Managerial Decisions On Annual Earnings Announcement Timing

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ABSTRACT

The purpose of this study is to investigate the mid-to-long term impacts of Regulation Fair Disclosure (FD) on managerial decisions of annual earnings announcement dates. Empirical results indicate a significant negative effect of Regulation FD on the timing of firm's information disclosure: first, the annual earning releasing time is delayed for both open-call and close-call firms after Regulation FD; second, an unexpected delay in earnings releasing is pronounced for closed-call firms than for open-call firms in the pre-FD period; moreover, a significant difference in disclosure timing made between the open-call and close-call firms does not disappear in the post-FD period. Our finding provides additional evidence of the unintended consequence of Regulation FD: a delay in annual earnings releasing time.

Keywords: Managerial Disclosure; Regulation Fair Disclosure; Conference Calls

1.   INTRODUCTION

*O*n October 23, 2000, the U.S. Securities and Exchange Commission (SEC) issued Regulation Fair Disclosure (FD), which requires that, if and when a firm discloses material information to certain financial analysts and institutional investors, it must make the same information available to the public simultaneously. The SEC and proponents of the rule claimed that Regulation FD could increase the flow of information, level the playing field for financial analysts and inventors, and eliminate selective disclosure. Critics of the rule asserted that Regulation FD could reduce the quantity of information released, resulting in more market volatility due to the increased information asymmetry between management and outsiders.

Nevertheless, Regulation FD did not mandate a particular timing and the content of earnings announcements, except for requiring the disclosure to be made by a "method (or combination of methods) of disclosure that is reasonably designed to provide broad, non-exclusionary distribution of the information to the public" (see the SEC Release No. 33-8128). Firms have substantial discretion in the timing and informativeness of the disclosures and the amount of details provided. Without the legal right of partial disclosure, firms have to bear all the cost of fair disclosure, in particular, which may result in a negative market response due to a "non-optimal" timing of earnings announcements. Consequently, managers may reassess earnings disclosure timing (days between the fiscal year-end and annual earnings releasing date) decisions and reevaluate if the benefit of delaying the formal release of earnings exceeds the cost after Regulation FD. Alternatively, managers may have an increased incentive to control for their annual earnings releasing time in order to reduce (increase) the cost (benefit) associated with the post-earnings-announcement market fluctuations after the enactment of Regulation FD.

Prior studies on Regulation FD have focused on its impact on stock markets, such as price volatility and information flows (Bushee, Matsumoto and Miller, 2004; Heflin, Subramanyam and Zhang, 2003; Eleswarapu, Thompson and Venkataraman, 2004; Francis et al., 2006; Bailey et al., 2003; Mathew, Hughen and Ragan, 2004; Irani and Karamanou, 2004; Shane, Soderstrom and Yoon, 2001), the informativeness of analysts earnings forecasts in the post-FD environment (Gintschel and Markov, 2004; Yang and Mensah, 2006), and information asymmetry using bid-ask spreads (Lee et al., 2004). A number of published studies have specifically examined the impact of Regulation FD on managerial disclosure, and their findings have been mixed. For example, Bushee, Matsumoto and Miller (2003) find that Regulation FD had a negative effect on managers' decisions to continue hosting conference calls even though the magnitude of this change is not large; their results indicate an increase in the price volatility

and individual investor trading after Regulation FD. Heflin, Subramanyam and Zhang (2003) find improved information efficiency of stock prices prior to earnings announcements and a substantial increase in the volume of firms' voluntary earnings-related disclosures after Regulation FD.

However, none of the prior studies attempted to examine the timing of annual earnings announcement in the post-FD period as compared to the pre-FD period. There are no direct answers about when, from managerial aspect, to make a public release of their annual reports and how that has been changed after Regulation FD. The purpose of our study is to investigate the impact of Regulation FD on managerial decisions on annual earnings announcement timing.

Previous studies on Regulation FD face the difficulty of isolating Regulation FD's effect from other market influences over the past six years, such as the U.S. recession and the bursting of the Internet stock bubble. For instance, the post-FD observations (November 2000 to June 2001) are likely from the post Internet meltdown period, while the pre-FD observations (November 1999 to June 2000) are likely from the height of the Internet boom. In this study, in an effort to isolate Regulation FD's effect, we split the data into two group: (1) the closed conference call (CLC) firms, which restricted the access of their calls to only selected analysts and professional investors in the pre-FD period, and (2) the open conference call (OPC) firms, which voluntarily provided unlimited real-time access to conference calls prior to Regulation FD. With respect to conference calls, firms already hosting open calls were most likely unaffected. Moreover, because controlling for other time-period-specific factors is critical to properly identify the effects of the regulation, we use these OPC firms (the least affected by Regulation FD) as a control sample against CLC firms (directly affected by Regulation FD). Specifically, we expect the impact of Regulation FD to be more significant for CLC firms. Given that the new rule did not affect the level of access to calls for OPC firms, these firms provide a benchmark that helps isolate the effect of Regulation FD from other changes in the economy over the sample period.

Based on the sample period of 1993-2005, we find that both CLC and OPC firms delayed their annual reports in the post-FD period as compared to the pre-FD period. An unexpected delay in earnings releasing is longer for closed-call firms than for open-call firms before Regulation FD. Such a difference in the disclosure timing does not disappear between CLC and OPC firms in the post-FD period. This study provides evidence of a negative impact of Regulation FD on managerial disclosure decisions on annual earnings announcement dates. Our findings have important implications for corporate management and regulation, and provide insight for stock market reactions to managerial information.

This study is a novel investigation, which provides a valuable extension to the effects of Regulation FD on managerial decisions. This is the first attempt to examine the disclosure timing choice in the context of Regulation FD. Second, we isolate the influence of Regulation FD by splitting the data into two groups: CLC firms versus OPC firms in order to control for other time-period-specific factors. Third, we expand the post-FD period to five years to examine the mid-to-long-term effect of Regulation FD, whereas most other studies use only a one or two-year short-term window. To sum up, these findings are important since the timing of annual earnings report sends the signaling content of future earnings guidance. As a result, it provides valuable information to investors, financial analysts and other market participants.

The remainder of this study is organized as follows. Hypotheses are developed in Section 2. Section 3 describes the sample selection procedure. Section 4 discusses research methodology. Section 5 presents the analysis of empirical results and additional tests. Section 6 concludes the paper and provides suggestions for further research.

2.   HYPOTHESES DEVELOPMENT

Prior to Regulation FD, most conference calls were accessible only to favored analysts and institutional shareholders. Meanwhile, prior studies provide evidence that open conference calls are associated with the complexity of its financial information, a greater increase in small trades and higher price volatility during the call period (Bowen, Davis, and Matsumoto 2003). It is expected that there would be a significant difference in earnings releasing time between the CLC firms and OPC firms before the implementation of Regulation FD. Previous-CLC firms had to comply with this new regulation. It is more likely that difference in earnings releasing time does not

disappear between the CLC firms and OPC firms in the post-FD period. Therefore, we developed the following three hypotheses:

Hypothesis I:　　Both CLC and OPC firms are more likely to delay their annual reports in the post-FD period as compared to the pre-FD period.

Hypothesis II:　　An unexpected delay in earnings releasing is longer for close-call firms compared to open-call firms before the Regulation FD.

Hypothesis III:　　A significant difference in the disclosure timing between the open-call and close-call firms is not likely to disappear in the post-FD period.

3.　　RESEARCH METHOD

As mentioned earlier, there has been an ongoing debate on whether Regulation FD promotes a better information flow by eliminating selective disclosure or reduces the quantity and quality of information that a firm is willing to release to the market. This question is worth investigating when such an issue is put into the context of managerial timing decisions on earnings released to the public, because managers may announce their earnings in a timely or delayed manner in order to reduce negative market response. Therefore, it is reasonable to assume that certain analysts and institutional investors who were privy to material nonpublic information would have an edge over other market participants in the pre-FD period whereas such practices are not allowed in the post-FD period. To determine if Regulation FD had an effect on the firms' disclosure decisions, we examine the changes in earnings releasing time after the enactment of Regulation FD for firms with different conference-call status.

We adapt the earnings release model used in Sengupta's (2004) study to test our hypotheses. There are three variables, institutional investors, shareholder blocks and outside directors, are not available for our sample period, therefore are excluded from our model.

$$
\begin{aligned}
RELEASING\_TIME_{it} = {} & \alpha_0 + \alpha_1 POST\_FD_t + \alpha_2 CLC_i + \alpha_3 POST\_CLC \\
& + \beta_1 VOL_{it} + \beta_2 TECH_i + \beta_3 MB_{it} + \beta_4 CONS_{it} + \beta_5 SPEICAL_{it} + \beta_6 LSALES_{it} \\
& + \beta_{78} BADNEW_{it} + \beta_8 LOSS + \beta_9 DISP_{it} + \beta_{10} NUMB_{it} + \varepsilon
\end{aligned}
\tag{1}
$$

Where

RELEASING_TIME=	The number of calendar days between the fiscal-year end and the date of the actual annual earnings announcement for firm i at year t.
POST_FD=	Dummy variable for the period after the issue of Regulation FD in October 2000.
CLC=	Dummy variable for firms which held closed conference calls in the periods before Regulation FD was adopted.
VOL=	Total number of shares traded over the fiscal year divided by total shares outstanding at fiscal year end.
TECH=	1 if a firm belongs to Drugs (Compustat SIC codes 2833-2836), R&D Services (8731-8734), Programming (7371-7379), Computers (3570-3577), Electronics (3600-2674); 0 otherwise (See Sengupta 2004).
MB=	The ratio of market value of equity to book value of equity at the end of year i.
CONS=	Sales of the 5 largest firms within a two-digit SIC code divided by total sales of all firms within the two-digit SIC code.
SPECIAL=	1 if a firm had report non-zero special items in its annual report; 0, otherwise.
LSALES=	Log of total sales for the fiscal year.
BADNEWS=	1 if the actual EPS is less than the consensus forecast (median) for firm i at year *t*;
LOSS=	1 if the actual EPS of firm i is less than zero; 0 otherwise.
DISP=	Standard deviation of analyst forecasts for firm i from the mean of analysts' forecasts deflated by the median of analyst forecast for firm *i*.
N_ANA=	Total number of earnings forecasts outstanding for a firm for quarter t.

Test 1: $\alpha_1 > 0$ → Existence of an overall increase in the releasing time in the post-FD period compared to the pre-FD period for both OPC and CLC firms. (H1)

Test 2: $\alpha_2 > 0$ → Increased delay in earnings releasing for CLC firms compared to OPC firms before Regulation FD. (H2)

Test 3: $\alpha_2 + \alpha_3 \neq 0$ → A significant difference in disclosure timing between the open-call and close-call firms doesn't disappear in the post-FD period (H3).

A positive α_1 indicates that the annual earnings announcements delayed on average in the post-FD period compared to the pre-FD period. α_2 limits the test to the CLC firms only and evaluates whether there is an extra delay on CLC firms compared to OPC firms. A positive alpha 2 indicates an unexpected delay in earnings releasing is longer for closed-call firms than for open-call firms before the Regulation FD, supporting hypothesis 2. Test 3 evaluates whether Regulation FD had a differential effect on the earnings releasing time for CLC firms relative to OPC firms. If there is significant difference in disclosure timing between CLC and OPC firms in the post-FD period, then $\alpha_1 + \alpha_3$ should be significantly different from zero, consistent with hypothesis 3.

We use the trading volume as a proxy for investor base since prior research suggests that investors are likely to trade more for a timely disclosure. Therefore, a negative relationship is expected between trading volume and reporting days (RELEASING_TIME). According to Bamber and Cheon (1998), sales concentration (CONS) and market-to-book ratio (MB) are included as a proxy for proprietary costs, which is positively associated with RELEASING_TIME. We also include SPECIAL to measure accounting complexity because firms with special items need more processing time than other firms. Hence there is a positive relationship between SPECIAL and releasing time. We include the variable TECH because firms with a higher level of litigation cost provide managers with incentives to pre-disclose the information to the public, consistent with findings by Skinner (1994, 1997). As a result, TECH is negatively associated with firms' earnings reporting time. We include both BADNEWS and LOSS because prior research shows that unexpected delay in releasing earnings is longer for firms if their actual EPS is less than the median forecast, consistent with the findings by Begley and Fischer (1998) and Ajinkya et al. (2004). If there is a large disagreement among financial analysts, firms may face more difficulty in releasing earnings to the public, and therefore, there is a positive correlation between forecast dispersion and releasing time. Finally, the number of analysts following firms (N_ANA) and firm size (LSALES) are included as a proxy for the richness of a firm's information environment. Prior research provides evidence showing that the greater information environment uncertainty, the less the delayed disclosures will be. So a negative relationship is expected between the releasing time and N_ANA, and LSALES.

4.   DATA AND SAMPLE SELECTION

The sample used for this study consisted of firms listed by Bestcalls.com in March 1999 as hosting conference calls open to individual investors. The firms listed on this site are identified as Open Conference Call (OPC) firms and are regarded as a control group since Regulation FD (which came into effect in October 2000) is unlikely to have affected them. Around the same date in 1999, First Call Corporation had a listing of firms hosting conference calls (Bowen, Matsumoto, and Davis, 2002: 285). By cross-matching those firms on the First Call list with those on the Bestcalls list, those cross-matched firms excluded from the Bestcalls list could be identified as Closed Conference Call (CLC) firms. Since these firms are those most directly affected by Regulation FD, we regard these firms as our treatment group. This classification methodology is consistent with the method used by Bushee, Matsumoto and Miller (2004). We acknowledge that this identification process may result in the misclassification of some firms which held conference calls in the prior years but not in 1999. In spite of these potential limitations, our classification procedure has value in that it allows the effect of Regulation FD, on firms whose conference call status was known, to be evaluated in a cleaner version. Further, the control variables, firm size, growth opportunity, special items, predicted loss and tech are collected from COMPUSTAT. Also, we collect analysts' annual earnings forecasts from I/B/E/S database for all firms during a period of 1993-2005.

Table 1
Comparisons in the Means (Medians) of Releasing Time

	Mean of Releasing Time			Median of Releasing Time		
YEAR	CLC Group	OPC Group	Difference (t-test)	CLC Group	OPC Group	Difference (Wilcox test)
1993	37.426	34.011	3.415**	35	33.5	1.5**
1994	37.067	33.721	3.346**	36.5	33	3.5**
1995	36.883	32.594	4.289***	36	31	5***
1996	36.699	32.136	4.563***	36	30	6***
1997	38.076	32.609	5.467***	36	29	7***
1998	39.191	33.237	5.954***	36	30	6***
1999	38.421	32.434	5.987***	35	29	6***
2000	37.265	32.056	5.209***	36	30	6***
2001	37.657	32.05	5.607***	36	30	6***
2002	38.123	33.764	4.359***	37	30	7***
2003	38.909	33.846	5.063***	37	30	7***
2004	40.265	35.206	5.059***	39	32	7***
2005	42.375	36.78	5.595***	40	33	7***

Note: ***   Probability of below 0.001.
      **   Probability of below 0.01.
      *   Probability of below 0.05.

The initial sample consisted of 1,365 OPC and 17,252 CLC firms. Of these total 18,617 firms, we began our sample selection by identifying all firms from I/B/E/S that reported analyst forecast data and annual earnings announcement dates during the period from 1993 to 2005. To ensure the meaningful computation of forecast dispersion, the minimum number of analyst following is set to 4. We deleted the firms with missing annual I/B/E/S forecast data and annual COMPUSTAT data during the period (fiscal years ending in the calendar years 1993 to 2005). Then we deleted 3,512 observations for those firms with releasing time either less than seven days after the fiscal year-end or more than 90 days after the fiscal year. We believe those extreme values regarded as outliers may cause some potential errors. After imposing these restrictions, the final sample consisted of 8,281 firm-year observations.

Figure 1
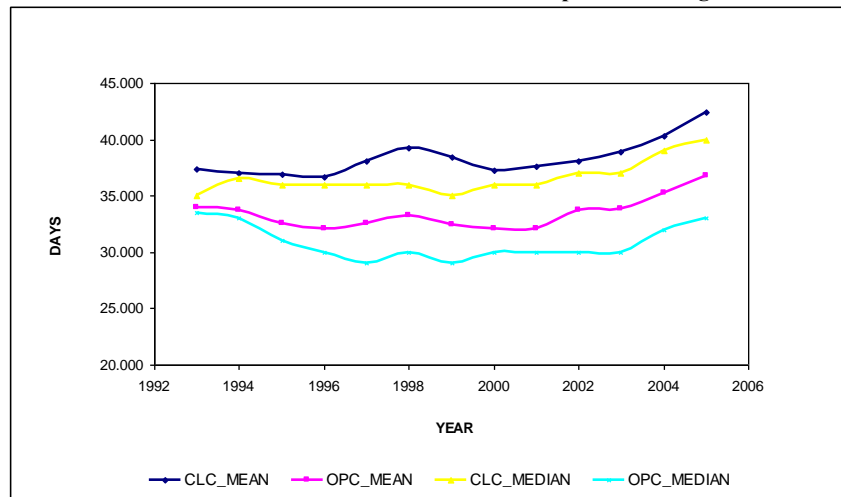**Time Series Distribution of Firms' Annual Report Releasing Time**

Table 2
Descriptive Statistics of Variables of Interest in Pre and Post Regulation FD Periods

	In PRE Regulation FD Period				In POST Regulation FD Period			
	Mean	Standard Deviation	Minimum	Maximum	Mean	Standard Deviation	Minimum	Maximum
CLC Group								
RELEASING_TIME	37.04	12.87	8	83	38.52	13.10	9	90
VOL	1.31	1.37	0.00	13.87	2.12	1.83	0.01	18.07
TECH	0.15	0.36	0	1	0.27	0.45	0	1
MB	3.23	14.61	-647.59	129.19	3.86	12.78	-197.72	297.23
CONS	0.54	0.23	0.10	1.00	0.56	0.22	0.11	1.00
SPECIAL	0.39	0.49	0	1	0.60	0.49	0	1
LSALES	6.43	1.63	-3.69	11.82	6.62	1.91	-6.91	12.11
BADNEWS	0.33	0.47	0	1	0.26	0.44	0	1
LOSS	0.06	0.24	0	1	0.15	0.36	0	1
DISP	0.03	0.09	-0.55	0.5	0.02	0.08	-0.5	0.5
N_ANA	10.13	6.83	4	47	9.57	5.58	4	38
OPC Group								
RELEASING_TIME	32.03	12.35	8	83	33.05	11.98	8	77
VOL	1.90	2.01	0.08	19.55	2.61	2.42	0.09	33.90
TECH	0.32	0.47	0	1	0.41	0.49	0	1
MB	4.72	19.41	-64.05	655.71	4.26	10.99	-265.28	115.84
CONS	0.57	0.22	0.10	1.00	0.58	0.19	0.11	1.00
SPECIAL	0.47	0.50	0	1	0.70	0.46	0	1
LSALES	6.78	1.73	-2.59	11.99	6.93	1.74	-0.91	12.24
BADNEWS	0.29	0.45	0	1	0.22	0.42	0	1
LOSS	0.05	0.22	0	1	0.15	0.36	0	1
DISP	0.02	0.07	-0.5	0.428	0.01	0.08	-0.5	0.5
N_ANA	12.52	8.27	4	44	12.25	7.43	4	40

Table 3
Correlations among Variables of Interest in Pre and Post Regulation FD Periods

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) RELEASING_TIME	1												
(2) POST_FD	0.041	1											
(3) CLC	0.182	-0.012	1										
(4) VOL	-0.081	0.198	-0.133	1									
(5) TECH	-0.114	0.127	-0.157	0.38	1								
(6) MB	-0.022	0.009	-0.028	0.06	0.088	1							
(7) CONS	0.036	-0.028	0.011	0.057	0.032	-0.012	1						
(8) SPECIAL	-0.046	0.040	-0.053	0.129	0.161	0.009	0.041	1					
(9) LSALES	-0.258	0.051	-0.088	-0.2	-0.307	-0.022	-0.04	0.161	1				
(10) BADNEWS	0.087	-0.074	0.044	-0.074	-0.041	-0.003	-0.036	0.012	-0.039	1			
(11) LOSS	0.105	0.145	0.011	0.111	0.292	0.021	0.027	0.099	-0.398	0.086	1		
(12) DISP	0.02	-0.061	0.024	-0.047	-0.115	-0.013	-0.041	-0.008	0.102	0.029	-0.522	1	
(13) N_ANA	-0.321	-0.030	-0.175	0.108	0.106	0.049	-0.084	0.124	0.521	-0.035	-0.125	-0.011	1

Table 1 presents the year-by-year distribution of releasing time during a period of 1993-2005 for both OPC and CLC firms. The results indicate a slight increasing trend in both mean and median of releasing time for all firms including OPC and CLC groups over thirteen years. This is consistent with Sengupta's (2004) finding using data over 1995 - 2000. More importantly, we find on average the mean (median) of releasing time for CLC firms is greater than that for OPC firms during both pre- and post-FD periods. In Table 1, the t-test is test for the means of releasing time and the Wilcoxon-Mann-Whitney test is test for the medians. We find that both means and medians for closed-call firms are significantly different from those for open-call firms each year. Figure 1 describes the time-series distribution of firms' reporting time, consistent with the tendency of means (medians) in releasing time for OPC and CLC firms from Table 1.

Table 2 presents descriptive statistics for the sample data partitioned by the pre-FD period and post-FD period. The results indicate that the releasing days of CLC firms (37.04) is significantly greater than those of OPC firms (32.03) before Regulation FD took effect. The same results are obtained for the post-FD period, which is likely to suggest that the previous CLC firms face more difficulty in making their annual announcements as compared to OPC firms both before and after the release of Regulation FD. That is, a timely disclosure made by OPC firms is observed as compared to CLC firms in the pre- and post-FD periods. Finally, descriptive statistics for the independent and control variables show that those variables within each group in the pre- and post-FD periods are similar in the magnitude of trading volume, sales concentration, forecast dispersion, firm size, and the number of analyst following, etc.

Table 3 presents the Pearson correlation coefficients between annual releasing time and its determinants. The indicator variable of Regulation FD is significantly and positively associated with releasing time, which indicates an increase in reporting days after this new rule. Consistent with prior studies (Sengupta 2004; Ajinkya et al. 2004), releasing days are positively correlated with BADNEWS and LOSS, suggesting that unexpected delay in releasing earnings is longer for firms disclosing bad news or loss. Analyst following (N_ANA) is negatively correlated with releasing time, indicating that analysts prefer to follow firms with good stock performance and are averse to high uncertainty. As expected the correlation between releasing time and size is highly significant. Meanwhile, most correlations are significant at the 5% level except for the correction between releasing time and forecast dispersion, releasing time and MB, releasing time and CONS, MB and POST_FD, LOSS and CLC, forecast dispersion and MB, and forecast dispersion and the number of analyst following.

5.   EMPIRICAL RESULTS

5.1.   Univariate Results

Table 4 presents univariate analysis of the releasing time for the OPC and CLC firms in both pre- and post-FD periods. Pairwise t-tests of the statistical differences among the two groups of firms in the two periods are also presented using the Satterthwaite test to allow for the statistically significant inequality of group variances.

A comparison of the results shows a significant difference between OPC and CLC groups in terms of the average number of annual reporting days (32.03 and 37.04 respectively) in the pre-FD period, consistent with hypothesis 2. That indicates the CLC firms provided more information to the market through certain financial analysts and big investors during the closed conference calls as compared to the open conference calls, and therefore, the CLC firms were willing to put off the timing of earnings announcements compared to the OPC firms before Regulation FD. Similarly, the differences among the two groups with respect to the average number of annual reporting days (33.05 and 38.52) are statistically significant after the release of Regulation FD, which support hypothesis 3. Since the test for the equity of variance showed unequal variance, the Satterthwaite unequal variance t-test was used, and all *t* values are significant for each comparison. Overall, these results indicate OPC firms need less time to release their annual earnings report compared to CLC firms, and both groups are more likely to delay their annual earnings announcements after the implementation of Regulation FD.

5.2.   **Group-Specific Effect**

One limitation of univariate tests is that observed differences, even if statistically significant, could be driven by other explanatory factors besides the one that is of interest. Indeed, on an ex-ante basis, it can be argued that annual releasing time should not change for the OPC group since Regulation FD should conceptually not impact them. To check the validity of this reasoning, we estimated an OLS version of Equation (1) restricted to each group. Since Regulation FD may have changed a firm's conference call status, the regression results for each period are presented as well. Regression Results by groups and periods are presented in Table 5.

Panel A of Table 5 presents the regression results for each group, while Panel B presents the results for each period separately. The variable of interest from Panel A is POST, the dummy variable representing the post-FD period. Note that, for both CLC and OPC groups, POST is statistically significant and positive, which implies that the adoption of Regulation FD is associated with an increase in earnings releasing time for both OPC and CLC groups in the post-FD period.

In contrast, from Panel B of Table 5, the variable of interest is CLC, the dummy variable representing the CLC group. During both pre- and post-FD periods, the coefficients on CLC are significant and positive, indicating CLC firms delay to report their annual earnings in both pre- and post-FD periods. This is consistent with the finding of Bushee, Matsumoto and Miller (2004: 617), which shows that Regulation FD had a significant negative effect on managers' decisions to continue hosting conference calls. This can be explained in the fact that, when the previous CLC firms had to change their closed conference calls to open conference calls due to Regulation FD, they encountered more difficulty in releasing their annual earnings and spent more processing time to make it available to the public than OPC firms in the post-FD period.

Finally, all the control variables have the expected signs. In particular, VOL and TECH are negatively associated with the releasing time. Both BADNEWS and LOSS are significant and positive in all cases, consistent with prior findings that unexpected delay in releasing earnings is longer for firms disclosing bad news (e.g. Baginski, Koss and Watts, 2002: 1275; Begley and Fischer, 1998: 347; Ajinkya et al., 2004: 343). N_ANA is negative in all cases, consistent with an expectation that the greater the number of analysts following a firm, the lesser the number of releasing days since firms are forced to release their earnings to the public to avoid the negative impact of noisy information from financial analysts on the market. LSALES is also negatively related to the releasing time, consistent with the notion that as more information is disclosed for a large firm, it is more likely that managers are willing to report their annual earnings. Thus for the OPC and CLC groups, apparently greater environmental uncertainty is associated with less delay in earnings release. Other control variables such as DISP, SPECIAL, and MB, have the signs consistent with prior expectations as well.

In conclusion, analyses of each individual group and period provide results consistent with our expectations about the effect of Regulation FD.

Table 4
Univariate Analysis of Releasing Time by Class and Period in Pre and Post Regulation FD Periods

	CLASS		Row-wise
	OPC	CLC	means
PRE Regulation FD Period	32.03	37.04	35.36
Number of observations	1,243	2,462	3705
POST Regulation FD Period	33.05	38.52	36.63
Number of observations	1,582	2,994	4576
Column-wise means	32.60	37.85	
Number of observations	2,825	5,456	

Column-wise mean comparison		
Difference (CLC less OPC)	5.2508	Releasing Time in CLC firms > OPC firms
Satterthwaite t-value	18.19	(i.e., CLC firms delay to announce their annual reports compared to OPC firms)
Probability	<0.0001	
Row-wise mean comparison		
Difference (POST less PRE)	1.269	Releasing Time in POST period > PRE period
Satterthwaite t-value	4.44	(i.e., more releasing time in POST period)
Probability	<0.0001	

Type III ANOVA Tests	Error Mean Square	F-ratio	Probability
POST_FD	726.00	4.49	0.0314
CLASS (OPC and CLC)	20742.00	128.36	<0.0001
POST_FD*CLASS (Interaction)	96.14	0.59	0.44

Table 5
Regression of Releasing Time on Hypothesized Determinants by Class and Period, Separately

| | Expected sign | CLASS | | | | PERIOD | | | |
| | | OPC group | | CLC group | | PRE Regulation FD Period | | POST Regulation FD Period | |
		Coefficient	T-value	Coefficient	T-value	Coefficient	T-value	Coefficient	T-value
Intercept	?	47.01	36.6***	48.02	50.79***	45.73	37.64***	48.87	42.34***
POST_FD	?	2.35	5.28***	1.75	4.8***				
CLC	+					2.84	6.59***	3.36	8.8***
VOL	-	-0.55	-5.34***	-0.14	-1.31	-0.71	-5.26***	-0.21	-2.16*
TECH	-	-6.12	-12.1***	-3.06	-6.37***	-3.52	-6.24***	-4.32	-9.38***
MB	+	-0.02	-1.35	0.02	1.42	0.01	1.08	-0.02	-1.21
CONS	+	2.25	2.19*	1.10	1.46	2.95	3.33***	0.53	0.62
SPECIAL	+	0.91	1.98*	0.58	1.66	1.02	2.45*	0.51	1.32
LSALES	-	-1.66	-9.14***	-1.17	-8.42***	-1.53	-8.56***	-1.37	-9.6***
BADNEWS	+	0.58	1.22	2.23	6.06***	1.63	3.82***	1.74	4.23***
LOSS	+	-0.99	-1.12	3.90	5.48***	3.47	3.2**	1.91	2.86**
DISP	+	4.69	1.47	9.05	3.94***	7.47	2.52*	7.90	3.16**
N_ANA	-	-0.12	-3.37***	-0.45	-13.78***	-0.27	-7.58***	-0.34	-9.91***
Adjusted R-square (%)		15.24		13.7		16.18		16.21	
Number of observations		2,825		5,456		3,705		4,576	

***	Probability of below 0.001.
**	Probability of below 0.01.
*	Probability of below 0.05.

5.3.   Multivariate Results

The results from the separate group analysis indicated that Regulation FD had an effect on both CLC and OPC groups. To determine if this effect would still be observed if the sample were pooled together, we estimated Model (1) using as the OPC firms as the control group. The results are presented in Table 6 below.

Table 6
Results of Pooled Regression of Releasing Time on Hypothesized Determinants in Pre and Post Regulation FD Periods

	Expected sign	Coefficient	T-value
Intercept	?	46.19	55.01***
Regulation FD effects			
POST_FD	?	1.67	3.62***
CLC	+	2.73	6.48***
POST_FD*CLC	?	0.72	1.3
Control Variables			
VOL	-	-0.37	-4.8***
TECH	-	-4.19	-11.8***
MB	+	-0.01	0.9
CONS	+	1.63	2.67**
SPECIAL	+	0.69	2.45*
LSALES	-	-1.42	-12.8***
BADNEWS	+	1.70	5.77***
LOSS	+	2.38	4.26***
DISP	+	8.23	4.37***
N_ANA	-	-0.30	-12.4***
Adjusted R-square(%)		16.31	
Number of observations		8,281	

F-test for Equalities in CLC and Control firms			
	F-value	Probability	
CLC+POST_FD*CLC = 0	84.36	<0.0001	
Inference:	CLC and OPC firms are significant different in POST_FD period		

*** Probability of below 0.001; ** Probability of below 0.01; * Probability of below 0.05.

Table 6 presents regression results where the effect of the potential cross-sectional dependence of the residuals stemming from the multiple observations for the same firm is controlled. First, CONS, BADNEWS, DISP, LOSS, and SPECIAL have significant positive influence on the RELEASING_TIME observed. Thus, an increase in sales concentration, disagreements among financial analysts, bad news and complexity of accounting are associated with an increase in releasing days. Second, N_ANA, LSALES and TECH are significantly negative related to the RELEASING_TIME, which is consistent with the expectation that a firm is likely to make a timely earning release if it is a large firm, has more analysts covering the firm, and faces more litigation risks.

More importantly, the adoption of Regulation FD appears to have had a fairly specific effect. The variance inflation factors (VIF) of all the variables used in Model (1) are below 2, which exclude the existence of multicollinearity. The coefficient of POST is statistically significant and positive, and therefore, in the combined

CLC and OPC sample, there is some indication of an increased releasing time overall, which supports Hypothesis 1. It confirms the result reported earlier in Table 5, shows a statistically significant increase in the releasing time for the OPC and CLC groups in the post-FD period compared to the Pre-FD period. Thus, the positive sign for CLC indicates that the CLC group needs more time to release earnings relative to the OPC group when other factors are controlled for, consistent with Hypothesis 2. However, the coefficient on POST_CLC is not significantly different from zero, which suggests that open and close-call firms both increase their delays in the post-FD period (as POST is significantly positive), but not by different amounts. The combined coefficient of CLC + POST_CLC is significantly different from zero by a standard F-test. It indicates there is still a significant difference in the releasing time between the CLC group and the OPC group in the post-FD period, although the increased amount is not significantly different between these two groups. It supports Hypothesis 3.

5.4.   Robustness Tests

Due to a stricter institutional environment enacted after the Sarbanes-Oxley (SOX) Act in 2002, we also examine the impact of SOX on managerial earnings releasing time. We replace POST_FD dummy variable with POST_SOX dummy variable in model (1). The coefficient on the interaction between SOX and CLC is not significant, and the combined coefficient of CLC + POST_SOX_CLC is significantly different from zero, which indicates the difference in releasing time between the CLC group and OPC group does not disappear in the post_SOX period (after 2002). We have omitted the tabulated results for the sake of brevity, but they are qualitatively the same as the findings reported earlier.

Meanwhile, to isolate the SOX impact from our studies, we rerun the regression using a subsample of 1993-2002 observations only. The results are consistent with the current findings, so we did not tabulate those results for the sake of brevity.

Taken together, our study provides evidence that Regulation FD have had a significant impact on management earnings disclosure timing. We find the enactment of Regulation FD exacerbated the delay of the annual earnings announcements for both CLC and OPC firms.

6.   CONCLUSION

The main objective of this study is to investigate the impact of Regulation FD on managerial decisions on earnings releasing time. We isolate the influence of Regulation FD by splitting the data into two groups: CLC firms versus OPC firms in order to control for other time-period-specific factors. We find that both OPC firms and CLC firms delay reporting their annual earnings in the post-FD period as compared to the pre-FD period, indicating an unintended consequence of Regulation FD on firm's disclosure decisions. An unexpected delay in earnings releasing time is longer for CLC firms as compared to OPC firms. Further, such a significant difference in the disclosure timing between OPC and CLC groups does not disappear in the post-FD period.

This study contributes to the literature as follows. This study is the first attempt to examine the disclosure timing choice in the context of Regulation FD. Second, we isolate the influence of Regulation FD by splitting the data into two groups: CLC firms versus OPC firms in order to control for other time-period-specific factors; and separate the effect of SOX by adding a dummy variable in the post-FD period. Third, we expanded the post-FD period to five years to examine the mid-to-long-term effect of Regulation FD, whereas most other studies use only a one or two-year short-term window.

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APPENDIX A

Variable Definition

RELEASING_TIME=	The number of calendar days between the fiscal-year end and the date of the actual annual earnings announcement for firm i at year t.
POST_FD=	Dummy variable for the period after the issue of Regulation FD in 2000.
CLC=	Dummy variable for firms which held closed conference calls in the periods before Regulation FD was adopted.
VOL=	Total number of shares traded over the fiscal year divided by total shares outstanding at fiscal year end.
	1 if a firm belongs to Drugs (Compustat SIC codes 2833-2836), R&D Services (8731-8734), Programming (7371-7379).
TECH=	Computers (3570-3577), Electronics (3600-2674); 0 otherwise (See Sengupta 2004).
MB=	The ratio of market value of equity to book value of equity at the end of year i.
	Sales of the 5 largest firms within a two-digit SIC code divided by total sales of all firms within the
CONS=	two-digit SIC code.
SPECIAL=	1 if a firm had report non-zero special items in its annual report; 0, otherwise.
LSALES=	Log of total sales for the fiscal year.
BADNEWS=	1 if the actual EPS is less than the consensus forecast (median) for firm i at year *t*;
LOSS=	1 if the actual EPS of firm i is less than zero; 0 otherwise.
DISP=	Standard deviation of analyst forecasts for firm i from the mean of analysts' forecasts deflated by the median of analyst forecast for firm i.
N_ANA=	Total number of earnings forecasts outstanding for a firm for quarter t.

NOTES