S&P 500 Index Revisions And Analyst Coverage

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ABSTRACT

This paper examines the impacts of revisions in the composition of the S&P 500 Index on the information environment of sample firms being added to or deleted from the Index. We use the intensity (number of analysts and number of earnings estimates) and the quality (earnings forecast dispersion and accuracy) of analyst coverage to measure the information environment of sample firms. We find that firms that are added to the Index experienced significant increase in analyst coverage while those deleted from the Index suffered reduction in analyst coverage following the revision in the S&P 500 Index. The findings on the quality of analyst coverage also provide supportive evidence. There are increases in earnings forecast dispersion for both added and deleted firms, and improvements in forecast accuracy for sample firms. In addition, further findings indicate a negative correlation between the impact of index revision on the information environment and the intensity of pre-revision analyst coverage on the sample firms. Overall, our results suggest that index revisions have material impacts on the information environment of sample firms that were added to, or deleted from, the S&P 500 Index over the sample period of 1990 – 2007.

Keywords: Index Revisions; Analyst Coverage; Earnings Forecast Dispersion; Earnings Forecast Accuracy

1. INTRODUCTION

Changes in the composition of the Standard & Poor's 500 (S&P 500) Index allow researchers to examine the possible roles of various hypotheses in explaining stock price behaviors. According to the information hypothesis, the listing of a stock on the S&P 500 Index conveys favorable information about the underlying company to the market, and the new information drives up its stock price. An opposite effect on stock price is expected for firms being deleted from the S&P 500 Index. Besides, the information hypothesis also suggests that the coverage of analysts increases the amount of firm-specific information available to investors, and hence analyst coverage has been widely used as an indicator of the information environment of a firm. Hence, there could be changes in the analyst coverage on firms that are added to (or deleted from) the S&P 500 Index. We expect that analyst coverage on the newly added firms would increase and that on the deleted firms would decline following the change in the composition of the Index. Furthermore, the quality of analyst forecasts (forecast dispersion and forecast accuracy) on an added or deleted firm would also change as the information on the firm changes prior to and after the index revision. In this paper, we examine the impacts of revisions in the composition of the S&P 500 Index on the information environment of sample firms being added to or deleted from the Index.

We compile our sample with a list of S&P 500 Index revisions between 1990 and 2007, and perform analyses of the changes in analyst coverage and forecast quality on sample firms surrounding their additions to or deletion from the Index. The main findings are: (1) Stocks being listed on and delisted from the S&P 500 Index impact significantly the information environment of their underlying firms. Firms that are added to the Index experienced significant increases in analyst coverage that began from years before the addition through the first following the listing. On the other hand, we do not document changes in analyst coverage on firms that were deleted from the Index before their deletions, but the coverage started to decrease significantly right after the deletions and continued the downward trend for several years following the deletions. (2) The magnitude of changes in the level of

analyst coverage is significantly related to the intensity of analyst coverage before changes in the composition of the Index. For firms that are added to the Index, the magnitude of change in the level of analyst coverage is *greater* among firms that have less analyst coverage before the revisions; and the opposite pattern is observed for firms that are deleted from the Index. (3) Index revisions have significant impacts on the quality of analyst coverage on the sample firms. For both addition and deletion firms, we observe increases in the dispersion of analyst forecast, as well as improvements in the accuracy of analyst forecast following the index revisions. Further evidence suggests that the increase in the dispersion of analyst forecast following the addition to the Index may be resulted from the inclusion of new analysts in the analysis. Overall, our findings suggest that index revisions have material impacts on the information environment of sample firms that were added to, or deleted from, the S&P 500 Index over the sample period of 1990 – 2007.

This study adds to the literature on the effect of the S&P 500 Index revision on the performance of firms. The literature documents a positive (or negative) price effect on the firms that are added to (or deleted from) the Index (Shleifer, 1986; Lynch and Mendenhall, 1997; and Wurgler and Zhuravskaya, 2002). Explanations for the stock price reactions associated with changes in the composition of the S&P 500 Index include the imperfect substitution and downward sloping demand curve argument (Shleifer, 1986), the price pressure hypothesis (Harris and Gurel, 1986), and the information signaling hypotheses (Jain, 1987; Dhillon and Johnson, 1991). However, additions to the Index and deletions from the Index do not have a symmetric price effect on the underlying firms. Chen, Noronha, and Singal (2004) find a permanent increase in the stock prices of firms being added to the Index, but there is no permanent decline in stock prices for deleted firms.

Another area in the literature that closely relates to our study is the role of equity analysts in the production of firm-specific information. Analyst coverage is an important part of a firm's information environment, as among other benefits it may lead to greater investor recognition of a firm (e.g., a reduction in information asymmetry and an increase in liquidity). As analysts are selective in their coverage choices (McNichols and O' Brien, 1997), their coverage would change following the occurrence of information related events. Zhao and Zhu (2008) investigate changes in analyst coverage around M&As. Lang, Lins, and Miller (2003) document changes in analyst coverage and forecast accuracy around cross listing. Das, Guo, and Zhang (2006) find evidence that analysts provide selective coverage for newly public firms. And the findings of Doukas, Kim, Pantzalis (2008) are consistent with the hypothesis that analysts favor the coverage of firms that have the potential to generate profitable investment-banking business.

Our study contributes to and complements these two areas of literature by examining the effect of changes in the composition of the S&P 500 Index on the analyst coverage on firms that are added to and deleted from the Index. The intensity and quality of analyst coverage reflect firm-specific information that is resulted from the changing status of the sample firm in the Index. We study the changes in the intensity and quality of analyst coverage around the event of index revision, and provide evidence on how the information contained in index revision is incorporated into analyst activities. In a related study, Denis, McConnell, Ovtchinnikov, and Yu (2003) focus on firms that are added to the S&P 500 Index and show that these firms experience significant increases in analyst earnings forecasts, as well as in realized earnings. Unlike their study, we examine both the intensity (number of analysts and number of earnings estimates) and the quality (earnings forecast dispersion and accuracy) of analyst coverage on both firms that are deleted and firms that are added to the S&P 500 Index.

The rest of the paper is organized as follows. We develop our main hypotheses in Section 2 and describe the sample and data in Section 3. Section 4 reports empirical results, and Section 5 concludes the paper.

2. HYPOTHESES

2.1. Intensity of analyst coverage

Index revision is an information event. The S&P 500 Index additions may convey new and positive information of the underlying firm to the market. The certification hypothesis suggests that the positive information could be about the longevity and prospects of the underlying firm (Dhillon and Johnson, 1991; Jain, 1987). When a firm is added to the Index, the market may perceive it to be a leading firm in its industry, and its industry may be

considered as a leading industry in the economy. Furthermore, changes in the Index may lead index funds to sell the deleted firms and to buy the added firms. As turnover could substantially increase the transaction costs and tracking errors of the index funds, an index with frequent revisions in its composition would become less attractive to the index funds. To avoid frequent revisions, the S&P Index tends to select firms that it believes meeting its listing criteria and representing their industries for a long time, as well as to select firms from industries that it believes to have greater representation in the economy in the future. Therefore, additions to the S&P 500 Index may convey favorable information about the selected firms and their industries. Hence equity analysts may increase their coverage on the selected firms as analysts play an important role in facilitating efficiency by disseminating information from firms to the market in an accurate and timely manner. An opposite effect is expected for the deleted firms. Thus, we have the following hypotheses:

H1: The intensity of analyst coverage on the firms added to (deleted from) the S&P 500 Index increases (decreases) around index additions (deletions).

Since firms that are newly added to the S&P 500 Index are acknowledged by S&P as leading firms and are believed to continue their leader among their peers, it is likely that such firms have been increasingly outperforming their peers. Hence, firms that are added to the Index may have gained the attention of analysts and interests of investors before the listing decision. Thus, we postulate that the level of analyst coverage on the added firms may have increased prior to the additions. An opposite pattern would be expected for the deleted firms. We have the following hypotheses:

H2: The intensity of analyst coverage for the added (deleted) firms may have increased (decreased) prior to the additions;

The information contained in the S&P 500 Index revision announcements is new and incremental, and the change in analyst coverage around the revisions is expected to depend on the coverage prior to the revisions. For the added firms, if there has already been intense analyst coverage before revisions, the addition announcements may not lead to much increase in analyst coverage. In contrast, if the added firms have a low level of analyst coverage prior to the announcement then a greater increase in the coverage following the announcement would be expected. For the deleted firms, if their coverage by analysts has already been low, the deletion announcements would not result in significant further reduction in the coverage; while if the deleted firms have been intensely followed by analysts, the deletion announcements would reduce the coverage significantly. Thus we have the following hypotheses:

H3.1: The intensity of analyst coverage of the added firms around the additions increases more for the firms that have lower coverage prior to the additions;

H3.2: The intensity of analyst coverage of the deleted firms around the additions decreases more for the firms that have higher coverage prior to the deletions.

2.2. Quality of analyst coverage

The quality of analyst coverage measures how well analysts disseminate firm-specific information to the market. The forecast dispersion and forecast accuracy are the two main measures of the quality of analyst coverage. Denis, McConnell, Ovtchinnikov, and Yu (2003) show that index addition is not an information-free event. Index revisions bring about more firm-specific information, which is expected to increase the forecast dispersion and to improve the forecast accuracy. Moreover, for the added firms with less analyst coverage before additions, there would be a greater increase in the number of analysts and number of forecasts they make, and hence a greater increase in forecast dispersion, afterwards. Thus, we have the following hypothesis:

H4: The analyst forecast dispersion would increase and forecast accuracy would be improved after index revisions for both the added and deleted firms, and the increase in dispersion would be greater for the added firms with lower intensity of analyst coverage before additions.

3. SAMPLE AND DATA

Our initial sample is the list of all firms that were deleted from and added to the S&P 500 Index between 1990 and 2007. There are 433 revisions (433 added firms and 433 deleted firms). Additions to the S&P 500 Index are made only when firms are deleted from the index. The most common reason for a firm's deletion is that it is merged with or is acquired by another firm. Corporate restructuring and bankruptcy can also cause a stock's removal. Finally, a firm can be removed when it no longer meets the criteria for inclusion in the Index. We identify the reason for each revision by searching the LexisNexis database. The majority of deleted firms were removed from index because of M&A, spinoff, bankruptcy, and name change, and such firms are removed from the sample due to the lack of data for the analysis. Some firms were added to the Index due to M&A, spinoff, and name change, and in fact those are new firms and do not allow comparisons of analyst coverage before and after additions. So those added firms are also removed from the sample. The final sample is divided into the addition sample with 348 added firms, and the deletion sample with 133 deleted firms.

The analyst forecast and recommendation data are collected from the I/B/E/S database, and the firm data such as stock price and trading volume are collected from the CRSP database. To do so, we merge the addition and deletion samples with the I/B/E/S details history and recommendation details data and CRSP daily data to form the final data file for our analyses

We define time 0 as the revision announcement day, year -1 as the one-year period before time 0, and year 1 as the one-year period after time 0. We follow the same definition for our study period that spans from Year -4 to Year 4. Then we compute the intensity of analyst coverage within each time period and the percentage change of the coverage intensity across time periods. We analyze the data for the time period covering a couple of years before and after the revisions so that we can learn the pattern of the change in analyst coverage around revisions. However, our main focus is on the change in the intensity and quality of analyst coverage between Year -1 and Year 1, since the longer time away from the revisions, the more factors other than the Index revision could have impacted our analysis of the analyst activity. In fact, there are 22 added firms that were removed from the Index later during Year 2, and those firms are deleted from our data when our analysis involves Year 2 and beyond.

Following Piotroski and Roulstone (2004), we measure the intensity of analyst coverage as the number of one-year-ahead earnings forecasts issued within one, two, and more years before and after the index revision announcement day. Two alternative measures of the intensity of analyst coverage used in this paper are the number of unique analysts issuing one-year-ahead earnings forecasts (Bowen, Cheng, and Cheng, 2008), and the number of unique estimators whose analysts issuing one-year-ahead earnings forecasts. In addition, the number of recommendations made by analysts is also an indicator of the intensity of analyst activity, and is counted for each time period in our analysis. Recommendations are based on a five-point scale and are coded as follows: strong buy = 1, buy = 2, hold = 3, underperform = 4 and sell = 5. We define the level of recommendation as the mean numerical level of recommendations for each time period.

The quality of analyst activity is measured by forecast dispersion and forecast accuracy. Low dispersion and high accuracy would indicate high quality of analyst forecasting. Following Gu and Wu (2003), we define the forecast dispersion as the standard deviation of the earnings forecasts deflated by stock price. The forecast accuracy is defined as the negative of the absolute value of the analyst forecast error (actual earnings minus the mean of estimated earnings), deflated by stock price (Lang, Lins, and Miller, 2003).

Table I summarizes the variables for the added/deleted firms that describe their market cap and the trading activities and returns of their stocks around the revisions. The added firms are big firms, and the deleted firms are smaller on average and include both very big and very small firms when they are removed from the Index. The number of trades and trading volume increase abruptly on the day following the index revision announcements, which are released after the markets are closed on the announcement day (day 0). For the added firms, the price reaction is positive, and on average a 4.4% return (buy and hold from day 0) is realized on the day following the revision announcements. The deleted firms experience the opposite price effect.

Table I. Trading and return data of added/deleted firms 3 days before and after the index revision announcement day (Day 0). Number of trades, trading volume, return and price are collected from CRSP daily stocks file. Return is holding period return from CRSP, and price change is the percentage change of price today over price last day.

Panel A. Addition Sample

	No. of Obs.	Day -3	Day -2	Day -1	Day 0	Day 1	Day 2	Day 3
Number of trades	101	7,823	6,804	7,341	7,094	15,219	10,554	9,547
Trading volume	330	1,816,288	1,715,717	1,768,296	1,993,999	7,035,595	4,602,622	4,991,065
Return (%)	330	.325	.226	.219	.166	4.401	.141	.612
Price change (%)	330		.217	.218	.166	4.068	.135	.566

Panel B. Deletion Sample

	No. of Obs.	Day -3	Day -2	Day -1	Day 0	Day 1	Day 2	Day 3
Number of trades	17	5,903	6,091	5,885	7,009	11,881	8,520	5,037
Trading volume	125	4,079,442	3,634,409	4,568,242	6,507,072	1.70e+07	1.10e+07	8,469,230
Return (%)	125	-.877	-.570	-2.705	-3.580	-7.814	.562	-.669
Price change (%)	125		-.573	-2.705	-3.580	-7.814	.537	-.675

4. RESULTS

4.1. Intensity of analyst coverage

We first analyze the change in the intensity of analyst coverage for the added and deleted firms around the index revisions. Table II reports the intensity of analyst coverage from Year -4 to Year 4 around the revisions. In case of the addition sample in Panel A, for each of the three measures of coverage intensity, the coverage intensity keeps increasing for a couple of years before the revisions as well as during the first year after the revisions, but then remains at a stable level in Year 2 before starting a declining trend in Year 4. The difference of coverage intensity around additions (i.e., between Year 1 and Year -1) is statistically significant at the 1% level. For the deletion sample, the coverage intensity decreases significantly from Year -1 to Year 1, and continues the decreasing pattern for the next couple of years.

To further examine the intensity of analyst coverage, we compute the percentage change of coverage intensity from the previous year and test whether the percentage change is significantly different from zero. As shown in Table III, the change of coverage intensity around the revisions are significant for all three measures of coverage intensity and have the expected signs, i.e., coverage intensity increases (decreases) for the added (deleted) firms around additions (deletions). This result is consistent with the hypothesis H1. Moreover, there is a clear pattern of significant increase of coverage intensity from 3 years before additions to 1 year after additions for the added firms, and a clear pattern of significant decrease of coverage intensity for the first 2 years after deletions for the deleted firms, which are consistent with the hypotheseH2.

Next, we analyze the dependence of the change of analyst coverage around the revisions on the coverage intensity prior to the revisions. We sort the added and deleted firms separately by the intensity of their analyst coverage, and divide each sample into low, medium, and high coverage. The coverage intensity is measured by the number of one-year-ahead earnings forecasts, and the analysis is focused on the percentage change of coverage intensity from Year -1 to Year 1. As discussed in Section 2, we expect a greater change (in terms of magnitude) of coverage intensity for the added (deleted) firms with lower (higher) pre-event coverage. The results reported in Table IV are consistent with our expectation. For the added firms (Panel A), the change of coverage intensity is significantly greater than zero for all subgroups of the firms, while the magnitude of change is significantly larger

for the lower pre-event coverage firms. The percentage change for the low pre-event coverage firms is about 50 times greater than that for the high pre-event coverage firms. In contrast, there is a positive relationship between the coverage intensity and the magnitude of decrease in coverage intensity for the deleted firms (Panel B). The firms with higher pre-event coverage intensity experience greater decline in coverage intensity, while for the group of low pre-event coverage firms, the change of coverage intensity has positive sign and is not significantly from zero. These results support our hypotheses H3.1 and H3.2.

Table II. Mean intensity of analyst coverage measured by number of one-year-ahead earnings forecasts, number of analysts who make one-year-ahead earnings forecasts, and number of estimators whose analysts make one-year -ahead earnings forecasts. Difference = coverage intensity in year 1 – coverage intensity in year -1. The numbers in parentheses are the values of *t* statistics of the t tests that Difference = 0 (mean intensity of analyst coverage in year 1 = mean intensity of analyst coverage in year -1).

Panel A. Addition sample

Coverage Intensity	Year -4	Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Difference (year 1vs year-1)
Measured by number of forecasts	40.68	48.53	56.83	68.31	80.77	81.01	75.46	68.01	12.46*** (5.55)
Measured by number of analysts	11.27	13.09	15.52	18.31	21.03	20.93	19.54	17.53	2.72*** (7.21)
Measured by number of estimators	10.57	12.31	14.63	17.34	19.99	19.65	18.14	16.42	2.65*** (7.55)

Panel B. Deletion sample

Coverage Intensity	Year -4	Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Difference (year 1vs year-1)
Measured by number of forecasts	46.20	51.17	63.47	66.52	35.31	23.54	21.63	16.16	-31.21*** (-4.99)
Measured by number of analysts	12.85	13.20	13.84	13.19	7.48	5.03	4.35	3.61	-5.71*** (-7.52)
Measured by number of estimators	12.24	12.57	13.22	12.27	7.11	4.77	4.10	3.46	-5.16*** (-7.86)

***: Significant at the 1% level; **: Significant at the 5% level; *: Significant at the 10% level.

4.2. Analyst recommendations

Table IV also reports changes of the number and level of analyst recommendations around the index revisions and their dependence on the coverage intensity prior to revisions. The results of the change in the number of recommendations around revisions are very similar to that of the change in coverage intensity. This result is not surprising because the number of recommendations made by analyst also represents the intensity of analyst activities. Analysts issue more recommendations on the added firms after addition, and the change is significant for all subgroup of firms with different initial coverage level and greater for the added firms with lower coverage before additions. For the deleted firms, a decline in the number of recommendations is expected after the deletions, but our results show that this is only true for the subgroup of deleted firms with high coverage before deletions, and the percentage changes in the number of recommendations is not significantly different from zero for the medium-coverage and low-coverage firms, as well as for the entire sample. The level of recommendation increases significantly after additions for the added firms, implying that analysts become less favorable to the added firms, probably because of expectation of stock price reversal following the positive price impact resulting from index additions. The change in the level of recommendation for the deleted firms is not statistically significant.

Table III. Percentage change of intensity of analyst coverage for the time period of (year t-1, year t) from year t-1 to year t. The numbers in parentheses are the values of *t* statistics of the t tests that the percentage change is equal to 0.

Panel A. Addition sample

Time period (year t-1, year t)	(-4, -3)	(-3, -2)	(-2, -1)	(-1, 1)	(1, 2)	(2, 3)
Measured by number of forecasts	62.14*** (3.34)	34.81*** (6.71)	81.37*** (2.49)	65.02*** (3.15)	7.52** (1.90)	2.29 (0.60)
Measured by number of analysts	29.30*** (3.88)	20.83 *** (8.09)	29.79*** (3.14)	23.07*** (4.88)	9.57 (1.13)	-7.18*** (-3.36)
Measured by number of estimators	28.10*** (3.71)	19.50*** (8.17)	28.65*** (3.22)	22.34*** (4.90)	1.15 (0.53)	-8.58*** (-4.26)

Panel B. Deletion sample

Time period (year t-1, year t)	(-4, -3)	(-3, -2)	(-2, -1)	(-1, 1)	(1, 2)	(2, 3)
Measured by number of forecasts	21.92*** (2.88)	119.02 (1.07)	3.05 (0.42)	-27.80*** (-3.40)	-22.11** (-2.26)	-1.99 (-0.24)
Measured by number of analysts	1.45 (0.45)	6.50 (1.13)	-6.48** (-2.00)	-32.52*** (-7.54)	-27.01*** (-4.04)	-1.94 (-0.20)
Measured by number of estimators	0.10 (0.03)	5.73 (1.00)	-9.42*** (-3.23)	-32.47*** (-8.10)	-28.87*** (-4.68)	-3.02 (-0.36)

***: Significant at the 1% level; **: Significant at the 5% level; *: Significant at the 10% level.

Table IV. Percentage changes around index revisions (from year -1 to year 1) of intensity of analyst coverage, number of recommendations, level of recommendations, forecast dispersion, and forecast accuracy for the whole sample and the subsamples of low coverage, medium coverage and high-coverage firms. Intensity of analyst coverage is measured by number of one-year-ahead earnings forecasts. Difference is the difference between the changes for the low coverage firms and high coverage firms. For the added firms in Panel A, difference = % change of low coverage firms – % change of high coverage firms; for the deleted firms in Panel B, difference = % change of high coverage firms - % change of low coverage firms. The numbers in parentheses are the values of *t* statistics of the t tests that the % changes or differences are equal to 0.

Panel A. Addition sample

Coverage intensity	Whole sample	Low	Medium	High	Difference (low – high)
% change in coverage intensity	65.02*** (3.15)	188.73*** (2.82)	19.67*** (4.65)	3.79* (1.32)	184.94*** (2.98)
% change in number of recommendations	49.66*** (4.78)	92.68*** (3.26)	32.17*** (4.28)	26.75** (2.25)	65.93** (2.18)
% change in level of recommendations	8.96*** (6.29)	11.45*** (3.95)	9.52*** (3.98)	6.06*** (2.90)	5.39* (1.52)
% change in forecast dispersion	93.60*** (8.01)	135.30*** (5.33)	76.00*** (4.30)	70.74*** (4.31)	64.56** (2.15)
% change in forecast accuracy	-211.44*** (-3.43)	-283.05** (-1.96)	-118.30*** (-3.59)	-234.90** (-2.08)	-48.15 (-0.26)

Panel B. Deletion sample

Coverage intensity	Whole sample	Low	Medium	High	Difference (high – low)
% change in coverage intensity	-27.80*** (-3.40)	15.41 (0.70)	-35.58*** (-4.46)	-59.41*** (-9.14)	-74.82*** (-3.40)
% change in number of recommendations	-10.17 (-0.91)	29.58 (1.05)	-4.83 (-0.28)	-44.92*** (-3.71)	-74.50*** (-2.67)
% change in level of recommendations	-6.55* (-1.40)	-3.01 (-0.34)	-8.96* (-1.26)	-6.82 (-0.80)	-3.81 (-0.31)
% change in forecast dispersion	43.93*** (2.67)	48.27* (1.29)	36.79** (1.68)	46.91** (1.98)	-1.36 (-0.03)
% change in forecast accuracy	-89.33*** (-2.52)	-138.57** (-1.65)	-23.14 (-0.76)	-103.41** (-2.22)	35.16 (0.34)

***: Significant at the 1% level; **: Significant at the 5% level; *: Significant at the 10% level.

4.3. Quality of analyst coverage

The quality of analyst coverage is measured by the forecast dispersion and forecast accuracy. As shown in Table IV, for both the added and deleted firms, the forecast dispersion increases significantly and the forecast accuracy improves significantly. Note that forecast accuracy is defined as the negative of the stock price deflated absolute value of the analyst forecast error, and is always negative value. The greater is this value, the smaller is the absolute magnitude, and the more accurate are the forecasts. So the significant negative values of the percentage change in forecast error reported in Table IV indicate that the forecast accuracy is greater in Year 1 than Year -1. In other words, forecast accuracy is improved after additions. Moreover, for the added firms, those with low coverage before additions experience about 2 times greater rate of increase in forecast dispersion than those with high pre-event coverage. These results support our hypothesis H4.

5. CONCLUSION

This paper studies changes in analyst coverage and forecast quality around S&P 500 index revisions for firms that were added to or deleted from the Index over the period of 1990 - 2007. The intensity of analyst coverage of the added or deleted changes significantly in response to the corresponding revisions in composition in the S&P 500 Index. The analyst coverage on the firms that are added to the Index has been increasing significantly from several years before the additions till one year after the additions. On the other hand, that the level of analyst coverage on firms deleted from the Index does not change much before deletions, but keeps decreasing significantly for several years after deletions. Index revision has strong impact on the quality of analyst forecast; for both added and deleted firms, the forecast dispersion increases and the forecast accuracy improves after revisions. The changes in coverage intensity and forecast quality are significantly related to the coverage intensity before revision. For firms that are added to the Index, the increases in analyst coverage intensity and forecast dispersion are *greater* for firms with lower coverage before additions, and for firms that are deleted from the index, the opposite is observed. These results suggest that the S&P 500 index revisions have strong impact on the analyst coverage and forecast quality of the firms involved, and the magnitude of impact relates to the initial intensity of analyst coverage.

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