

Enforcement and Disclosure Under Regulation FD: An Empirical Analysis

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Comments Welcome

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Abstract

While Regulation FD was designed to benefit investors by curbing the selective disclosure of material non-public information to “covered” investors, such as analysts and institutional investors, it can also impose costs. This paper finds that FD levies three kinds of enforcement and disclosure costs. First, investors cannot recover as part of an SEC enforcement action the gains to covered investors from their alleged use of the non-public information. Second, investors lose because the market responds negatively to an SEC enforcement announcement. Third, investors suffer because some companies post their FD filings well after the due date, without earlier public disclosure.

Keywords: Regulation FD, Enforcement action, Untimely FD disclosure, Late SEC filing, Event study.

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1. Introduction

Adopted by the Securities and Exchange Commission on August 10, 2000, the SEC intended Regulation Fair Disclosure (FD) to level the disclosure playing field by requiring U. S. public companies to make the same information available to all investors rather than to disclose selectively to a privileged few, such as securities analysts and institutional investors close to the company. The regulation refers to those with selective access as “covered” investors.¹ Whereas much has been written on the effects of FD adoption (section 2 reviews this literature), researchers thus far seem to have overlooked two important additional considerations of the regulation that may impose costs on investors—the effects of (1) actions by the SEC seeking to enforce the regulation and (2) disclosures by companies in SEC filings in response to the regulation, especially filings made after the FD due date. This paper seeks to address this perceived imbalance in the literature.

Regarding the first consideration, we analyze the market effects of SEC actions alleging a violation of FD by calculating (a) the aggregate market gain to covered investors during the window of alleged FD violation (the period from selective disclosure to public disclosure) and (b) the market response to the SEC enforcement announcement, at which time investors learn publicly of an alleged violation and/or accompanying penalties and sanctions.

Regarding the second consideration, we study the market reaction to FD disclosures in SEC filings, with an emphasis on disclosures filed after the FD due date. A delay in filing could be easily exploited by an investor with advance knowledge of the FD event (such as a covered investor), who could gain unfairly by acting on the FD information prior to public disclosure. The SEC intended FD to eliminate this practice by requiring prompt public disclosure.

Our analysis of the enforcement and disclosure effects of FD finds that the regulation imposes costs on investors who trade on public information (and are therefore not covered investors) in three ways. First, such

¹ Rule 100(b)(1) of FD states the four categories of covered investor: (1) broker-dealer, (2) investment advisor, (3) investment company, and (4) all other persons for whom it is reasonably foreseeable that they would trade on non-public information. Rule 100(b)(2) excludes the following from coverage under 100 (b)(1): (1) persons of trust such as attorneys and accountants, (2) those who agree to hold the information in confidence, (3) rating agencies, and (4) those who communicate in regard to public offerings.

investors lose because they cannot recover the gains to covered investors from selective access. Second, they lose because the market responds negatively to an enforcement announcement. Third, they may lose because some companies post untimely FD filings not subject to earlier public disclosure, such as through a press release. We intend these results to inform regulators and others about the effects of FD on investors, and to complement the existing literature, which thus far has focused on market, analyst, and company responses to FD adoption, and not the costs of FD enforcement or untimely disclosure.²

1.1. Background

FD foresaw the need to address two situations—intentional selective disclosure and unintentional selective disclosure. In the first instance, when an SEC registered company intentionally discloses material non-public information to covered investors, FD states that the company shall simultaneously offer the information to all investors either by filing an 8-K or “by another method or combination of methods that is reasonably designed to effect broad, non-exclusionary distribution of information to the public.” (SEC 2000). When the selective disclosure is unintentional, FD requires that an appropriate disclosure be made “promptly” after discovery, which the SEC defines as within 24 hours of when a senior officer first learns of the improper disclosure (excluding weekend days). Furnishing or filing an 8-K can satisfy this too. Thus, a failure to comply with FD can occur in two settings: (1) an intentional disclosure to a covered investor not made simultaneously to all investors and (2) an unintentional disclosure not disclosed promptly once discovered. In either case, FD subjects the company to possible SEC inquiry (e.g., a violation of section 13(a) or section 15(d)³ of the Securities Exchange Act), such as an enforcement action (an administrative cease and desist order or a civil action seeking monetary penalties) or a finding or report of investigation without further action (although, as we discuss below, the chances of SEC inquiry are quite remote). FD disallows a violation to support a securities action under rule 10b-5 (rule 102), which means that FD essentially denies a shareholder’s claim for damages. This safe-harbor rule removes what some viewed as a significant disincentive for companies to comply with FD, although, as the regulation indicates, such safe harbor does not insure fully against rule 10b-5 liability (i.e., a finding that an SEC filing

² We could find only one other study of FD enforcement. David and Holley (2004) describe five SEC enforcement cases from a legal perspective but offer no empirical analysis on the investor cost of the reported actions. We are not aware of any study of the effects of FD disclosures in SEC filings, especially late filings.

³ Sections 13a (1) - (17) and Sections 15d (1) - (17) regulate the general provisions for the annual, quarterly, and 8-K reports of companies registered with the SEC.

contains false or misleading information) or liability on other grounds such as insider trading, failure to update, or when an FD disclosure intentionally falsifies or misleads.

1.2. Calculus of compliance

A considerable literature has examined the behavior of stock prices, financial analysts, and company disclosure mechanisms before and after FD to test propositions about the regulation's effects. Our review of this literature (section 2) indicates varied evidence and conclusions. Some attribute this to researchers' approaches to attribution and identification, namely, whether the observed effects putatively due to FD might be caused by other factors. For instance, during the time of FD adoption—in late 2000—the market experienced major changes in investor sentiment, trading infrastructure, analyst practices, investor technology, and information cost, all of which would likely have occurred in the absence of FD. In this vein, Francis et al. (2006), for example, control for these factors by matching FD companies with American Depository Receipt (ADR) companies which were exempted from FD, and find “no unique Reg FD effect on public information.” (p. 273). Also, most prior studies by design tacitly assume as a maintained hypothesis that FD induced companies to respond rapidly, presumably because it was in the companies' economic interests to do so; in other words, because the net benefits of compliance exceeded the net benefits of non-compliance. The assumption of a longer-term response complicates the research design because the post-FD adoption interval can introduce additional factors.

What if companies at the time of adoption viewed the net benefits of compliance as less than the net benefits of non-compliance because of factors such as anticipated limited enforcement, probable low cost of a violation, and uncertainty about application? Why then would one expect FD adoption to induce a rapid shift in investor-relevant company information from selective to public disclosure? FD shields a company from section 10b-5 liability, which further lowers the cost of non-compliance. Yet none of the studies of FD adoption appears to recognize or incorporate such calculus of compliance into the research design. If companies viewed the consequences of non-compliance as limited or remote, there may have been little incentive to comply substantively with FD, at least in the short term. This suggests that the initial shift in information from covered investors to investors who trade solely on public information may have been limited at best. A related aspect, according to one seasoned observer, is that initial compliance was driven less by an information shift and more by a simple desire to minimize the consequences of non-compliance from factors unrelated to stock prices, such as diversion of management effort to legal issues.

For instance, a company may increase conference call disclosure to comply with FD (which many companies did) but simultaneously use other means to communicate information on a selective basis, with little overall shift in information from covered to other investors. A company may also exploit differences in sophistication between institutions/analysts and less informed investors, re-characterize public information, as occurred in the Siebel case (see below), or continue to meet with some analysts and investors as before. Consistent with this view, Rapoport (2005) observes that much of the public information made available in response to FD was “‘dumbed down’ ... to the point that it isn’t as detailed as it once was or should be.” Rapoport (2005) also cites survey data from the National Investor Relations Institute indicating “97% of companies still hold one-on-one meetings or small-group sessions with analysts and investors, despite concerns that such meetings would dry up under FD because they’d be seen as either risky or irrelevant.” In Siebel, the court ruled against the SEC, concluding that a positive or negative characterization of public information given to a private party does not violate FD, even though such characterization could affect stock price. The court chided the SEC for heightened scrutiny of Siebel’s disclosures, noting that such position could lead companies to require the use of a “lexicologist to ensure that the proposed statement discloses the exact information in the same form as was publicly disclosed.” (SEC v. Siebel Systems et al. 2005).

Companies may also provide selective information to covered investors by means other than through differences in sophistication or re-characterization. Based on Kim and Verrecchia (1997), Mayew (2008) posits that a requirement for increased public information such as FD can complement and, thus, increase the private information of some analysts. To test this notion, Mayew (2008) studies conference calls and documents that companies tend to answer the questions of analysts favorable to the company, which gives them an advantage if such public information adds value to their private information. Those results, however, show no difference in this form of conference call behavior before and after FD, despite a post-FD increase in the bundling of management forecasts with earnings announcements (Anilowski et al. 2007).

Hence, if the calculus of compliance either favors less than rapid adoption or that upon adoption there is little overall shift in price-relevant information from covered to other investors (even through SEC filings), then it is not surprising that the research has not generated reliable and consistent evidence of a change in analyst or investor behavior following FD adoption (as we conclude in section 2). On the other hand, the SEC has acted against a small number of companies or executives alleging a violation of FD, and for these companies the

consequences for investors could be highly significant. Thus, despite the low cost of non-compliance and the likelihood that companies in compliance may still engage in selective disclosure, both which suggest that FD adoption should not generate a rapid shift in information from investors with selective information to other investors, FD may still generate significant costs and consequences for some investors, especially through enforcement and disclosure.

1.3. Summary of results

We find that investors with selective access (covered investors) trade promptly in the window of alleged FD violation and gain at the expense of other investors even though the average window is short (two days or less in four cases). The aggregate potential gain to covered investors in the ten enforcement cases thus far studied tops \$347 million. SEC penalties on companies and executives are substantially less, however, totaling \$1.92 million, and in five cases the SEC imposed no penalty at all. In contrast to the SEC penalties, stock prices decreased on average by 5.38 percent from the close of day -1 to the close of day 1 relative to the announcement date of the alleged violation (day 0). For these companies, investors required a higher cost of capital.⁴ We also observe a clear market response to an FD disclosure, primarily on the day of filing, since most companies file within the required 24-hour rule.⁵ A significant number of companies, however, miss the filing deadline by several business days, potentially in violation of the rule. In these situations, we find that some investors trade and prices respond well ahead of the actual FD filing date, including filings without an earlier press release. Such trading and price response before filing date without an earlier press release suggests that FD has not eliminated the potential for some investors to benefit from selective disclosure. The SEC intended the 24-hour rule to eliminate this practice. These results contribute to the economic and legal literature by documenting potential investor costs from FD enforcement and disclosure.

Section 2 discusses the related research, section 3 analyzes the ten cases of SEC enforcement, and section 4 analyzes the impact of these cases on stock return and trading. Section 5 examines the impact of FD disclosures

⁴ The expected (ex ante) value of such stock price loss for the average company would be much lower, since it would be based on the expected loss given an enforcement action times the probability of an enforcement action, which would be small.

⁵ All but a small number of FD filings refer to one or more other 8-K disclosure items, most commonly a disclosure relating to item 9 (financial statements and exhibits) or section 5 (corporate governance and management) of the 8-K filing instructions.

without an enforcement action on stock return and trading. Section 6 discusses the findings and raises policy questions.

2. Effects of FD adoption

Research on the effects of FD adoption builds upon the working hypothesis that companies' disclosure policies changed significantly beginning in late 2000 in response to the regulation. Most studies use a short post-FD window to observe these changes, either in the belief that companies changed rapidly in response to FD or because of a lack of post-FD data due to publication timing. Several measures of change in the pre- and post-FD adoption environment are examined. These include increases or decreases in (1) signed and unsigned abnormal price change or stock price volatility around announcements of earnings or analysts' forecasts/recommendations or other events, (2) measures of the accuracy, dispersion, and timeliness of analysts' forecasts or recommendations, (3) information asymmetry measures derived from the bid-ask spread, and (4) measures of information flow such as the frequency of conference calls and stock trading behavior.

With respect to the first category, Gintschel and Markov (2004) document that post-FD stock prices decreased relative to pre-FD levels, and decreased even more for those companies likely to have benefited from selective disclosure, such as those with optimistic analysts and analysts at favored firms. Shane et al. (2001), Heflin et al. (2003), Eleswarapu et al. (2004), and Gadarowski and Sinha (2007) also find a decrease in stock volatility in the post-FD period. In contrast, Bailey et al. (2003) find no decrease in volatility after controlling for the change to decimalization (minimum tick sizes reduced to one cent from one-sixteenth). Ke and Yu (2005) challenge the Gintschel and Markov (2004) result, arguing that some of the drop in information content after FD relates to a decline in the research budgets of major investment banks due to a public investigation of investment banks, which led to the Global Settlement in 2003 (wherein the 10 largest investment banks agreed to pay over \$800 million in penalties regarding their sell-side research practices and over \$400 million to support additional independent research). One effect of this settlement was a significant decline in sell-side analyst activity offset only partially by an increase in independent research.⁶

The second category of research also shows no uniformity of results. For example, Shane et al. (2001) and

⁶ Such a drop in information content following FD, according to Arya et al. (2005), could also be explained by analyst herding behavior, namely, the tendency of analysts to form consensus or collective estimates based on common public information (higher after FD) rather than information gathered through individual effort and analysis (higher before FD).

Heflin et al. (2003) find no significant change in analyst forecast accuracy or forecast dispersion following FD, whereas Bailey et al. (2003) document a significant increase in dispersion but no increase in accuracy. Cornett et al. (2007) document changes in the differential accuracy of affiliated versus non-affiliate analysts after FD, and Mohanram and Sunder (2004) and Agrawal et al. (2006) find increases in forecast dispersion and accuracy. In an attempt to control for unrelated factors, Francis et al. (2006) define several measures of information before and after FD and compare these to equivalent measures for companies with ADR securities, which were exempted from FD. Based on public information measures (stock volatility, trading volume, abnormal return) and analyst information measures (forecast accuracy, forecast dispersion), they find that both the public information and most of the analyst measures for FD and ADR companies are virtually indistinguishable before and after FD. On the other hand, Jorion et al. (2005) test for differences in stock price response to bond rating changes by the rating agencies (also exempted from FD) before and after FD and provide evidence to suggest that rating agencies may have gained an information advantage from their exempt status. Finally, Janakiraman et al. (2007) find, contrary to their hypothesis that FD should have affected analyst forecast horizons, that the number of days from the first earnings forecast to earnings release (first forecast horizon) for analysts most likely to have benefited from selective disclosure (leader analysts) and analysts least likely to have benefited from selective disclosure (follower analysts) decreased by the same amount following FD. Janakiraman et al. (2007, p. 341) conclude “the evidence with respect to the decrease in the difference in leader and follower first-forecast horizon is mixed. As such, RFD may not have leveled the playing field among the analysts with respect to the first-forecast horizon.”

Regarding the third category, Eleswarapu et al. (2004), Carnaghan and Sivakumar (2004), and Chiyachantana et al. (2004) find a decrease in bid-ask spread, especially for small or illiquid stocks, but this result is not confirmed by Sidhu et al. (2008), who report an increase in the adverse selection component of the bid-ask spread, consistent with private information becoming more valuable under FD. Straser (2002) and Lee et al. (2004), on the other hand, report no change in the adverse selection component of the bid-ask spread. These studies, however, may not be directly comparable as they vary in terms of how they extract the adverse selection component of the bid-ask spread.

The fourth category offers a more direct approach to the effects of FD adoption but, still, the results are mixed. Lee et al. (2004) find that the number of conference calls and number of companies hosting conference

calls increased following FD, and Irani and Karamanou (2003) and Irani (2004) report that post-FD conference calls became more informative in terms of forecast consensus and accuracy. Conversely, Bushee et al. (2003, 2004) indicate that FD had a small negative impact on conference calls as measured by discontinuations or changes in conference call policy. Ke and Yu (2005) note further that while closed conference call companies revealed less bad news to analysts following FD relative to good news, the change in selective disclosure of bad news after FD was small relative to other sources of information (e.g., due to effort, insight, costly analysis of public information). In a follow-up paper, Ke et al. (2008) study institutional investors with a short-term focus (“transient” investors) and find decreased selling in anticipation of a string of bad news reported after FD, which they interpret as consistent with less selective disclosure to transient investors after FD. Chiyachantana et al. (2004) find a similar decrease in institutional trading after FD. Both studies of institutional behavior, however, include only limited controls to rule out other possible explanations for the results (such as the dot.com downturn of 2000 and related events).

Finally, Gomes et al. (2007) analyze FD in terms of four channels available to managers to communicate to investors: (1) company required reports, containing mandatory and voluntary information, (2) selective disclosure, (3) analysts’ reports, and (4) private information production by informed investors. FD was meant to eliminate the second channel. Gomes et al. (2007) conclude that companies adjusted the other channels in response to FD, and that FD may have affected smaller more than larger companies in that the latter adjusted better to the loss of the second channel by using others. Bailey et al. (2003) also report an increase in disclosures per company (i.e., an increased use of the first channel) after FD.⁷

In sum, the studies so far offer no clear evidence of a significant shift in market response or analyst behavior following adoption. One view is that non-FD related changes in the financial markets around adoption, such as those surrounding the market downturn beginning in early 2000, the market adjustments (and accounting scandals) that followed, the Congressional investigations in 2001 that eventually led to Sarbanes-Oxley and

⁷ Some prior studies assume an additional maintained hypothesis—that analysts play a critical role in the transmission of information into stock prices and that FD changed that role from the use of private information to the analysis of public information. Altinkiliç and Hansen (2009) question the informational role of analysts by showing that most revisions in stock recommendations are driven by corporate news events and not by information discovery by analysts. Also, none of the prior studies controls for information posted on company web sites. The SEC recently ruled to allow a company web site as a possible alternative channel for public disclosure for the purposes of satisfying FD (SEC 2008). Our sample is unaffected by this recent rule.

related regulations, and the Global Settlement in 2003, have clouded many of the results. We contend as an alternative view that the research may actually have been “correct” in detecting at best a limited or varied response to FD, for that may be the underlying reality. Indeed, our alternative view is that FD may have prompted only a limited or varied shift in price relevant disclosures to investors because (1) companies initially faced low expectations about compliance and enforcement and uncertainties about implementation and (2) in those cases where companies’ disclosure policies may have changed—perhaps to signal compliance to regulators and investors—many companies continued to transmit the same mix of information as before (e.g., Rapoport 2005, Gomes et al. 2007, Mayew 2008). We are not the first to draw this conclusion, however. Healy (2007), after reviewing the research on FD adoption, concludes that “there was little discernable change in investor behavior” after adoption, and Chen et al. (2010) find no marked change in the cost of capital following FD adoption. Data on the number of FD disclosure filings shortly after adoption also support this overall view.⁸ We now turn to our examination of FD enforcement actions and disclosure filings.

3. FD enforcement actions

Table 1 summarizes the ten cases brought by the SEC—as a civil action (4 cases), an administrative release (5 cases), or as a report of an investigation (1 case).⁹ First, the table shows that the length of time a company allegedly violated FD is quite short—in four cases, two trading days or less. Yet even in those cases, according to the SEC, selective disclosure provided a financial advantage to certain covered investors. Second, we note only two cases (American Commercial Lines and Flowserve) where the violating company filed an 8-K report, which is one of the “non-exclusionary” methods of public disclosure required by FD on discovery of a selective disclosure (other methods include a wire service press release and an open conference call). Third, the main sanction used by the SEC is a cease and desist order on the CEO or CFO. Fourth, only four cases involved a financial penalty on the company or officer. Schering-Plough paid the maximum penalty of \$1,050,000. But relative to the size of the companies, these are minor amounts, and they pale in relation to the benefits potentially conferred on certain investor groups, even after adjusting for the stock price decline upon disclosure of the

⁸ Using Direct Edgar, we identify all instances of an FD disclosure in an 8-K filing from August 2000 (the effective date of FD) to the end of 2008, initially as an item 5 or 9 Form 8-K disclosure and later as an item 7.01 disclosure. In untabulated results, we find that total 8-K filings averaged only 352 per month over November 2000 to July 2002, compared to an average total of well over 1,000 per month after that.

⁹ These companies comprise one hundred percent of SEC enforcement actions since the adoption of the rule through 2009.

alleged FD violation as an enforcement action. Fifth, we observe that the SEC describes all ten cases as intentional selective disclosures, with the possible exception of Motorola (where the disclosure was made on advice of legal counsel).

4. Investor response to selective disclosures with an enforcement action

4.1. Market response to selective disclosure

Each SEC action states the period during which a covered investor may have benefited from the selective disclosure, either by buying before a price increase or selling before a price decrease. We first examine this potential benefit in terms of abnormal return over event days -10 to 10, where day 0 is the start of the FD violation period. We measure abnormal return for a selective disclosure company based on the market model and measure the beta and alpha parameters over sixty months prior to the start of the FD violation period using the CRSP value-weighted index of NYSE and ASE stocks.¹⁰ We then categorize each selective disclosure as positive or negative news based on the implications of the revision of earnings for stock price. We then arbitrarily set abnormal return to 1.00 at the end of day -1, and cumulate it multiplicatively forward from day 0 to 10 and backwards from day -1 to -10, such that the percentage change from end of day t-1 to t is the abnormal return for day t. As a second proxy of market response, we calculate adjusted trading volume for a selective disclosure company as actual volume on a given day (v_t) divided by mean trading volume over days -15 to -11 relative to the start of the violation period (day 0) (\bar{v}_t), that is, adjusted trading volume = $(v_t \div \bar{v}_t)$.

Table 2 summarizes the results. For positive selective disclosures, table 2 shows that cumulative mean abnormal return gains steadily from day -1. At day 4, for example, cumulative mean abnormal return is 16.49 (1.1649-1.0) percent, which is significant at less than one percent based on a one-tailed t test. Similarly, for negative disclosures, the cumulative mean abnormal return at day 4 is -7.24 (0.9276-1.0) percent, significant at less than ten percent. Table 2 also shows higher mean adjusted trading volume, especially on days 0 to 4, relative to trading in the prior period, also significant at less than ten percent.¹¹ Figure 1 plots the results, and shows a clear separation of mean cumulative abnormal return conditional on positive and negative disclosures

¹⁰ We also replicated the analysis using market-adjusted abnormal returns (the excess of raw return over the CRSP value-weighted market index) and with standardized market-model and market-adjusted abnormal returns (standardized by the standard deviation of abnormal returns over days -15 to -11 and 11 to 15), with no significant change in the results.

¹¹ The spike in volume at day -4 relates to elevated volume the day after American Commercial Line's first quarter 2007 earnings announcement on June 11, 2007.

(panel A) and higher adjusted trading volume starting on day 0 for positive and negative disclosures combined (panel B). These results are consistent with the view that investors with selective access both trade and potentially benefit from the allegedly material non-public information, starting on the first day of the FD violation period (day 0).

4.2. Potential investor losses in FD violation period

The positive and negative returns documented in sub-section 4.1, however, do not adjust for the length of time a company allegedly violates FD, which table 1 shows ranges from one to 13 trading days. Table 3, column 2, shows the abnormal return for each FD violation cumulated additively from day -1 to the end of the FD violation period. For example, American Commercial Line's abnormal return of -9.72 percent reflects abnormal return from the close of June 15 (Friday) to June 18, 2007.¹² We calculate abnormal return for the violation period (ar_t) from the end of day -1 because the FD violation period starts the next trading morning. We then multiply ar_t by closing stock price on day -1 of the violation period (p_{t-1}) to convert it to a dollar per share abnormal return (dar_t), that is $dar_t = p_{t-1} \cdot ar_t$. We next define two measures of stock trading over the days of violation. The first is actual trading volume multiplied by 50 percent to adjust for inter-dealer trading for NASDAQ stocks (column 3) (v_t) (Anderson and Dyl 2005). The second is excess trading volume, calculated for damages purposes, as trading volume (with the NASDAQ adjustment) in the violation period in excess of average trading volume over days -15 to -11 (column 4) (\bar{v}_t), that is, excess trading volume = $(v_t - \bar{v}_t)$. We then calculate the gain to or loss avoided by investors with selective access as columns 3 or 4 times the dollar per share abnormal return (dar_t) for the violation period, and show the results in columns 6 and 7. These amounts approximate the maximum out-of-pocket losses to investors without selective access, since they assume, in the first case (column 6), that an investor with selective access potentially benefits by trading with an investor without selective access in the FD violation period and, in the second case, that each share of excess trading volume in the FD violation period (if positive) involves trading between an investor with and an investor without selective access (column 7).¹³ Under this methodology, assuming no trading costs, public information investors

¹² The association between the predicted effect (column 1) and abnormal return in the violation window (column 2) is also statistically significant at less than five percent, based on a binomial test under the null hypothesis of a 50% likelihood that the abnormal return each day in the violation window is positive.

¹³ Our measure of adjusted trading volume understates the gains/losses avoided by covered investors, since it assumes zero adjusted trading volume in four cases. An investor who trades on public information could also be damaged by normal

(i.e., those without selective access) suffer maximum aggregate losses—which investors with selective access mirror as trading gains—of \$347 million to \$612 million, although, as table 3 indicates, much of the total potential loss in columns 6 or 7 derives from Schering-Plough. Potential investor losses (columns 6 or 7) are still well under one percent of total market capitalization (column 5). Finally, column 8 shows the SEC fine or penalty on the company or executives, whose amount pales in comparison with investor losses.

4.3. Investor response to SEC enforcement announcement

In addition to the SEC fines or penalties, companies that violate FD may suffer a stock price adjustment on news of the violation. We therefore calculate abnormal stock return for each company around SEC's announcement of each action. A negative response would be evidence of a market-imposed consequence, which would not only reflect the SEC fine or penalty but, also, any additional investor concerns such as those relating to corporate governance and disclosure controls. Under sections 302 and 404 of the Sarbanes-Oxley Act of 2002, a company must certify to and report material weaknesses in its disclosure controls (and other aspects of internal control also). An alleged FD violation would likely be viewed by an investor as a weakness in disclosure controls.

Table 4 reports that the average FD violator lost 5.38 (1.0-0.9462) percent of its market capitalization from the close on day -1 to the close on day 1, and lost 4.03 (1.0-0.9597) percent over days -1 to 4, where day 0 is the day of an SEC enforcement announcement.¹⁴ Applied to companies' market capitalization on day -1 relative to the SEC action, these percentages represent \$1.32 billion and \$1.55 billion of aggregate lost market value over days -1 to 1 and days -1 to 4, respectively. Table 4 also shows that the drop in market value over days -1 to 4 is statistically significant at less than ten percent probability based on a one-tailed t test.¹⁵ The drop over days -1 to 1 is significant at 16 percent probability based on 18 observations (2 days x 9 companies) only. Mean adjusted

trading if the shares normally traded were sold too low or purchased too high because of a lack of non-public information. Also, with Senetek I and II, an investor holding shares over the entire violation window may not have been damaged since while the information should have had a predicted negative effect, adjusted stock prices gained abnormally.

¹⁴ Dechow et al. (1996) report a 4.30% mean decline in stock price for 25 companies on the day of announcement of an SEC Accounting and Auditing Enforcement Release (AAER). While this percentage decline is less than the day 0 decline at the time of an alleged FD violation announcement in this study (1.000-0.9757=2.43% as per table 4), we note that most AAERs represent an *alleged* securities law violation, whereas in this study the SEC action reports on a violation that is recognized by the company whose officers assent to sanctions (except for Siebel), although it is usually without admitting or denying liability. A study of announcements of internal control weaknesses also indicates a significant negative reaction following announcement, e.g., a 1.96% drop after 30 days (Glass, Lewis & Co. 2005).

¹⁵ Also statistically significant at less than one percent based on standardized market-model and market-adjusted abnormal returns (note 10 explains the standardization procedure).

trading volume also spikes on day 0 at 23.33 percent above average prior levels, presumably in response to the violation announcement, but such day 0 increase occurs only for six of the ten companies and is not statistically significant (the unusual mean adjusted volume increase on day 6 relates to Siebel Systems).

Overall, this evidence is consistent with the view that the market assesses a cost on alleged FD violators as a group. Since the SEC fines and penalties of an FD violation are minor (table 3), we posit that stock price and market capitalization decrease because of additional perceived risk, for example, a reassessment of risk based on concerns about weaknesses in corporate governance and disclosure controls. While such investor response could be reversed by subsequent information, the damage is done within a few days of the SEC announcement. For example, the court in Siebel Systems (SEC 2005) found there were no grounds for the second SEC enforcement action against Siebel based on a failure to maintain adequate disclosure controls, yet the company lost 4.52 percent of market model-adjusted value on the day of the SEC news.¹⁶ Investors might also assess a higher litigation risk, as an FD violation does not insure completely against a section 10b-5 lawsuit by private parties.¹⁷

4.4. Other news contemporaneous with SEC enforcement announcement

Because we analyze a small number of FD cases, the stock price effects documented above could be influenced by other information in the response window. We therefore searched the Factiva and Lexis-Nexis databases for news unrelated to the selective disclosure within the alleged FD violation window and plus or minus one day around the enforcement announcement date. We then partitioned each FD enforcement action into (a) low other information (zero or one other news items) and (b) high other information (more than one other news item) and compared the results in tables 2 and 4 for companies in the low and high other new items categories. Untabulated analysis finds no qualitative difference in the results, implying that the positive and negative effects of other news items either cancel out or are insignificant. This suggests that FD imposes a cost on investors without selective access regardless of the number of other contemporaneous news events in the violation period or around the enforcement announcement date.

¹⁶ Siebel also dropped six cents on the day of the court's announcement (August 31, 2005).

¹⁷ In one case, Schering-Plough, investors filed a securities class action lawsuit alleging damages during the selective disclosure period. The filing occurred on October 10, 2002, over one month after the SEC enforcement announcement.

5. Investor response to FD disclosures without enforcement action

5.1. Research approach

So far we have documented that investors respond in the FD violation window and to the enforcement news. In this section, we focus on the investor response to FD disclosures without an enforcement action, and do this for three reasons. First, the literature to date has not tested for the effects of FD disclosure. Second, the market response to an FD disclosure without an enforcement action could be costly to an investor should the company file after the 24-hour deadline, in that a longer gap between the report date and the filing date increases the likelihood that some investors will exploit the delay in public disclosure. Companies that miss the 24-hour deadline could also potentially violate FD and, thus, be targeted by the SEC.

Whereas each enforcement action examined in section 4 states whether the selective disclosure transmitted good or bad news to covered investors and states and first day of selective disclosure, we do not have this information for FD disclosures. Moreover, most FD disclosures relate to non-intentional selective disclosures whose market expectations are unclear. We therefore assess investor response by examining unsigned abnormal return and adjusted trading volume around the FD filing date. We also exploit information about the FD event itself, which should precede the filing date by no more than 24 hours given FD's prompt disclosure rule. We use the "conformed period of report" as the FD event date, which the SEC defines as the "end date of reporting period of filing" (SEC 2009, p. 27). A significant increase in investor response on FD report date or shortly thereafter for an untimely filing would suggest that an FD disclosure contains investor-relevant information. As an FD disclosure, the company would also have believed it may have communicated selectively to certain investors on the earlier report date, thereby creating a *potential* for those persons to benefit at the expense of investors who trade on public information, since otherwise there would be no need for the filing in the first place.

5.2. Data

We extracted 125,858 Form 8-K filings with FD disclosures from Direct Edgar over August 2000 to December 2008. These were initially marked as an item 5 or item 9 disclosure and later as an item 7.01 disclosure. The sample size drops to 60,948 filings when we require company stock price and trading data from CRSP. We measure investor response in terms of unsigned abnormal return, where abnormal return equals the

CRSP daily stock return in excess of the CRSP daily value-weighted market return index, aligned in event time around the 8-K filing date (day 0).¹⁸ We standardize this measure by dividing abnormal return for day t by mean abnormal return over $t = -10$ to -6 (method 1) or $t = -10$ to -6 and 6 to 10 (method 2). We also calculate adjusted trading volume as day t trading volume divided by the number of shares outstanding on day t (method 1) and as day t trading volume divided by mean daily volume over $t = -10$ to -6 (method 2). Under the assumptions of no earlier information release and market efficiency, standardized unsigned abnormal return and adjusted trading volume should peak on the SEC filing date (day 0). We show the results in two stages: first, for on-time filings (made within 24 hours of FD report date) and, second, for delayed filings (made after 24 hours of FD report date). Both analyses exclude FD filing dates that coincide with quarterly earnings release dates (Compustat data item, *rdq*) (8.9 percent of the sample).

5.3. Results

Figure 2 shows the results for timely FD filings partitioned by year. For each year, abnormal return (panel A) and adjusted trading volume (panel B) peak significantly on day 0 but not on the other days. Untabulated results show that each day 0 metric differs from days -5 to 5 (excluding day 0) at less than one percent level of significance, and that abnormal return increases monotonically as the number of other disclosure items in the 8-K (as reported in the 8-K filing header) increases and as company size decreases, where size is measured as the mean market value of common shares on day 0 for small, medium, and large size terciles.¹⁹ These results are consistent with information release on FD filing date within 24 hours of report date.

Whereas 82.82 percent of the FD disclosure sample files within one day of report date (the results in figure 2), the remainder file after one day, including 15.65 percent filed between two and six days after report date. If some investors act on the FD information prior to filing date, then we should observe elevated adjusted trading volume and unsigned abnormal return prior to that date. Figure 3 shows the market response from days -5 to 5 relative to FD filing date for three partitions of filing delay, defined as the number of business days from report

¹⁸ We also extracted market model-adjusted abnormal returns from the CRSP database, but for a smaller sample due to the constraint for estimating the model parameters. We obtained similar results when we analyzed market-model abnormal returns for the smaller sample.

¹⁹ These results are also robust to the exclusion of a few days with an unusually high number of FD filings and to the exclusion of 10-K and 10-Q due dates that coincide with an 8-K date. FD filing dates are also reasonably uniformly spread across each year, and do not cluster in the first three months of a calendar year (earnings season). These results are also robust to the exclusion of quarterly earnings release dates. Tabulated results available on request.

(conform) date to filing date (day 0), namely, 0-1 days (timely), 2-3 days (minor delay), and 4-6 days (major delay). We exclude filing lags greater than six days because of small partition size. Figure 3 clearly shows elevated price and volume response prior to day 0 for untimely filings, and the shift away from day 0 increases in filing lag.

We test for differences in market response across the three partitions of filing delay for each of days -5 to 5. For example, untabulated analysis shows that standardized unsigned abnormal return (method 2) on day 0 is significantly greater at less than one percent for on-time filings versus filings with minor or major delay. On the other hand, standardized unsigned abnormal return on days -2 and -3 is significantly greater for filings with minor or major delay versus on-time filings, and unsigned abnormal return on day -4 is significantly greater for filings with major delay versus on-time filings and those with minor delay. Similar results hold for adjusted trading volume. In other words, this analysis shows that whereas on-time filings have the highest response on day 0 (figure 2), the highest response to untimely filings occurs earlier, over days -2 to -4 (figure 3). These results are consistent with investors acting on that information prior to public release in an 8-K filing.

5.4. Controlling for press releases

A company may also use a press release (PR) and possibly other means to make public disclosure of FD information prior to filing date, which could occur as early as report date.²⁰ We therefore examine whether an earlier press release (the principal means of dissemination other than an 8-K) might drive the elevated volume and price response for untimely filings, as reported in the previous sub-section. We extract press release dates for each observation in our 60,948 FD sample using the following word searches in Exhibit 99.1 of the 8-K filings: “news/press release dated”, “news/press release issued”, and “for immediate release.” As a supplementary source of press release dates, we match our FD sample to a press release database maintained by iMiners.com.²¹ For each FD filing, we then determine whether or not a company issues a press release (as identified in Exhibit 99.1 for 8-K FD filings or iMiners.com) on the earliest possible date, namely, the FD report

²⁰ SEC Release 33-7881 states that a company can meet “Regulation FD’s ‘public disclosure’ requirement by filing an 8-K, by distributing a press release through a widely disseminated news or wire service, or by any other non-exclusionary method of disclosure that is reasonably designed to provide broad public access.” (SEC 2000). SEC Release 33-7881 states that the first step in public disclosure shall be a press release.

²¹ As of May 2010, iMiners.com tracked 647,022 releases categorized from over 6,500 public companies issued since April 1, 2006. These data reduced to 493,922 news releases when matched to PERMNO from the CRSP database. This is the same data set as used in Neuhierl et al. (2010).

date.²² If a company does not issue a release on report date, then an investor on such a date, armed with knowledge of the event and no press release, could potentially gain at the expense of a investor dependent only on public information, whose investment decision would have to wait until the earlier of a later press release or the filing itself.

Figure 4 shows the investor response around FD filing date by filing lag and whether a press release occurs on FD report date (the earliest date). Because it is important to show that a press release does not explain the elevated investor response prior to day 0 for delayed filings, we also report in table 5 the results of a t test (two-tailed) of the significance of the difference between investor response for the PR and the No PR sample for each of days -5 to 5. For on-time filings, while standardized unsigned abnormal return (table 5, panel C) and adjusted trading volume (table 5, panel F) for the PR sample generally exceed those for the No PR sample for days 0, 1, and 2, the differences are not statistically significant. Moreover, while the investor response measures are generally greater for days -2 or -3 versus days 0 or 1 for delayed filings (similar to figure 3), table 5 shows no reliable evidence that a press release on FD report date elicits a stronger market response prior to day 0 than the response without a press release prior to day 0. Indeed, table 5 shows as insignificant most of the t tests of difference of mean unsigned return for the PR sample less mean unsigned return for the no PR sample. In other words, the patterns we observe in figure 3 cannot be explained by a press release on report date, since we observe the same patterns on report date for FD disclosures with and without a press release.²³

To the extent that these results suggest that some investors gain at the expense of public information investors, this imposes a cost on investors who trade on public information only. Consistent with our review of the literature on FD adoption, these results imply that companies' disclosure policies continue to suggest the use of selective disclosure, at least by some companies and to certain investors, in apparent violation of FD. In short, they support the view that an FD disclosure—intentional or unintentional—remedied by a untimely 8-K filing

²² Of the 60,948 disclosures in the FD sample, our 8-K word search identified 40,106 press release dates in Exhibit 99.1, of which 27,929 occurred on report date, with the remainder occurring after report date and on or before filing date. Of the 27,929 disclosures, filing date minus report date equals 0 or 1 day for 82.82% of the sample, filing date minus report date equals 2 or 3 days for 8.52%, and filing date minus report date equals 4 to 6 days for 7.13%, with the remainder of 1.53% after six days. Tabulated results available on request.

²³ We cannot rule out the possibility that such response could be explained by unreported press releases (not found by our key word searches) or other public disclosure (e.g., via the company web site). But given our data collection procedures and the FD rules for what constitutes prompt public disclosure, we regard this as a low probability situation, which should not change the overall findings.

continues to impose a potential burden on investors who trade on public information only, since the assumption of cost avoidance (including enforcement avoidance) presumably underlies each company's decision to file in the first place.

5.5. Characteristics of FD filers

Finally, while not a primary study objective, we investigate whether the characteristics of untimely FD filers differ from on-time filers.²⁴ Such differences could benefit astute investors by identifying those companies whose FD report dates might precede FD filing by more than 24 hours. We use a logistical regression model pooled over all observations to determine whether certain key financial characteristics might discriminate between timely and untimely FD filers. We set the dependent variable to zero for an on-time filer (within 24 hours) and one for an untimely filer. We then select key variables in three categories to explain the difference: size—log of market capitalization, profitability—return on equity and market to book ratio, and risk—long-term debt to common equity and unsigned abnormal return, with the expectation that untimely filers will be smaller, less profitable, and riskier (similar to research on late 10-K filers, e.g., Bryant-Kutcher et al. 2007, Dalton et al. 2010). The results in table 6 show significantly positive coefficients for log of market capitalization and unsigned abnormal return, indicating that untimely FD filers are smaller and riskier. Untimely FD filers also have higher return on equity (commensurate with higher risk) but are no different in growth opportunities (market to book ratio) or leverage (total debt to common equity). However, the pseudo R²'s for these regressions, while significant, are low, suggesting that other factors (e.g., internal controls and governance) might also be relevant to the model.

6. Discussion

This paper examines the investor response to companies subject to an FD enforcement action and, for a larger sample, the response to FD disclosures more generally, namely, those without an enforcement action. The enforcement actions, while small in number, merit investigation as an initial study of the consequences for investors of disclosures relating to FD allegedly in violation of the regulation. The small number of actions could reflect the view that companies found it in their interests to comply fully and rapidly with FD because the

²⁴ We base our distinction between a timely and untimely filing on the FD 24-hour rule. While SEC companies use Form 12b-25 to notify the SEC of an inability to file a timely Form 10-K, 10-Q, or similar form, this does not apply to an 8-K filing.

net benefits of adoption exceeded those of non-adoption. Indeed, most of the empirical papers reviewed earlier embrace this view as a maintained hypothesis and adopt a research design with a relatively short post-FD period to test for an effect. However, without clear and significant costs of non-compliance (consistent with observed low enforcement) or without clear and significant benefits of compliance (as evidenced by the varied results from research), we question why the underlying calculus led many academics and others to assume a full compliance outcome shortly after adoption and to predict significant effects. If one assumes, for instance, that companies operated efficient and optimal methods of information dissemination prior to FD, then the adoption of FD without further adjustment would no longer be an optimal strategy unless the cost of adoption was low.

Consistent with our view, some research finds that certain forms of low cost information dissemination did in fact change after FD, for example, an increase in the use of conference calls and the simplification of some information for investors. SEC filing statistics, on the other hand, rebut the assumption of rapid compliance, in that relatively few companies posted FD filings in the initial period following adoption. Companies may also have found ways to communicate selectively to certain investors in ways not in violation of FD, such as by releasing information that is more useful to informed or well-resourced groups than to investors in general or by directing public information to some analysts in order to enhance their private information—a form of discrimination according to Cox (2005), Wyden (2005), and Mayew (2008). Some companies, further, may have simply continued to disclose as before (Rapoport 2005). In our view, these observations are broadly consistent with a rule that has had limited market consequences for most companies and investors.²⁵ For some companies and investors, however, the consequences of FD may have been more significant.

This paper documents three consequences of FD. First, we document that the small number of alleged FD violators targeted by the SEC involves the use of significant information in the selective disclosure period. Market-adjusted stock prices increase on the selective disclosure of positive information and, similarly, decrease on the selective disclosure of negative information. In the ten cases through 2009, covered investors gained (or avoided losses) of a total of more than \$347 million from selective information, presumably at the expense of

²⁵ The SEC may have adopted a strategy of acting on alleged FD violations only under egregious circumstances. In this regard, Cox and Thomas (2003) explore the role of private suits in the enforcement of securities laws and examine the characteristics of enforcement actions and their overlap with private class action suits. They find that the SEC targets smaller capitalization companies more than those targeted by private suits, but they find no evidence that relative provable losses drive the SEC's actions. We also note the remarks of SEC Director Alan Beller on the difficulty of demonstrating materiality in FD cases and the SEC's policy "that the commission won't go after close calls." (Plitch 2005).

investors who rely on public information only. An FD violation is thus costly to such investors in that covered investors apparently gain at the expense of the less advantaged with little adverse consequence, and such unfair gains cannot be considered as grounds for an FD violation according to the Siebel decision (SEC 2005).

A second consequence of FD is the imposition of a market impact from the SEC enforcement announcement. On announcement days -1 to 1, the average stock price of an alleged FD violator falls by 5.38 percent, or well over \$1 billion in terms of the aggregate market value of the ten companies. Since the SEC penalties and other cash flow effects are small or zero, this drop in stock price reflects a risk adjustment from the perceived effects of the allegations; for example, concerns about the adequacy of disclosure controls and corporate governance. In short, investors without selective access may lose twice in an FD enforcement action. Yet, curiously, the intent of FD was to benefit such investors by leveling the disclosure playing field and not to impose costs.

Our results suggest a third potential consequence by documenting a significant pre-filing investor response when a company files late, that is, after 24 hours. In the cases of an untimely FD filing, we observe that unsigned abnormal return and adjusted volume peak several days prior to the FD filing, and this occurs after controlling for a press release issued on FD report date. This implies two things, one, that a late FD disclosure absent a press release is newsworthy and, two, since prices change and investors trade more than usual prior to an untimely FD filing, investors who trade on public information only face a potential disadvantage to the extent that covered investors can benefit in the short window from report date to untimely public disclosure. The fact that investors trade prior to a late FD filing absent an earlier press release also supports the view that FD has not eliminated trading based on selective disclosure, which confirms our earlier contention based on the calculus of compliance.

We intend these results to add to the literature on FD, which so far relates to large-sample studies of FD adoption. While the enforcement effects we document may, perhaps, be less interesting from a macro standpoint, the shareholders in companies targeted by the SEC would almost surely regard these effects as significant and substantial; and clearly they were of concern to the SEC, for otherwise the agency would not have targeted the companies or officers for FD enforcement in the first place. The early response to an untimely FD filing absent a press release should also be of interest since, to the best of our knowledge, this result is new to the

literature. While prior studies find that investors do not pay much attention to the effects of FD adoption, they clearly pay attention to FD disclosures, including untimely FD filings not subject to earlier public disclosure.

Our paper also raises several unanswered questions. How does the SEC select its cases for investigation? Why has the SEC brought so few cases of enforcement, assuming the SEC does not pursue other less formal means of compliance and enforcement not disclosed as an SEC release? The small number of reported actions under FD (ten through 2009) stands in contrast to almost 700 instances in our sample of wherein a company filed two to six days after FD report date but without a press release on that date. Are we then to believe in this post-FD era that *all* incremental return to covered investors is now the result of effort and insight, and none is from selective access? Or, despite statements by SEC officials to the contrary (Plitch 2005), has the SEC simply taken a hands-off approach to enforcement? Additionally, it would be interesting to obtain proprietary data to know exactly who might be trading around FD report date in those cases of an untimely FD filing unaccompanied by an earlier press release.

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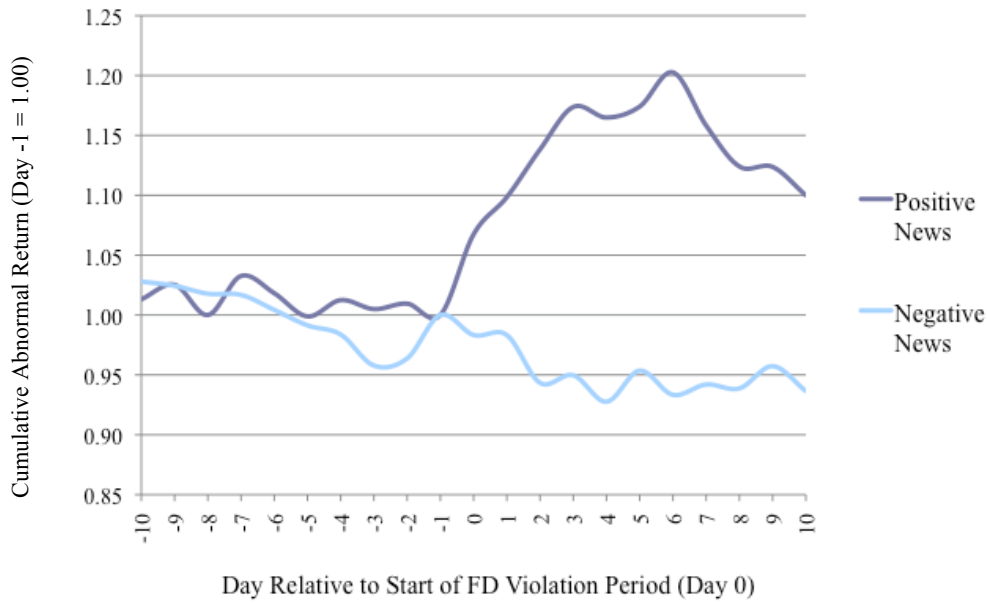
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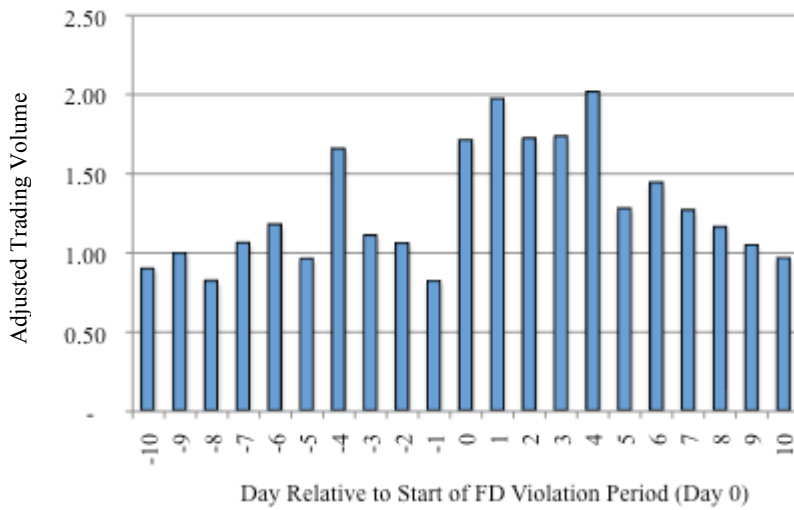
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Figure 1: Market Response Relative to Start of FD Violation Period

Panel A: Cumulative Mean Abnormal Return Around FD Violation Period¹



Panel B: Adjusted Trading Volume Around FD Violation Period²

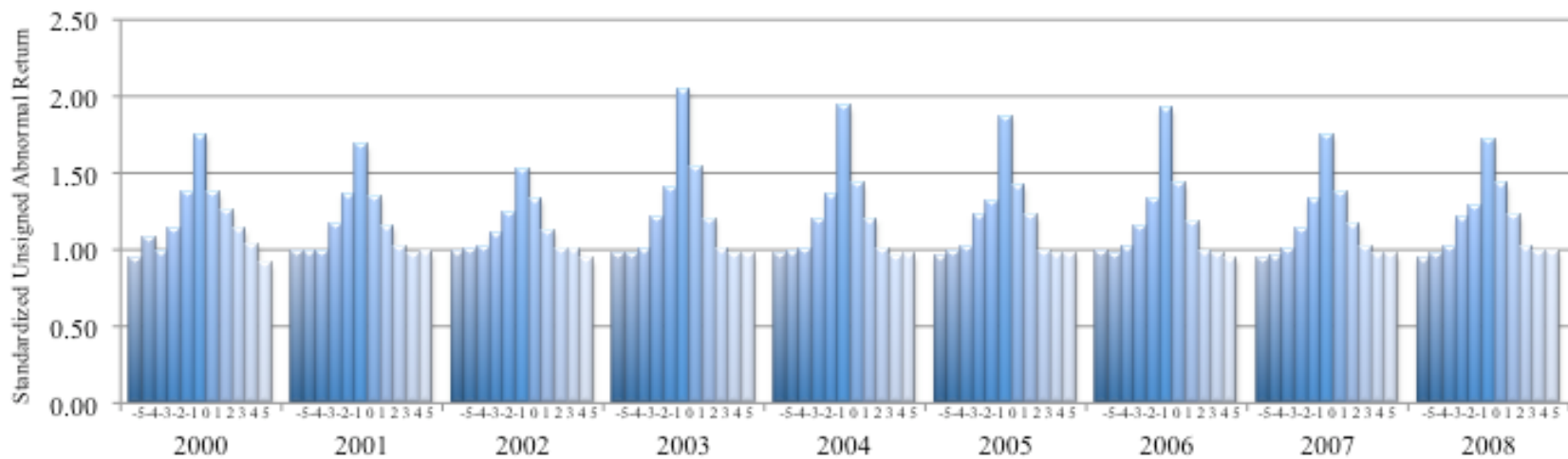


Notes to figure 1.

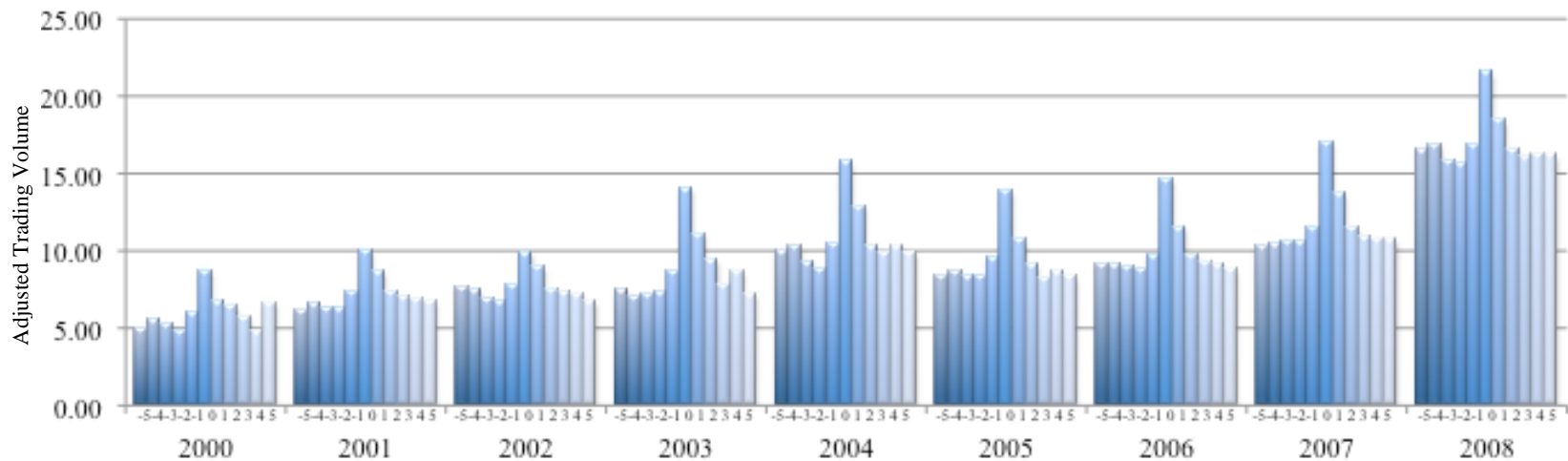
1. Cumulative mean abnormal return (cumulated multiplicatively) based on the market model, where close of day -1 abnormal return is arbitrarily set equal to 1.00.
2. Adjusted trading volume for company *i* calculated as actual volume for company *i* divided by mean volume over days -15 to -11 relative to the start of the FD violation period (day 0).

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Panel A: Standardized Unsigned Abnormal Return¹ Around FD Filing Date by Year for On-Time Filings³



Panel B: Adjusted Trading Volume² Around FD Filing Date by Year for On-Time Filings³

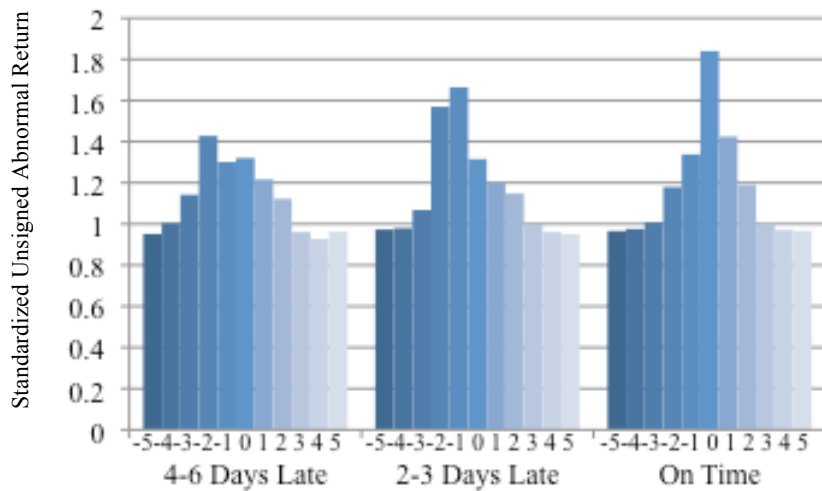


Notes to figure 2.

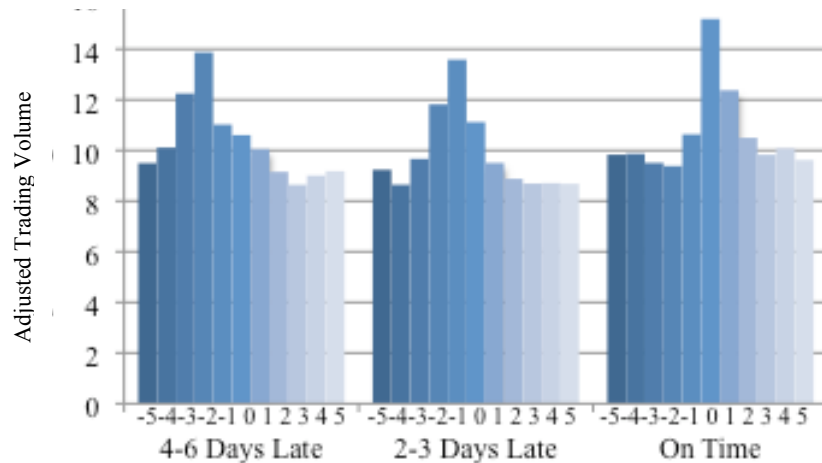
1. Standardized unsigned abnormal return equals the absolute value of CRSP daily stock return in excess of the CRSP value-weighted market return index relative to the SEC 8-K filing date (day 0) divided by mean abnormal return over days -10 to -6 and 6 to 10 (standardization method 2).
2. Adjusted trading volume equals daily trading volume divided by the number of shares outstanding (in thousands) on days -5 to 5 relative to FD filing date (day 0).
3. An on-time filing is posted on days 0 or -1 relative to FD filing date (day 0).
4. FD filing dates exclude quarterly earnings release dates.

Figure 3: Market Response from Day -5 to 5 Relative to FD Filing Date (Day 0) by Year³

Panel A: Standardized Unsigned Abnormal Return¹ Around FD Filing Date by Filing Lag³



Panel B: Adjusted Trading Volume² Around FD Filing Date by Filing Lag³

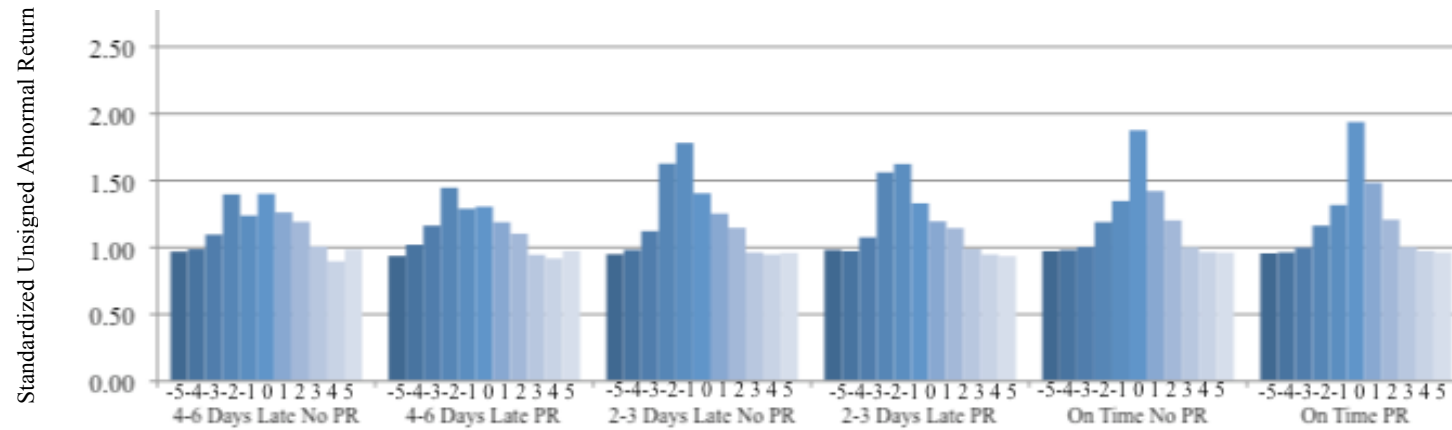


Notes to figure 3.

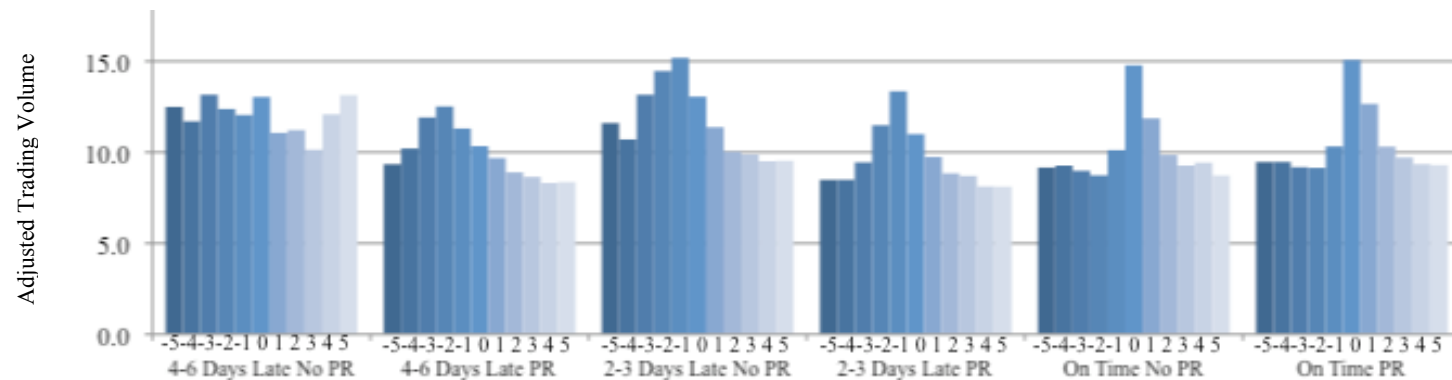
1. Standardized unsigned abnormal return equals the absolute value of CRSP daily stock return in excess of the CRSP value-weighted market return index relative to the SEC 8-K filing date (day 0) divided by mean abnormal return over days -10 to -6 and 6 to 10 (standardization method 2).
2. Adjusted trading volume equals daily trading volume divided by the number of shares outstanding (in thousands) on days -5 to 5 relative to FD filing date (day 0).
3. Filing lag is defined in terms of the number of days from SEC conformed period of report (the end date of reporting period of filing) to filing date (day 0). An on-time filing is made on filing days -1 or 0.
4. FD filing dates exclude quarterly earnings release dates.

Figure 4: Market Response from Day -5 to 5 Relative to FD Filing Date (Day 0) by Filing Lag³: No Press Release versus Press Release⁴

Panel A: Standardized Unsigned Abnormal Return¹ Around FD Filing Date by Filing Lag³ and Press Release⁴



Panel B: Adjusted Trading Volume² Around FD Filing Date by Filing Lag³ and Press Release⁴



Notes to figure 4.

1. Standardized unsigned abnormal return equals the absolute value of CRSP daily stock return in excess of the CRSP value-weighted market return index relative to the SEC 8-K filing date (day 0) divided by mean abnormal return over days -10 to -6 and 6 to 10 (standardization method 2).
2. Adjusted trading volume equals daily trading volume divided by the number of shares outstanding (in thousands) on days -5 to 5 relative to FD filing date (day 0). FD filing dates exclude quarterly earnings release dates.
3. Filing lag is defined in terms of the number of days from SEC conformed period of report (the end date of reporting period of filing) to filing date (day 0). An on-time filing is made on filing days -1 or 0.
4. PR equals Press Release issued on FD report date, otherwise No Press Release (No PR). Source: 8-K (Exhibit 99.1) and iMiners.com (for 2006-2008 only).

Table 1
Summary of Alleged FD Violations: November 25, 2002 to September 24, 2009

#	Company ¹	Release Date ²	Violation Start	Violation End	# of Trading Days	Nature of Violation	Form 8-K
1	American Commercial Lines	09/24/09	06/16/07	06/18/07	1	CFO sent an e-mail from his home only to the eight sell-side analysts who covered the company. This note was not seen by others at ACL or counsel. Note suggested the EPS was going to be 10 cents lower than the first quarter of 2007 (i.e., \$0.10). The June 11, 2007 release stated it would be similar. Action taken against CFO only.	Yes
2	Flowserve Corporation	03/24/05	11/19/02	11/21/02	3	Selective disclosure took place at a private meeting held November 19, 2002 with four analysts during which CEO reaffirmed earnings guidance and provided additional nonpublic information to those analysts. Those analysts issued a positive report the next day.	Yes
3	Senetek PLC-I	09/16/04	06/06/02	06/11/02	4	Company hired an outside firm for consulting services. This firm submitted a research report to management for review. Management corrected the revenue and earnings projections in the draft report, which were lower. The firm published the research report on June 11, 2002.	No
4	Senetek PLC-II	09/16/04	09/26/02	09/30/02	3	Company hired an outside firm for research services. This firm submitted a research report to management for review. Management corrected the revenue and earnings projections in the draft report, which were lower. The firm published the research report on September 30, 2002.	No
5	Siebel Systems-II	06/29/04	04/30/03	05/01/03	2	Company on April 30, 2003 disclosed nonpublic information to certain analysts and institutional investors in a private meeting in New York, who acted on this information the next day. CFO failed to develop proper disclosure controls to prevent selective disclosure, which had occurred earlier (see Siebel-I below). Aiding and abetting charges also filed.	No
6	Schering-Plough Corporation	09/09/03	09/30/02	10/03/02	4	CEO met with analysts and portfolio managers for four select institutional investors (Putnam, Fidelity, Wellington, MFS) and indicated that Wall Street earnings estimates were too high. Late on October 3, 2002, Schering issued a press release providing earnings guidance for 2002 and 2003 that was materially below analysts' consensus estimates.	No
7	Motorola Corporation	11/25/02	03/06/01	03/12/01	5	Motorola disclosed information about the company's quarterly sales and orders during private telephone calls with sell-side analysts in March 2001. These calls interpreted the meaning of "significant" used in an earlier public communication as meaning 25% or more. Management relied on counsel to provide the private interpretation to select sell-side analysts.	No.
8	Raytheon Company	11/25/02	02/15/01	03/05/01	13	CFO selectively disclosed information about Raytheon's expected quarterly distribution of earnings per share for 2001 in general, and for the first quarter in particular. Specifically, the CFO communicated to the analysts that the first quarter EPS estimates were too high.	No
9	Secure Computing	11/25/02	03/06/02	03/07/02	2	Company disclosed material non-public information about a significant software contract to two portfolio managers at two institutional advisers. Company announced the contract to the public in a press release issued after the close the same day.	No
10	Siebel Systems-I	11/25/02	11/04/01	11/05/01	2	Company on November 5, 2001 disclosed favorable nonpublic information to a group of invitation-only analysts. This differed from unfavorable information disclosed in a public conference three weeks earlier.	No

Table 1 continued on next page.

Table 1, continued.

#	Company	Formal Enforcement Action	SEC statement about effects of violation on price change and volume	Fiscal Period	Total Penalty
1	American Commercial Lines	Without admitting or denying the allegations, CFO consented to the entry of a final judgment requiring him to pay a \$25,000 penalty. CFO consents to cease and order.	ACL's price dropped from \$27.13 at close of trade Friday on June 15 to \$24.50 at the close of trade on June 18 on unusually heavy volume. Trading volume for the company on June 18, 2007 was 10.4 million shares or a 300% increase in the average daily trading volume for the stock up to that point in the month of June 2007.	Second quarter 2007	\$25,000
2	Flowserve Corporation	Civil penalty paid of \$350,000 by company, \$50,000 by CEO; Charges settled without admission of liability; Investor relations director consents to cease and desist order.	On November 21 st , closing stock price was approximately 6% higher than the closing price the day before. Trading volume increased by 75%, from 379,500 shares traded on November 20th to 658,300 shares traded on November 21st, after the dissemination of the analyst's report.	Fiscal year 2002	\$400,000
3	Senetek PLC-II	Company consents to cease and desist order; No penalties; No admission of liability.	None	Fiscal year 2002	\$0
4	Senetek PLC-I	Company consents to cease and desist order; No penalties, No admission of liability.	None	Fiscal year 2002	\$0
5	Siebel Systems-II	Judgment requested for cease and desist order, civil penalties, and permanent injunction; More serious because a second violation.	On May 1, 2003, the day following the private meetings, the company's stock price closed approximately 8% higher than the prior day's close, and the trading volume was nearly twice the average daily volume for the preceding year.	Second quarter 2003	\$0 Dismissed 9/1/05
6	Schering-Plough Corporation	Company consents to cease and desist order: CEO pays civil penalty of \$50,000; Company pays \$1,000,000 civil penalty.	From October 1 through October 3, 2002, Schering's stock price fell by more than 17 percent, from \$21.32 to \$17.64 per share, with volume each day averaging more than four times the stock's typical daily volume (i.e., over 20 million shares per day compared to an average of less than 5 million).	Third quarter 2002	\$1,050,000
7	Motorola Corporation	Report of an investigation that determined a violation of FD; No penalties imposed or orders issued.	Between March 6 and March 12 - the period of the phone calls at issue - the price of Motorola stock declined from \$17.70 to \$15.00, a drop of more than 15%. There were also significant increases in trading volume of Motorola stock at most of the firms where analysts were contacted.	First quarter 2001	\$0
8	Raytheon Company	Cease and order on company and CFO; No penalties imposed.	After the March 1, 2001 morning call, the price of Raytheon B stock fell approximately 6%, from \$32.80 to \$30.84, and the price of Raytheon A stock fell approximately 3%, from \$31.30 to \$30.50.	First quarter 2001 and 2001 overall.	\$0
9	Secure Computing	Cease and order on company and CEO; No penalties imposed.	Secure Computing's stock price closed at \$18.55 per share on March 7, a 7% rise from March 6 on volume that was 130% higher.	Fiscal year 2002	\$0
10	Siebel Systems-I	Company consents to cease and desist order; Civil penalty of \$250,000; Permanent injunction.	On the day of the conference, the company's stock price closed approximately 20% higher than the prior day's close and the trading volume was more than twice the average daily volume.	Fiscal year 2002	\$250,000

Notes to table 1.

1. Enforcement actions listed in reverse chronological order.
2. Date of official SEC Release or report announcing an FD enforcement action.

Table 2
Market Response Relative to Start of FD Violation Period

Event Day ¹	Mean Abnormal Return Index ²		Mean Abnormal Return Index ²		Mean Abnormal Return Index ²		Mean Adjusted Trading Volume ³	
	Positive News ⁴	t-test ⁵	Negative News ⁴	t-test ⁵	Combined News ⁴	t-test ⁵	Combined News ⁴	t-test ⁵
-10	1.0131	na	1.0280	na	1.0065	na	0.8951	na
-9	1.0252	na	1.0244	na	1.0005	na	0.9932	na
-8	1.0000	na	1.0178	na	1.0141	na	0.8180	na
-7	1.0326	na	1.0168	na	1.0159	na	1.0576	na
-6	1.0182	na	1.0043	na	1.0161	na	1.1728	na
-5	0.9989	na	0.9914	na	1.0263	na	0.9585	na
-4	1.0124	na	0.9837	na	1.0395	na	1.6499	na
-3	1.0050	na	0.9578	na	1.0375	na	1.1042	na
-2	1.0095	na	0.9638	na	1.0180	na	1.0552	na
-1	1.0000	na	1.0000	na	1.0203	na	0.8172	na
0	1.0674	*	0.9833	ns	1.0580	**	1.7060	ns
1	1.0984	*	0.9832	ns	1.0704	**	1.9664	*
2	1.1383	**	0.9434	*	1.1120	*	1.7163	ns
3	1.1737	**	0.9497	ns	1.1214	*	1.7286	*
4	1.1649	**	0.9276	*	1.1336	*	2.0093	*
5	1.1741	**	0.9535	ns	1.1182	*	1.2733	ns
6	1.2026	**	0.9334	ns	1.1432	*	1.4364	*
7	1.1582	*	0.9420	ns	1.1200	*	1.2647	*
8	1.1241	*	0.9387	ns	1.1091	ns	1.1581	ns
9	1.1237	*	0.9573	ns	1.0958	ns	1.0437	ns
10	1.0999	*	0.9366	ns	1.1008	ns	0.9619	ns

Notes to Table 2.

1. Event day relative to start of FD violation period, where day 0 is the “violation start” date as shown in table 1.
2. Mean abnormal return index based on cumulative mean market model residuals over the FD violation period (cumulated multiplicatively from the close of day -1 to close on the end of the FD violation period) and set arbitrarily to 1.0 on the close of day -1. Stock price on the close of day -1 approximates the price at the start of the violation period, which begins the next morning.
3. Mean adjusted trading volume is calculated as mean (over sample companies) actual trading volume on days -10 to 10 (v_t) divided by mean trading volume over days -15 to -11, relative to the start of the FD violation period (day 0) (\bar{v}_t), i.e., adjusted trading volume = ($v_t \div \bar{v}_t$).
4. News type based on positive or negative implications of the revision of earnings for stock price. Combined equals the mean of positive news abnormal returns and the mean of negative news abnormal returns.
5. Test of significance of mean abnormal return or volume index versus a null of one based on a one-sample t-test. Significance of difference from one based on a one-tailed test: ***=less than .001, ** =less than .01, *=less than .10, and ns=not significant. na = test not applicable for event days -10 to -1 as the test is relative to the start of the FD violation period (end of event day -1).

Table 3
Potential Investor Losses in FD Violation Period

Company Subject to Enforcement Action ¹	Predicted Effect ²	Violation Window Abnormal Return ³	Trading Volume ⁴	Excess trading Volume ⁵	Market Capitalization as of Violation Day -1	Trading Volume x Abnormal Change in Share Price. ⁶	Excess trading Volume x Abnormal Change in Share Price. ⁶	SEC Fine or Penalty
Column	1	2	3	4	5	6	7	8
American Commercial Lines	N	-9.72%	2,600,000	2,276,633	\$1,694,675,450	\$6,854,452	\$6,001,952	\$25,000
Flowserve Corporation	P	3.37%	1,310,200	-18,050	\$745,819,550	\$595,847	\$-	\$400,000
Senetek PLC-II	N	10.07%	73,838	20,052	\$48,233,600	\$5,946	\$1,615	\$-
Senetek PLC-I	N	3.27%	38,397	14,377	\$34,969,360	\$728	\$272	\$-
Siebel Systems-II	P	1.38%	3,364,500	963,154	\$4,317,938,100	\$397,397	\$113,763	\$250,000
Schering-Plough Corporation	N	-20.47%	71,473,700	54,408,433	\$31,879,557,740	\$318,083,300	\$242,136,814	\$1,050,000
Motorola Corporation	N	-10.20%	73,248,900	17,908,150	\$36,588,130,500	\$125,192,608	\$30,607,531	\$-
Raytheon Company	N	-11.65%	17,706,100	2,700,850	\$3,349,750,150	\$68,550,756	\$10,456,583	\$-
Siebel Systems-I	P	11.83%	1,419,900	984,942	\$465,620,650	\$2,712,926	\$1,881,875	\$-
Secure Computing	P	18.12%	28,737,750	17,891,567	\$7,994,256,270	\$90,056,405	\$56,067,374	na
Mean		10.01% ⁷	19,997,328	9,715,011	\$8,711,895,137	61,245,037	34,726,778	\$191,667
Median		10.14% ⁷	2,982,250	1,630,788	\$2,522,212,800	4,783,689	3,941,913	-
Total potential investor losses						\$612,450,366	\$347,267,779	\$1,916,667

Notes to Table 3.

1. Enforcement actions listed in reverse chronological order.
2. News type based on positive or negative implications of the revision of earnings for stock price. (P=positive news, N=negative news).
3. Violation window abnormal return based on market model residuals cumulated multiplicatively from close of day -1 to end of FD violation period.
4. Trading volume over FD violation period times 50% for inter-dealer trading volume for NASDAQ-listed companies.
5. Excess trading volume calculated as trading volume over FD violation period (note 4) in excess of mean trading volume over event days -15 to -11.
6. Abnormal change in share price in FD violation period (share price at close of day -1 times abnormal return in FD violation period) times trading volume or positive excess trading volume in FD violation period.
7. Mean and median of unsigned violation window abnormal return for each company.

Table 4
Market Response to SEC Enforcement Announcement

Event Day ¹	Mean Abnormal Return Index ²		Mean Abnormal Return Index ²		Mean Abnormal Return Index ²		Mean Adjusted Trading Volume ³		
	News Type	Positive ⁴	t-test ⁵	Negative ⁴	t-test ⁵	Combined ⁴	t-test ⁵	Combined ⁴	t-test ⁵
-10		0.9442	na	0.9785	na	0.9690	na	0.9382	na
-9		0.9644	na	0.9656	na	0.9558	na	1.0541	na
-8		0.9613	na	0.9445	na	0.9383	na	0.9384	na
-7		0.9461	na	0.9253	na	0.9676	na	1.1650	na
-6		0.9676	na	0.9606	na	0.9774	na	1.3706	na
-5		0.9951	na	0.9562	na	0.9683	na	0.9157	na
-4		0.9844	na	0.9485	na	0.9679	na	0.8555	na
-3		0.9843	na	0.9479	na	0.9914	na	0.8785	na
-2		0.9984	na	0.9783	na	1.0043	na	1.0780	na
-1		1.0000	na	1.0000	na	1.0000	na	1.0266	na
0		0.9793	ns	0.9728	ns	0.9757	ns	1.2333	ns
1		0.9140	ns	0.9718	ns	0.9462	ns	0.7836	*
2		0.9204	*	0.9827	ns	0.9550	*	0.8066	ns
3		0.8962	*	0.9751	ns	0.9398	*	0.5663	*
4		0.9283	*	0.9844	ns	0.9597	*	0.8594	ns
5		0.9094	ns	0.9905	ns	0.9544	ns	1.0832	ns
6		0.9119	ns	0.9997	ns	0.9604	ns	1.6856	ns
7		0.9122	ns	0.9907	ns	0.9558	ns	1.0519	ns
8		0.8987	ns	0.9643	ns	0.9353	ns	0.9594	ns
9		0.8745	*	0.9504	ns	0.9167	*	0.9851	ns
10		0.8780	*	0.9320	ns	0.9084	*	0.7597	*

Notes to Table 4.

1. Event day relative to SEC enforcement announcement (day 0).
2. Mean abnormal return index based on cumulative mean market model residuals relative to FD enforcement announcement (cumulated from the close of day -1 to end of day 10). Set arbitrarily to 1.0 on the close of day -1.
3. Mean adjusted trading volume is calculated as mean (over sample companies) actual trading volume on days -10 to 10 (v_t) divided by mean trading volume over days -15 to -11 relative to FD enforcement announcement date (day 0) (\bar{v}_t), i.e., adjusted trading volume = $(v_t \div \bar{v}_t)$.
4. News type based on positive or negative implications of the revision of earnings for stock price. Combined equals the mean of positive news abnormal returns and the negative of negative news abnormal returns.
5. Test of significance of mean abnormal return or volume index versus a null of one based on a one-sample t-test. Significance of difference from one based on a one-tailed test: ***=less than .001, ** =less than .01, *=less than .10, and ns=not significant. na = test not applicable for event days -10 to -1 (as the test is relative to the day of FD enforcement announcement and later).

Table 5
Market Response Around FD Filing Date by Filing Lag and Press Release

Day Relative to FD Filing Date	Mean	Obs.	-5	-4	-3	-2	-1	0	1	2	3	4	5
Panel A: 4-6 Days Late ¹													
Std. Unsigned Abnormal Return ²	PR ³	259	0.9366	1.0201	1.1636	1.4469	1.2903	1.3054	1.1893	1.1033	0.9451	0.9177	0.9733
Std. Unsigned Abnormal Return	No PR	370	0.9693	0.9869	1.0965	1.3975	1.2387	1.4014	1.2621	1.1919	1.0060	0.8965	0.9847
t-test of difference: signif. ⁴	PR-No PR		ns	ns	*	ns	ns	ns	ns	*	*	ns	ns
Panel B: 2-3 Days Late ¹													
Std. Unsigned Abnormal Return	PR	308	0.9820	0.9724	1.0760	1.5617	1.6242	1.3305	1.1952	1.1450	0.9878	0.9474	0.9352
Std. Unsigned Abnormal Return	No PR	313	0.9499	0.9824	1.1225	1.6269	1.7818	1.4053	1.2537	1.1472	0.9630	0.9475	0.9593
t-test of difference: signif.	PR-No PR		ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
Panel C: On Time ¹													
Std. Unsigned Abnormal Return	PR	4,134	0.9560	0.9642	0.9982	1.1633	1.3178	1.9382	1.4840	1.2083	1.0012	0.9735	0.9630
Std. Unsigned Abnormal Return	No PR	1,775	0.9722	0.9815	1.0031	1.1903	1.3474	1.8765	1.4219	1.2030	0.9999	0.9653	0.9622
t-test of difference: signif.	PR-No PR		ns	*	ns	ns	ns	ns	ns	ns	ns	ns	ns
Panel D: 4-6 Days Late													
Adjusted Trading Volume ⁵	PR	259	9.3509	10.2113	11.9187	12.5213	11.3105	10.3397	9.6883	8.9004	8.6511	8.3144	8.3677
Adjusted Trading Volume	No PR	370	12.4953	11.7035	13.1679	12.3800	12.0525	13.0450	11.0700	11.2232	10.1406	12.0873	13.1392
t-test of difference: signif.	PR-No PR		ns	ns	ns	ns	ns	ns	ns	ns	ns	*	ns
Panel E: 2-3 Days Late													
Adjusted Trading Volume	PR	308	8.4946	8.4974	9.4507	11.4899	13.3558	11.0027	9.7437	8.8444	8.7065	8.1247	8.1143
Adjusted Trading Volume	No PR	313	11.6101	10.7097	13.1658	14.4685	15.1934	13.0598	11.3819	10.0336	9.8837	9.5114	9.5348
t-test of difference: signif.	PR-No PR		ns	ns	ns	ns	ns	ns	ns	*	ns	ns	ns
Panel F: On Time													
Adjusted Trading Volume	PR	4,134	9.4719	9.4755	9.1869	9.1461	10.3247	15.0760	12.6618	10.3161	9.7169	9.3545	9.3023
Adjusted Trading Volume	No PR	1,775	9.1648	9.2722	8.9857	8.7356	10.1199	14.7835	11.8671	9.8555	9.2750	9.4327	8.7278
t-test of difference: signif.	PR-No PR		ns	ns	ns	*	ns	ns	*	*	ns	ns	*

Notes to Table 5.

1. Filing lag is defined in terms of the number of days from SEC conformed period of report (the end date of reporting period of filing) to filing date (day 0). An "on-time" filing is made on filing days -1 or 0.
2. Std. (standardized) unsigned abnormal return equals the absolute value of CRSP daily stock return in excess of the CRSP value-weighted market return index relative to the SEC 8-K filing date (day 0) divided by mean abnormal return over days -10 to -6 and 6 to 10 (standardization method 2).
3. Press release (PR) equals Press Release issued on FD report date, otherwise No Press Release (No PR). Source: 8-K (Exhibit 99.1) and iMiners.com (for 2006-2008 only).
4. Two-tailed t test of difference in mean market response on each of days -5 to 5 for FD filings with a press release on FD report date versus FD filings without a press release on FD report date. Significance of difference: ***=less than .001, **=less than .01, *=less than .10, and ns=not significant.
5. Adjusted trading volume equals daily trading volume divided by the number of shares outstanding (in thousands) on days -5 to 5 relative to FD filing date (day 0). FD filing dates exclude quarterly earnings release dates.

Table 6
Logistical Regression of Filing Lag on Financial Characteristics¹

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean	Sig. ²	Sig. ³
Variable												
Intercept	0.964	-0.056	0.667	-0.137	-0.198	0.295	-0.185	-0.028	0.399	0.191	ns	*
Log of market cap.	0.111	0.206	0.146	0.195	0.227	0.140	0.173	0.161	0.142	0.167	***	***
Market to book ratio	-0.064	0.004	-0.044	-0.008	-0.016	-0.012	0.027	0.013	0.008	-0.010	ns	ns
Return on equity	0.077	-0.008	0.127	0.025	0.058	0.181	0.158	0.005	-0.047	0.064	*	*
Long-term debt to equity	-0.103	0.031	0.038	-0.028	-0.048	0.011	-0.010	-0.004	0.015	-0.011	ns	ns
Unsigned abnormal return	2.068	4.127	4.341	8.021	5.727	2.995	8.022	5.991	1.406	4.744	***	***
Pseudo R ²	1.54%	3.06%	2.01%	2.93%	2.98%	1.56%	2.48%	1.86%	1.41%	1.99%		
No. of observations	270	1,618	3,700	9,114	7,316	6,299	6,349	5,402	6,174	46,242		

Notes to Table 6.

1. The dependent variable for the logistical regression is one for a late FD filing (two or more trading days late) and zero for an on-time filing (within 24 hours).
2. Significance of cross-sectional mean over 2000-2008 from zero: ***=less than .001, ** =less than .01, *=less than .10, and ns=not significant.
3. Significance of coefficient from zero based on observations for all years. ***=less than .001, ** =less than .01, *=less than .10, and ns=not significant.