collected TSX daily return index (2000 to 2012) to form the sample of this examination. TSX daily return indexes have been collected for calculate daily return, moreover, excess daily return at ten deciles (separation follows the different capitalization from lowest to biggest) from year 2000 to 2012.

Then we used the simple regression for dummy variable to show the relationship between firm size and Monday Effect. Certain test was conducted for indicating the significant and absolute value about the abnormal Monday returns.

Measurement Procedure Data Collection Procedures

To measure the daily return in Stock market (represented by stock total return index, which is not only including price shuffles, but also consider the announced divides and interests), due to small amount changes in every weekday total return index, follow equation would be used:

$$R_{t+1} = \log [(P_{t+1})/P_t] = \log (P_{t+1}) - \log P_t$$

R_{t+1} = the daily return for date t+1

P_t = the total return index

Data Analysis Procedures

In stock market, market capitalization regularly used to determine one firm's size. For the sake of simplicity, market capitalization is the main measurement indicator of firm size in this paper. The exact weight of TSX index is shown below at Exhibit 1.

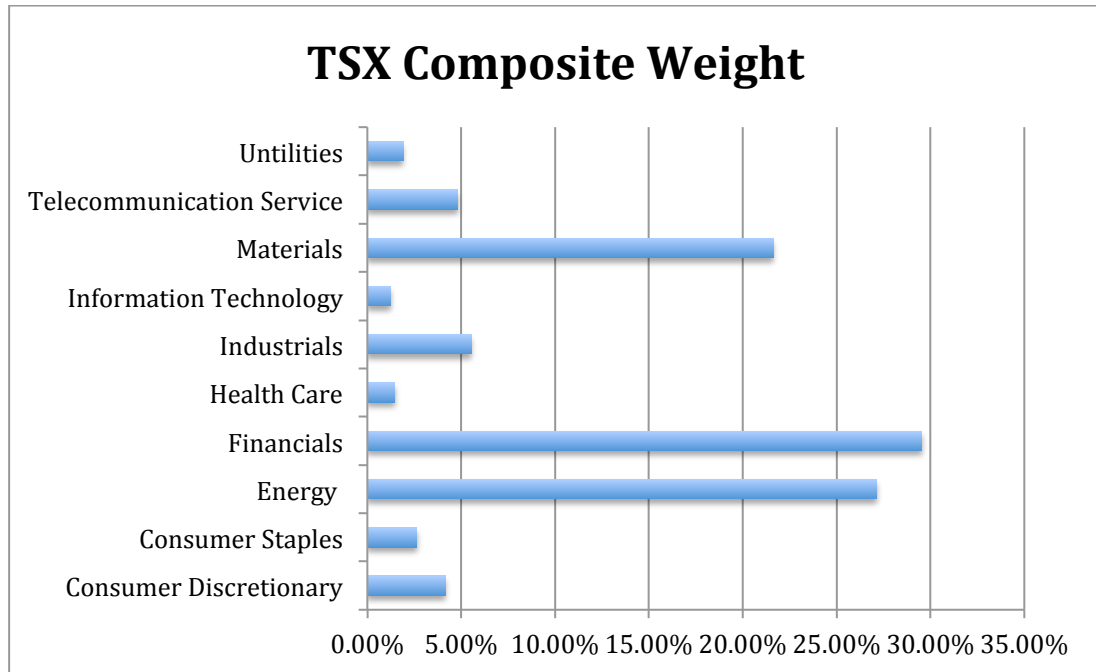
Exhibit1-TSX Composite Weight

Sector	weight
Consumer Discretionary	4.14%
Consumer Staples	2.63%
Energy	27.13%
Financials	29.53%
Health Care	1.47%
Industrials	5.53%
Information Technology	1.25%
Materials	21.62%
Telecommunication Service	4.80%
Utilities	1.90%

In this paper, Financials, Energy and Materials sectors are refer to large size firm. Small firm Monday Effect will measure by Utilities, Information Technology and Health Care sectors. the others in the table would be views as median size firm. All distinctive market capitalization deciles shown in the

exhibit 2. Then 3269 annual panel data will divide into 10 deciles and calculate the wald test statistic respectfully based on the sample estimation.

Exhibit2



To measure the Monday Effect with different firm size, follow equation would be used:

$$R_t = u + bD_t + e_t$$

R_t = the daily excess return

D_t = the dummy for Monday Effect.

For the residuals in this equation, it is well-known that stock returns do not follow constant variance. In order to solve this problem, excess daily stock return instead of daily stock return when running the regression. In total, 3269 observations are composed to form the examination. Moreover, Using

excess daily stock return provides a better fit of regression, which proved by Kim and Kun (1994).

For dummy variable, which replace truth-value factor as a mathematical value 0 or 1, works as a proxy for variables in a regression model. In regression examination, the stock return may be influenced by the weekday, which is a qualitative variable. The introduction of a dummy explanatory variable is aim for this problem. When the weekday variable is not Monday, we name it 0, then 0 will cause that variable's coefficient to have no function in influencing the stock return; while when weekday variable is Monday, we made the dummy variable as 1, the intercept will changed to show the impact of weekday variable.

Wald test is the main statistical indicator in this paper. Whenever a relationship between variables can be conveyed as a statistical model by factors to be estimated from a sample set, the factor's true value can be tested by wald test statistic based on the sample estimation. For testing the existence and significant of Monday Effect, Matthew and Menahem (2012) believe higher wald test statistic suggests stronger Monday Effect.

CHAPTER FOUR

RESULTS

In exhibit 3, examination about the tendency between the Monday Effect and firm size over the period is presented from 2000 to 2012. The wald test statistic assessments the null hypothesis that daily average monday returns are 0. Consequently, a rejection of null reveals the existence of a Monday Effect, no matter negative or positive value. A higher wald test statistic suggests a stronger Monday Effect.

Exhibit3-Wald test result

Capitalization Decile	F(1,3265)	Prob > F
(Highest to lowest)		
1	4.51	0.0338
2	0.03	0.8536
3	7.29	0.0070
4	0.25	0.6161
5	1.51	0.2188
6	1.70	0.1926
7	2.66	0.1033
8	3.75	0.0530
9	1.06	0.3034
10	2.87	0.0904

General speaking, for each capitalization decile at 5% level of significant, the result implies giant size firms have a strong Monday Effect because of great wald test statistic. However, for medium and minor size companies, no evidence to support they have a significant Monday Effect.

But, the data in exhibit 4 shows us a bit different story when it comes to separate data big cap industry each year. From year 2000 to 2006, the F value for wald test statistic for big cap is generally becoming smaller and thus indicative of a diminishing Monday effect. Hence, after 2006, the F value for wald test statistic is generally becoming bigger and thus indicative of a increasing Monday Effect.

Exhibit4-The polygon distribution of F value for wald test statistic

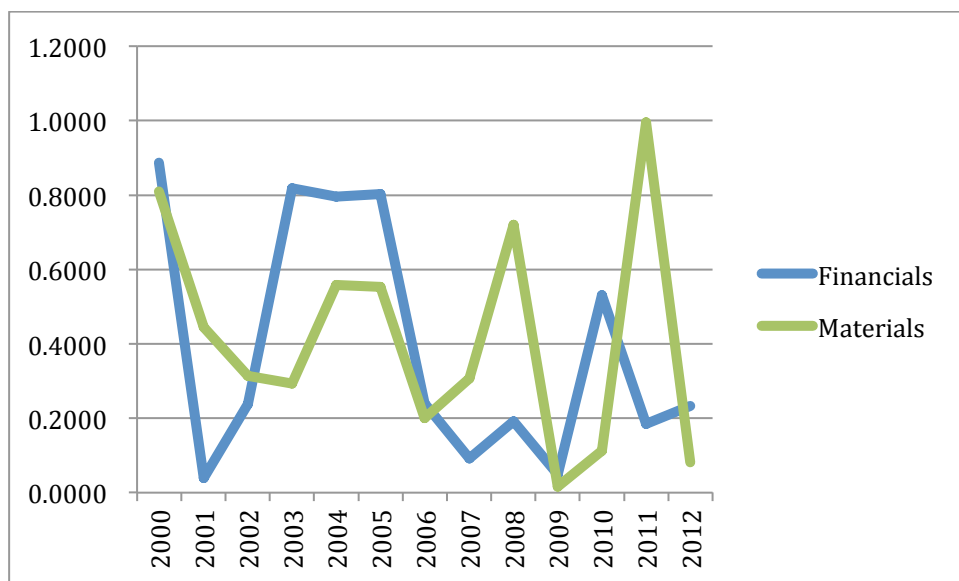


Exhibit 4 shows that over time the returns on Monday become insignificant from zero but convert to significant for large firm size levels. Also, the majority of mid cap firm indicate the similar correlation as large firm from

2000 to 2006, which means the returns on Monday become insignificant from zero. The results display at exhibit 5.

Exhibit-5 The polygon distribution of F value for all size firms

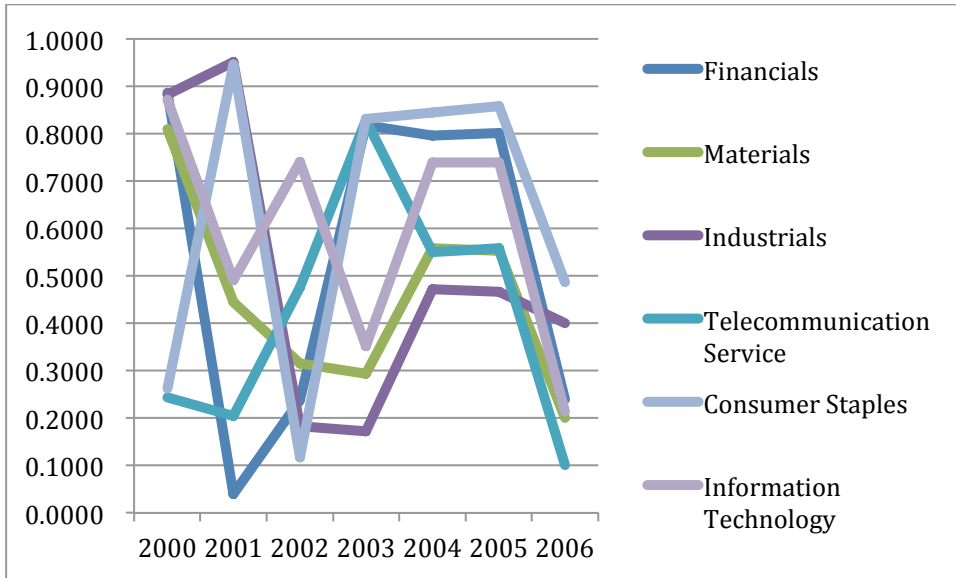
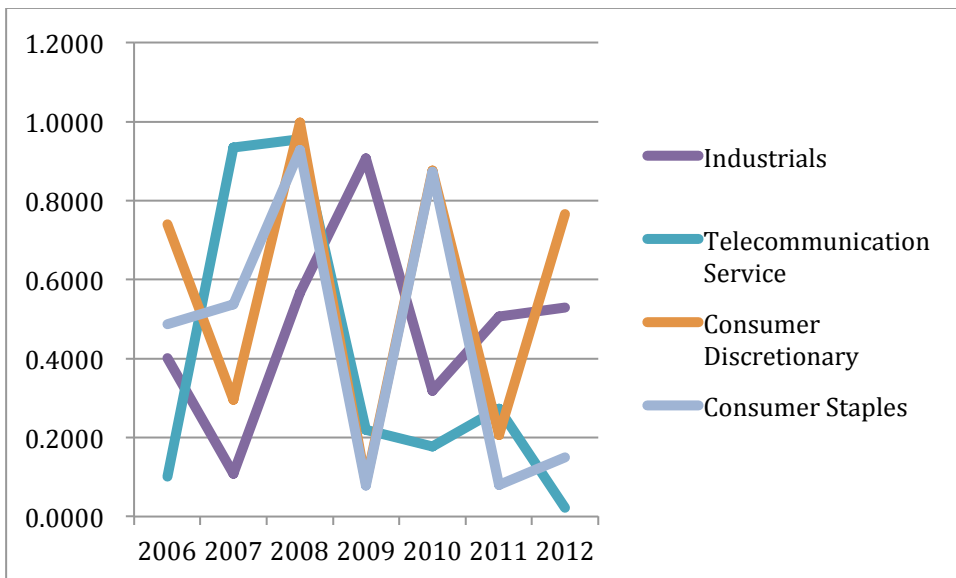


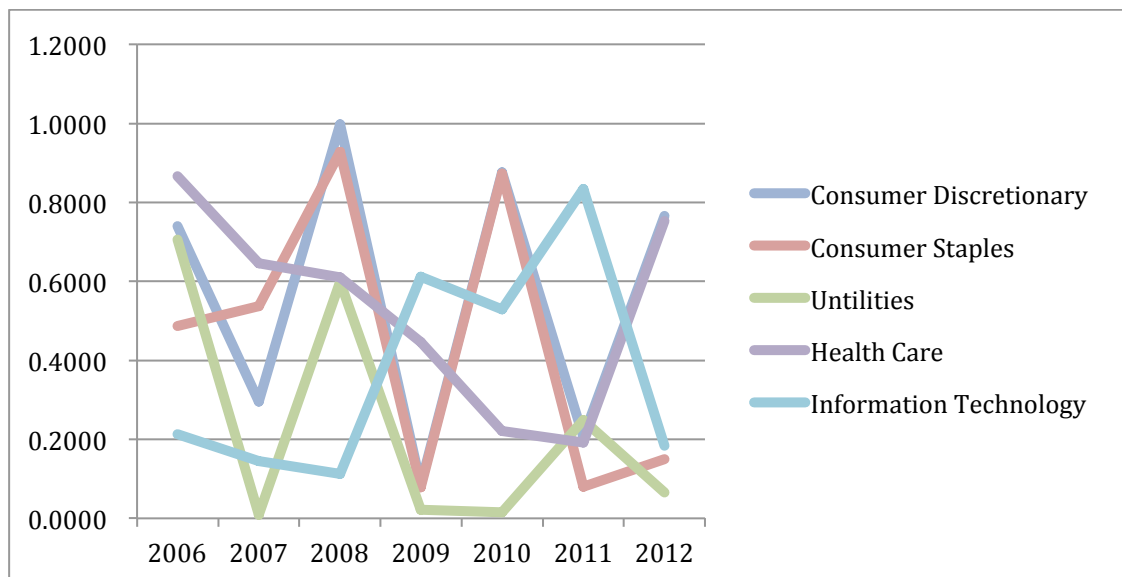
Exhibit-6 The polygon distribution of F value for mid cap firms



After 2006, the Monday Effect correlation between large firm and mid cap firm become unclear, even between the mid cap firm themselves, Exhibit 6 spectacle the potential insignificant Monday Effect.

Indeed, for the small-cap stocks we find that the Monday effect is not significant for the vast majority of the years from 2000 to 2006, which show at exhibit 7. However, there is significant Monday Effect detected at utility sector for no clear reason.

Exhibit-7 The polygon distribution of F value for small size firms



The results are moderately similar to those using the 5% significance level, When we reexamine the wald test statistic by 10% significance level. The major difference in the results between the 10% and 5% results is that in the smallest capitalization stocks we see more significant Monday returns after 2006. Other than this the results are generally the same.

Finally it may likewise to get a changed results, when years are aggregated organized in large samples as opposed to examining the years individually. Indeed, it is easier to find significance when using large samples. However, if the Monday Effect really holds the results should be robust to different sample periods and sizes.

CHAPTER FIVE

CONCLUSION

The Monday Effect is an extremely famous anomaly; it shows monday return is significantly different from zero. The previous econometrical results demonstrate the existence of Monday Effect in Canadian stock market.

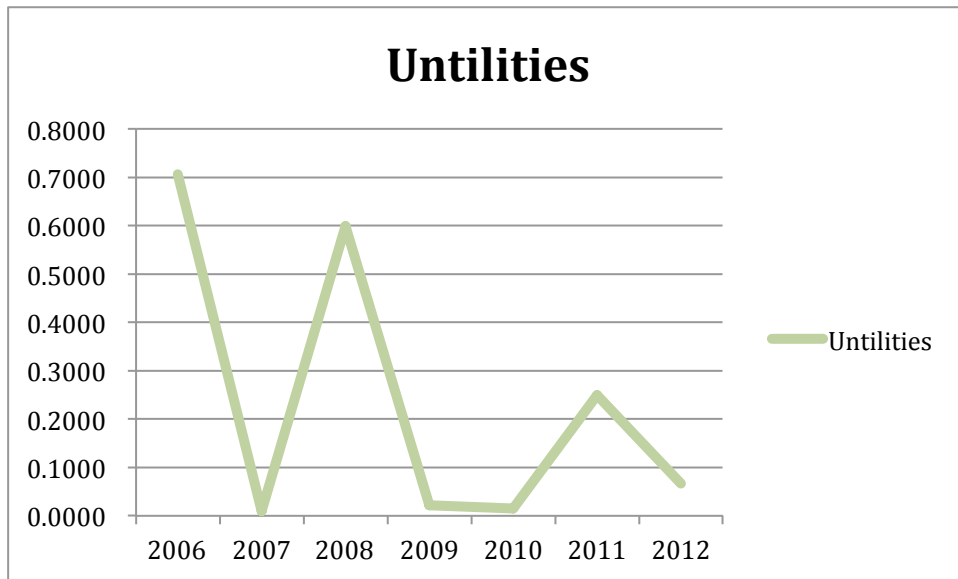
When it come to obtain abnormal monday return in stock market, interested investors may consider invest in large-cap firm, especially Financials and Materials sectors cause they have high probability for Monday Effect in the wald test statistics at 5% level of significant, which shows at Exhibit 8.

Exhibit 8-Sectors Wald test result

Capitalization Decile	
(Highest to lowest)	Wald Test Result
Financials	Positive Monday Effect
Energy	No Monday Effect
Materials	Positive Monday Effect
Industrials	No Monday Effect
Telecommunication Service	No Monday Effect
Consumer Discretionary	No Monday Effect
Consumer Staples	No Monday Effect
Utilities	No Monday Effect
Health Care	No Monday Effect
Information Technology	No Monday Effect

Moreover, the utilities sector, which belongs to small size firm, should be raise attention. At Canadian stock market, exhibit 9 confirmations more evidence for Monday effect as the time elove when it comes to yearly basis. Investors may obtain abnormal return base on utilities sector.

Exhibit-9 The polygon distribution of F value for utilities



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Appendix A – TSX Index data

Whole Data set using in this paper (2000 to 2012) is too big to be presented, only data at year of 2000 selected to be attachment for the readers to verify the calculation used in this paper.

Date	CD	CS	E	F	HC
2000-1-4	905.66	702.17	666.14	654.19	945.15
2000-1-5	916.49	698.84	681.34	649.42	952.82
2000-1-6	936.61	694.84	690.11	648.78	993.91
2000-1-7	941.23	691.78	690.69	645.1	1045.86
2000-1-10	993.72	697.33	684.8	636.57	1100.17
2000-1-11	994.06	694.16	673.82	625.1	1078.56
2000-1-12	975.72	700.61	681.13	627.68	1077.74
2000-1-13	989.27	695.69	694.31	629.95	1100.11
2000-1-14	982.68	684.93	700.65	633.33	1114.98
2000-1-17	993.65	689.82	738.25	643.51	1133.99
2000-1-18	995.1	690.98	759.29	639.53	1146.63
2000-1-19	999.45	692.15	744.82	629.38	1190.44
2000-1-20	1027.62	684.41	728.13	627.29	1226.24
2000-1-21	1017.69	680.93	716.76	611.04	1250.6
2000-1-24	1021.26	672.53	710.88	595.14	1170.96
2000-1-25	1030.3	678.18	708.97	605.83	1173.66
2000-1-26	1039.12	675.51	707.3	627.04	1205.27
2000-1-27	1052.58	683.45	702.74	654.09	1109.2

2000-1-28	1020.79	687.61	694.49	641.7	1099.97
2000-1-31	1011.28	690.05	670.41	639.21	1110.48
2000-2-1	1030.16	702.87	687.93	647.58	1099.64
2000-2-2	1043.75	698.66	677.86	636.31	1142.08
2000-2-3	1092.92	691.13	669.67	628.17	1168.36
2000-2-4	1078.98	698.93	661.84	624.61	1194.23
2000-2-7	1073.79	696.81	657.92	630.01	1239.64
2000-2-8	1057.96	693.52	650.58	636.49	1254.02
2000-2-9	1050.9	692.21	634.75	625.61	1218.25
2000-2-10	1070.67	693.78	644.32	627.96	1193.76
2000-2-11	1054.79	692.34	650.02	622.19	1171.61
2000-2-14	1085	696.34	676.28	627.08	1209.24
2000-2-15	1110.94	699.59	686.46	628	1203.38
2000-2-16	1108.32	711.41	684.63	635.37	1226
2000-2-17	1100.16	727.03	676.31	631.47	1278.14
2000-2-18	1081.87	726.3	650.23	629.56	1252.32
2000-2-21	1090.42	734.07	653.31	637.3	1261.11
2000-2-22	1104.5	725.88	641.39	628.35	1195.79
2000-2-23	1094.28	721.55	624.76	628.02	1216.98
2000-2-24	1080.97	718.33	623.57	624.48	1225.05
2000-2-25	1088.12	714.45	624.99	634.54	1203.7
2000-2-28	1107.34	720.07	629.54	648.48	1222.71
2000-2-29	1100.35	716.49	637.03	635.56	1257.3
2000-3-1	1132.48	711.25	679.65	639.54	1269.67

2000-3-2	1142.77	713.38	681.58	639.84	1263.03
2000-3-3	1146.48	711.59	670.8	633.1	1189.23
2000-3-6	1155.47	707.21	656.16	620.38	1158.77
2000-3-7	1112.99	700.27	677.5	611.63	1143.93
2000-3-8	1082.13	676.56	673.91	604.48	1136.72
2000-3-9	1082.57	683.54	669.43	613.73	1155.03
2000-3-10	1078.09	683.14	670.94	619.07	1162
2000-3-13	1104.02	690.84	678.43	630.26	1134.83
2000-3-14	1108.11	685.16	673.2	624.2	1055.25
2000-3-15	1109.45	675.07	679.4	633.31	1046.83
2000-3-16	1121.33	696.75	696	659.76	1080.24
2000-3-17	1087.95	681.95	685.01	650.61	1066.24
2000-3-20	1096.99	687.66	683.74	652.52	1021.59
2000-3-21	1113.44	691.59	680.78	658.43	990.21
2000-3-22	1110.4	702.29	677.66	681.69	1013.79
2000-3-23	1116.06	709.37	670.81	690.58	1005.33
2000-3-24	1099.88	698.92	666.37	702.07	1017.09
2000-3-27	1105.75	697.99	667.19	683.76	1045.26
2000-3-28	1109.45	689.93	666.9	678.44	1019.69
2000-3-29	1078.44	682.54	687.01	678.69	970.71
2000-3-30	1060.02	694.31	714.28	691.48	894.01
2000-3-31	1059.95	687.97	721.49	682.05	952.98
2000-4-3	1069.12	709.05	756.38	693.73	935.86
2000-4-4	1044.18	706.8	736.37	690.99	928.72

2000-4-5	1024.89	717.57	736.83	683.75	967.09
2000-4-6	1043.65	720.68	747.59	686.38	1070.16
2000-4-7	1034.4	726.93	735.95	671.96	1075.86
2000-4-10	1053.96	738.19	732.76	683.6	1068.79
2000-4-11	1083.16	737.79	735.66	698.15	1044.07
2000-4-12	1077.81	740.92	762.79	721.82	982.79
2000-4-13	1072.32	745.47	762.37	726.44	1002.02
2000-4-14	995.05	720.54	746.6	689.45	919.84
2000-4-17	1007.01	727.34	744.77	698.23	928.12
2000-4-18	1038.65	726.29	748.87	700.14	998.96
2000-4-19	1047.87	729.16	760.9	696.47	998.84
2000-4-20	1045.97	740.99	762.98	701.69	980.41
2000-4-24	1029.43	746.34	763.52	707.58	963.27
2000-4-25	1012.88	751.69	764.06	713.46	946.14
2000-4-26	1026.59	748.22	759.39	710.45	941.48
2000-4-27	1035.71	744.24	768	706.87	927.7
2000-4-28	1035.94	743.45	768.75	704.54	967.44
2000-5-1	1046.02	749.27	776.18	701.16	995.9
2000-5-2	1051.87	750.89	793.51	713.34	1013.01
2000-5-3	1050.87	758.08	819.4	716.99	973.92
2000-5-4	1055.77	767.75	819.91	717.86	960.84
2000-5-5	1054.48	761.22	824.71	718.36	947.73
2000-5-8	1038.36	752.64	819.09	713.76	958.08
2000-5-9	1048.11	755.14	843.77	728.34	937.06

2000-5-10	1035.72	769.2	854.2	726.9	922.52
2000-5-11	1033.1	777.36	868.07	725.34	921.54
2000-5-12	1024.03	776.25	877.84	718.57	937.93
2000-5-15	1023.34	810.69	885.45	740.25	923.52
2000-5-16	1030.83	799.45	886.49	746.23	964.9
2000-5-17	1022.6	791.72	900.95	745.27	969.45
2000-5-18	1027.6	792.31	913.36	750.37	963.1
2000-5-19	1022.8	794.42	910.49	747.35	927.93
2000-5-23	1013.61	796.82	890.02	746.85	883.56
2000-5-24	1023.37	799.3	893.2	761.38	883.3
2000-5-25	1001.54	793.78	883.54	751.61	887.24
2000-5-26	982.82	789.91	887.29	753.83	888.78
2000-5-29	1002.3	795.46	891.24	755.34	905.04
2000-5-30	1020.6	806.43	894.63	759.77	939.75
2000-5-31	1012.31	806.24	882.9	762.17	959.38
2000-6-1	1029.98	808.17	900.74	775.78	988.29
2000-6-2	1035.85	812.91	868.76	790.67	1023.62
2000-6-5	1039.94	811.19	834.57	784.25	1016.68
2000-6-6	1028.24	810.17	842.02	768.87	1030.42
2000-6-7	1028.9	806.38	842.05	769.98	1042.34
2000-6-8	1048.7	809.96	857.99	781.42	1059.09
2000-6-9	1048.49	815.42	864.19	794.5	1077.21
2000-6-12	1048	816.65	892.16	791.08	1050.07
2000-6-13	1047.83	816.39	897.89	775.84	1038.32

2000-6-14	1097.81	823.99	900.22	782.05	1035.47
2000-6-15	1113.3	829.19	893.66	772.93	1038.58
2000-6-16	1107.56	831.6	894	760.89	1043.6
2000-6-19	1129.32	836.5	871.43	774.97	1050.46
2000-6-20	1103.64	839.03	884.31	772.29	1068.25
2000-6-21	1124.39	829.35	887.04	771.09	1096.58
2000-6-22	1119.1	823.31	890.5	766.91	1064.93
2000-6-23	1123.99	822.11	897.91	777.58	1053.49
2000-6-26	1118.66	821.77	890.67	774.65	1057.99
2000-6-27	1114.82	823.56	889.06	774.09	1055.46
2000-6-28	1111.89	831.34	881.12	777.41	1079.5
2000-6-29	1107.49	816.62	873.43	770.01	1100.41
2000-6-30	1103.65	824.22	869.94	766.4	1132.78
2000-7-4	1116.46	827.89	856.88	771.2	1117.65
2000-7-5	1121.36	825.24	826.98	774.05	1114.06
2000-7-6	1103.65	829.24	833.95	767.81	1124.63
2000-7-7	1109.25	820.55	841.84	772.9	1127.72
2000-7-10	1100.59	823.49	833.4	767.44	1125.77
2000-7-11	1100.61	824.64	852.4	769.37	1148.2
2000-7-12	1101.84	827.32	863.27	775.27	1138.05
2000-7-13	1108.89	834.8	868.08	773.1	1066.67
2000-7-14	1101.13	831.75	865.04	771.69	1064.62
2000-7-17	1099.27	825.87	853.65	770.33	1067.13
2000-7-18	1093.31	826.23	862.73	766.12	1049.8

2000-7-19	1093.54	817.77	855.09	765.83	1090.09
2000-7-20	1100.27	811.12	842.78	765.21	1082.43
2000-7-21	1104.34	801.67	829.2	769.32	1087.03
2000-7-24	1100.16	821.08	811.54	778.71	1085.23
2000-7-25	1098.29	819.2	803.98	783.34	1094.7
2000-7-26	1094.69	828.84	798.28	788.37	1082.56
2000-7-27	1103.07	838.47	819.41	790.04	1094.18
2000-7-28	1088.1	827.05	821.58	780.52	1076.31
2000-7-31	1087.99	824.24	817.52	779.4	1062.25
2000-8-1	1089.88	819.12	825.96	779.87	1129.75
2000-8-2	1081.41	818.12	848.14	785.17	1118.29
2000-8-3	1073.83	820.02	844.64	783.68	1119.45
2000-8-4	1077.72	823.03	848.03	785.19	1147.98
2000-8-8	1076.76	823	855.36	791.91	1184.08
2000-8-9	1088.98	823.28	860.83	792	1166.55
2000-8-10	1088.68	820.16	860.69	790.76	1139.87
2000-8-11	1101.34	825.14	862.43	803.94	1151.61
2000-8-14	1100.73	826.22	873.18	822.73	1151.95
2000-8-15	1106.43	830.7	885.04	821.81	1129.36
2000-8-16	1098.97	828.7	885.89	823.91	1116.04
2000-8-17	1095.43	832.99	893.97	825.15	1131.5
2000-8-18	1087.65	834.81	887.63	829.15	1140.49
2000-8-21	1096.64	834.8	889.23	821.9	1148.44
2000-8-22	1096.27	836.83	883.8	821.53	1139.64

2000-8-23	1086.24	834.98	902.07	817.39	1139.97
2000-8-24	1078.8	840.04	901.93	815.42	1136.93
2000-8-25	1097.46	839.71	903.92	820.99	1160.54
2000-8-28	1094.3	838.18	904.63	827.09	1152.75
2000-8-29	1098.3	826.23	902.86	825.16	1165.59
2000-8-30	1123.03	825.57	900.32	836.42	1160.74
2000-8-31	1116.72	831.1	891.66	843.89	1191.63
2000-9-1	1142.4	842.77	902.19	847.43	1190.22
2000-9-5	1134.21	842.88	921.23	845.76	1190.28
2000-9-6	1122.83	842.75	935.94	845.28	1154.19
2000-9-7	1126.46	846.18	940.7	840.2	1160.56
2000-9-8	1120.27	841.65	931.31	840.74	1169.51
2000-9-11	1126.78	843.89	949.67	850.13	1147.09
2000-9-12	1140.17	847.99	968.9	867.14	1157.08
2000-9-13	1133.36	851.83	972.2	885.71	1182.13
2000-9-14	1143.39	848.7	974.3	898.63	1200.58
2000-9-15	1139.8	849	1000.34	892.66	1188.46
2000-9-18	1123.12	843.54	1002.07	884.24	1160.21
2000-9-19	1113.64	852.92	982.39	900.06	1175.87
2000-9-20	1101.57	856.7	974.86	896.85	1178.07
2000-9-21	1093.71	863.74	952.56	888.46	1172.22
2000-9-22	1094.2	859.02	922.36	879.35	1209.77
2000-9-25	1099.68	871.77	900.15	884.14	1247.93
2000-9-26	1095.07	881.4	916.94	881.86	1214.16

2000-9-27	1097.66	885.46	921.9	881.74	1221.86
2000-9-28	1107.11	889.01	916.93	888.13	1218.4
2000-9-29	1118.1	891.81	934.6	894.27	1242.29
2000-10-2	1117.5	895.91	951.74	891.11	1248.78
2000-10-3	1118.73	899.52	957.84	891.98	1154.5
2000-10-4	1117.92	894.62	936.87	907.14	1140.22
2000-10-5	1113.48	904.33	915.74	929.58	1151.65
2000-10-6	1100.31	896.86	910.06	920.42	1144.74
2000-10-10	1082.22	888.07	925.22	894.26	1098.03
2000-10-11	1062.74	889.56	936	870.32	1111.76
2000-10-12	1044.29	888.82	952.95	843.11	1104.63
2000-10-13	1066.26	888.34	926.48	851.11	1102.01
2000-10-16	1056.83	887.42	915.22	851.62	1134.36
2000-10-17	1027.69	888.65	903.34	836.15	1118.99
2000-10-18	1009.11	895.87	908.7	829.97	1115.97
2000-10-19	1005.11	910.47	900.04	827.18	1140.55
2000-10-20	1007.34	920.82	910.73	837.99	1147.88
2000-10-23	1013.21	937.27	907.83	844.1	1126.71
2000-10-24	1034.31	933.35	897.66	867.39	1134.6
2000-10-25	1039.41	929.49	895.37	883.45	1121.3
2000-10-26	1037.13	921.05	884.79	882.37	1097.36
2000-10-27	1046.21	929.29	863	892.89	1112.07
2000-10-30	1064.37	942.34	843.76	911.2	1113.87
2000-10-31	1084.24	953.24	854.96	920.94	1155.95

2000-11-1	1081.13	943.79	877.4	911.4	1187.64
2000-11-2	1093.44	961.24	875.06	924.61	1191.18
2000-11-3	1092.85	960.31	863.94	934.84	1194.01
2000-11-6	1094.91	959.71	855.46	942.58	1184.7
2000-11-7	1091.82	960.82	861.07	942.7	1182.61
2000-11-8	1086.62	968.23	863.82	947.62	1192.94
2000-11-9	1094.6	970.28	866.97	940.28	1187.69
2000-11-10	1067.68	969.7	862.54	927.85	1163.56
2000-11-13	1048.15	972.13	866.6	911.46	1124.01
2000-11-14	1058.21	982.77	868.12	918.25	1146.07
2000-11-15	1059.8	987.45	884.25	907.85	1122
2000-11-16	1050.47	981.58	887.92	898.14	1093.61
2000-11-17	1055.02	993.69	879.96	912.48	1093.72
2000-11-20	1051.4	1000.75	875.66	902.12	1081.77
2000-11-21	1041.6	996	877.67	898.92	1065.48
2000-11-22	1014.7	994.3	869.85	878.05	1013.56
2000-11-23	1008.13	989.78	877.56	886.78	1026.82
2000-11-24	1010.74	990.21	896.33	898.51	1054.9
2000-11-27	1014.25	989.19	901.26	903.16	1092.13
2000-11-28	1004.89	992.79	895.09	903.56	1033.23
2000-11-29	998.91	995.75	884.45	900.95	1005.43
2000-11-30	981.42	1002.53	877.61	900.71	995.43
2000-12-1	996.46	1010.38	894.96	902.2	1025.54
2000-12-4	991.43	1014.88	931.99	912.24	999.12

2000-12-5	1015.04	1013.83	923.62	931.54	1023.5
2000-12-6	1016.35	997.44	916.64	931.51	1016.71
2000-12-7	1020.56	985.71	924.5	932.3	1026.01
2000-12-8	1002.63	996.08	931.86	956	1103.94
2000-12-11	996.31	983.65	942.5	961.26	1147.09
2000-12-12	1008.47	985.52	940.59	955.55	1132.09
2000-12-13	1002.4	975.01	936.47	949.72	1078.7
2000-12-14	989.12	956.96	928.71	928.59	990.83
2000-12-15	990.75	945.24	925.6	926.92	959.1
2000-12-18	991.17	971.78	950.97	948.41	986.81
2000-12-19	987.78	973.44	941.56	960.3	986.38
2000-12-20	969	968.91	924.09	957.04	964.87
2000-12-21	967.6	977.3	927.42	965.35	966.92
2000-12-22	979.45	984.99	939.38	970.03	977.33
2000-12-27	984.12	990.73	973.76	982.94	979.35
2000-12-28	986.13	989.84	991.87	994.72	997
2000-12-29	1000	1000	1000	1000	1000

(CD stands for Consumer Discretionary;

CS stands for Consumer Staples;

E stands for Energy;

F stands for Financials;

HC stands for Health care)

Date	I	IT	M	T	U
2000-1-4	767.34	1376.34	1078.54	765.74	668.73
2000-1-5	779.98	1311.87	1114.4	732.94	671.18
2000-1-6	808.1	1276.22	1133.85	714.42	679.26
2000-1-7	818.85	1416.19	1138.89	779.76	668.97
2000-1-10	835.58	1486.03	1142.31	796.42	665.83
2000-1-11	810.04	1445.05	1129.3	778.99	660.3
2000-1-12	813.08	1410.46	1116.41	764.23	658.82
2000-1-13	818.42	1421.64	1113.36	771.82	650.44
2000-1-14	810.22	1397.29	1103.73	763.8	637.07
2000-1-17	822.63	1406.27	1115.21	771.01	646.58
2000-1-18	825.04	1444.79	1110.22	797.78	646.42
2000-1-19	829.07	1480.65	1096.09	819.83	629.46
2000-1-20	844.49	1517.16	1069.2	826.37	606.26
2000-1-21	836.51	1512.07	1057.43	850.24	586.3
2000-1-24	803.57	1477.11	1034.26	836.72	575.8
2000-1-25	812.36	1483.43	1030.39	835.35	593.2
2000-1-26	810.9	1466.82	1026.07	868.9	598.61
2000-1-27	810.94	1435.2	1028.71	906.96	605.08
2000-1-28	792.87	1362.69	1012.27	865.48	614.98
2000-1-31	808.45	1415.95	1010.67	886.11	632.67
2000-2-1	822.63	1417.69	1022.98	869.95	635.85
2000-2-2	806.16	1549.12	1007.55	930.64	614.3
2000-2-3	813.85	1590.58	1009.34	952.46	621.68

2000-2-4	825.18	1720.33	1046.43	1018.97	611.09
2000-2-7	827.33	1694.67	1035.5	1007.11	614.14
2000-2-8	833.57	1785.42	1008.07	1029.1	616.24
2000-2-9	835	1771.04	1019.72	1043.75	599.06
2000-2-10	855.18	1773.74	1037.49	1043.37	606.07
2000-2-11	842.27	1720.08	1027	1018.41	601.01
2000-2-14	866.2	1747.14	1028.03	1036.34	600.53
2000-2-15	858.51	1757.36	1033.55	1032.48	599.38
2000-2-16	867.36	1777.31	1024.14	1049.39	602.24
2000-2-17	879.4	1797.44	1021.29	1053.58	608.43
2000-2-18	889.07	1746.64	1008.1	1030.29	603.21
2000-2-21	910.52	1699.05	1011.1	1000.17	609.3
2000-2-22	924.11	1704.2	1009.19	988.71	601.35
2000-2-23	911.12	1789.23	988.37	1019.74	602.2
2000-2-24	888.53	1789.13	956.21	998.88	596.92
2000-2-25	900.44	1748.63	945.23	973.58	604.11
2000-2-28	904.12	1768.84	943.37	971.74	606.62
2000-2-29	910.79	1740.05	928.81	957.87	596.29
2000-3-1	958.21	1807.65	939.11	994.57	591.91
2000-3-2	965.95	1855.09	931.8	1008.11	603.14
2000-3-3	938.89	1861.77	916.94	1008.62	627.17
2000-3-6	910.2	1952.54	894.53	1054.49	624.12
2000-3-7	912.43	1888.56	908.85	1030.15	621.56
2000-3-8	915.37	1854.29	895.92	1013	605.48

2000-3-9	931.06	1892.53	905.75	1035.55	603.81
2000-3-10	941.93	1915.67	897.67	1053.77	603.39
2000-3-13	930.44	1885.91	907.03	1033.58	618.35
2000-3-14	895.14	1887.76	894.6	1034.65	622.88
2000-3-15	866.14	1818.35	924.23	1018.99	627.39
2000-3-16	916.41	1845.58	950.85	1011.25	647.06
2000-3-17	913.17	1911.04	931.6	1030.16	640.6
2000-3-20	907.15	1904.55	950.59	1051.92	648.88
2000-3-21	914.01	1919.5	960	1069.52	658.3
2000-3-22	928.41	1997.08	937.08	1110.5	660.04
2000-3-23	954.88	2032.29	941.44	1127.56	655.95
2000-3-24	933.71	2068.68	930.26	1150.83	640.92
2000-3-27	920.81	2078.74	919.46	1166.73	634.9
2000-3-28	913.01	2026.07	915.26	1157.63	632.76
2000-3-29	908.73	1919.87	916.66	1131.92	635.36
2000-3-30	900.89	1765.62	925.73	1065.74	636.43
2000-3-31	906.06	1800.31	921.43	1077.66	636.25
2000-4-3	929.71	1702.44	948.98	1040.5	657.15
2000-4-4	916.76	1627.86	955.29	995.93	659.71
2000-4-5	946.38	1660.6	953.75	1017.68	660.68
2000-4-6	967.33	1729.86	958.87	1041.63	655.78
2000-4-7	933.39	1803.59	937.69	1044.95	650.85
2000-4-10	932.77	1763.28	938.73	1053.6	667.28
2000-4-11	937.8	1682.06	954.93	1019.66	664.39

2000-4-12	936.61	1504.92	962.17	943.11	673.45
2000-4-13	932.38	1454.73	972.92	925.66	684.64
2000-4-14	893.08	1348.79	972.29	846.56	676.32
2000-4-17	913.9	1458.83	978.99	896.79	683.84
2000-4-18	933.4	1560.61	975.55	957.17	674.7
2000-4-19	945.49	1538.9	978.47	940.93	671.35
2000-4-20	940.56	1501.05	979.77	925.01	667.72
2000-4-24	949.48	1528.61	982.14	943.41	663.56
2000-4-25	958.41	1556.16	984.51	961.82	659.4
2000-4-26	959.62	1668.9	996.5	1021.51	662
2000-4-27	976.09	1642.24	997.25	998.73	664.69
2000-4-28	961.35	1657.21	981.87	1015.17	664.01
2000-5-1	983.77	1716.61	988.74	1049.8	662.85
2000-5-2	986.83	1674.46	1010.04	1030.57	668.02
2000-5-3	980.4	1562.55	1015.65	1011.36	678.23
2000-5-4	968.36	1618.14	1020.13	1021.31	677.35
2000-5-5	966.96	1708.09	1019.11	1013.83	671.3
2000-5-8	966.89	1618.65	997.49	983.48	649.68
2000-5-9	982.28	1554.04	1023.36	971.08	664.81
2000-5-10	973.58	1465.91	1037.88	943.06	670.61
2000-5-11	975.92	1475.42	1033.1	954.75	676.69
2000-5-12	975.69	1517.37	1027.68	965.42	673.98
2000-5-15	978.93	1509.58	1044.98	980.3	683.26
2000-5-16	997.44	1632.13	1046.5	978.19	683.85

2000-5-17	996.16	1632.12	1026.17	951.4	683.14
2000-5-18	1001.44	1626.6	1024.88	913.56	682.08
2000-5-19	982.04	1530.04	1026.13	882.71	678.74
2000-5-23	945.02	1422.02	1027.05	855.34	689.28
2000-5-24	953.14	1477.35	1027.23	831.01	702.25
2000-5-25	941.24	1476.93	991.6	815.24	697.94
2000-5-26	934.51	1471.5	983.38	828.85	699.97
2000-5-29	940.5	1467.84	994.27	835.93	706.74
2000-5-30	948.92	1576.2	998.52	856.08	709.37
2000-5-31	954.54	1530.57	990.42	881.35	715.09
2000-6-1	964	1634.6	990.51	890.73	722.28
2000-6-2	977.67	1709.21	993.78	910.06	726.7
2000-6-5	966.73	1701.01	993.81	918.72	727.49
2000-6-6	953.86	1692.22	986.56	922.49	718.65
2000-6-7	959.31	1666.04	972.11	936.74	720.8
2000-6-8	959.47	1680.89	967.03	947.67	723.74
2000-6-9	982.08	1683.61	969.42	968.36	724.3
2000-6-12	986.04	1720.02	978.13	951.76	719.46
2000-6-13	986.07	1762.33	954.36	925.06	711.35
2000-6-14	985.19	1794.07	975.25	911.84	718.38
2000-6-15	983.23	1870.14	971.96	906.81	715.17
2000-6-16	981	1846.7	974.23	911.84	718.45
2000-6-19	998.35	1874.42	963.51	929.41	717.89
2000-6-20	1026.42	1917.95	953.63	944.35	718.29

2000-6-21	1025.74	1893.04	946.49	941.17	710.37
2000-6-22	1014.25	1847.03	943.59	931.33	705.96
2000-6-23	1028.35	1840.71	943.55	923.15	709.81
2000-6-26	1021.44	1918.96	941.01	924.5	703.46
2000-6-27	1014.36	1893.29	950.98	915.76	702.84
2000-6-28	1021.36	1916.47	961.8	911.93	709.15
2000-6-29	1021.76	1887.26	945.32	887.87	691.5
2000-6-30	1033.79	1921.69	949.15	899.25	690.36
2000-7-4	1040.63	1959.15	956.29	915.31	696.44
2000-7-5	1057.65	1974.05	948.1	922.76	699.48
2000-7-6	1073.62	1938.26	942.1	929.26	703.41
2000-7-7	1103.18	1981.15	940.43	932.88	706.83
2000-7-10	1089.67	1932.89	937.9	930.39	700.41
2000-7-11	1095.14	1962.47	957.49	934.88	705.06
2000-7-12	1110.63	2048.57	956.19	947.76	708.49
2000-7-13	1104.63	2109.82	955.86	933.29	705.66
2000-7-14	1116.68	2158.55	948.63	944.98	708.16
2000-7-17	1117.25	2195.86	946.91	953.28	708.5
2000-7-18	1122.99	2148.5	944.25	948.76	707.14
2000-7-19	1118.31	2108.29	931.47	944.32	704.8
2000-7-20	1117.13	2167.75	923.16	944.47	711.41
2000-7-21	1115.59	2222.04	921.87	934.47	708.52
2000-7-24	1118.31	2190.24	924.06	935.84	706.42
2000-7-25	1102.4	2234.62	920.21	939.32	712.12

2000-7-26	1083.4	2267.64	911.75	943.87	706.35
2000-7-27	1082.92	2148	914.1	929.6	710.22
2000-7-28	1069.29	2007.28	911.08	915.11	709.5
2000-7-31	1066.24	2046.87	911.83	901.22	709.16
2000-8-1	1073.26	2004.11	922.09	892	715.13
2000-8-2	1062.41	2001.13	933.4	888.8	716.53
2000-8-3	1088.46	2021.71	922.79	886.15	729.21
2000-8-4	1105.28	2077.47	926.06	883.87	746.4
2000-8-8	1147.74	2184.21	933.35	874.43	757.19
2000-8-9	1148.5	2179.78	928.27	880.07	767.77
2000-8-10	1127.35	2155.86	929.11	902.44	760
2000-8-11	1141.03	2115.33	950.18	907.36	763.78
2000-8-14	1140.93	2194.37	944.19	899.35	772.24
2000-8-15	1128	2208	948.52	902.18	772.21
2000-8-16	1121.56	2207.71	958.95	895.27	783.53
2000-8-17	1118.89	2236.38	948.29	902.54	793.26
2000-8-18	1109.16	2256.62	949.9	903.64	794.61
2000-8-21	1106.61	2231.3	947.42	909.55	791.04
2000-8-22	1104.41	2270.21	955.54	885.19	787.13
2000-8-23	1114.67	2256.03	952.72	880.21	780.5
2000-8-24	1122.38	2286.7	965.45	875.55	788.59
2000-8-25	1136.24	2289.19	977.01	883.97	795.08
2000-8-28	1146.43	2270.88	969.25	893.29	797.72
2000-8-29	1133.4	2234.31	963.4	895.37	790.11

2000-8-30	1125.96	2241.95	967.89	884.92	788.07
2000-8-31	1130.86	2267.56	972.43	887.88	789.85
2000-9-1	1136.3	2306.89	978.38	898.85	797.41
2000-9-5	1151.15	2266.71	983.62	898.07	798.03
2000-9-6	1154.68	2185.71	984.2	890.38	795.02
2000-9-7	1143.17	2158.76	972.67	875.4	783.63
2000-9-8	1146.97	2048.8	975.45	869.7	778.94
2000-9-11	1158.2	1950.93	976.74	899.74	787.99
2000-9-12	1172.96	1849.5	976.77	910.7	795.05
2000-9-13	1163.25	1923.62	978.63	916.32	791.17
2000-9-14	1170.88	2059.75	970.1	918.85	793.09
2000-9-15	1157.3	2059.24	957.01	924.1	790.71
2000-9-18	1140.91	1952.29	951.07	920.97	792.39
2000-9-19	1138.79	2011.12	944.63	925.48	793.97
2000-9-20	1146.31	1978.32	928.66	920.8	795.26
2000-9-21	1137.25	1904.14	930.4	911.87	797.1
2000-9-22	1118.27	1916.38	928.86	908.4	792.23
2000-9-25	1143.02	1935.36	922.98	920.08	792.56
2000-9-26	1136.35	1870.16	914.59	911.07	798.71
2000-9-27	1138.23	1753.74	923.31	910.63	798.55
2000-9-28	1145.62	1830.68	917.32	909.65	808.42
2000-9-29	1158.2	1774.59	925.27	914	812.32
2000-10-2	1138.42	1816.72	913.91	901.12	803.53
2000-10-3	1127.33	1830.7	921.68	896.24	807.59

2000-10-4	1144.47	1853.74	916.07	901.5	807.26
2000-10-5	1131.74	1928.2	906.43	916.16	809.56
2000-10-6	1114.76	1824.2	898.38	929.79	815.9
2000-10-10	1104.21	1847.77	890.32	932.79	804.67
2000-10-11	1086.15	1770.75	877.05	916.59	811.68
2000-10-12	1096.93	1742.81	881.18	898.69	808.51
2000-10-13	1099.78	1878.73	864.39	909.19	809.87
2000-10-16	1107.71	1963.55	860.37	905.01	810.97
2000-10-17	1081.09	1856.48	841.08	867.45	798.38
2000-10-18	1068.76	1765.82	846.51	889.18	808.32
2000-10-19	1071.71	1915.97	838.8	893.51	800.46
2000-10-20	1095.15	2007.48	839.07	900.05	800.99
2000-10-23	1116.29	1977.47	849.29	916.7	817.43
2000-10-24	1136.6	1881.22	854.41	910.9	826.54
2000-10-25	1114.31	1464.07	864.58	914.23	851
2000-10-26	1113.38	1433.63	858.99	929.87	849.99
2000-10-27	1102.14	1368.69	866.29	960.49	853.2
2000-10-30	1123.04	1285.01	897.87	992.66	874.43
2000-10-31	1148.19	1428.94	905.4	981.68	887.3
2000-11-1	1157.68	1401.44	904.16	991.19	888.82
2000-11-2	1165.6	1388.58	909.96	997.51	890.92
2000-11-3	1160.87	1429.48	913.85	999.59	882.12
2000-11-6	1161.5	1419.5	915.93	1008.31	878.06
2000-11-7	1160.42	1353.71	914.5	1004.36	884.91

2000-11-8	1163.87	1335.21	918.34	992.12	893.15
2000-11-9	1149.74	1282.12	918.1	975.1	891.24
2000-11-10	1118.33	1228.98	907.26	961.33	886.39
2000-11-13	1093.86	1229.34	907.3	950.04	878.38
2000-11-14	1117.58	1271.36	908	964.93	890.36
2000-11-15	1113.27	1237.62	909.5	977.23	891.8
2000-11-16	1108.59	1147.16	915.72	975.86	892.44
2000-11-17	1099.24	1136.05	911.29	957.71	900.24
2000-11-20	1072.94	1158.01	908.6	939.57	903.08
2000-11-21	1033.3	1215.62	913.11	944.9	902.03
2000-11-22	1008.76	1183.86	912.18	957.05	895.05
2000-11-23	1028.09	1202.15	912.64	962.01	893.5
2000-11-24	1054.19	1207.01	919.17	979.21	898.18
2000-11-27	1053.29	1235.95	935.76	986.98	891.89
2000-11-28	1043.04	1160.56	933.12	972.14	892.42
2000-11-29	1029.72	1134.15	926.63	957.5	904.92
2000-11-30	1007.41	1152.14	929.25	955.98	902.37
2000-12-1	1023.41	1179.13	949.53	953.04	894.45
2000-12-4	1027.37	1143.21	979.7	954.02	898.02
2000-12-5	1061.99	1262.55	968.62	962.28	909.84
2000-12-6	1054.58	1248.42	975.01	953.54	902
2000-12-7	1054.44	1213.25	974.18	945.86	913.67
2000-12-8	1104.25	1330.27	989.71	958.83	951.15
2000-12-11	1098.62	1335.06	982.87	972.05	945.93

2000-12-12	1089.18	1230.58	983.94	986.01	940.46
2000-12-13	1037.3	1156.39	966.1	1006.34	935.07
2000-12-14	1007.27	1201.14	948.51	1005.48	944.26
2000-12-15	990.14	1185.9	948.62	1016.57	964.94
2000-12-18	990.32	1135.79	958.8	1021.43	960.98
2000-12-19	984.9	1071.04	973.73	998.84	975.46
2000-12-20	969.2	988.26	971.79	975.14	982.83
2000-12-21	949.3	969.54	969.7	967.32	970.67
2000-12-22	980.68	1015.24	983.36	975.16	971.28
2000-12-27	1003.83	1014.7	988.94	974.27	973.14
2000-12-28	1006.95	990.37	1000.16	992.13	974.16
2000-12-29	1000	1000	1000	1000	1000

(I stands for Industrials;

IT stands for Information Technology;

M stands for Materials;

TS stands for Telecommunications Services;

U stands for Utilities)