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Does Disclosure Deter or Trigger Litigation?

Laura Field

Smeal College of Business
Penn State University
University Park, PA 16802
Email: lcf4@psu.edu
Phone: (814) 865-1483

Michelle Lowry

Smeal College of Business
Penn State University
University Park, PA 16802
Email: mlowry@psu.edu
Phone: (814) 863-6372

Susan Shu
Boston College
Chestnut Hill, MA 02467
Email: shus@bc.edu
Phone: (617) 253-1959

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ABSTRACT

Securities litigation poses large costs to firms. The risk of litigation is heightened when firms have unexpected large earnings disappointments. Previous literature presents mixed evidence on whether voluntary disclosure of bad news prior to regularly scheduled earnings announcements deters or triggers litigation. We show that this conflicting evidence can be resolved by controlling for the endogeneity between disclosure and litigation. We predict and test two effects. First, firms with higher litigation risk are more likely to disclose early to preempt potential lawsuits. Second, early disclosure reduces litigation risk. Using an integrated framework, we find support for both these predictions.

1. Introduction

Securities lawsuits are costly to firms. They divert management time away from more productive efforts, involve substantial attorney fees, and can damage the reputation of the firm and its managers. The risk of litigation is heightened when firms' earnings are substantially lower than investors expected. In these cases firms have strong incentives to employ mechanisms to lower their legal exposure. Lev (1992) and Skinner (1994) suggest that preemptive measures such as voluntarily issuing an earnings warning can potentially *decrease* the probability of a lawsuit. However, they do not provide direct evidence on the deterrence effect of voluntary disclosure. In fact, the only direct evidence regarding the effects of early disclosure on litigation risk comes from Francis, Philbrick, and Schipper (1994). Interestingly, they find the opposite, i.e., early disclosure *increases* the probability of a lawsuit.

Both the Skinner paper and the Francis et al. paper have been influential and widely cited in the literature. Given the opposite conclusions drawn in these papers, it is surprising that there has not been more research on whether disclosure deters or triggers litigation. In their review paper, Healy and Palepu (2001) highlight this relation between early disclosure and litigation and note that the empirical evidence is mixed. Similarly, Johnson, Kasznik, and Nelson (2001) characterize this issue as a "controversy in prior literature". In this paper we try to reconcile the conflicting views in the literature by providing more direct evidence on the complex relation between early disclosure and litigation risk.

Several factors potentially cause earnings warnings to decrease the likelihood of being sued. First, Skinner (1994) argues that early disclosure weakens the claim that managers acted improperly by failing to disclose the information promptly, thus lowering the probability of a lawsuit. Second, voluntary disclosure might reduce the contingent loss in the case of a lawsuit. Skinner (1997) documents that more timely disclosure leads to a lower settlement amount even if a lawsuit cannot be avoided. By informing the market of bad news before the regularly scheduled

earnings announcement, the firm decreases the amount of time that the stock trades at misleading prices, thus decreasing recoverable damages. Third, with lower potential damages, plaintiffs' incentives to bring a lawsuit are reduced. Finally, a stylized fact is that class action lawsuits tend to be precipitated by large one-time stock price drops (Francis, Philbrick and Schipper (1994) and Grundfest and Perino (1997)). Partially revealing the bad news through voluntary disclosure might reduce lawsuit probability by avoiding a single, large stock price drop upon the earnings announcement.

Of course, there are also costs to disclosure. Examples include the direct costs of preparing and disseminating information and also various indirect costs such as revealing proprietary information to competitors (Dye (1986), Darrough and Stoughton (1990)). For firms with low litigation risk, the costs of disclosing may exceed the benefits, and consequently these firms will choose not to disclose bad news early. Kasznik and Lev (1995) and Shu (2001) find that about 50 percent of their sample firms that experienced earnings disappointments issued some forms of earnings warnings, while the other 50 percent remained silent.

If early disclosure is an effective deterrent to litigation, one might expect firms that warn the market about upcoming earnings disappointments to be sued less often. However, Francis et al. find that the earnings warnings in their sample tend to be followed by securities lawsuits. This seems to suggest that disclosure results in more litigation, rather than less. Their results and analyses cast doubt on the effectiveness of voluntary disclosures as deterrents to lawsuits. However, as pointed out by Skinner (1997), the Francis et al. analysis potentially suffers from an endogeneity problem. Specifically, when a firm has especially bad news, managers have stronger incentives to disclose the bad news early to reduce the expected legal costs. At the same time, this firm likely faces a higher probability of litigation. This causes a spurious positive relation

between disclosure and lawsuit probability, potentially masking any deterrence effect that might exist.

In this paper, we take into account the endogenous nature between disclosure and expected litigation risk. As alluded to earlier, there are two distinct dimensions of the disclosure-litigation relation. First, firms that disclose bad news early might be less likely to be sued, suggesting a negative relation between litigation risk and disclosure. However, firms are more likely to disclose bad news early if they face higher legal exposure, suggesting a positive relation. To disentangle the two effects, we employ a simultaneous equations framework. This framework enables us to examine: (1) whether firms with higher litigation risk are more likely to make early disclosures about impending earnings disappointments (preemption effect), and (2) whether such disclosures lower the expected lawsuit probability (deterrence effect).

Findings regarding the preemption effect confirm that firms with higher litigation risk are more likely to issue earnings warnings, as previously documented by Johnson, Kasznik, and Nelson (2001). We briefly discuss these results, but focus our attention on whether earnings warnings effectively decrease the probability of being sued. Notably, we find evidence in support of this deterrence effect. In direct contradiction to the Francis et al. findings, our results indicate that firms that issue earnings warnings have reduced litigation risk.

Our paper also documents the extent to which litigation risk affects firm disclosure policy after the enactment of the Private Securities Litigation Reform Act of 1995. The intent of this Act is to restrict frivolous securities class action fraud lawsuits. If this Act causes litigation risk to be less of a concern to firms, firms may now be less likely to use disclosure as a means to deter lawsuits. Our results suggest that the relation between disclosure and litigation risk does hold in this purportedly lower litigation risk environment. Evidently, the benefits of disclosure still exceed the costs for many high litigation risk firms.

Section 2 describes how we obtain our data and provides some descriptive statistics. Section 3 discusses the simultaneous equations methodology employed in this paper. In Section 4, we present the empirical results. Finally, Section 5 concludes.

2. Data

Our sample consists of class action lawsuits filed between 1996 and 2000.[1] We search the *Securities Class Action Clearinghouse* website (http://securities.stanford.edu/) for all class action lawsuits filed in this period under the Securities Act of 1934. We also obtain the beginning and ending of each class period from this website.

For each of these sued firms, we calculate the earnings disappointment as:

$$\frac{UE}{P}, \tag{1}$$

where unexpected earnings (UE) is defined as the earnings per share before extraordinary items for the quarter in which the lawsuit ended, minus the analyst consensus forecast from IBES.[2] We use the analyst forecasts made at least two weeks after the previous earnings announcement. The last closing price (P) prior to these forecasts (also obtained from IBES) is used to scale the unexpected earnings. This price must be at least $2 for the firm to be included in the sample. Because we are interested in examining the disclosure choices of firms facing bad news, we select those lawsuits in which UE/P is less than or equal to –1%.

[1] Note that all of these lawsuits were filed subsequent to the enactment of the Private Securities Litigation Reform Act of 1995.

[2] The analysis has also been conducted using a seasonal change in EPS as the measure of earnings disappointment, as in Skinner (1997), where UE is measured as reported earnings for the current quarter less reported earnings for the same fiscal quarter of the previous year. Using this more naïve measure of unexpected earnings, we find qualitatively similar results to those reported in this paper.

To ensure that all of the lawsuits in our sample relate to both earnings and disclosure, we read through the complaints. This process leads us to omit several types of cases. Specifically, we first omit those firms whose lawsuit does not relate to current earnings. For example, a case in which the firm was sued for misleading investors as to the status of a drug in the FDA approval process would not be included in our sample.[3]

Second, we omit those lawsuits that pertain entirely to an accounting irregularity as opposed to a disclosure-related matter. Early disclosure is not a viable means of deterring the accounting-irregularity lawsuits, and thus we would not expect a relation between disclosure and the risk of being named in such a suit. To provide an example, a case in which a firm was sued for a GAAP violation would be considered an accounting-irregularity lawsuit and excluded from our sample. However, a case in which a firm was sued for concealing information about a loss of a major contract would be considered a disclosure-related lawsuit, and it would be included in our sample.[4]

Finally, we require firms to be covered by the CRSP, Compustat, and IBES databases. Table 1 shows the distribution of lawsuits across years. We find between 14 and 19 lawsuits in each year, with no noticeable trend over the period.

To form a control sample, we obtain an equal number of non-sued firms. For each sued firm, we randomly select a non-sued firm from the same quarter with CRSP, Compustat, and IBES data, with a price of at least $2, and with an earnings disappointment of at least –1% (defined in the same manner). The final dataset consists of 78 sued firms and 78 non-sued firms.

[3] Because the drug was not yet in production or being sold, it is unlikely to impact current earnings.
[4] The distinction of these two types of lawsuits is especially important given that our sample period follows the enactment of the Private Securities Litigation Reform Act of 1995. Grundfest and Perino (1997) find that this Act resulted in a shift toward accounting-related lawsuits, as disclosure-related lawsuits became harder to pursue.

For both the sued and the non-sued firms, we search Dow Jones to determine whether or not they disclosed the bad news prior to the earnings announcement. Specifically, we search the major news and business publications, the top 50 newspapers, and the press release wires. For each firm, the potential disclosure window spans approximately one quarter. The last day of this window is one day before the earnings announcement in the surprise quarter, and the first day is seven days after the prior quarterly earnings announcement. Of the 156 firms in our sample, we find that 108 choose to disclose early, while 48 firms do not disclose.[5]

We search for a number of different types of disclosure. The major categories are described in Table 2. The most direct types of disclosure, coded "1" in the table, include announcements that would lead the market to unambiguously conclude that firm earnings will be lower than expected. Several types of announcements are included in this category. In addition to commenting specifically about earnings, a firm might announce that sales or revenue will be lower than expected or that costs will be higher than expected. Also, a firm might announce that it will be taking write-offs or incurring restructuring charges.

We also collect information on indirect types of disclosure, coded as "2" in the table. These include announcements of firm operations that potentially indicate earnings will be lower than expected. There are many examples of such announcements. For example, firms could state that they are scaling back operations by selling subsidiaries, closing plants or stores, laying off workers, freezing hiring, or withdrawing a product. Interestingly, the majority of firms that make some type of disclosure choose to directly disclose the bad information: 94 percent of firms making disclosures use the most direct form.

[5] Note that for the sued firms, the disclosures all occurred before the lawsuit was filed.

Table 3 provides descriptive statistics for the sued versus non-sued firms. The firm-specific characteristics examined include: *Market Capitalization,* computed as the price at the beginning of the earnings-surprise quarter multiplied by shares outstanding at that time; *Turnover*, calculated as $[1 - \prod_t (1 - \text{volume traded}_t/\text{total shares}_t)]$, measured over the one-year period ending on the last day prior to the earnings-surprise quarter; and *Prior Stock Return* and *Volatility*, both also measured over the same one-year period as turnover, where volatility represents the standard deviation of daily stock returns.

We also examine the percentage of firms in several industry groupings. Firms are classified as *Technology Firms* if they are in SIC codes 2833-2836, 3570-3577, 3600-3674, 7371-7379 or 8731-8734. Firms are classified as *Regulated Firms* if they are in SIC codes 4812-4813, 4833, 4841, 4811-4899, 4922-4924, 4931, 4941, 6021-6023, 6035-6036, 6141, 6311, 321, or 6331. And, finally, firms are classified as *Retail Firms* if their SIC codes are in 5200-5961.

Beyond the specific effects of membership in the technology, regulated, and retail industries, we suspect that a variety of industries potentially exhibit characteristics that make them more susceptible to lawsuits. To capture such effects in a parsimonious manner, we include a dummy that denotes whether each given firm belongs to a high or low litigation risk industry. Specifically, we calculate the percent of firms in each industry that were sued in earnings-related class action lawsuits between 1988 and 1994.[6] Those industry groups with an above-median percentage of sued firms are considered high-litigation risk, and *industry legal exposure* is set equal to one. Conversely, those groups with a below-median percentage of sued firms are considered low-litigation risk, and *industry legal exposure* equals zero for these firms.

[6] We thank Doug Skinner for providing these data.

In an attempt to capture a firm's tendency to disclose, we look at whether the firm issued any earnings guidance during the same calendar quarter one-year prior. Specifically, *Prior Disclosure* equals one if the firm made a direct disclosure about its upcoming earnings, revenues, or costs, and zero otherwise. To avoid any seasonality effects, we search for such disclosures in the calendar quarter four quarters prior to the lawsuit quarter. The sources searched and the exact days within the quarter of the potential disclosure window are the same as was described earlier for the primary disclosure variable.

The data provided in Table 3 show a few significant differences between sued and non-sued firms. The mean and median sued firm has significantly higher market capitalization than the non-sued control firm. This is potentially driven by the 'deep pockets' phenomenon. Plaintiffs have greater incentives to sue larger firms because potential recoverable damages are greater. This result is consistent with the findings of Jones and Weingram (1996a).

Looking at prior stock returns, the first thing to note is that they are negative for both the sued and non-sued firms. Mean returns equal –9.5% for sued firms and –25.6% for non-sued firms. Although both groups of firms performed quite poorly over the preceding year, the sued firms' returns are significantly higher than the non-sued firms. Francis et al. have a similar finding in their paper. They find that 70% of control firms had negative returns over the year preceding the adverse earnings news, compared to 47% for the lawsuit sample.

Not surprisingly, sued firms have significantly higher turnover. Stock turnover measures the probability that a share has been traded at least once during the last year. Lawsuit damages are a function of the number of shares that trade at misleading prices. Firms with higher turnover have more shares trading, meaning that the potential recoverable damages are higher. This

finding similarly reflects the benefits of suing certain types of firms (Jones and Weingram, 1996a).

We also examine whether firms in certain industries tend to be sued more or less often. We expect firms in industries that are riskier to be sued more often. Consistent with Jones and Weingram (1996b), we find that a greater percentage of sued firms are in the technology sector. Notably, their sample period precedes the Private Securities Litigation Reform Act. Consistent with Grundfest and Perino (1997), our results suggest that high-tech firms continue to be targets of litigation in the post-Act period. Jones and Weingram (1996b) find that this higher incidence of litigation among technology firms is partially driven by the higher turnover of these firms. Also, technology firms tend to derive a greater portion of their value from growth opportunities and a lower portion from assets in place. This inherently makes such firms harder to value, potentially leading to more uncertainty and a higher likelihood of litigation.

In addition, Table 3 shows that sued firms are slightly less likely to come from the retail industry. This could be driven by several factors. First, as discussed above, firms with more tangible assets tend to be less risky and less likely to be sued. Second, most retail firms release monthly sales figures, meaning that the market has better information about their current operating environment and is thus less likely to be surprised with bad news.

As discussed above, certain factors may cause a variety of industries to experience especially high rates of litigation. Table 3 suggests that this is the case. Nine percent of the sued firms in our sample come from industries with an above-median rate of litigation in the past, compared to only seven percent of non-sued firms.

By construction all firms in our sample must have an earnings disappointment of at least one percent. A comparison of the average disappointment across sued and non-sued firms shows no significant differences.

Table 3 also compares prior disclosure across sued and non-sued firms. Prior disclosure should capture firms' general tendency to disclose. While some firms have long-standing policies to provide frequent earnings guidance, other firms have a tradition of non-disclosure. We find no significant difference between the prior disclosure frequency for sued versus non-sued firms: 19% of sued firms had disclosed previously, compared with 22% of non-sued firms.

Finally, Table 3 shows that firms that are ultimately sued are much more likely to disclose the bad news early in the current quarter, despite their tendency to disclose at rates similar to non-sued firms in the prior year. Eighty-four percent of sued firms make a direct disclosure about their upcoming earnings disappointments, compared to only 44 percent of non-sued firms. These results are consistent with those of Francis et al, who find that 62 percent of sued firms disclose while only 13 percent of non-sued firms made any disclosure. On the surface, it seems that disclosure does not deter litigation, which is the conclusion reached by Francis et al (p. 162): "The result that litigation for our sample tends to be precipitated by earnings forecasts or preemptive earnings reports (not by earnings announcements) suggests that voluntary and early disclosures, sometimes advocated as an ex ante defensive mechanism, may not be an effective deterrent to litigation."

As discussed previously, however, one must be careful in interpreting this result. Without accounting for the fact that firms with higher litigation risk are precisely those who may be more likely to disclose, we cannot determine from this simple statistic the exact nature of the relation between disclosure and the likelihood of being sued. It is possible that firms facing a higher

litigation threat might be under more pressure to disclose the news early, which could induce a spurious relationship between voluntary disclosure and lawsuit occurrence. To control for this endogeneity, we use a simultaneous-equations approach, which is discussed in detail in the next section.

3. Methodology

As discussed earlier, we employ a simultaneous-equations framework to account for the endogeneity between litigation risk and disclosure. Section 3.1 describes the model, and Section 3.2 outlines the estimation of the model, including a description of the various control variables we use.

3.1. Modeling the Firm's Choices

As argued earlier, a firm faced with an impending earnings disappointment has to make a choice about whether or not to release the information early, knowing that its decision potentially affects its legal exposure. Not releasing the information might delay the stock price decline, but it also raises expected litigation costs. The longer the stock trades at 'too high' a price, the greater the potential damages from a lawsuit and the more likely the firm is to be sued. Therefore, once the firm becomes aware of the bad news, it simultaneously chooses a disclosure policy as well as the level of expected litigation risk it is willing to bear. The firm's choices can be modeled as:

$$\text{Disclosure}^* = \alpha_1 \text{ Litigation Risk}^* + \beta_1 X_1 + \varepsilon_1, \quad (2)$$

$$\text{Litigation Risk}^* = \alpha_2 \text{ Disclosure}^* + \beta_2 X_2 + \varepsilon_2 \quad (3)$$

Where: Disclosure* = the probability of early disclosure for firm i;

Litigation Risk* = the expected litigation risk for firm i;

X_1 = a vector of exogenous determinants of disclosure probability;

X_2 = a vector of exogenous determinants of expected litigation risk.

All of the above explanatory variables are assumed to be in the firm's information set at the time any disclosure decision is made.[7]

Eq. (2) captures whether and how a firm's disclosure choice is affected by expected litigation risk. The lawsuit-preemption hypothesis in Skinner (1994) suggests that firms with higher litigation costs should be more likely to disclose the bad news early, therefore predicting a positive sign for γ_1. We refer to this as the preemption effect.

Because of the potential interdependencies, it is not appropriate to substitute a dummy variable denoting ex post occurrence of litigation for litigation risk and estimate this equation with ordinary probit. The occurrence of litigation is not exogenous and depends in part on the firm's disclosure choice. For example, from Eq. (2), a firm that chooses not to reveal the bad news early (Disclosure=0) is likely to have an especially low error term, ε_1. At the same time, by delaying the information the firm is likely to face a higher litigation probability, meaning ε_2 will be high. This potential correlation between ε_1 and ε_2 means that it is inappropriate to include ex post litigation as an independent variable in Eq. (2). Specifically, litigation would be correlated with the error term ε_1 (through ε_2). This correlation between an independent variable and the error term violates a fundamental assumption of regressions, causing the ordinary Probit estimates to be biased.

[7] Note that Disclosure refers to the actual occurrence of disclosure, while Disclosure* refers to the probability of disclosure. Similarly, Litigation refers to the actual occurrence of litigation, while Litigation Risk* refers to the probability of litigation.

Eq. (3) captures the effect of an early warning on the level of expected litigation risk. If disclosure is effective in reducing the expected legal exposure, we should expect the coefficient, γ_1, to be negative. We refer to this as the deterrence effect. For similar reasons as given above for the preemption equation (2), it is not appropriate to estimate the deterrence equation (3) by a regular probit model. To account for the interdependency between the warning decision and litigation risk, we treat Eqs. (2) and (3) as simultaneous equations.

To estimate this system of equations, we need to identify both Eqs. (2) and (3). Identification can be achieved if X_1 contains a variable not in X_2, and vice versa.[8] To identify Eq. (2), we would like to find a variable that is related to litigation risk but not to the disclosure decision. Industry legal exposure measure satisfies both these criteria. As described earlier, industry legal exposure is a dummy variable, equal to one if an above-median percent of firms in the same industry were sued during the 1988-1994 period. This variable should capture the fact that firms of certain characteristics are more likely to be sued. However, it is hard to imagine why the prior litigation rate of similar firms should directly affect a firm's decision to issue a warning.[9]

Analogously, to identify Eq. (3) we need a variable that is related to disclosure choice but not to litigation risk. Anecdotal evidence suggests that firms' disclosure policies tend to be 'sticky', in the sense that some firms consistently provide earnings guidance while others never do. It is possible that a firm's decision to issue a warning prior to an earnings disappointment is

[8] It can also be achieved if the dependent variable in the first-stage equation is a non-linear combination of the exogenous variables in the system (see Comment and Schwert (1995), p.27). Because both litigation risk and disclosure probability can be written as non-linear combinations of the exogenous variables, the system can potentially be identified in this manner.

[9] Notably, it is not problematic if firms are more likely to disclose because similar firms faced higher litigation risk in the past. This suggests that disclosure is only related to past litigation *through* the litigation effect, rather than through some exogenous factor.

affected by its desire to maintain the continuity of its usual disclosure pattern. Therefore, we use an indicator variable to capture firms' past disclosure decisions. This variable equals one if a firm issued any earnings guidance in the same quarter of the previous year and zero otherwise. While prior disclosure practice is likely related to a firm's current disclosure choice, it is unlikely to influence a firm's current lawsuit probability (beyond its effect through current disclosure).

Because the dependent variables in both equations are only observed as dichotomous variables, we cannot fully recover the parameters in Eqs. (2) and (3) (Maddala, 1983, p. 244). The estimable structural equations are:

$$\textit{Preemption Effect}: \quad \text{Disclosure}^{**} = \gamma_1^{*}\,\text{Litigation Risk}^{**} + \beta_1^{*} X_1 + \varepsilon_1^{*} \tag{4}$$

$$\textit{Deterrence Effect}: \quad \text{Litigation Risk}^{**} = \gamma_2^{*}\,\text{Disclosure}^{**} + \beta_2^{*} X_2 + \varepsilon_2^{*} \tag{5}$$

where $\sigma_1^2=\text{Var}(\varepsilon_1)$, $\sigma_2^2=\text{Var}(\varepsilon_2)$, $\gamma_1^{*}=\gamma_1\frac{\sigma_2}{\sigma_1}$, $\beta_1^{*}=\frac{\beta_1}{\sigma_1}$, $\varepsilon_1^{*}=\frac{\varepsilon_1}{\sigma_1}$, $\gamma_2^{*}=\gamma_2\frac{\sigma_1}{\sigma_2}$, $\beta_2^{*}=\frac{\beta_2}{\sigma_2}$, $\varepsilon_2^{*}=\frac{\varepsilon_2}{\sigma_2}$,

Litigation Risk**=Litigation Risk*/σ_2 , and Disclosure**=Disclosure*/σ_1. While we are not able to separately estimate γ_1 and γ_2, we can at least test whether the two coefficients are *statistically* different from zero, and thus shed light on the statistical significance of the preemption and deterrence effects.

3.2. Estimating the Firm's Choices

Ideally, we would like to estimate the system of equations using the variables the probability of early disclosure (Disclosure*) and expected litigation risk (Litigation Risk*). Unfortunately, we do not observe these variables directly; instead, we observe only the outcomes of whether the firm disclosed or not, and whether it was sued or not.

The estimation of the simultaneous equations framework described above is done in two stages. In the first stage, we estimate the probability of early disclosure (Disclosure**) and expected litigation risk (Litigation Risk**) by regressing the disclosure and litigation dummies, respectively, on all exogenous variables in the system (including all variables in the system, X, which includes the variables in X_1 and X_2), using probit. We then substitute the predicted values retrieved from the first-stage estimation as explanatory variables in the second stage regressions, which are also estimated by probit. It is important to note that all exogenous variables related to disclosure are observable prior to the firm actually making the disclosure. Similarly, all exogenous variables related to litigation risk are observable prior to a lawsuit actually being brought. Thus, our estimation should produce estimates of ex ante disclosure probability and ex ante litigation risk.

There are a number of variables that are common to both equations. The relation between these variables and lawsuit probability were previously discussed in the context of Table 3. Here we discuss the ways in which these same variables relate to disclosure.

Lang and Lundholm (1993) and Kasznik and Lev (1995) have documented a significantly positive relation between firm size and frequency of voluntary disclosure. This is potentially driven by economies of scale, which make voluntary disclosure less costly for large firms.

Kasznik and Lev also find that a firm's disclosure choice is related to membership in high tech industries and to regulatory status. High tech firms derive more of their value from growth opportunities, meaning that their earnings in any period tend to be much less certain. Such uncertainty is potentially associated with a higher cost of capital. Thus, these firms may attempt to lower information asymmetry by making voluntary disclosures, for example by warning investors of bad news prior to the regularly scheduled earnings release. In contrast, firms in

regulated industries provide operating information to regulatory bodies on a regular basis. Kasznik and Lev point out that such information is often more detailed and timelier than quarterly statements. This flow of information reduces the information asymmetry with investors, and hence decreases the need for voluntary press releases.

Many retail firms regularly release sales information on a monthly basis. Since we define disclosure as including all announcements related to the forthcoming earnings, these monthly sales releases would count as a form of disclosure, and we would expect a positive relation between retail firms and disclosure frequency.

Bushee, Matsumoto and Miller (2003) find that disclosure is positively related to turnover. Firms whose shares are frequently traded likely face stronger pressure from investors to disclose information.

We also include stock volatility as a control. Anecdotal evidence suggests that firms are more likely to disclose when the information asymmetry between management and investors is high (Lees (1981), Ajinkya and Gift (1984)). Lang and Lundholm note that the variability of past firm performance is likely to reflect the unpredictability of future performance and therefore proxy for information asymmetry. This argument suggests that firms with higher volatility will be more likely to disclose bad news early.

Finally, we expect disclosure choices to be negatively related to earnings disappointments. King, Pownall, and Waymire (1990) argue that managers, due to reputational concerns, have incentives to narrow the earnings 'expectations gap' with investors and financial analysts. A substantial negative earnings surprise potentially damages the reputation of managers and of the firm as a whole. Thus, a firm with a more negative earnings surprise would have greater incentives to warn the market.

We treat interim-quarter earnings surprises differently from fourth-quarter surprises for several reasons. First, the release of fourth-quarter earnings coincides with the release of annual earnings, which have been audited and more closely scrutinized by auditors. Consequently, managers have less flexibility with the fourth-quarter numbers. Second, Francis, Hanna and Vincent (1996) find that the largest number of accounting write-offs occurs in the fourth quarter, and these may not be well anticipated by analysts. Finally, Kasznik and Lev (1995) point out that the fourth quarter of each year has by far the largest number of analysts' forecasts. We account for the differential properties of the fourth-quarter surprises by interacting the magnitude of earnings disappointments with a fourth-quarter dummy variable.[10]

4. Empirical Results

This section addresses the cross-sectional relation between a firm's tendency to issue a warning and its inherent litigation risk. Section 4.1 discusses the results from the preemption effect, while Section 4.2 examines the deterrence effect. Section 4.3 investigates the effects of excluding dismissed lawsuits.

4.1. Does litigation risk affect earnings warnings?

Prior literature has shown that firms' disclosure choices are affected by their litigation risk, and this section confirms that this phenomenon also exists in our sample. Specifically, Table 4 shows that firms with higher litigation risk are more likely to disclose bad news early. Column 1 of Table 4 shows a probit regression of the disclosure dummy on a lawsuit dummy,

[10] Because of the differences between the fourth quarter and interim quarters, Kasznik and Lev only use fourth quarter earnings in their study. Their approach is not feasible in this study due to our smaller sample size. We

while columns 2 and 3 show the results from a simultaneous equations approach, which controls for endogeneity. Results under both specifications yield the same general conclusion: the significantly positive coefficient on lawsuit in Column 1 and on the lawsuit instrument in Column 3 both show strong support for the preemption effect. Consistent with the findings of Kasznik, Johnson, and Nelson, firms with higher litigation risk are more likely to disclose.

Given that this result has already been documented in prior literature, we discuss the Table 4 results only briefly. The important thing to note from the first-stage regression in column 2 is that the identifying variable, industry legal exposure, is positive as expected and highly significant. The litigation risk of industries is persistent, and a firm is more likely to be sued if an especially high number of firms in the same industry were sued in an earlier time period.

Looking at the second-stage regression in column 3, we find that several of the control variables are significant, indicating that these factors have incremental associations with disclosure after controlling for their effects through litigation risk. For example, the regulation dummy is significantly negative, consistent with the idea that less information asymmetry surrounds these types of firms and thus they have less of a need to make voluntary disclosures. Stock volatility is negatively related to disclosure probability, which is somewhat surprising but similar to the findings in Lang and Lundholm (1993). The fourth quarter dummy is negative and weakly significant, suggesting that firms are less likely to preempt fourth-quarter earnings surprises. However, firms are especially likely to warn the market about large earnings disappointments they occur in the fourth quarter. Finally, prior disclosure is significantly

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choose to use a fourth quarter interaction variable to account for the differences rather than excluding interim quarters all together.

positive as expected, indicating that firms that provided earnings guidance in the past are more likely to do so again.

4.2. Does disclosure deter litigation?

The objective of this section is to examine the incremental effect of early disclosure in reducing the probability of lawsuits. The estimation results are presented in Table 5 in a format similar to that of Table 4. The first column presents the results from a regular probit regression that does not control for endogeneity, using the disclosure dummy as one of the explanatory variables. This specification is similar in spirit to Francis et al. Consistent with their findings, this approach produces a positive and significant coefficient on disclosure, suggesting that disclosure might increase litigation risk. This contradicts the deterrence effect. However, as discussed earlier, the probit coefficient may be biased because disclosure tendency is an endogenous variable. The second and third columns present results using the simultaneous-equation approach.

Looking at the first stage regression in Column (2), we note that the coefficient on our identifying variable, prior disclosure, is highly significant. As predicted, the tendency to issue a warning is strongly positively related to prior disclosure, suggesting the persistency of disclosure policies over time.

To test the deterrence effect, we focus on the disclosure instrument in the second-stage regression shown in Column 3 of Table 5. In contrast to the regular probit result, the coefficient on the disclosure instrument in Column 3 is negative, suggesting that early disclosure potentially reduces the probability of securities litigation. However, the coefficient is not statistically significant. This finding is less troubling than the significantly positive coefficient found by

Francis et al. At a minimum, disclosure does not appear to trigger litigation. However, it remains puzzling why firms with higher litigation risk would be significantly more likely to disclose bad news early (as indicated in Table 4) if such disclosures had no effect on the likelihood of a lawsuit. This statistically weak relation will be explored further in Section 4.3.

The coefficients on the control variables in Column 3 are consistent with the findings of prior literature. The most significant determinants of litigation are market capitalization and turnover. The coefficient on market capitalization is positive and significant, implying that large firms are more likely to experience securities litigation. This supports the importance of 'deep pockets' in securities litigation suggested by prior studies. Also, the coefficient on turnover is positive and highly significant. Firms with higher turnover have more shares bought at the allegedly too high prices, causing potential damages to be higher and the probability of being sued to be greater.

We expect lawsuits to be more likely following more negative earnings surprises. While we do not find a significant coefficient on earnings surprise, we do find a significant negative coefficient on the interaction between earnings surprise and the fourth quarter dummy. This indicates that the lawsuit probability is increasing in the magnitude of the fourth-quarter earnings disappointments. We also find a significant negative coefficient on the fourth quarter dummy, indicating that an earnings surprise in the fourth quarter (as opposed to the *magnitude* of the surprise) is less likely to precipitate a lawsuit. The significance of these coefficients is consistent with the findings of prior literature that the properties of fourth quarter earnings differ substantially from those of the interim quarters.

4.3. Excluding Dismissed Lawsuits

So far we have provided strong support for the preemption effect and rejected the finding in prior literature that disclosure triggers lawsuits. Yet Table 5 shows little support for the idea that disclosure significantly deters lawsuits. Notably, our findings on the preemption and deterrence effects seem inconsistent with each other. Why would firms with higher litigation risk be more likely to disclose bad news early if such disclosures did not lower the probability of being sued? We conjecture that the inclusion of certain types of lawsuits may cause the statistical power of the deterrence effect to be weak and potentially bias us against finding the hypothesized effect.

In some sense, the fact that a lawsuit is dismissed indicates that it had little basis and never should have been brought. For example, certain lawsuits seem to be precipitated solely by a large stock price drop, even if that drop was unrelated to any wrongdoing on the part of the firm. Consider the case of Sigma Designs Inc., which was sued after a 35% one-day stock price drop following disclosure by Sigma Designs that sales would be weaker than expected. In an article published in *The Business Journal* 8/24/98, Sigma's CEO and board chairman Thinh Tran said, "If you are famous in the valley you are sued by them [Milburg Weiss]. … They see the stock of a company drop and they file suit." In the article, Tran said the lawsuit was without merit. Apparently, the court agreed: the lawsuit was subsequently dismissed. Because such lawsuits are out of the firm's control, they add noise to the regressions and decrease the power of the tests.

It is also possible that a case is dismissed as a result of a firm's successful use of preemptive disclosure.[11] Consider the case of Information Analysis Inc., which was sued in an earnings-related class-action lawsuit in 1998. The company's fundamental line of defense was that it had disclosed all material information pertaining to the company through its press releases and periodic reports. Consistent with this defense, the case was ultimately dismissed.[12] In fact, of the 15 dismissals in our sample, 14 of the firms disclosed the bad news ahead of time. Cases such as these actually bias results against finding support for the deterrence effect.

Thus, including dismissed lawsuits might attenuate the relation between disclosure and litigation risk. Therefore, we exclude dismissed lawsuits from our sample. To identify dismissed lawsuits, we obtain information from Investors Research Bureau, publisher of *Securities Class Action Alert*.

We re-estimate the simultaneous equations excluding the 15 dismissed cases and the respective control firms. Results are presented in Table 6. The pre-emption effect continues to be highly significant. Further, as suspected, the magnitude of the coefficient on the deterrence effect increases substantially. The coefficient on the disclosure instrument is now –2.582, significant at the 4.9% level using a one-tailed test. This result lends stronger support to the deterrence effect. Other things held constant, a firm that chooses to issue an earnings warning

[11] Levine and Pritchard (1998) find that a greater portion of lawsuits is dismissed following the enactment of the Private Securities Litigation Reform Act. This greater number of dismissals would be especially likely to introduce excess noise into our empirical tests.

[12] From *PR Newswire*, 10/27/1999, "From the inception of this case, IAI has contended that the plaintiffs' allegations were insufficient to support any actionable claim against the company and that it disclosed all material information pertaining to the company through its press releases and periodic reports. With all the facts at hand, the plaintiffs could not fashion a complaint which satisfied the court. This eventually resulted in the court's dismissal of the plaintiffs' complaint and the plaintiffs' determination to abandon the litigation."

before the regularly scheduled earnings announcement significantly lowers its expected litigation costs.

4.4 Robustness Checks

One of the primary means that disclosure decreases the probability of being sued is by decreasing the amount of time that the stock trades at the allegedly misleading prices, thereby decreasing potential recoverable damages. This effect is obviously greater for a firm that discloses long before the scheduled earnings announcement date, compared to a firm that discloses the bad news just a few days ahead of time. Thus, we search our sample for any firm that made a disclosure less than five days before the scheduled earnings announcement date. We find only two firms in this category. Results are qualitatively similar when we exclude these observations from our sample.

We have also conducted the analysis using a seasonal change in EPS as the measure of earnings disappointment, as in Skinner (1997), where unexpected earnings is measured as reported earnings for the current quarter less reported earnings for the same fiscal quarter of the previous year. Using this more naïve measure of unexpected earnings, we find qualitatively similar results to those reported in this paper.

5. Conclusion

This paper investigates whether earnings warnings are effective in deterring litigation. Although Lev (1992) and Skinner (1994) make several convincing arguments as to why early disclosure of impending earnings disappointments should reduce litigation risk, the empirical

evidence is not conclusive. Johnson, Kasznik, and Nelson (2001) note, "Recent research examining litigation-based incentives to voluntarily disclose bad news… provides conflicting evidence on the causal relation between forecasts of bad news and the incidence of shareholder litigation."

We demonstrate in this paper that the conflicting evidence to which Johnson, Kasznik, and Nelson refer can be resolved by controlling for the endogenous relation between disclosure and litigation risk. Although Skinner (1997) recognizes the potential problems the endogeneity can create, he does not provide direct evidence on the deterrence effect of early disclosure.

By using a simultaneous equations framework, we are able to control for the endogeneity problem. In addition, we are able to examine two distinct aspects of the disclosure-litigation relation. Our results are consistent with both the preemption effect and the deterrence effect. First, firms with higher litigation risk are more likely to issue earnings warnings. This relation is robust across various specifications. Second, we also find evidence that firms are able to reduce their legal exposure by disclosing the bad news early. The finding that disclosure deters rather than triggers litigation provides us with a better understanding of why many firms voluntarily issue earnings warnings.

References

Ajinkya, B., and M. Gift, 1984, Corporate managers' earnings forecasts and symmetrical adjustments of market expectations, *Journal of Accounting Research 22*, 425-444.

Bushee, B., D. Matsumoto and G. Miller, 2003, Open versus closed conference calls: the determinants and effects of broadening access to disclosure, *Journal of Accounting and Economics* 34, 140-180.

Darrough, M., and N. Stoughton, 1990, Financial disclosure policy in an entry game, *Journal of Accounting and Economics* 12, 219-243.

Dye, R., 1986. Proprietary and non-proprietary disclosure, *Journal of Business* 59, 331-366.

Francis, J., D. Hanna, and L. Vincent, 1996, Causes and effects of discretionary asset write-offs, *Journal of Accounting Research* 34, 117-134.

Francis, J., D. Philbrick, and K. Schipper, 1994, Shareholder litigation and corporate disclosures, *Journal of Accounting Research* 32, 137-164.

Grundfest, J., and M. Perino, 1997. Ten things we know and ten things we don't know about the Private Securities Litigation Reform act of 1995, *Joint Written Testimony of Joseph A. Grundfest and Michael A. Perino Before the Subcommittee on Securities of the Committee on Banking, Housing and Urban Affairs United States Senate on July 24, 1997.*

Healy, P., and K. Palepu, 2001. Information asymmetry, corporate disclosure, and the capital markets: a review of the empirical disclosure literature, *Journal of Accounting and Economics* 31, 405-440.

Johnson, M., Kasznik, R., and K. Nelson, 2000. Shareholder wealth effects of the Private Securities Litigation Reform Act of 1995, *Review of Accounting Studies* 5, 217-233.

Jones, C. and S. Weingram, 1996a. The determinants of 10b-5 litigation risk. Working Paper (Stanford Law School, Stanford, CA).

Jones, C. and S. Weingram, 1996b. Why 10b-5 risk is higher for technology and financial service firms. Working Paper (Stanford Law School, Stanford, CA).

Kasznik, R., and B. Lev, 1995. To warn or not to warn: management disclosures in the face of an earnings surprise, *The Accounting Review* 70, 113-134.

King, R., G. Pownall, and G. Waymire, 1990. Expectations adjustments via timely management forecasts: Review, synthesis, and suggestions for future research, *Journal of Accounting Literature* 9, 113-144.

Lang, M., and R. Lundholm, 1993, Cross-sectional determinants of analyst ratings of corporate disclosures, *Journal of Accounting Research* 31, 246-271.

Lees, F., 1981. Public disclosure of corporate earnings forecasts, *New York: the conference board.*

Lev,. B., June 8, 1992. Why corporations need a strategy on disclosure, *San Francisco Chronicle*.

Levine, D., and A. Pritchard, 1998. The securities litigation Uniform Standards Act of 1998: The sun sets on California's blue sky laws, *The Business Lawyer* 54, 1-54.

Maddala, G., 1983. Limited dependent and qualitative variables in econometrics, Econometric Society Monographs in Quantitative Economics No.3, Cambridge University Press

Shu, S., 2001. Why do firms issue warnings in the face of earnings disappointments: a self-selection analysis. Working Paper, Boston College.

Skinner, D., 1994. Why firms voluntarily disclose bad news, *Journal of Accounting Research* 32, 38-60.

Skinner, D., 1997. Earnings disclosure and stockholder lawsuits, *Journal of Accounting and Economics,* 23, 249-282.

Table 1
Distribution of lawsuits across years

The sample consists of 78 disclosure related securities lawsuits in 1996-2000. We obtained the sample by reading the complaints from the *Securities Class Action Clearinghouse* website (http://securities.stanford.edu/). We examined all class action lawsuits filed between 1996 and 2000 under the Securities Acts of 1933 and 1934.

Year	# Lawsuits
1996	14
1997	14
1998	15
1999	19
2000	16
Total	78

Table 2
Types of Disclosure

For each sample firm, we search Dow Jones for disclosures. The potential disclosure period begins seven days after the end of the quarter preceding the earnings-surprise quarter. The potential disclosure period ends at the end of this same quarter. We classify all disclosures according to the classifications listed in this table.

Disclosure Code	Description	Examples	Number of Firms
1	Most Direct Form of Disclosure	• Earnings will be lower than expected • Sales or revenues are lower than expected • Costs are higher than expected	101
2	More Indirect Form of Disclosure	• Scaling back operations, e.g., closing plants or stores, selling subsidiaries, freezing hiring • Failure to pay debt, withdrawing a security offer, withdrawing a product • Cutting dividends • Strike by workers • Monthly sales releases by retail firms	7
3	No disclosure		48

Table 3
A comparison of sued vs. non-sued firms

The sample consists of firms that were sued in class action lawsuits related to earnings between 1996 and 2000. Firms must have had an earnings disappointment of at least –1 %. There are 78 sued firms and 78 non-sued firms. *Market Capitalization* equals the stock price at the beginning of the quarter of the lawsuit times the number of shares outstanding. *Turnover* equals [1- $\prod_t$ (1- volume traded$_t$/total shares$_t$)], measured over the one-year period ending on the last day prior to the earnings-surprise quarter. *Prior Stock Return* is the compounded percentage raw return over one year, ending on the last day prior to the earnings surprise quarter. *Volatility* equals the standard deviation of daily returns over one year also ending on the last day prior to the earnings surprise quarter. Firms are labeled as *Technology Firms, Regulated Firms*, or *Retail Firms* according to CRSP SIC codes. *Industry legal exposure* is defined as an industry with an above-median percentage of firms sued in earnings-related class action lawsuits between 1988 and 1994, using the Fama-French 48 industries. *Earnings Disappointment* equals EPS in the quarter that the lawsuit ended minus IBES consensus forecast roughly two months prior to the earnings announcement date, divided by price at the beginning of the quarter in which the lawsuit ended. *Prior Disclosure* is equal to 1 if a firm made a direct earnings forecast in the same quarter of the previous year, and zero otherwise. *Disclosure During Quarter of Disappointment* is 1 if a firm made a disclosure warning of an impending earnings disappointment during the earnings surprise quarter. One-sided p-values are reported in parentheses for the differences using t-tests.

	Sued firms Mean [median]	Non-sued firms Mean [median]	Difference Mean *(p-value)*
Market Capitalization (in billions)	1.601 [0.349]	0.291 [0.080]	1.309 *(0.018)*
Stock Return	-0.095 [-0.152]	-0.256 [-0.300]	0.160 *(0.010)*
Volatility	0.045 [0.043]	0.042 [0.043]	0.003 *(0.190)*
Turnover	0.781 [0.827]	0.506 [0.466]	0.275 *(0.000)*
Earnings Disappointment	-0.050 [-0.022]	-0.060 [-0.024]	0.010 *(0.207)*
% Technology Firms	29%	15%	14% *(0.017)*
% Regulated Firms	5%	3%	2% *(0.204)*
% Retail Firms	4%	11%	-7% *(0.035)*
Industry Legal Exposure (= % in High Risk Industry)	9%	7%	2% *(0.022)*
% with Prior Disclosure	19%	22%	-3% *(0.332)*
% with Disclosure During Quarter of Disappointment	84%	44%	40% *(0.001)*

Table 4: Preemption Effect

These regressions test the preemption effect using both the ordinary probit and the simultaneous-equation approach. Column 1 reports the results for the ordinary probit. Columns 2 and 3 are the first and second stage regressions of the preemption effect. The lawsuit instrument in Column 3 equals the fitted value from the first stage regression. Both the first stage and the second stage are probit regressions. One-sided p-values are reported in parentheses under regression coefficients.

	Regular Probit	Simultaneous Equation	
	Dep.=Disclosure	First-stage *Dep.=Sued*	Second-stage *Dep.=Disclosure*
Variable	(1)	(2)	(3)
Intercept	-1.468 *(0.269)*	-7.717 *(0.000*	-0.402 *(0.810)*
Lawsuit	0.915 *(0.002)*		
Lawsuit Instrument			1.628 *(0.022)*
Log Market Cap	0.095 *(0.179)*	0.344 *(0.002)*	0.226 *(0.427)*
Tech Dummy	0.240 *(0.226)*	0.175 *(0.299)*	0.853 *(0.397)*
Regulated Dummy	-0.959 *(0.061)*	0.706 *(0.247)*	-1.008 *(0.053)*
Retail Dummy	0.640 *(0.097)*	-0.241 *(0.331)*	0.530 *(0.133)*
Prior Stock Return	-0.061 *(0.419)*	0.363 *(0.128)*	-0.872 *(0.388)*
Stock Volatility	-23.630 *(0.006)*	-5.616 *(0.306)*	-21.460 *(0.010)*
Earnings Surprise	5.554 *(0.048)*	-1.017 *(0.235)*	4.743 *(0.083)*
Q4 * Earnings Surprise	-8.280 *(0.025)*	-0.351 *(0.158)*	-0.613 *(0.039)*
Q4 Dummy	-0.755 *(0.017)*	-4.668 *(0.087)*	-6.487 *(0.066)*
Turnover	1.941 *(0.003)*	3.450 *(0.000)*	1.093 *(0.128)*
Prior Disclosure	1.100 *(0.002)*	-0.116 *(0.362)*	0.950 *(0.003)*
Industry Legal Exposure		1.353 *(0.000)*	
Likelihood Ratio Index	0.284	0.442	0.259

Table 5: Deterrence Effect

These regressions test the deterrence effect using both the ordinary probit and the simultaneous-equation approach. Column 1 reports the results for the ordinary probit. Columns 2 and 3 are the first and second stage regressions of the deterrence effect. The disclosure instrument equals the fitted value from the first stage regression. Both the first stage and the second stage are probit regressions. One-sided p-values are reported in parentheses under regression coefficients.

	Regular Probit	Simultaneous Equation	
	Dep.=Suit	First-stage *Dep.=Disclosure*	Second-stage *Dep.=Suit*
Variable	(1)	(2)	(3)
Intercept	-7.770 *(0.000)*	-2.712 *(0.029)*	-8.215 *(0.000)*
Disclosure	0.700 *(0.016)*		
Disclosure Instrument			-1.215 *(0.194)*
Log Market Cap	0.329 *(0.003)*	0.175 *(0.036)*	0.415 *(0.002)*
Tech Dummy	0.170 *(0.308)*	0.226 *(0.239)*	0.274 *(0.219)*
Regulated Dummy	0.690 *(0.218)*	-0.806 *(0.093)*	0.491 *(0.327)*
Retail Dummy	-0.287 *(0.310)*	0.411 *(0.199)*	-0.157 *(0.389)*
Prior Stock Return	0.343 *(0.142)*	0.946 *(0.374)*	0.410 *(0.102)*
Stock Volatility	-4.003 *(0.358)*	-21.767 *(0.009)*	-12.368 *(0.171)*
Earnings Surprise	-1.196 *(0.198)*	3.976 *(0.118)*	-0.771 *(0.311)*
Q4 * Earnings Surprise	-2.749 *(0.206)*	-0.683 *(0.023)*	-0.542 *(0.096)*
Q4 Dummy	-0.172 *(0.319)*	-7.312 *(0.040)*	-6.438 *(0.058)*
Turnover	2.965 *(0.001)*	2.470 *(0.000)*	4.345 *(0.001)*
Prior Disclosure		0.926 *(0.004)*	
Industry Legal Exposure	1.334 *(0.000)*	0.250 *(0.220)*	1.421 *(0.000)*
Likelihood Ratio Index	0.463	0.242	0.423

Table 6: Simultaneous Equations Excluding Dismissals

In this test we rerun the simultaneous equations excluding lawsuits that were dismissed. The tests are based on 122 observations. One-sided p-values are reported in parentheses under regression coefficients

	Preemption Equation		Deterrence Equation	
Variable	First-stage *Dep.=Suit* (1)	Second-stage *Dep.=Disclosure* (2)	First-stage *Dep.=Disclosure* (3)	Second-stage *Dep.=Suit* (4)
Intercept	-6.763 *(0.000)*	-0.290 *(0.865)*	-1.967 *(0.167)*	-7.762 *(0.000)*
Lawsuit Instrument		1.603 *(0.038)*		
Disclosure Instrument				-2.582 *(0.049)*
Log Market Cap	0.256 *(0.020)*	0.258 *(0.419)*	0.131 *(0.115)*	0.398 *(0.005)*
Tech Dummy	-0.510 *(0.447)*	0.231 *(0.268)*	0.306 *(0.208)*	0.202 *(0.314)*
Regulated Dummy	0.673 *(0.271)*	-0.913 *(0.078)*	-0.783 *(0.106)*	0.341 *(0.394)*
Retail Dummy	-0.223 *(0.352)*	0.852 *(0.055)*	0.815 *(0.068)*	0.105 *(0.432)*
Prior Stock Return	0.525 *(0.090)*	-0.307 *(0.216)*	0.251 *(0.497)*	0.570 *(0.074)*
Stock Volatility	-10.074 *(0.208)*	-22.637 *(0.012)*	-24.456 *(0.008)*	-24.755 *(0.061)*
Earnings Surprise	-1.494 *(0.107)*	10.076 *(0.014)*	9.489 *(0.017)*	-0.798 *(0.314)*
Q4 Dummy	-0.811 *(0.026)*	-0.723 *(0.044)*	-0.997 *(0.006)*	-1.300 *(0.007)*
Q4 * Earnings Surprise	-9.273 *(0.037)*	-10.665 *(0.028)*	-12.714 *(0.009)*	-13.771 *(0.010)*
Turnover	3.973 *(0.000)*	1.171 *(0.160)*	2.793 *(0.000)*	6.123 *(0.000)*
Prior Disclosure	0.124 *(0.376)*	0.650 *(0.039)*	0.687 *(0.032)*	
Industry Legal Exposure	1.380 *(0.001)*		0.999 *(0.393)*	1.446 *(0.001)*
Likelihood Ratio Index	0.415	0.283	0.264	0.478