How Has Regulation FD Affected the Performance of Financial Analysts?

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We examine persistence of analyst forecast accuracy before and after the passage of Regulation FD. Individual analysts are ranked based on their forecast accuracy and we track their ranking over time. Before Regulation FD we find that analysts exhibit a degree of persistence in that top ranked analysts tend to maintain their ranking while bottom ranked analysts also tend to remain below average. We find that after the passage of Regulation FD these effects are accentuated with top analysts consistently achieving an even higher average rank than before the act. We hypothesize that these effects are due to Regulation FD's removal of management as a source of information. Our results suggest that once analysts are left to their own, they become more distinctive persistent in their performance.

INTRODUCTION

In response to concerns that companies disclose information to selected parties about their earnings prospects, the Securities and Exchange Commission (SEC) adopted Regulation FD in October of 2000. The regulation requires that any information disclosed to individual financial analysts must also be disclosed publicly. This gives all financial analysts, as well as the general public, equal access to any information provided by company management. The reaction of companies and analysts to this new information environment has been of considerable interest to practitioners and academics alike.

A survey of analysts by the Association for Investment Management and Research (2000) confirms that direct communication with management was among the most important sources of information analysts used in making forecasts prior to Regulation FD. The report reveals that while around 45 percent of companies have said they had increased the level of communications (increasing the flow of information through expanded press releases, longer conference calls, more detailed IR Web sites and more frequent press releases) since Regulation FD was introduced, 53 percent of sell-side analysts and 69 percent of institutional investors complained that they are receiving less information from companies than before the rule and are spending more time targeting external sources to compensate. Analysts are spending more time targeting external sources according to the survey; some 30% of sell-side analysts have increased communications with the customers of the companies they follow, and 26% have increased discussions with companies' vendors, and an additional 14% are now spending more time

talking to lower-level employees who aren't covered by Regulation FD. This finding has also been recognized by Irani and Karamanou (2003). A full third of sell-side analysts are also targeting companies' competitors for background information. The figures for buy-side analysts are similar, although around 5% to 10% lower in each category, with 27% of buy-side analysts increasing discussions with companies' competitors. Bowen et al. (2002) also support the concern that conference calls contributed to an information gap between select analysts and the remainder of the investment community.

Bailey et al. (2003), Gintschel and Markov (2004), Jorion and Liu (2005), C. Shi (2005), and Mohanram and Sunder (2006) suggest that analysts are indeed working harder to find alternative sources of information since the passage of Regulation FD. Analysts at large brokerage firms who had privileged access to management are now following fewer firms on average than they did before FD, presumably because they must spend more time gathering information from alternate sources. This phenomenon did not occur for analysts at other brokerage firms. Also, big firm analysts saw an average drop in their forecasting accuracy in comparison to other analysts, with the exception of the very top analysts, the so-called "all-star" analysts, who did not see a drop in accuracy relative to other analysts. Francis et al. (2006) compare the changes in public information and analyst information metrics for U.S. firms and ADRs. Their results also suggest that the decrease in informativeness of analyst reports is attributable to Reg FD.

Bailey et al. (2003), Gintschel and Markov (2004), and Mohanram and Sunder's (2006) findings seem to suggest that some big firm analysts were no better than their peers in real forecasting ability but simply enjoyed the benefit of privileged access to management. Analysts with true ability, whether at large brokerage firms or not, may have an opportunity to distinguish themselves in the wake of Regulation FD. This would seem to be the kind of result desired from Regulation FD, i.e. to make the playing field fair, allowing capable and hard-working analysts to distinguish themselves.

However, Heflin et al. (2003) found that Reg FD had little effect on two other measures of information asymmetry - analyst forecast accuracy and analyst forecast dispersion. Bushee et al. (2004) and Francis et al. (2004) found that overall the passage of Reg FD changed little. It is because they all use average method on the aggregative data which may mix the external economic impact and couldn't single out the pure effect of Reg FD changed.

Analysts across all firms may see their ranking in terms of forecast accuracy improve or deteriorate depending on their ability and willingness to work to find and utilize information sources. Prior to Regulation FD true ability could be trumped by those who could rely on management to interpret how general economic developments are impacting the firm. Analysts who were adept at forecasting economic events, and in predicting the effect of these events on a firm's earnings, might not have been able to distinguish themselves. Thus there seems to be a distinct possibility that some analysts may see their relative ranking in forecast accuracy improved as a result of regulation FD, while others may see a decline. Ultimately, one asks the question: What is the more reliable source of forecasting superiority? Inside connections, or ability and hard work?

RELATIVE FORECAST ACCURACY

We use individual analyst relative forecast accuracy, and the ability to maintain a given ranking, to evaluate the effects of Regulation FD. We take in as much available information as possible, using over 22 years of quarterly data (16 before FD, and 6 after) to characterize persistence of analyst performance before and after the passage of regulation FD. The importance of evaluating relative accuracy has been recognized in specific settings in prior studies, including Richards (1976), Brown and Rozeff (1980), O'Brien (1987, 1990), Butler and Lang (1991), Stickel (1992), and Sinha et al. (1997). Sinha et al., for example, refute previous findings of no consistent differences in forecasting ability across individual analysts by controlling for time horizon at which forecasts are made (recency of forecasts) and by examining the relative accuracy of individual analysts.

We use analysts' relative ranking, and their ability to hold their ranking over time, as our measure of analyst accuracy. Our data procedures take in as many forecasts as possible while maintaining a

homogeneous forecast horizon, i.e. forecasts made with a common lead time prior to the end of the quarter being forecast. We use relative ranking and its persistence over time because it is the best way of addressing the question of how regulation FD has affected analyst forecasts accuracy when taking in long periods of data before and after the act; it implicitly controls for macro economic variables by comparing analysts' relative ability to forecast accurately in a variety of economic conditions.

DATA SOURCES AND PROCEDURES

The data for our study come from two sources. We use all firms in the intersection of the Institutional Brokers Estimate System (I/B/E/S) files and the Center for Research in Security Prices (CRSP) files. We obtain earnings data from I/B/E/S and price data from CRSP. Forecasts of quarterly earnings reported by analysts at over 300 brokerage firms are extracted from I/B/E/S Detail History files. Each observation represents a forecast from an individual analyst for a firm for a given quarter. The sample covers 90 quarters from the third quarter of 1984 through the fourth quarter of 2006[1]. We perform the following data standardization procedures.

First, to make measurements for forecast errors comparable across firms, that is, to avoid the effect of heteroskedasticity, both earnings forecasts and forecast errors relative to a firm are deflated by stock price from the last day of the quarter immediately preceding the quarter for which the forecast is made; see Hsu and Chiao (2011). We add a de-trending adjustment to the stock price to reflect significant changes in price-to-earnings (P-E) ratios over the period studied. The P-E ratio rose significantly during our sample period. If stock prices rise significantly in relation to earnings, this could cause standardized measures of forecast error to become smaller merely due to the standardizing procedure. To avoid this potential downward bias in forecast errors in the post regulation FD period, we de-trend stock prices before using them in our analysis. Appendix 1 contains details of the de-trending procedure.

Second, while the main earnings forecast files that I/B/E/S provides are stock-split adjusted[2], we adjust the original (unadjusted) per share stock price file from the CRSP using the FACSHR sub-file that contains stock split records for all firms included in the data set and over the entire sample period. This choice has an advantage over using the raw unadjusted data for both earnings forecasts and prices because it avoids the mismatching of earnings numbers and per share stock prices when a stock split occurs[3]. In addition, to avoid undesirable disturbances from irregular data points, we impose additional requirements on data selection. These are stated and explained below.

First, when a firm's per share stock price (unadjusted for stock splits) is below $5 at the beginning of a quarter, the firm is excluded from our sample for that quarter. This is to avoid the destabilizing effect on standardized forecast errors from a low stock price. Second, we eliminate data points that have forecast errors greater than the per share price after stock split adjustments; that is, we constrain the forecast errors in our sample to a limit of one after standardization using the per share price (before de-trending). This is to avoid disturbances from potential data errors in reported or forecast earnings.

Third, we focus on quarterly predictions made or recorded one quarter ahead of the end of the fiscal quarter being forecast. If an analyst has on record more than one forecast in a given quarter, only the first one is considered. This is to homogenize the timing of the recorded forecasts. Fourth, we require that each firm in the sample must have earnings predictions from at least four different analysts in the quarter immediately prior to the quarter under study. This is to avoid erratic or extreme forecast errors that may unduly affect the analysis; see Abarbanell and Lehavy (2003).

Descriptive statistics for standardized forecast error (FE) and absolute forecast error (AFE) for our sample are provided in Table 1. The total number of data points is 378,006 (260,622 PRE / 117,384 POST). Panel A presents a summary of the pre-FD sample. The positive mean value for forecast error suggests an upward bias in forecasts and is consistent with the findings reported in, for instance, Easterwood and Nutt (1999) and Tamura (2002). Panel B presents a summary of the post-FD sample. The negative mean value for forecast error in Panel B suggests a downward bias in forecasts which is different from the Pre-FD period. This indicates that financial analysts have become more pessimistic after the passage of Regulation FD which is consistent with studies examining forecast error in relation to passage

of Regulation FD (e.g., Heflin et al., 2003, Mohanram and Sunder, 2006).

In terms of absolute forecast accuracy, Table 1 reveals that, for the entire period studied, analysts have become more accurate after the passage of Regulation FD. This finding is at variance with studies, such as Heflin et al., and Mohanram and Sunder, which studied forecast accuracy in shorter periods immediately prior to and after the passage of Regulation FD and found that forecast accuracy deteriorated for a time after the passage of FD. Our results indicate that, in the longer run, forecast accuracy actually improved after FD. It would seem that, while in the short run Regulation FD may have led to difficulty in forecasting, analysts have eventually become better at forecasting earnings after the passage of Regulation FD. Panel C of Table I confirms that both mean and median values of FE and AFE have changed significantly after passage of Regulation FD.

TABLE 1
DESCRIPTIVE STATISTICS – EARNINGS FORECAST ERRORS

Panel A: Pre-FD (N=260,622)

	Median	Mean	Std. Dev.	Q1	Q3	Min	Max
FE	0.00000	0.00206	0.02487	-0.00125	0.00171	-0.95061	0.99586
AFE	0.00143	0.00574	0.02428	0.00046	0.00418	0.00000	0.99586

Panel B: Post-FD (N=117,384)

	Median	Mean	Std. Dev.	Q1	Q3	Min	Max
FE	-0.00040	-0.00004	0.01285	-0.00159	0.00038	-0.64092	0.58411
AFE	0.00109	0.00339	0.01240	0.00040	0.00280	0.00000	0.64092

Panel C: Comparison of Forecast Errors Pre-FD and Post-FD

	Means			Medians		
	Pre-FD	Post-FD	t-statistic for difference	Pre-FD	Post-FD	z-statistic for difference
FE	0.00206	-0.00004	-27.34**	0.00000	-0.00040	-71.87**
AFE	0.00574	0.00339	-31.39**	0.00143	0.00109	-50.70**

FE is the forecast value less the actual earnings, divided by the stock price at the close of the last day of the previous quarter. The stock price has been adjusted for the long-term earnings/price ratio time trend to equalize the scale factor throughout a firm. The mean, standard deviation and other statistics are computed for the sample period that begins in the first quarter of 1984 and ends with the fourth quarter of 2000 (Pre-FD); and the first quarter of 2001 to the fourth quarter of 2006 (Post-FD). Observations of FE with absolute value exceeding 1.0 are deleted from the sample due to their likelihood of being data errors or extreme observations. Other data trimming procedures are as described in the text. T-statistics are calculated using a pooled difference of means test, z-statistics are for a Wilcoxon signed rank test. ** Significant at the 1 percent level (two-tailed)

METHODOLOGY

To test persistence of analyst performance, we track the rankings of individual analysts in forecasting the firms they follow. We focus on quarterly predictions made up to 90 days but no less than 30 days prior to the end of the fiscal quarter being forecast[4]. If an analyst makes more than one forecast for that quarter within that time window, only the first one is considered. This is to avoid the data complexity arising from continual revisions of earnings estimates by individual analysts and to alleviate potential distortion from herding among analysts during the latest part of the quarter. We feel that such restriction of the timing window for earnings forecasts is appropriate and necessary[5]. When a firm's fiscal quarter is different from a regular calendar quarter, but ends in a particular calendar quarter, the earnings of that fiscal quarter are identified with that calendar quarter.

Each quarter, all analysts selected under our criteria are ranked and separated into five equal-sized groups, that is, by their quintiles, based on standardized forecast error (FE). The quintile group with smallest FE is quintile 1, or the top quintile, while the quintile group with the largest FE is quintile 5, or the bottom quintile. We then designate a series of formation quarters and track analysts in the five succeeding quarters to establish the extent to which good or bad performance persists. In the pre-FD period our first formation quarter is the third quarter of 1984; analysts are then tracked to determine their ranking in the next five quarters; for our first formation quarter (1984, third), the tracking is fourth quarter 1984 through fourth quarter 1985. Our interest is in percentage of analysts in quintile 1 in the formation quarter who remain in the top quintile in the succeeding quarters; under a random chance hypothesis (i.e. no distinctive performance) we would expect the percentage to drop as top performers move toward the middle (quintile 3), and initially poor performers (quintile 5) would move up. On the other hand, if analysts are distinctive, either through skill or superior information sources, we expect the percentage of quintile 1 performers in the formation quarter to drop off slowly or, in other words, to exhibit a degree of persistence. We calculate a persistence measure for the pre-FD period by starting with the formation quarter described above (1984, third), and then repeating the process, moving the formation quarter ahead one quarter at a time. The second 5-quarter tracking cycle pre-FD is first quarter 1985 through first quarter 1986 (5 quarters following the second formation quarter, 1984 fourth). We continue moving the formation quarter ahead until the second quarter of 1999, our last formation quarter pre-FD, thus making third quarter 2000 our last tracking quarter. Sixty tracking cycles pre-FD result, as summarized in Table 2.

TABLE 2
TRACKING CYCLE SCHEME

		Tracking Cycle				
		1	**2**		**59**	**60**
Year	**Quarter**					
1984	Third	F				
1984	Fourth	1	F			
1985	First	2	1			
1985	Second	3	2			
1985	Third	4	3			
1985	Fourth	5	4			
1986	First		5			
1999	First				F	
1999	Second				1	F
1999	Third				2	1
1999	Fourth				3	2
2000	First				4	3
2000	Second				5	4
2000	Third					5

RESULTS

We average all sixty succeeding quarter percentages to get an overall reflection of the nature of analyst persistence Pre-FD. These averages are presented in Table 3. From Table 3 Panel A we can see that in the first succeeding quarter, approximately 31% of analysts maintain their top quartile ranking, 18.3% have dropped to the second quartile; only about 7% have dropped to the lowest ranking. Missing observations occur for various reasons such as analysts switching to other roles as research director,

money manager or investment officer in asset management firms, or exiting the profession in pursuit of other interests. It can also result, in a small number of cases, from our data trimming procedures.

TABLE 3
FREQUENCY DISTRIBUTIONS OF ANALYST ACCURACY BEFORE REGULATION FD: QUINTILE RANKS IN FIVE SUBSEQUENT QUARTERS AFTER THE INITIAL RANK IN A FORMATION QUARTER

The quintile ranking is based on the average quarterly FE across all firms covered by an analyst. The initial quintile formation quarter is moved one quarter at a time with the formation quarter shifting from 1984 third quarter through 1999 second quarter. The null hypothesis tested here is H_0: average rank = 3, the expected rank under the pure chance hypothesis.

Panel A					
Analysts with Initial Ranking in Quintile 1					
Succeeding Quarter	1	2	3	4	5
Percentage frequency of quintile rank based on FE in five Succeeding quarters with initial quintile 1 group					
Quintile 1 (%)	31.19%	28.38%	26.69%	26.33%	25.14%
Quintile 2 (%)	18.31%	18.53%	17.49%	16.79%	15.77%
Quintile 3 (%)	11.78%	12.03%	12.30%	11.90%	12.25%
Quintile 4 (%)	7.79%	8.45%	9.06%	9.14%	9.58%
Quintile 5 (%)	6.89%	7.24%	7.07%	7.22%	7.53%
Survived (%)	75.96%	74.63%	72.61%	71.38%	70.27%
Missing (%)	24.04%	25.37%	27.39%	28.62%	29.73%
Average Rank	2.230	2.306	2.345	2.364	2.416
t-Value	-24.86	-23.78	-20.76	-24.15	-18.36
Panel B					
Analysts with Initial Ranking in Quintile 5					
Percentage frequency of quintile rank based on average FE's in five succeeding quarters with initial quintile 5 group before Reg. FD					
Succeeding Quarter	1	2	3	4	5
Quintile 1 (%)	6.50%	6.15%	6.69%	5.95%	6.77%
Quintile 2 (%)	7.55%	8.82%	9.16%	9.25%	9.29%
Quintile 3 (%)	11.59%	13.17%	12.97%	12.43%	13.35%
Quintile 4 (%)	21.70%	20.95%	21.02%	20.63%	19.92%
Quintile 5 (%)	34.74%	30.05%	28.29%	27.57%	24.23%
Survived (%)	82.08%	79.14%	78.14%	75.84%	73.57%
Missing (%)	17.92%	20.86%	21.86%	24.16%	26.43%
Average Rank	3.849	3.748	3.702	3.715	3.612
t-Value	32.67	28.29	26.37	23.79	26.23

The average ranking in the first succeeding quarter is 2.230. We test this average against the null hypothesis of no difference from an average ranking of 3.0, the pure chance outcome, and find that highly ranked analysts have in fact maintained superior performance after one quarter ($t = -24.86$, $p<0.00$) as well as all five succeeding quarters (average rank in fifth succeeding quarter is 2.416, $t = -18.36$, $p<0.00$). Turning to Panel B of Table 3 we can see that poorly performing analysts persist with below average rankings. In the first quarter after formation, 34.74% of analysts initially ranked in the fifth quintile still

rank this poorly, only 6.5% have moved into the top quintile, and the average rank is 3.85, significantly below the benchmark of 3.0 ($t = 32.67$, $p<0.00$). Similar to top performing analysts, poor performance persists across all five succeeding quarters (average rank in fifth succeeding quarter is 3.612, $t = 26.23$, $p<0.00$). Overall the Pre-FD period is characterized by persistent, distinctive performance among analysts who consistently outperform or underperform a pure chance ranking. We now examine the nature of analyst persistence after Regulation FD, and contrast it with that of the Pre-FD period.

We begin with the first quarter of 2001 as our first post-FD formation quarter, tracking analyst ranking for five succeeding quarters, and moving the formation quarter forward one quarter at a time. Our final formation quarter is the third of 2005, making our final tracking quarter the fourth of 2006. All told, we utilize twenty-four quarters of data in the post FD period involving nineteen tracking cycles.

Table 4 presents the results of our work in the post FD period. As in the Pre-FD period, we observe a consistent tendency for analysts who rank in the first (fifth) quartiles in the formation quarters to maintain their superior (inferior) rankings in subsequent quarters, reflecting a degree of persistent distinctive performance. Comparing the average rankings in the first succeeding quarter, we see an average of 2.23 in the Pre-FD period and 2.151 Post-FD; the tendency for analysts to maintain higher average rankings in the post FD period exists for all five quarters. We see a similar situation for the quintile five analysts; in each succeeding quarter, the post FD ranking is lower than in the pre-FD period. These results suggest that distinctive performance has been become more pronounced after FD, especially for top performing analysts. Table 5 presents test statistics confirming the statistical significance of these results.

We report test statistics for differences in both means and medians Pre versus post FD. Panel A of Table 5 reveals that the mean ranks in the post FD period are significantly higher in each tracking quarter after formation, confirming that top analysts have become more persistent in their superior forecasting accuracy after the passage of regulation FD. The statistics for medians largely confirm the results for means with the exception of the first succeeding quarter in which the difference is only marginally

TABLE 4
FREQUENCY DISTRIBUTIONS OF ANALYST ACCURACY AFTER REGULATION FD: QUINTILE RANKS IN FIVE SUBSEQUENT QUARTERS AFTER INITIAL RANK IN A FORMATION QUARTER

The quintile ranking is based on the average quarterly FE across all firms covered by an analyst. The initial quintile formation quarter is moved one quarter at a time with the formation quarter shifting from 2001 first quarter forward one quarter at a time until 2005 third quarter. The null hypothesis tested here is H_0: average rank = 3, the expected rank under the pure chance hypothesis.

Panel A **Analysts with Initial Ranking in Quintile 1**					
Succeeding Quarter	1	2	3	4	5
Percentage frequency of quintile rank based on average FE's in five Succeeding quarters with initial quintile 1 group					
Quintile 1 (%)	37.70%	34.36%	31.94%	32.15%	28.43%
Quintile 2 (%)	21.43%	21.13%	20.92%	20.03%	18.80%
Quintile 3 (%)	13.03%	13.11%	12.94%	11.77%	12.38%
Quintile 4 (%)	8.08%	8.88%	9.06%	8.48%	9.49%
Quintile 5 (%)	7.26%	7.22%	7.22%	7.27%	7.64%
Survived (%)	87.49%	84.71%	82.08%	79.70%	76.73%
Missing (%)	12.51%	15.29%	17.92%	20.30%	23.27%
Average Rank	2.151	2.214	2.252	2.229	2.335
t-Value	-35.24	-26.89	-32.38	-43.16	-30.26

Panel B					
Analysts with Initial Ranking in Quintile 5					
Percentage frequency of quintile rank based on average FE's in five succeeding quarters with initial quintile 5 group before Reg. FD					
Succeeding Quarter	1	2	3	4	5
Quintile 1 (%)	6.53%	6.35%	6.23%	6.37%	6.33%
Quintile 2 (%)	8.27%	9.15%	8.68%	7.89%	9.08%
Quintile 3 (%)	13.18%	13.87%	14.21%	13.47%	13.46%
Quintile 4 (%)	23.70%	23.33%	21.50%	20.52%	19.71%
Quintile 5 (%)	38.90%	33.41%	31.77%	30.99%	27.55%
Survived (%)	90.59%	86.11%	82.40%	79.24%	76.12%
Missing (%)	3.885	3.794	3.775	3.779	3.696
Average Rank	3.885	3.794	3.775	3.779	3.696
t-Value	36.19	34.61	40.38	38.31	29.79

significant. Overall the results on medians confirm that the results on means are not driven by a small number of extreme observations.

Panel B of Table 5 reports mixed results for the least accurate analysts. While there is some tendency for poor performance to become more persistent after FD, the overall character of the results seems to be that, while poor performers in formation quarters tend to remain poorly ranked, this effect has not been accentuated by regulation FD to the same degree as for top ranked analysts.

DISCUSSION

Our results show that distinctive analyst performance has increased in the wake of Regulation FD, particularly for top level analysts. Post FD, the tendency for top ranked analysts to maintain their top ranking over time (i.e. persistence of distinctive performance) has increased in relation to the pre-FD period. These findings complement and extend those of Mohanran and Sunder, 2006 (MS).

MS suggest that in the wake of Regulation FD, analysts who had privileged access to management increased their private information search activity to compensate for the lost information source; they support this by documenting a reduction in the average number of firms followed by these analysts. In addition, MS document a shift in the firms analysts are following. Overall, less followed firms had an increase in analyst following after FD while highly followed firms lost following. MS speculate that the highly followed firms were the one most likely engaging in private conversations with select analysts prior to FD, and that post FD analysts have switched to less followed firms where they have a better chance to distinguish themselves in their forecasting ability.

TABLE 5
COMPARISON OF ANALYST ACCURACY BEFORE AND AFTER REGULATION FD: AVERAGE QUINTILE RANKS IN FIVE SUBSEQUENT QUARTERS AFTER INITIAL RANK IN A FORMATION QUARTER

T-statistics are calculated by using a pooled difference of means test, z-statistics are for a Wilcoxon signed rank test
* Significant at the 5 percent level (two-tailed)
** Significant at the 1 percent level (two-tailed)

Panel A
Analysts with Initial Ranking in Quintile 1

	Means of Average Rank			Medians Means of Average Rank		
Successive Quarter	Pre-FD	Post-FD	t-statistic for difference	Pre-FD	Post-FD	z-statistic for difference
1	2.230	2.151	-2.39**	2.227	2.151	-1.59
2	2.306	2.214	-3.22**	2.323	2.216	-2.45**
3	2.345	2.252	-3.07**	2.336	2.247	-2.19*
4	2.364	2.229	-5.52**	2.345	2.185	-4.00**
5	2.416	2.335	-3.18**	2.421	2.323	-2.08*

Panel B
Analysts with Initial Ranking in Quintile 5

	Means of Average Rank			Medians Means of Average Rank		
Successive Quarter	Pre-FD	Post-FD	t-statistic for difference	Pre-FD	Post-FD	z-statistic for difference
1	3.849	3.885	1.11	3.872	3.882	0.25
2	3.748	3.794	1.97*	3.757	3.817	1.05
3	3.702	3.775	2.50**	3.683	3.783	2.22**
4	3.715	3.779	1.84	3.738	3.804	1.52
5	3.612	3.696	2.88**	3.613	3.703	2.47**

Our findings confirm Mohanran and Sunder's speculation: good analysts have emerged in the post FD period, distinguishing themselves to a greater degree than previously. While in the pre FD setting some analysts were able to use inside connections, once this advantage was taken away analysts across the board were forced to work harder to find information and rely on their own ability in interpreting it. The issue here is not so much one of whether absolute forecast accuracy increased or decreased after FD, but rather it is the relative ranking which reveals that, in the post FD setting, distinctive analyst performance has emerged.

Our results confirm a picture of the good effects of regulation FD in leveling the playing field among analysts, clearing the way for capable and hard-working analysts to distinguish themselves. Making the playing field fair was, as its name implies, the intent and purpose of regulation FD. Improved functioning of capital markets, the ultimate goal of such regulation, should result, a finding consistent with early evidence by Heflin et al. (2003) who found improved informational market efficiency resulting from passage of regulation FD.

ENDNOTES

1. It is not uncommon that a firm has a fiscal quarter different from the calendar quarter. We therefore collect an earnings forecast number based on its forecast period end date. In each calendar quarter, a forecast with the forecast period end date falling in that calendar quarter is considered part of the sample for that particular quarter.
2. Despite that a version of I/B/E/S earnings files unadjusted for stock splits can be obtained from I/B/E/S upon special request, we feel that the unadjusted data are more difficult to work with for reasons discussed below.
3. This issue has been discussed in Keane and Runkle (1998, p.780) and was handled with special care. However, Diether et. al. (2002, p. 2117) point out that stock-split adjusted earnings data round the adjusted earnings numbers into whole cents and create proportionally large data errors, especially for earnings in earlier years and for small firms. But a close examination of stock-split adjusted earnings data that we employ for this paper suggests that it is not the case. All adjusted earnings data in our I/B/E/S files carry at least two effective (non-zero) digits and up to the fifth decimal place (in dollars). So the stock-split adjusted earnings files do not pose a major data problem here.
4. Only one percent of analyst-firm combinations have forecasts recorded by the IBES more than 90 days prior to the end of the fiscal quarter.
5. We recognize that a forecast made closer to the end of the quarter for which an earnings forecast is made may base on more new information and thus have better accuracy. For that reason, in our measuring system here, an analyst can gain an edge by postponing the forecast as long as possible. However, a chronic lack of timeliness of the forecasts can have detrimental effects on the usefulness of the analyst's forecasts and can adversely affects his/her job ratings. Given the timeframe of forecasts that we allow already is within the designated quarter, there is a great pressure on an analyst to make a forecast in the first two months of the quarter, which is the case for a definite majority of analysts in our sample (over 75%).

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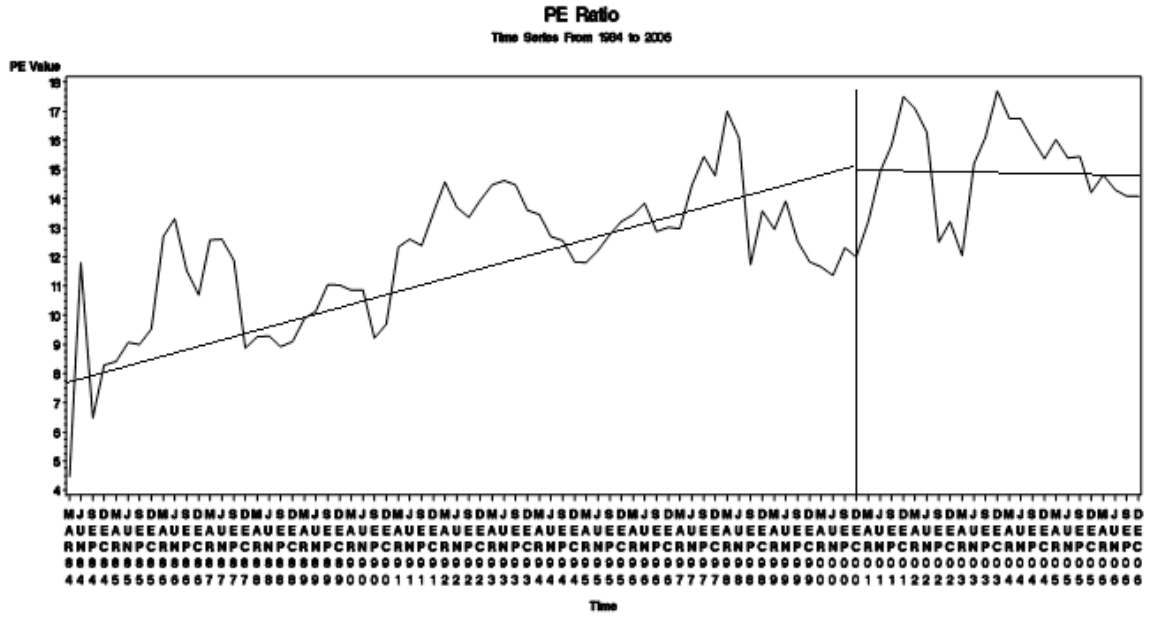
APPENDIX I

Price-to-earnings (P-E) ratios in general expanded considerably over the sample period, up to mid-year 2000, as shown below in Figure 1. Without an adjustment to reflect the changing P-E ratio level, earnings standardization could impose a downward trend on standardized forecast errors and distort the outcomes of the empirical tests.

FIGURE 1
PRICE-TO-EARNINGS RATIO

The PE ratio for the sample period: begins in the first quarter of 1984 to the fourth quarter of 2000 (pre-FD) and the first quarter of 2001 to the fourth quarter of 2006 (post-FD).



To eliminate heteroskedasticity over time in forecast errors (FE), we standardize the forecast error variable by the per share stock price at the closing of the last day of the previous quarter, de-trended for the changing P-E ratio. With analyst *j* making a forecast at time *t* of the upcoming per share earnings number, EPS, of firm *k* to be reported at time *t+1, w*e denote that forecast as ${}_{t}EPS^{k}_{j,t+1}$.

In algebraic form, FE is

$$ {}_{t}FE^{k}_{j,t+1} = \frac{{}_{t}EPS^{k}_{j,t+1} - EPS^{k}_{t+1}}{\overline{P}^{k}_{t}}, $$

Where:

$\overline{P}^{k}_{t} = P^{k}_{t} \times f^{k}_{t}$,

$f^{k}_{t} = \hat{y}^{k}_{t} / \hat{y}^{k}_{m}$, t = 1, 2, …m where m is the midpoint of the sample period

$\hat{y}^{k}_{t}$ = fitted values from a time trend regression model

The time trend regression model is

$y^{k}_{t} = a_{0,k} + a_{1,k}\ \mathrm{t} + \varepsilon^{k}_{t}$,

Where:

$y^{k}_{t} = (EPS^{k}_{t} / P^{k}_{t})$,

P^{k}_{t} = the observed per share price, and

$\hat{y}^{k}_{t} = \hat{a}_{0,k} + \hat{a}_{1,k}\ \mathrm{t}$

The symbol "^" signifies the "estimated" parameter value. In some cases, the regression fitted value, $\hat{y}^{k}_{t}$, can be zero or negative, particularly at the right end of our sample period. We winsorize the values of $\hat{y}^{k}_{t}$ at 0.0025, which is equivalent to a (price)/(annual earnings) ratio of 100.