THE ROLE OF ACCOUNTING QUALITY IN SECURITIES CLASS ACTION
LAWSUITS

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL
OF THE UNIVERSITY OF MINNESOTA
BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PERVIN SHROFF, ADVISER

JUNE 2009

Dedication

I am extremely fortunate to have been supported and encouraged throughout my time in the Ph.D. program by my family and friends; they were my biggest cheerleaders. This dissertation is dedicated to my family especially to:

My husband Christian Grimm. Thanks for believing in me and supporting me! I am so grateful for your constant encouragement and patience.

My parents, Bill and Jean Dehning. Thanks for instilling in me the importance of education and hard work and for always believing in me.

My sister Ann Hintz. Thanks for listening and encouraging me when I needed it.

And to my Grandma, Muriel Dehning who has always loved education *and* the markets.

Abstract

Prior evidence suggests that stock price declines are the main driver for filing securities class action lawsuits and that case merit plays a minor role in both the decision to file a case and the case outcome. I use accounting quality as a proxy for managerial wrongdoing and test whether accounting evidence determines lawsuit filing decisions and distinguishes frivolous cases from those with merit. My results show that accruals quality, measured by accrual reliability, discretionary accruals, and reporting opacity in relation to intangible assets, significantly impact the decision to file a lawsuit. I also find that lower accounting quality in the form of accrual reliability, discretionary accruals, and reporting opacity in the form of R&D impact the magnitude of settlement amounts. These *ex ante* measures of accounting quality serve as leading indicators of case outcomes even after controlling for return performance and hard evidence events such as accounting restatements and SEC investigations. Overall, my findings suggest that accounting data is used by the legal system as a determinant of lawsuit filings and outcomes.

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1. Introduction

There has been a significant increase in securities class action lawsuit filings and settlement amounts in the last few decades. This has led to the perception of a complex and unpredictable legal environment for public companies. Executives frequently argue that firms are unfairly targeted by plaintiff attorneys for any substantial decline in stock price irrespective of culpability.[1] A recent report by New York City Mayor Michael Bloomberg and New York Senator Charles Schumer warns that the current excessive legal environment for securities class action lawsuits is threatening the U.S.'s position as a global financial services leader.[2] The report asserts that securities lawsuit filings are perceived to be closely related to stock price volatility and economic conditions rather than wrongdoing. Similar beliefs are prevalent in the academic literature; a seminal paper by Alexander (1991) concludes that stock price declines are the main driver for filing securities lawsuits and that case merit plays a minor role in both the decision to file a case and the case outcome. As a result, many academic papers assessing securities litigation risk have focused on stock performance characteristics and industry membership rather than underlying indicators of wrongdoing (See for example Rogers and Stocken, 2005; Johnson et al., 2001). My research suggests that the belief of frivolous securities litigation

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[1] For example, Mark Hoffman, the founder of Sybase Inc., expressed the fear many executives have of securities lawsuits: "When our stock fell, I readied myself for a call from the lawyers. I knew that our board and management had done nothing wrong, but I also knew that our innocence really didn't matter in this particular legal game. As careful as we had been in our public statements, a stock drop and market confusion are precisely the 'evidence' that class-action lawyers pounce on to file suits. High growth, high-tech companies are natural targets for class-action securities suits because the inherent risks in rapidly changing, technology driven industries lead to significant stock price volatility." *Rule of Law: Why Class Action Attorneys Stalk High-Tech Companies*, <u>Wall Street Journal</u>, January 11, 1995.

[2] See "Sustaining New York's and the US's Global Financial Services Leadership." January 22, 2007.

arising primarily from stock price decline and volatility may be over stated. After controlling for extreme negative stock price performance, I find that securities lawsuit filings and outcomes are supported by *ex ante* accounting evidence of wrongdoing. This suggests that accounting information can be used to differentiate cases with and without merit.

Securities lawsuits generally allege that companies disclosed misleading information that inflated the stock price and that the subsequent price correction resulted in losses to shareholders who had purchased shares at inflated prices. Liability to shareholders arises from the 1933 Securities Act and the 1934 Securities Exchange Act. Both Acts prohibit the disclosure of false and misleading statements. SEC Rule 10b-5, which clarifies the liability under the 1934 Act, prohibits companies from disseminating false or misleading information, or failing to disclose materially relevant information to investors. While a stock price decline is essential to claim damages, in order for the lawsuit to have merit, the decline must be caused by the company's attempt to mislead the market. Accounting quality measures of accounting restatements and SEC investigations can provide obvious evidence of misleading information. However, the majority of lawsuits in the sample are not accompanied by these events. I argue that managers' tendency to misrepresent and mislead can be proxied by the quality of the firm's accounting disclosures.

I use measures of accounting quality during the damage period as indicators of wrongdoing that can predict case merit. Specifically, I test whether class action lawsuit filings and outcomes are supported by accounting evidence. First, I use an accruals

reliability model to test whether the quality of accruals of the litigation sample of firms is lower relative to a sample of firms at-risk for litigation. Second, I test whether, in addition to poor stock price performance, a litigator's decision to file a lawsuit is substantiated by evidence of poor accounting quality during the damage period. Third, I test whether *ex ante* measures of accounting quality can predict the outcome of a lawsuit. Lastly, I examine the role of accounting quality in securities class action lawsuits prior to and following the passage of the Private Securities Litigation Reform Act (PSLRA) which was an attempt to limit frivolous litigation.

I use several measures of accounting quality offered by prior research as proxies for earnings management and reporting opacity. The accounting literature has made the case that accruals, which are based on estimates, are a potential source of earnings management. I use discretionary current accruals and one-time charges as indicators of potential earnings management measures.[3] Based on the accrual reliability model developed by White (2007), I also use the ability of reported accruals to map into future cash flows as a proxy for accruals quality.[4] In addition to managing accruals, managers may take advantage of the reporting opacity in relation to research and development (R&D) expenditure and unrecorded intangible assets to mislead investors. Since the

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[3] Meyers, Meyers and Skinner (2007) show that managers use one-time charges (or special items) as an earnings management device to maintain a string of consecutive earnings increases. Collins, Maydew and Weiss (1997) and Easton, Shroff and Taylor (2000) show that earnings of firms with one-time charges have low value relevance. Marquardt and Weidman (2004) suggest that one-time items are easier, and less costly, to manage than recurring income statement items.

[4] The underlying premise for the model in White (2007) is that reliable accruals articulate directly with the cash flows that they purport to represent. He argues that the degree to which reported accruals actually translate into future cash flow realizations should be used to draw inferences about managers' opportunism in reporting earnings.

future benefits of these assets are difficult to predict reliably, managers may make misleading claims regarding the future earnings potential of these assets.[5] I expect these accounting quality proxies to provide early signals of case merit.

My analysis examines litigated firms relative to a control sample of at-risk firms, i.e., firms that face litigation risk as indicated by large, negative stock returns.[6] The litigation sample is separated into subsamples based on the outcome of the litigation: (1) dismissed or withdrawn cases, (2) low settlement cases, and (3) high settlement cases.

The empirical results show that the accruals of firms involved in securities class action lawsuits do not map as well into future cash flow realizations as those of the at-risk sample of firms. This lower reliability of reported accruals of the litigation sample suggests that these firms may have been opportunistic in reporting earnings during the damage period. Further, from a multivariate logistic regression, I find that the probability of a lawsuit increases significantly with discretionary current accruals and variables reflecting reporting opacity, even after controlling for return performance, hard evidence events such as restatements and auditor turnover, and other litigation-related factors. These results indicate that the average class action lawsuit is filed legitimately based on

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[5] Chan, Lakonishok and Sougiannis (2001) argue that intangible assets, specifically R&D, are difficult for investors to interpret; the accounting for these assets generally has limited predictive ability and complicates the task of equity valuation. While it is often believed that these expenditures result in future benefits, Chan et al. (2001) do not find higher return performance of R&D intensive firms relative to firms with no R&D. Further, Collins et al. (1997) show that earnings of intangible-intensive firms have low value relevance. The opacity of reporting creates an opportunity for managers to mislead investors.

[6] Existing research has used non-litigated control firms selected based on industry (Henninger, 2001), earnings levels (Francis, Philbrick and Schipper, 1994) and public offerings (DuCharme, Malatesta and Sefcik, 2004). Given the belief that attorneys tend to file lawsuits following massive stock price declines, a control sample based on stock price performance will allow for a test of whether or not litigation provides effective managerial monitoring, i.e., whether litigators can effectively distinguish cases of wrongdoing from cases of economic distress.

the probability of wrongdoing as proxied by the firm's accounting quality. Thus, my findings are inconsistent with the assertion that securities lawsuits are filed primarily on the basis of negative return performance without regard to case merit.

While my results suggest that on average the decision to file a securities lawsuit is based on merit, it does not rule out the concern that a significant percentage of lawsuits filed may still be frivolous. In comparing lawsuits that were dismissed or withdrawn with those resulting in high settlements, I find that cases that were resolved with high settlement amounts have lower accounting quality. The accruals of the high settlement sample do not map as well into future cash flows as those of the dismissed sample. The ordered logit analysis shows that significantly higher discretionary current accruals and one-time charges increase the likelihood of a high settlement case outcome. Interestingly, variables reflecting reporting opacity decreases the likelihood of a high settlement case outcome possibly because allegations stemming from opaque reporting are more difficult to prove. A multivariate tobit regression of settlement amounts on accounting quality variables indicates that accounting quality has predictive power for settlement outcomes even after controlling for stock price decline, earnings performance, SEC investigations and restatements. Furthermore, the results of the tobit model are robust even after controlling for potential selection biases using a selection model. In total, the empirical results demonstrate that *ex ante* accounting quality variables are a leading indicator of lawsuit filings and outcomes.

I also find accounting quality to be a predictor of litigation filings and outcomes in both the pre- and post-PSLRA sample periods. However, the results are slightly

weaker in the post-PSLRA period. The likelihood of litigation in the pre-PSLRA period is impacted specifically by accounting quality measures of discretionary accruals and a measure of intangible assets. In the post-PSLRA period these same variables continue to impact litigation likelihood but with lower marginal effects. In the pre-PSLRA period discretionary current accruals and variables reflecting reporting opacity increase settlement amounts. In the post-PSLRA period, these same variables (i.e., discretionary accruals and R&D intensity) continue to increase settlement amounts but to a lesser extent. In addition, accounting quality reflected in one-time charges becomes a significant predictor of settlement amounts in the post-PSLRA period.

Through securities class action lawsuits, the legal institution acts as a monitoring mechanism that exists to prevent and punish managerial wrongdoing.[7] The ability of the legal system to differentially identify and penalize firms' wrongful actions based on factors other than simply a massive stock price decline is often questioned. My research empirically demonstrates that, in addition to a stock price decline, accounting evidence is an important factor in the filing and resolution of securities lawsuits. Overall, my findings suggest that accounting data provides indicators of case merit and is used by the litigation system to determine which cases to prosecute and punish.

The paper proceeds as follows. Section 2 discusses the related literature, Section 3 develops the hypotheses, Section 4 discusses the data and sample selection, Section 5

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[7] Ali and Kallapur (2001) find that shareholders reacted negatively to the passage of the PSLRA. The Act was an attempt to limit frivolous litigation through more stringent pleading and discovery requirements. Their findings suggest that shareholders generally view securities litigation as an important monitoring mechanism that may have been weakened by the Act.

outlines the research methods and empirical results, Section 6 discusses robustness checks, Section 7 examines the impact of the PSLRA and Section 8 concludes.

2. Related literature

2.1 Voluntary disclosure and litigation

The voluntary disclosure literature examines how timely disclosures relate to litigation risk. Skinner (1994) suggests that firms issue preemptive voluntary disclosures prior to negative earnings announcements in an attempt to mitigate the risk of securities litigation. Francis, Philbrick and Schipper (1994) reject this assertion in the context of firms in the technology industry. These authors conclude that a precipitous earnings decline by itself does not lead inevitably to a securities lawsuit; nor do preemptive disclosures act as deterrents of securities lawsuits. Consistent with the latter finding of Francis et al. (1994), Skinner (1997) suggests that shareholders file lawsuits when earnings news is sufficiently bad, regardless of the disclosures being timely.

Subsequent voluntary disclosure studies test the impact of litigation risk on the frequency and bias of voluntary disclosures. Johnson, Kasznik and Nelson (2001) find that voluntary disclosure frequency increases with litigation risk following the passage of the PSLRA. They conclude that the Act provided firms with additional "safe harbor" for forward-looking statements, thus encouraging increased disclosure. Similarly, Brown, Hillegeist and Lo (2005) find that more timely and precise disclosures are associated with litigation risk and conclude that firms believe there are disclosure benefits when the risk of litigation is high. Critics of the PSLRA predicted that the safe harbor provisions would

increase the optimism in management forecasts. Rogers and Stocken (2005) examine the bias in management forecasts but fail to find evidence of increased optimism following PSLRA. Overall, the findings of the disclosure literature suggest that voluntary disclosures do not preclude firms from being sued and that the PSLRA generally encouraged firms with greater litigation risk to increase voluntary disclosures.

2.2 Factors determining litigation risk

Studies relating to voluntary disclosures estimate litigation risk based on the magnitude and properties of stock returns, share turnover, firm size and industry. Studies in the law and economics literature estimate litigation risk by relying on the incentives of attorneys as estimated by factors relating to damage calculations. Damages are generally assumed to be increasing in negative returns and the firm's "deep pockets" proxied by firm size. Similarly, Lys and Watts (1994) suggest that audit firms are targeted as defendants in lawsuits for their deep pockets which reflect an ability to pay larger damage awards.

In addition to the incentives for collecting damage awards, litigation risk should also be influenced by variables reflecting evidence of wrongdoing and case merit. Empirical studies specifically relating to auditor litigation, which represents approximately 20% of all securities lawsuits, do link accounting measures of case merit to litigation risk. Stice (1991) finds that his model of auditor litigation, which is based on return performance, auditor characteristics and accruals, outperforms a naïve model of auditor litigation based on prior probabilities and relative error costs. Lys and Watts (1994) find that accounting manipulation and audit structure are associated with the

likelihood of auditor litigation. Similarly, Henninger (2001) finds that abnormal accruals are a significant predictor of auditor litigation. Auditor litigation is also found to be increasing in events providing hard evidence of wrongdoing, such as SEC enforcement actions (Carcello and Palmrose, 1994).

2.3 Earnings management and litigation

A recent study by DuCharme, Malatesta and Sefcik (2004) hypothesize that accounting earnings preceding initial public offerings (IPOs) and secondary equity offerings (SEOs) are opportunistically managed upward to obtain higher proceeds for the offering. The authors' alternate hypothesis is that managers accurately report earnings prior to the offering to signal validity and minimize litigation risk. They find that earnings are opportunistically managed prior to public offerings. Furthermore, they find that abnormal accruals are positively associated with the incidence of litigation and settlement amounts. These authors conclude that litigation risk does not deter earnings management prior to public offerings. Lu (2007) reaches a similar conclusion by simultaneously estimating earnings management and litigation risk. Lu's results suggest that firms actively manage earnings through discretionary accruals to avoid disappointing the market and to avoid a securities lawsuit that such disappointment could trigger. She concludes that litigation as a monitoring mechanism is ineffective in deterring earnings management since the threat of litigation actually encourages earnings management.

2.4 Case merit and litigation outcomes

The ability of the litigation system to differentially prosecute and punish firms based on merit has been studied in prior research. Alexander (1991) studies a sample of securities class action lawsuits related to IPOs of computer companies. She finds that although suits were filed against every company in the industry whose stock significantly declined following the IPO, the cases settled at an apparent "going rate" of approximately one quarter of the potential damages alleged in the complaint. She concludes that case merit does not appear to be a significant factor in determining the outcome of these cases. Similarly, Johnson, Nelson and Pritchard (2006) find little evidence that case outcomes relate more to case merit following the PSLRA and thus conclude that the Act may have discouraged frivolous litigation but failed to enhance the relationship between merit and case outcomes. Recent studies do indicate the increased importance of "hard evidence" events such as accounting restatements (Palmrose, Richardson and Scholz, 2004; Johnson et al., 2006) and SEC enforcement actions (Cox and Kiku, 2003) as determinants of settlement amounts. However, less than 20% of the litigation sample experiences these hard evidence events. Thus, whether outcomes of the general sample of securities lawsuits reflect case merit based on accounting evidence remains an open question.

3. Hypotheses development

3.1 Stock price declines and litigation filings

The merit of securities lawsuits and the role of securities litigation in managerial monitoring has been a topic of interest for academics and practitioners for at least the past

two decades. While lawsuits provide investors recourse for wrongdoing, many argue that the litigious nature of our society leads to numerous frivolous lawsuits (Grundfest, 1995). In the early 1990s, the business community, the financial press and politicians argued that securities lawsuits were often filed when there was a significant decline in a firm's stock price irrespective of any culpability by the firm (Coffee, 2006). The PSLRA was passed in 1995 as an effort to limit frivolous securities litigation. The passage of the Act was viewed negatively by shareholders due to a perceived decrease in the deterrence mechanism provided by the threat of litigation (Ali and Kallapur, 2001). There is mixed opinion on whether or not the PSLRA achieved its goal. The frequency of securities lawsuit filings initially declined following the PSLRA but the decline subsequently reversed (Perino, 2003). Choi, Nelson and Pritchard (2009) document that "hard evidence" in the form of accounting restatements and SEC actions became more important following the passage of PSLRA, but conjecture that many cases with merit are no longer prosecuted due to the higher evidentiary requirements.

The financial press continues to echo the general opinion that stock price declines often result in frivolous lawsuits which force innocent companies into settlement agreements:

> *".. few, if any, of these [securities] suits had any real merit in the first place. Several … are the kind of 'shakedown' suits … filed in response merely to a drop in the company's share price, which [the plaintiff] would use as an excuse to claim in a lawsuit that management had 'misled' shareholders. Companies typically settle these suits rather than endure costly and time-consuming litigation."*[8]

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[8] *The Trial Lawyers' Enron*, <u>The Wall Street Journal</u>, July 7, 2008.

The prevalent belief in the existence of frivolous litigation and irrational settlement amounts is also influencing public policy debates. New York politicians Mayor Bloomberg and Senator Schumer identify the U.S. legal environment as a major threat to the continued growth and success of the financial service industry. They argue that "the prevalence of meritless securities lawsuits and settlements in the U.S. has driven up the apparent and actual cost of business – and driven away potential investors." Their report, *Sustaining New York's and the US' Global Financial Services Leadership,* identifies changes in the stock price and stock price volatility as principal determinants for security lawsuit filings. They propose implementing "legal reforms that will reduce spurious and meritless litigation and eliminate the perception of arbitrary justice." There seems to be a perception that firms experiencing stock price declines are at-risk for securities litigation and that innocent companies settle lawsuits without regard to the evidence associated with the allegations. However, there has been a lack of rigorous academic research to support or test such claims.

While a stock price decline is required to claim damages, the stock price decline must have been caused by the revelation that previously disseminated information was intentionally misleading for a case to be meritorious. Certainly not every incidence of stock price decline indicates that wrongdoing has occurred. For a lawsuit to have merit, a stock price decline must have been caused by an attempt to mislead the market.[9] A stock

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[9] Sections 11 and 12 of the 1933 Securities Act state that liability arises if any communication relating to the initial sale of a security "contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading." Similarly, Section 18 of the 1934 Securities Exchange Act states that "Any person who shall make or cause to be made any statement, which was at the time and in the light of the circumstances under which it was made false or misleading with respect to any material fact, shall be liable."

price decline can be the result of an economic shock that negatively affects operating and financial performance. Alternatively, a stock price decline can be the result of a correction of the stock's overvaluation sustained by managerial actions that destroy value (Jensen, 2005). When firms are overvalued, earnings expectations are set too high, resulting in economic earnings that fall short of the target. This provides incentives for firms to manage reported earnings in an attempt to mislead the market and meet expectations.[10] If the divergence between expectations and economic outcomes continues to occur over subsequent periods, eventually the gap will be too large to be overcome through real or cosmetic earnings management activities. As a consequence, a subsequent corrective disclosure will result in a share price decline and loss of shareholder value. This bad news disclosure is due to previous managerial manipulation activities as opposed to an economic shock. Thus, the merit of a case should be determined by the cause of the negative information conveyed in the disclosure and not simply by the presence of bad news.[11]

I test the effectiveness of litigation as a managerial monitoring mechanism by comparing a sample of firms that have faced securities lawsuits with a control sample of

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[10] Jensen's theory of overvaluation can be better understood by sequentially applying prospect theory (Kahneman and Tversky, 1979). Under prospect theory, decision makers assess the value of prospects based on whether the prospect results in a gain or a loss relative to the reference point. The shape of the value function implies that people are risk seeking in an attempt to avoid losses and risk averse for gains. Thus, managers are likely to engage in risky earnings management behavior to avoid disappointing the market.

[11] The difference between an economic shock disclosure and a corrective disclosure can be seen when comparing the lawsuits brought against Department 56, Inc. and Tyco International Ltd. Both companies experienced stock price declines of more than 60% over the alleged damage period. Department 56, Inc. had problems implementing an inventory management system which negatively impacted sales. Tyco International, Ltd. had extensive accounting irregularities and fraud. The outcomes of the two cases were very different. The case against Department 56, Inc. was dismissed and no settlement was paid while the case against Tyco International, Ltd. resulted in a settlement of $2.975 billion.

firms that are potential targets for litigation. Earlier empirical studies have compared litigation firms with non-litigation control samples selected based on industry (Alexander, 1991; Johnson et al., 2006), earnings levels (Francis et al., 1994), public offerings (DuCharme et al., 2004) and the *Compustat* population of firms (Rogers et al., 2005). Since attorneys only have incentives to prosecute cases where plaintiffs have suffered losses, I use a sample of firms that have experienced extreme negative stock price performance as my control sample.

3.2 Accounting quality as a proxy for managerial misrepresentation

My study examines whether the litigation system prosecutes and punishes firms consistent with case merit as evidenced by the firm's accounting disclosures prior to the lawsuit. Nearly all securities lawsuits allege that the firm made misrepresentations and misleading disclosures during the damage period. I argue that managers' tendency to misrepresent and mislead can be proxied by the quality of the firm's accounting disclosures. In cases alleging accounting irregularities, I expect the plaintiff's allegations to be well-founded when there is evidence of earnings manipulation or poor accounting quality. However, this will not be true if an allegation relating to accounting is simply included to make the complaint appear substantive.[12] Thus, I expect that cases resulting in high settlements will exhibit evidence of poor accounting quality, while dismissed cases will not.

In addition to allegations of accounting irregularities, the litigation sample

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[12] Indeed, 26% of cases alleging accounting irregularities were dismissed presumably because they lacked substantiation.

includes cases with allegations relating to insider trading, product failures, and misstatements relating to public offerings and mergers. While it is intuitive that accounting quality is related to the merit of cases alleging accounting irregularities, it is also likely to be associated with other allegations. Beneish and Vargus (2002) find that the persistence of accruals is lower during periods of insider selling, suggesting that accounting quality may be an indicator of the merit for insider trading lawsuits. Similarly, Teoh, Wong and Rao (1998) find that discretionary current accruals are higher for IPO firms as compared to non-issuer firms and thus conclude that firms manage earnings prior to an IPO. Erickson and Wang (1999) find that acquiring firms manage earnings prior to stock-for-stock mergers to decrease the cost of the acquisition. Louis (2004) finds that long-run merger underperformance is partly attributable to earnings management reversals. Thus, accounting quality is likely to play a role in determining the filing and outcome of securities lawsuits with a variety of allegations.

I measure accounting quality primarily through accruals, one-time charges and variables that capture reporting opacity. Accruals occur when there is a mismatch between earnings and cash flows. For example, a credit sale creates an accounts receivable accrual that increases earnings but not cash flows. The accounting literature has made the case that abnormal accruals are a proxy for earnings management and low earnings quality (See Jones, 1991 and Dechow, Sloan and Sweeney, 1995). Higher discretionary accruals may indicate that earnings are being managed upwards and that accounting quality is poor. I expect discretionary accruals to be positively related to lawsuit filings and outcomes. The lack of association between cash flows and accruals is

another metric for accounting quality (Dechow and Dichev, 2002).[13] This concept has been developed into an accrual reliability model which uses indicator and interaction variables to test the ability of suspect accruals to translate into future cash flows (White, 2007).

In addition to accruals manipulation, managers may attempt to "dress up" operating earnings by shifting expenses to one-time charges (Easton et al., 2000). One-time charges could indicate lower accounting quality and would be expected to be positively related to lawsuit filings and outcomes. Alternatively, one-time charges could be indicative of economic distress in the form of restructuring charges and asset write-offs/write-downs and not of poor accounting quality per se. If that is generally the case, I will not observe a positive association between one-time charges and lawsuit filings and moreover, cases filed on the basis of one-time charges may have a greater association with dismissals.

In addition to management of accruals and one-time charges, managers may have more opportunities to overstate future prospects when the firm's accounting is opaque. Chan et al. (2001) argue that firms with R&D and other intangible assets are inherently more difficult for investors to value. Similarly, Barth, Kasznik and McNichols (2001) argue that accounting disclosures relating to R&D and intangible assets are generally not

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[13] Dechow and Dichev (2002) propose that the 5-year firm-specific standard deviation of the residual from the regression of changes in working capital accruals on past, present and future operating cash flow levels can be used as a measure of accounting quality. While the Dechow and Dichev measure is intuitively appealing, its computation requires at least seven years of data. I do not use this measure because data requirements to calculate the measure would significantly reduce the size and induce survivorship bias in the litigation sample. Furthermore, the five-year window over which the Dechow and Dichev measure is calculated will likely dilute the impact of the accounting quality over the specific period of interest (i.e., the damage period or the alleged period of wrongdoing identified in court documents).

informative of the future benefits from these assets and that the opaque reporting results in information asymmetry between managers and investors. As a result of the opaqueness of disclosures relating to intangible assets and R&D, investors have to assess the value of these assets from voluntary disclosures by management. This asymmetric information dynamic creates an opportunity for managers to make misleading statements with respect to the future benefits of R&D and intangible assets. For example, managers may overstate the progress of technological developments or the expected benefits of an acquired brand name. Thus, I hypothesize that firms with opaque accounting have greater opportunities to mislead investors and thus have lower accounting quality. Firms with opaque accounting are therefore more likely to be sued and penalized with larger settlement amounts.

R&D expense can be used as a proxy for a firm's reliance on developing technologies and thus is one measure of accounting opacity. Feltham and Ohlson (1995) suggest that unrecorded intangible assets are a characteristic of conservative accounting that result in market values in excess of book values. Beaver and Ryan (2005) empirically measure conservatism arising from unrecorded intangible assets with the market-to-book ratio. Similarly, Harford (1999) uses the market-to-book ratio as a measure of information asymmetry between investors and managers arising from unrecorded intangible assets. Thus, I use the market-to-book ratio as a proxy for unrecorded intangible assets.

Certain corporate events, such as SEC investigations, accounting restatements and auditor turnover, may also provide evidence of wrongdoing. The SEC investigates firms

that it believes have issued misleading disclosures. Similarly, accounting restatements indicate that management had to revise accounting data either voluntarily or due to an enforcement action. Both of these events provide hard evidence of poor accounting quality. Auditor turnover may result from a disagreement between the auditor and the executives on the correct application of GAAP, most likely with the auditor being more conservative than management. Thus, auditor turnover may implicitly signal accounting deficiencies. Each of these events reflect potential managerial wrongdoing and thus are expected to be predictors of case filings and outcomes.

4. Data and sample selection

4.1 Litigation and at-risk samples

The sample consists of firms involved in securities class action lawsuits (litigation sample) resolved during the period 1984 to 2006. Data for the litigation sample is obtained from the Woodruff-Sawyer & Co. Shareholder Action database.[14] Cases lacking the lawsuit filing date, the damage period or the case outcome are excluded from the litigation sample. The litigation sample consists of 1,979 observations with required data to perform the empirical tests. Figure 1 depicts the number of cases with requisite data filed during the sample period. Case filings have generally been increasing over the sample period with case filings peaking in 2001 following the burst of the technology

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[14] I thank Bill Ballowe and Priya Cheria Huskins for providing me with the litigation data.

bubble in 2000.[15] I obtain return data from the CRSP database and accounting data from the *Compustat* annual database.

Securities lawsuits in the litigation sample have an average damage period of one year, and on average, take two and a half years from the lawsuit filing date to be resolved. Table 1 reports descriptive statistics relating to settlement amounts. Over one third of cases in the litigation sample are resolved with a dismissal or settlement of zero dollars. The highest settlement amount observed in the sample is over $8 billion and the mean (median) settlement is $22.71 million ($2.25 million).[16] Settlement amounts discussed in the remainder of the paper have been scaled by lagged total assets. Settlement amounts range from zero to 1.93 times lagged total assets. The mean (median) settlement amount for all cases in the litigation sample is 9.7% (less than 1%) of lagged total assets. The median scaled settlement for cases with non-zero settlements is 4.3% of lagged total assets.

The litigation sample is separated into three subsamples: (i) cases that were dismissed, withdrawn or settled for $0 (Dismissed), (ii) cases for which the settlement amount is less than or equal to the median non-zero settlement (Low settlement), and (iii) cases with settlement amounts greater than the median (High settlement). This classification results in approximately equal number of observations across the three

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[15] There are 341 cases with disclosure months in 2000, 40% of which occur in the last quarter of the year. Approximately 50% of all cases in the sample are filed within one month of the disclosure month. However some cases are not filed as quickly; 75% of all case in the sample are filed within 4.5 months of the disclosure month and 97% are filed within one year of the disclosure month. Thus it is not surprising that case filings spike in 2001 following the last burst of the technology bubble in November 2000.

[16] The highest settlement in the sample is Enron.

subsamples (i.e., 36% are dismissed, 32% are low, 32% are high). For each lawsuit in the litigation sample, I define the month with the lowest stock return during the damage period as the "disclosure month." This assumes that the month with the worst stock price performance is the month when the market learned of the information that triggered the lawsuit.

I identify a control sample of firms that are at-risk for litigation based on extreme negative one-month stock returns. For each year, a firm is classified as at-risk if in any month (i) its return is negative and (ii) falls in the lowest percentile of returns in CRSP for that month. The mean (median) CRSP cutoff return to determine the at-risk sample (i.e., the monthly cutoff for the lowest percentile) is -32.4% (-29.60%). Firms in the at-risk sample are also required to have analyst following in the year leading up to the at-risk month. Analyst following ensures that the company has sufficient visibility and size to become a litigation target. If a firm is classified as at-risk for more than one month during a fiscal year, then the month with the lowest return is considered the at-risk month. The at-risk control sample is comprised of 1,446 observations.

5. Research methods and empirical results

5.1 Accrual reliability tests

Accruals represent revenue/expenses that are recognized before cash is received/paid. One test of accounting quality is to see how accruals from period t articulate into cash flows in the subsequent period $t+1$ (White, 2007). The accrual reliability tests assume that cash flows in period t relate to transactions impacting earnings of the previous,

current and subsequent periods. If accrued revenues and expenses from period t fail to articulate to cash in the subsequent period $t+1$, then the accruals and earnings in period t are less reliable and the firm's accounting quality is in question (White, 2007). The accrual reliability model can be applied in the litigation setting to test the hypothesis that the legal system differentially litigates and punishes firms based on accounting quality.

5.1.1 Research design

The accrual reliability tests in White (2007) model cash flows from operations as a function of transactions that have impacted previous, current and subsequent period income. Accruals represent transactions affecting earnings from the previous period that will impact cash in the current period. Current period cash flows (CPCF) represent transactions that impact cash and earnings in the current period. Deferrals represent transactions that impact cash in the current period that will translate into earnings in the subsequent period. The empirical model is:

$$CFO_{t+1} = \alpha_0 + \alpha_1 Accruals_t + \alpha_2 CPCF_t + \alpha_3 Deferrals_{t+1} + \varepsilon_{t+1} \tag{1}$$

CFO_{t+1} is cash flows from operations (*Compustat* data308). $Accruals_t$ are defined as accounts receivables (*Compustat* data2) less inventory accruals less other current liabilities (*Compustat* data72), all at date t. The inventory accrual is the difference between accounts payable (*Compustat* data70) and inventory (*Compustat* data3) at date t, when accounts payable exceeds inventory. Accruals are expected to map positively into future cash flows. $CPCF_t$ is defined as current period's operating income before depreciation (*Compustat* data13) less accruals from the current period t plus deferrals

from the previous period *t-1*. $CPCF_t$ is included as a control variable to proxy for cash earnings related to period *t+1* and is expected to be positively related to CFO_{t+1}. $Deferrals_t$ are the sum of other current assets (*Compustat* data68) and the inventory deferral. The inventory $deferral_t$ is the difference between inventory (*Compustat* data3) and accounts payable (*Compustat* data70) at date *t*, when the inventory balance is greater than accounts payable. Since deferrals represent cash paid prior to incurring an expense, deferrals in *t+1* are expected to be negatively associated with CFO_{t+1}. All variables are scaled by lagged total assets and observations are winsorized at the top and bottom 1%. The variables are defined in Appendix A.

The accrual reliability test is estimated by interacting accruals with an indicator variable (I) that equals one for a firm in the litigation sample and zero for an at-risk firm:

$$CFO_{t+1} = \gamma_0 + \gamma_1 Accruals_t + \gamma_4 CPCF_t + \gamma_3 Deferrals_{t+1} + \gamma_4 I + \gamma_5 (Accruals_t * I) + \varepsilon'_{t+1} \quad (2)$$

A negative coefficient on the accruals interaction term indicates that the association of accruals with next-period cash flows is lower relative to the control sample, suggesting low accrual reliability of the litigation sample in period *t*.

5.1.2 Empirical results

The accrual reliability tests are based on a sample of 916 at-risk and 1,343 litigation firms.[17] The tests examine accruals for the fiscal year ended prior to the disclosure month (i.e., the worst month in the damage period) for the litigation sample or the at-risk month

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[17] The sample size is lower than that discussed in the data section because the accrual reliability tests require data from the statement of cash flows. The statement of cash flows was not broadly available until 1988, thus, observations prior to 1988 have been excluded from the accrual reliability tests.

for the control sample. The fiscal year prior to the disclosure or at-risk month is denoted as period t. Table 2 Panel A reports the mean and median values of the accrual reliability variables. Median Accruals and Deferrals are both significantly higher for the litigation sample relative to the at-risk sample. Table 2 Panel B compares the mean and median variable values of the dismissed, low and high settlement samples. Interestingly, mean and median accruals of the high settlement subsample are significantly greater than those of the dismissed and low settlement subsamples. Table 2 Panel C reports the Spearman and Pearson correlations among the variables. As expected, Accruals and CPCF are positively correlated with CFO while Deferrals are negatively correlated with CFO. Accruals, the primary variable of interest have a positive Spearman correlation with settlement amounts and an insignificant Pearson correlation with settlement amounts.

Table 3 reports the regression results of the accrual reliability tests. As expected, $Accruals_t$ and $CPCF_t$ map positively while $Deferrals_{t+1}$ map negatively into CFO_{t+1} in the three models reported. The results in column (i) show a significantly negative coefficient on the Accruals*Litigation interaction term, suggesting that the litigation sample has less reliable accruals relative to the at-risk sample. The regression results reported in column (ii) test the accrual reliability of the dismissed, low and high settlement subsamples relative to the at-risk sample. The accruals of all three outcome levels negatively map into CFO_{t+1}. The results also suggest that the accrual reliability differs across subsamples of outcome levels. The interaction coefficients are negative and monotonically increasing in magnitude with outcome level. The Accruals*High coefficient estimate is -0.2126 while the Accruals*Dismissed coefficient estimate is -.0810. The last row of the table

also reports that the difference in interaction coefficient estimates of the high settlement and dismissed samples is significant, indicating lower accrual reliability for the high settlement sample relative to the dismissed sample. The results reported in column (iii) test the accrual reliability of the litigation sample using settlement amounts. The Accruals*Settlement coefficient is significantly negative indicating that accrual reliability deteriorates as the settlement amount increases.

Overall, the results of the accrual reliability tests support the hypothesis that accounting quality varies with case outcome level and that accounting data is used by the litigation system to differentially prosecute and punish firms.

5.2 Accounting quality as predictor of litigation filings and outcomes

If accounting data provides information to the legal system, then I expect accounting quality to be a significant determinant of the decision to litigate, case outcome levels, and settlement amounts. The tests that follow examine whether or not *ex ante* measures of accounting quality can predict the incidence of litigation as well as its outcome.

5.2.1 Research design

I use four types of regression analysis: (1) a logistic regression estimating the likelihood of litigation, (2) an ordered logit regression estimating case outcome levels, (3) a tobit regression explaining settlement amounts and (4) a selection correction model to estimate settlement amounts. In the logistic regression, I model the probability that a firm belongs to the litigation sample (litigation=1). The ordered logit regression models the outcome

level of cases (i.e., outcome equals 1 if the case is dismissed, 2 if the case results in a low settlement and 3 if the case results in a high settlement). The tobit regression models settlement amounts. The selection model jointly estimates the likelihood of litigation and settlement amounts to correct for selection biases. The independent variables of interest are proxies for accounting quality that reflect earnings management behavior and reporting opacity. Hard evidence events and controls for earnings, return characteristics, and firm size are also used as additional independent variables. The general empirical model is:

$$\text{Litigation Filings/Outcomes} = \eta_0 + \eta_1 \text{Discretionary Current Accruals}_t +$$

$$\eta_2 \text{One-time Charges}_t + \eta_3 \text{R\&D Intensity}_t + \eta_4 \text{Market-to-book}_t + \eta_5 \text{Restatement} +$$

$$\eta_6 \text{Auditor Turnover} + \eta_7 \text{SEC Investigation} + \eta_8 \text{Minimum Daily Returns}_t +$$

$$\eta_9 \text{Standard Deviation of Returns}_t + \eta_{10} \text{Return Skewness}_t + \eta_{11} \text{Share Turnover}_t +$$

$$\eta_{12} \text{Beta}_t + \eta_{13} \text{Earnings}_t + \eta_{14} \text{Firm Size}_t + v_t \qquad (3)$$

All of the accounting variables represent data from the fiscal year ended prior to the disclosure month (i.e., the worst month in the damage period) for the litigation sample, and prior to the at-risk month for the control sample. Discretionary current accruals are estimated as the difference between current accruals and non-discretionary current accruals; non-discretionary current accruals are estimated from industry-year regressions of current accruals on sales. One-time charges are the sum of special items (*Compustat* data17) and extraordinary items and discontinued operations (*Compustat* data48), multiplied by negative one. Variables that capture reporting opacity include R&D intensity measured as R&D expense (*Compustat* data46) and the market-to-book

ratio as a proxy for unrecorded intangible assets. The market-to-book ratio is calculated as common shares outstanding (*Compustat* data25) multiplied by the closing price (*Compustat* data199), divided by book value of common equity (*Compustat* data60).[18] All accounting variables other than the market-to-book ratio are scaled by lagged total assets. The construction of the variables is described in Appendix A.

Higher values of discretionary current accruals and one-time charges are likely to indicate potential earnings management, and higher R&D intensity and market-to-book ratios are likely to indicate less accounting transparency and greater opacity. Thus, I expect these accounting quality variables to be positively related to litigation incidence and settlement amounts.

Hard evidence events including restatements, auditor turnover and SEC investigations are expected to increase the likelihood of litigation and settlement amounts. The restatement variable takes on a value of one if a firm in the litigation sample announces a restatement during the damage period through 30 days following the later of the end of the damage period or the lawsuit filing date. The restatement variable takes on a value of one if a firm in the at-risk sample announces a restatement in the fiscal year of the at-risk month. Firms restating their financial statements are identified from the U.S. Government Accountability Office (GAO) restatement database. Auditor turnover is an indicator variable equal to one if the auditor code (*Compustat* data149) is not the same for years *t* and *t+1* and zero otherwise. SEC investigation is an indicator variable that equals one if a firm in the litigation sample is involved in an SEC

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[18] The tests were repeated using an indicator variable based on industry SIC. The intangible-intensive industry variable was insignificant.

investigation and zero otherwise. Data pertaining to SEC investigations of the litigation sample is obtained from the Woodruff-Sawyer database. The hard evidence events are expected to increase litigation incidence and settlement amounts.

Consistent with prior research on securities litigation, return characteristics of sample firms are used as control variables in the analysis. Return characteristics including minimum daily returns, standard deviation of returns, return skewness, share turnover and market beta are measured using daily returns over a one-year period ending with the disclosure month or the at-risk month. Minimum daily returns are expected to be negatively related to settlement amounts because larger negative returns increase estimated damage claims. Share turnover (CRSP Daily Stock Volume / average CRSP Daily Shares Outstanding) indicates a higher number of shareholders who may claim damages thus increasing the stakes of the litigation. Thus, it is expected to be positively related to litigation and settlement amounts. Consistent with prior literature, return skewness is expected to be negatively related to litigation incidence, since extreme negative stock performance may drive litigation. Standard deviation of daily returns and market beta, both proxies for firm risk, are expected to increase the likelihood of litigation and settlement amounts. In addition, I use earnings performance as a control variable. Firms with negative earnings would have a lower ability to pay damages and would be less likely to have engaged in earnings manipulation. Thus, I expect earnings before extraordinary items (*Compustat* data18) to be positively related to litigation incidence and settlement amounts. The log of lagged total assets (*Compustat* data6) is

used as a proxy for firm's deep pockets and is also used as a control; firm size is expected to increase the likelihood of litigation and settlement amounts.

5.2.2 Empirical results for litigation filings

Table 4 reports descriptive statistics of the accounting quality variables and compares the litigation and at-risk samples. The univariate statistics in Panel A suggest that the accounting quality of the litigation sample is lower than the at-risk sample. Mean one-time charges, R&D intensity and the market-to-book ratios are higher for the litigation sample than the at-risk sample. This indicates lower accounting quality for the litigation sample relative to the at-risk sample. Mean discretionary current accruals of the litigation sample are higher than the at-risk sample; however, the difference is insignificant. Approximately 16% of the litigation sample announced a restatement compared to only 3% of the at-risk sample.[19] Auditor turnover is higher for the litigation sample, 12%, compared to the at-risk sample, 8%.

Descriptive statistics relating to return characteristics and earnings performance of the litigation and at-risk samples are also reported. The mean disclosure month return of -34% is comparable and insignificantly different from the at-risk month return of -35% (by construction). Similarly, the minimum daily return of the litigation sample, -28%, is comparable to the minimum daily return of the at-risk sample, -28%. The litigation sample has on average higher share turnover and higher beta relative to the at-risk sample. The earnings of the litigation sample are lower than the earnings of the at-risk

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[19] Some lawsuits were matched with multiple restatements. Note that the GAO restatement sample period only contains observations between 1997 through 2006.

sample. The firms in the litigation sample are larger, based on log total assets, than firms in the at-risk sample. Table 4, Panel B reports Pearson and Spearman correlations among the settlement amounts and the accounting quality variables. Variables indicating low accounting quality generally have positive Pearson correlations with settlement amounts. Similarly, hard evidence events are positively correlated with settlement amounts.

Table 5 reports the results of the logistic regression testing the predictive ability of accounting quality on the incidence of litigation. The results indicate that *ex ante* measures of accounting quality, namely discretionary current accruals and the market-to-book ratio, increase the likelihood of litigation after controlling for earnings and return performance. As expected, the hard evidence events of accounting restatements and auditor turnover also increase the likelihood of litigation. Inconsistent with my expectations, one-time charges and R&D intensity do not significantly impact the likelihood of litigation. Consistent with the deep pockets argument, firm size increases the likelihood of litigation. Other control variables, namely, minimum daily returns, standard deviation of returns, return skewness, share turnover, and beta are either insignificant or are significantly related to litigation incidence in the predicted direction. The coefficient on earnings, has a negative sign, which was opposite to my expectations. The negative coefficient on earnings indicates that firms with negative earnings are more likely to face litigation while profitable firms are less likely to face litigation. My expectation was that negative earnings would be symptomatic of economic distress and thus associated with a decreased likelihood of litigation. This result may suggest that lawsuit filings are in part driven by earnings performance and that investors are more

likely to sue firms for poor profitability.[20] It may be the case that lawsuits stemming from negative profitability are more likely to be dismissed. Overall, the results of the logistic regression suggest that *ex ante* measures of accounting quality, reflected by discretionary accruals and the market-to-book ratio, can identify firms that are likely to be prosecuted by the litigation system. My results indicate that on average securities lawsuits filed against companies have accounting evidence to support preliminary claims. Thus, it appears that on average these cases have merit and are not filed solely on the basis of a stock price decline.

5.2.3 Empirical results for litigation outcomes

Table 6 reports comparative univariate statistics for the dismissed, low and high settlement subsamples. The results show distinct differences in accounting quality across subsamples. Mean discretionary current accruals are greater for the high settlement sample as compared to the dismissed sample. Mean one-time charges are also larger for the high settlement sample compared to the dismissed sample. Interestingly, the high settlement sample has lower measures of accounting opacity compared to the dismissed sample but the median differences are insignificant. The high settlement cases have a significantly higher frequency of restatements, auditor turnover and parallel SEC investigations relative to dismissed cases. Furthermore, the frequencies of these hard evidence events increase across the three subsamples. 11% of the dismissed firms, 16% of the low settlement sample and 20% of the high settlement sample announced an

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[20] Consistent with the assertion that investors evaluate earnings relative to zero, earnings falling below zero are more salient and thus are more likely to elicit a response by investors to prosecute the firm.

accounting restatement. Auditor turnover occurs in 8% of the dismissed sample, 12% of the low settlement sample and 17% of the high settlement sample. Parallel SEC investigations occur for 4% of the dismissed sample, 8% of the low settlement sample and 9% of the high settlement sample.

Table 6 also reports comparative return characteristics and earnings of the subsamples. The mean disclosure month returns are -37%, -31%, -34% for the dismissed, low and high settlement samples, respectively. The mean minimum daily returns are -28%, -26% and -32%, respectively. The high settlement sample has lower standard deviation of returns and greater negative return skewness than the dismissed sample. Share turnover and beta are insignificantly different between the high and dismissed samples. Earnings are greater for the high settlement sample relative to the dismissed sample. Firm size is larger for the dismissed sample than the high settlement sample.

The litigation outcome regressions are reported in Table 7. Results of the ordered logit model of outcome levels (i.e., dismissed, low or high settlement amounts) are reported in Panel A column (i). As expected, discretionary current accruals and one-time charges increase the likelihood of a high settlement outcome. The coefficients on R&D intensity and market-to-book ratio are both negative, although the coefficient on R&D intensity is insignificant. These results indicate that accounting opacity may decrease the likelihood of high settlement outcomes. This is in contrast with the results of Table 5 where accounting opacity as measured by the market-to-book ratio increased the likelihood of litigation. This result is driven by the high market-to-book ratio of the dismissed sample (see Table 6). This indicates that wrongdoing may be alleged based on

the lack of transparency for firms that rely heavily on unrecorded intangible assets but that successful prosecution relating to opaque accounting is more difficult and thus frequently results in dismissal. As expected, the hard evidence events of restatements, auditor turnover and SEC investigations increase the likelihood of a high settlement outcome.

The coefficients for the control variables relating to return characteristics are generally consistent with the predicted sign. The negative coefficient on minimum returns indicates that a larger negative return will increase the likelihood of a high settlement. The coefficients for share turnover, beta and earnings are all positive. While earnings are negatively associated with litigation likelihood (See Table 5), earnings performance is positively related to settlement outcomes. This could indicate that firms with negative earnings are more likely to be litigation targets but are less likely to be penalized with larger settlement amounts for a lack of profitability. Positive earnings may also indicate a company's ability to pay damage awards and thus profitable firms are more likely to result in higher settlement. Further, it is more likely that companies would manipulate financial reporting to obtain positive earnings rather than negative earnings thus positive earnings (as compared to negative earnings) increase the probability that wrongdoing caused the stock price decline rather than an economic shock.

The coefficients on the standard deviation of returns and firm size have signs opposite to my expectations. Greater return volatility may render damage claims more difficult to demonstrate. Larger standard deviation of returns reduces the t-statistic used to determine whether returns over a test period are significantly abnormal. Since

abnormal return calculations are frequently provided to the courts as preliminary evidence in securities lawsuit, increased volatility may actually increase the likelihood of a dismissal and thus decrease the likelihood of a high settlement. Firm size is negatively related to case outcomes indicating that larger firms are more likely to be targets of frivolous litigation.

Since settlement amounts are censored at zero, an OLS regression of settlement amounts on accounting quality variables is inappropriate. Panel A column (ii), reports the results of the tobit regression of settlement amounts on accounting quality and opacity variables; the results corroborate the findings from the accrual reliability tests (Table 3) and outcome-level tests reported in column (i). Discretionary current accruals and R&D intensity have predictive ability for settlement amounts as do the hard evidence events. Each of these variables is positively related to settlement amounts. Coefficients for the control variables are consistent with the results discussed for column (i).

Table 7 Panel B reports the results of the selection model which jointly estimates the probit and tobit models using the maximum likelihood technique. The selection model corrects for potential selection biases. The probit model for likelihood of litigation is reported in column (i) and the tobit model of settlement amounts is reported in column (ii). The results of the probit model indicate that accounting quality variables, specifically, discretionary current accruals, R&D intensity and the market-to-book ratio, as well as accounting restatements and auditor turnover, increase the likelihood of litigation filings.[21] Settlement amounts are estimated with a tobit model which includes

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[21] Note that the probit results are largely similar to the logit results reported in Table 5.

Sigma as a correction for censoring of the settlement amount at zero and Rho as a correction for potential selection biases arising from the decision to litigate a case. Rho is significant suggesting that there are selection biases. However, the coefficients and significance levels for the accounting quality variables are consistent with the results of the tobit analysis reported in Panel A, column (ii). The accounting quality variables including discretionary current accruals, R&D intensity and the market-to-book ratio, as well as the hard evidence events, remain significant determinants of settlement amounts even after controlling for selectivity biases. Overall, the results of Table 7 support the hypothesis that accounting quality impacts the outcome of securities lawsuits.

6. Robustness checks

6.1 Robustness checks relating to the definition of the at-risk sample

The results comparing the accounting quality of the litigation and at-risk samples may be sensitive to the sample selection criteria used to define the at-risk sample. As a robustness check, I have repeated the accrual reliability tests reported in Tables 2 and 3 and the litigation likelihood tests reported in Tables 4 and 5 using alternate definitions for the at-risk sample. The results of the accrual reliability and litigation likelihood tests using alternate at-risk samples are consistent with the main results discussed in the paper and are discussed in detail below.

6.1.1 Restricting the at-risk sample to firms with larger market capitalization

Prior research has indicated that market capitalization is significantly related to lawsuit filings. The at-risk sample may not be appropriately specified based on market

capitalization since the at-risk sample consists of firms with smaller market capitalization relative to the litigation sample. The mean and median market capitalization statistics of the litigation sample, \$3,609MM and \$480MM respectively, are greater than the corresponding statistics for the at-risk sample of \$457MM and \$177MM. As a robustness check, firms with market capitalization of less than \$150MM, which is the first quartile of pre-damage period market capitalization for the litigation sample, are eliminated from the at-risk sample.

The accrual reliability and litigation likelihood results of this robustness test are reported in Tables 8 and 9 respectively. The results are consistent with the results discussed in Section 5 although the significance levels are slightly lower, likely due to a decrease in power caused by the significant reduction in the at-risk sample size.[22] The results of the accrual reliability tests demonstrate that the litigation sample has lower accrual reliability relative to the at-risk sample even after excluding at-risk firms with market capitalization greater than \$150MM. The results of the litigation likelihood analysis indicate that the accounting quality variables of discretionary current accruals, and the market-to-book ratio, as well as the hard evidence events, are predictors of litigation likelihood even after excluding at-risk firms with market capitalization less than \$150MM. Overall, the results in Tables 8 and 9 are qualitatively consistent with the accrual reliability tests reported in Table 3 and the litigation likelihood results reported in Table 5.

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[22] The at-risk sample for the accrual reliability tests was reduced from 916 observations to 710 observations after eliminating firms with market capitalization of less than \$150MM. The at-risk sample for the litigation likelihood tests was reduced from 1,446 observations to 821 observations after eliminating firms with market capitalization less than \$150MM.

6.1.2 Defining the at-risk sample as firms with returns in the fifth percentile and lowest decile of returns

Only 49% of the litigation sample could also be classified as at-risk based on the lowest percentile of returns. Thus, the at-risk sample may not be appropriately specified based on return performance. Such a restrictive control sample may bias the control sample with extremely distressed firms. Thus, defining the at-risk sample relative to the lowest percentile cutoff may be too restrictive and under represent the sample of firms at-risk for litigation. An at-risk sample defined relative to the fifth percentile of returns (at-risk-p5) would classify 81% of the litigation sample as at-risk-p5. Similarly, an at-risk sample defined relative to the lowest decile of returns (at-risk-p10) sample, would classify 89% of the litigation sample as at-risk-p10. The at-risk-p5 and at-risk-p10 samples are further restricted to firms with market capitalization greater than $150MM and analyst following to ensure the firms have significant visibility to become litigation targets.

The accrual reliability and litigation likelihood results of the robustness test using the at-risk-p5 sample are reported in Tables 10 and 11 respectively. The results are consistent, if not stronger, with the results discussed in Section 5. The accrual reliability of the litigation sample is lower relative to the at-risk-p5 sample. The magnitude of accrual reliability is also decreasing as the outcome level of the case increases from dismissed to high settlement and is decreasing in settlement amounts. Table 11 Panel A reports the mean and median accounting quality variables for the litigation and at-risk-p5 samples. Discretionary current accruals, one-time charges, R&D intensity and the

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market-to-book ratio are all higher for the litigation sample than the at-risk-p5 sample. The descriptive statistics thus indicate lower accounting quality for the litigation sample relative to the at-risk-p5 sample. The logistic regression of litigation likelihood, reported in Table 11 Panel B, further supports the relationship between accounting quality and litigation likelihood. Discretionary current accruals and the market-to-book ratio are significant indicators of lawsuit filings.

The accrual reliability and litigation likelihood results of the robustness test using the at-risk-p10 sample are reported in Tables 12 and 13 respectively. The results are again consistent with the results discussed in Section 5. Accrual reliability of the litigation sample is significantly lower than the accrual reliability of the at-risk-p10 sample. Similarly, the accrual reliability of the high settlement sample is significantly lower than accrual reliability of the dismissed sample. The coefficient estimates for Accruals*High and Accruals*Dismissed are -.1815 and -.0398 respectively; the difference in the high and dismissed coefficient estimates is significant at the <5% level. Accrual reliability relative to the at-risk-p10 sample is also decreasing with settlement amounts. Table 13 Panel A reports descriptive statistics of the litigation and at-risk-p10 samples. The accounting quality variables of discretionary current accruals, one-time charges, R&D intensity and the market-to-book ratio are all significantly higher for the litigation sample than the at-risk-p10 sample. The descriptive statistics thus indicate lower accounting quality for the litigation sample relative to the at-risk-p10 sample. The logistic regression of litigation likelihood relative to the at-risk-p10 sample is consistent

with results using alternate at-risk sample definitions previously discussed. Discretionary current accruals and the market-to-book ratio are significant indicators of lawsuit filings.

6.1.3 Defining the at-risk sample as big firms with returns in the fifth percentile

To further demonstrate that the results are not driven by differences in market capitalization, a more restrictive at-risk sample is constructed ("at-risk-big"). The at-risk-big sample consists of firms with returns in the fifth percentile and excludes observations with market capitalization less than $480MM, the median market capitalization of firms in the litigation sample. The accrual reliability and litigation likelihood results of the robustness test using the at-risk-big sample are reported in Tables 14 and 15 respectively.

The accrual reliability results indicate that the accrual reliability of the litigation sample is lower relative to the at-risk-big sample. Accrual reliability is also decreasing with increased settlement amounts. The litigation likelihood results are also robust to the exclusion of firms with market capitalization less than $480MM from the at-risk sample. The accounting quality variables of discretionary current accruals, one-time charges, R&D intensity and the market-to-book ratio are all significantly higher for the litigation sample than the at-risk-big sample. The descriptive statistics thus indicate lower accounting quality for the litigation sample relative to the at-risk-big sample. The logistic regression of litigation likelihood using the at-risk-big sample indicates that discretionary current accruals remain a significant indicator of lawsuit filings and R&D intensity is also marginally significant.

Overall, the results of Tables 8 – 15 demonstrate that the results are robust to alternate definitions of the at-risk sample. Differences in accrual reliability between the litigation and various at-risk samples are not driven by market capitalization or return characteristics of the at-risk sample. Similarly, the significant role of accounting quality as a determinant of litigation filings is robust to alternative sample selection criteria for the at-risk sample.

6.2 Robustness checks relating to the hard evidence events

It has been suggested that cases with concurrent accounting restatements and / or SEC investigations may be driving the accounting quality results. The accrual reliability results, the litigation likelihood results and the litigation outcome results excluding observations with SEC investigations and / or accounting restatements are reported in Tables 16, 17 and 18 respectively. The results are similar to the results discussed in Section 5.

The results of the accrual reliability analysis after excluding observations with hard evidence events are reported in Table 16. Panels A and B compare the mean and median variable values across (A) the litigation and at-risk samples and (B) the dismissed, low and high settlement samples. The means, medians, the differences between the statistics of the various samples are similar to the descriptive statistics reported in Table 2. Table 16 Panel C reports the accrual reliability tests for the sample excluding the hard evidence events. The accrual reliability results are consistent, although the significance levels are slightly weaker, than the results reported in Table 3. The

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results reported in column (i) indicate that the litigation sample has less reliable accruals relative to the at-risk sample. The results of column (ii) indicate that the high and low settlement samples have less reliable accruals relative to the at-risk sample. The high settlement sample has lower accrual reliability than the dismissed samples although an F-test of the difference is insignificant. Note that the Accruals*Low coefficient is slightly greater in magnitude and significance than the Accruals*High coefficient. Overall, the results of Table 16 indicate that accrual reliability varies between the litigation and at-risk samples as well as between the high settlement and dismissed samples. Thus the accrual reliability results are robust to the exclusion of observations with hard evidence events.

Table 17 reports the litigation likelihood tests after excluding observations with SEC investigations and accounting restatements. The results are consistent with the results reported in Table 5. Accounting quality in the form of discretionary current accruals and the market-to-book ratio continue to be significant predictors of lawsuit filings even after excluding observations with hard evidence events. Thus, the litigation likelihood results are not driven by observations with SEC investigations or restatements.

Table 18 reports the litigation outcome tests after excluding observations with SEC investigations and accounting restatements. The results are consistent with the results reported in Table 7. Table 18 Panel A reports the descriptive statistics. Discretionary current accruals are higher for the high settlement sample compared to the dismissed sample. Table 18 Panel B reports the ordered logit model of outcome level in column (i) and the tobit model of settlement amounts in column (ii). Accounting quality in the form of discretionary current accruals and one-time charges continue to be

significant predictors of lawsuit outcome level although significance levels are slightly lower. The market-to-book ratio also continues to decrease the likelihood of high settlement outcomes. Discretionary current accruals and R&D intensity also continue to be significant determinants of settlement amounts. Table 18 Panel C reports the results of the selection model after excluding observations with hard evidence events. Discretionary current accruals and the market-to-book ratio continue to increase the likelihood of litigation while R&D intensity is only marginally significant. The results in column (ii) indicate that discretionary current accruals and R&D intensity increase settlement amounts. Interestingly, Rho is insignificant suggesting that selection biases are insignificant when hard evidence events are not present. The results of Table 18 indicate that the litigation outcome results are not driven by observations with SEC investigations or restatements.

Overall, after excluding observations with restatements and/or SEC investigations, the results of the accrual reliability tests, the litigation likelihood analysis and the tobit analysis are similar to the results reported in Tables 3, 5 and 7 respectively. This indicates that the results are not driven by observations with hard evidence events (i.e., SEC investigations or accounting restatements). Thus, accounting quality as measured through data in the financial statements is an important predictor of litigation and case outcome.

6.3 Controlling for business risk in the accrual reliability tests

It is possible that business risk or economic persistence could be driving accrual reliability results. This suggests that CFO in period *t+1* may be related to CFO in period *t*. As a robustness check, I have included CFO_t as an additional control variable in the accrual reliability regressions:

$$CFO_{t+1} = \zeta_0 + \zeta_1 Accruals_t + \zeta_2 CPCF_t + \zeta_3 Defferals_{t+1} + \zeta_4 CFO_t +$$

$$\zeta_4 Indicator + \zeta_5 (Accruals_t * I) + \varepsilon_t \qquad (4)$$

Table 19 reports the accrual reliability regressions after including CFO_t as an additional control variable. Panel A reports that there is not a significant difference between CFO_t of the litigation sample and the at-risk sample. Interestingly, CFO_t is negative for the high settlement sample and significantly lower than the CFO_t of the at-risk sample. Panel B reports the regression results. While CFO_t is significant in each of the regressions reported in Table 19, its inclusion does not materially change the interpretation of the accrual reliability results. The Accruals*Litigation interaction coefficient remains negative indicating that the litigation sample has lower accrual reliability relative to the at-risk sample. The Accruals*High interaction coefficient also continues to be significantly more negative than the Accruals*Dismissed coefficient indicating different accrual reliability across litigation outcomes. Accrual reliability of the litigation sample is also decreasing relative to the at-risk sample as settlement amounts increase. Overall, the accrual reliability results persist even after controlling for business risk.

7. Impact of the Private Securities Litigation Reform Act

The Private Securities Litigation Reform Act was passed in 1995 in an effort to limit frivolous litigation. I will now examine the impact of the PSLRA on the importance of accounting quality as a determinant of lawsuit filings and lawsuit outcomes. Since the objective of the Act was to reduce frivolous lawsuits, I expect accounting quality to play a greater role in determining case filings and outcomes following the Act.

7.1 Impact of the PSLRA on litigation likelihood

Table 20 Panel A reports descriptive statistics of the accounting quality variables for the litigation and at-risk samples pre- and post-PSLRA.[23] Mean variable values of the at-risk and litigation sample for the pre-PSLRA period are reported in columns (i) – (ii) and the difference between the litigation and at-risk samples is reported in column (iii). The corresponding statistics for the post-PSLRA period are reported in columns (iv) – (vi). The mean accounting quality variables are greater for the litigation sample than the at-risk sample during the pre-PSLRA period. Interestingly, mean discretionary current accruals in the post-PSLRA period are insignificantly different between the litigation and at-risk samples. The other accounting quality variables, namely, one-time charges, R&D intensity, and the market-to-book ratio, remain larger for the litigation sample than the at-risk sample in the post-PSLRA period. Column (vii) reports the differences in the at-risk

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[23] Data for accounting restatements is not available from the GAO database prior to 1997 and hence is not considered in the PSLRA analysis. Similarly, less than 1% of the pre-PSLRA litigation sample was coded in the Woodruff-Sawyer litigation database as having a concurrent SEC investigation. It is likely that data relating to SEC investigation was only captured for litigation observations in the post-PSLRA period and thus SEC investigations are not considered in the PSLRA analysis.

variable means between the post-PSLRA period and the pre-PSLRA period. Column (viii) reports the differences in the litigation variable means between the post-PSLRA period and the pre-PSLRA period. Discretionary current accruals are lower in the post-PSLRA period while one-time charges, R&D intensity and the market-to-book ratio are higher in the post-PSLRA period.

Table 20 Panel B reports the results of the litigation likelihood regression and the impact of the PSLRA. Column (i) reports results of the logistic regression for the pooled sample including an indicator for the at-risk and disclosure months that occur after the passage of the PSLRA as well as variables that interact the accounting quality and the PSLRA indicator. The incidence of lawsuit filings declined after the passage of the Act as indicated by the significant negative coefficient estimate on PSLRA. Contrary to my expectation, discretionary current accruals and one-time charges are less salient following the passage of the PSLRA as indicated by the negative, although insignificant, interaction coefficients. However, the main effect of these variables is increased as reflected in the magnitude of the coefficients relative to the regression reported in Table 5. The interaction coefficient on R&D intensity and PSLRA is negative indicating the decreased importance of accounting opacity as a predictor of lawsuit filings following the passage of the PSLRA.

Column (ii) and (iii) report the litigation likelihood results for observations in the pre-PSLRA and post-PSLRA period separately. In the pre-PSLRA period, discretionary current accruals, the market-to-book ratio and auditor turnover are predictors of litigation filings. In the post-PSLRA period the same accounting quality variables, discretionary

current accruals, the market-to-book ratio and auditor turnover are also predictors of litigation filings. However, the coefficients are of a smaller magnitude for the post-PSLRA analysis compared to the pre-PSLRA analysis. Interestingly, the coefficients on minimum daily returns and the standard deviation of returns flip signs from negative in the pre-PSLRA period to positive in the post-PSLRA period. This suggests that return volatility is relatively more significant in the post-PSLRA period. The signs on the coefficients for return skewness and beta are positive and insignificant in the pre-PSLRA regression and negative and significant in the post-PSLRA regression.

Overall, the results of the litigation likelihood analysis suggest that accounting quality characteristics were a less important determinant of lawsuit filings following the Act.[24] Thus, assuming accounting quality is a proxy for managerial wrongdoing, my litigation likelihood results do not provide clear evidence of whether the overall goal of the Act to decrease frivolous litigation was attained. However, the PSLRA may have had an impact on case outcomes rather than case filings. This possibility is discussed in Section 7.2.

7.2 Impact of the PSLRA on litigation outcomes

Although lawsuits filed in the post-PSLRA sample period did not appear to be based on greater accounting evidence, dismissals as a percentage of cases filed significantly increased in the post-PSLRA period (from 14% to 47%). This may be because the Act increased the threshold for proceeding with discovery, i.e., the process allowing plaintiffs

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[24] The decreased importance of discretionary current accruals could also coincide with the increased importance of hard evidence events as found by Johnson et al. (2006).

access to non-public evidence that may influence the case. This may suggest that the Act may not have prevented the filing of frivolous lawsuits but may have been effective in increasing the dismissal of frivolous lawsuits.

Table 21 Panel A reports descriptive statistics of the variables by case outcome levels (i.e., dismissed, low or high). Observations during the pre-PSLRA period from the high settlement sample have larger discretionary current accruals, one-time charges and R&D intensity relative to the dismissed sample. Observations during the post-PSLRA period from the high settlement sample have higher discretionary current accruals and one-time charges than the dismissed sample observations from the same period. The accounting opacity variables, represented by R&D intensity and the market-to-book ratio, are not different across the case outcome levels in the post-PSLRA period. Columns (ix) – (xi) report the difference between post-PSLRA and pre-PSLRA variable values by case outcome level. Discretionary current accruals are lower in the post-PSLRA period than during the pre-PSLRA period; however, the difference is only statistically significant for the low settlement sample. The other accounting quality variables, namely, one-time charges, R&D intensity and the market-to-book ratio are generally statistically higher in the post-PSLRA period relative to the pre-PSLRA period.

Table 21 Panel B reports the results of the outcome level ordered logit analysis considering the impact of the PSLRA. Column (i) includes a PSLRA indicator variable for observations with risk months after the passage of the 1995 Act and interaction variables for the accounting quality variables interacted with the PSLRA indicator. Discretionary current accruals, one-time charges and R&D intensity increase the

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likelihood of a high settlement outcome after controlling for cases filed following the PSLRA. However, contrary to my expectations, the accounting quality*PSLRA interaction variables are all negative indicating a decreased importance of accounting quality as a determinant of case outcome level following the passage of the Act. Specifically, the coefficients on R&D intensity*PSLRA and market-to-book*PSLRA are negative while the coefficient on discretionary current accruals*PSLRA and one-time charges*PSLRA are negative but insignificantly different from zero. These results are corroborated with an analysis of litigation outcome on the pre- and post-PSLRA samples separately. The regression analysis on the pre-PSLRA sample indicates that discretionary current accruals are a significant predictor of case outcome. The regression analysis on the post-PSLRA sample indicates that discretionary current accruals are a marginally significant predictor of case outcome (p-value of .09). Interestingly, one-time charges significantly increase the likelihood of a high settlement outcome in the post-PSLRA period but were insignificant in the pre-PSLRA period. The coefficient on the market-to-book ratio in the post-PSLRA sample is negative indicating that cases related to accounting opacity may actually be less likely to result in high settlements in the post-PSLRA period.

Table 21 Panel C reports the results of the tobit analysis of settlement amounts considering the impact of the PSLRA. Column (i) reports the results of the analysis which pools observations from the pre- and post-PSLRA period and includes a PSLRA indicator variable for observations with risk months after the passage of the 1995 Act as well as interaction variables for the accounting quality variables and the PSLRA

indicator. Settlement amounts are lower following the PSLRA as indicated by the significantly negative coefficient on the PSLRA indicator. Discretionary current accruals, R&D intensity and the market-to-book ratio all increase settlement amounts even after controlling for the PSLRA. However, contrary to my expectations, but consistent with the results reported in Panel B, accounting quality variables, namely discretionary current accruals, R&D intensity and the market-to-book ratio decrease settlement amounts following the PSLRA as evidenced by the negative coefficients on the respective interaction variables.

Columns (ii) and (iii) report the results of the tobit analysis for the observations in the pre-PSLRA and post-PSLRA samples respectively. The analysis demonstrates that accounting quality variables are significant predictors of settlement outcomes during both the pre- and post-PSLRA periods. In the pre-PSLRA period, discretionary current accruals, R&D intensity and the market-to-book ratio are predictors of settlement outcomes. In the post-PSLRA period, discretionary current accruals, one-time charges and R&D intensity are predictors of settlement outcomes.

Table 21 D reports the result of the selection model considering the impact of the PSLRA. Columns (i), (iii) and (v) report the results of the probit model for the pooled, pre-PSLRA and post-PSLRA samples respectively. Columns (ii), (iv) and (vi) report the results of the tobit model for the pooled, pre-PSLRA and post-PSLRA samples. The results are similar to the results reported in Panels B and C. The accounting quality variables generally increase the likelihood of litigation as well as settlement amounts in both the pre- and post-PSLRA periods. The negative coefficient on the PSLRA indicator

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in columns (i) and (ii) suggests that litigation filings are less likely and settlements are generally lower following the passage of the Act. Similarly, the negative interaction terms (i.e., accounting quality variables interacted with the PSLRA indicator) suggest that the relationship between litigation filings and accounting quality variables has weakened following the Act. This can also be seen by comparing the coefficients for the pre-PSLRA sample, reported columns (iii) and (iv), to the post-PSLRA sample, reported in columns (v) and (vi). The coefficients for discretionary current accruals, R&D intensity, and the market-to-book ratio are lower in the post-PSLRA period for the probit and tobit analyses. One-time charges, which were insignificant in the analysis of litigation filings and settlement amounts in the pre-PSLRA period, are significant in the post-PSLRA period when estimating settlement amounts.

While the association between accounting quality and case filings and outcomes holds over both the pre- and post-PSLRA samples, the relationship seems to be weaker following the passage of the Act. Together the results in Tables 20 and 21 suggest that the PSLRA reduced litigation filings and settlement amounts. The relationship between accounting quality and settlement amounts has weakened. If accounting quality is a proxy for managerial wrongdoing, it is unclear whether or not the PSLRA attained its joint goal of reducing frivolous litigation and outcomes while allowing meritorious litigation to proceed. It could be that the Act's increased filing and discovery requirements make it more difficult for plaintiff attorneys to prove and explain accounting quality evidence and that as a result the types of cases filed and successfully prosecuted may have shifted.

8. Concluding remarks

The litigation system is frequently criticized for filing frivolous cases which result in irrational settlement amounts. My research demonstrates that there is indeed accounting evidence associated with securities lawsuit filings and outcomes. Accrual reliability tests show that the accruals for cases resulting in high settlements are less reliable than the accruals of an at-risk sample. The accrual reliability results support the hypothesis that accounting data is used by the legal system to assess case merit and that the legal system is able to differentiate, on a relative basis, cases with and without merit. The results of the regressions of litigation likelihood and litigation outcomes on various accounting quality variables are consistent with the results of the accrual reliability tests. The incidence of litigation and settlement amounts are all positively related to accounting quality even after controlling for hard evidence events, earnings, return performance, return characteristics and selection biases.

My research empirically demonstrates that more than a decline in stock price is required for the filing and meritorious outcome of a securities lawsuit. My results indicate that accounting data provides information to the legal system and furthermore that accounting data is used as a determinant of case filings and outcomes. I use a sample of at-risk firms identified based on extremely poor stock price performance to demonstrate that the incidence of litigation is related to accounting evidence of earnings management. Furthermore, the legal system differentially punishes firms consistent with varying levels of accounting evidence. Cases resulting in high settlement amounts generally have accounting evidence to substantiate the legal claims against the firm while cases that are

dismissed have less evidence of poor accounting quality. My research demonstrates that accounting information is useful in assessing litigation likelihood and case merit on a relative basis.

My results call into question claims made by executives and the financial press that the legal system is unable to differentiate frivolous cases from those with merit. On the contrary, my results suggest accounting evidence of wrongdoing is largely consistent with the relative sorting of case outcomes. This indicates that firms facing litigation and high settlement amounts generally cannot claim they are unfairly targeted. The accounting disclosures of these firms indicate that, on average, cases are filed and settled consistent with accounting quality. The belief that securities litigation filings and outcomes are driven by stock returns rather than by evidence of a company's wrongdoing may be overstated. Whether the gross settlement amounts and the overall costs of litigation provide an efficient monitoring mechanism is an area for further research.

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Appendix A
Variable definitions

Accrual Reliability Variables	Definition
CFO_{t+1}	Operating Activities Net Cash Flow (Compustat data308)
$Accruals_t$	(Accounts Receivable$_t$ - Inventory Accrual$_t$ - Other Current Liabilities$_t$)
Accounts Receivable$_t$	Receivables (Compustat data2)
Inventory Accrual$_t$	If Accounts Payable (Compustat data70) > Inventory (Compustat data3) then Accounts Payable (Compustat data70) - Inventory (Compustat data3) , 0 otherwise
Other Current Liabilities$_t$	Current Liabilities Other (Compustat data72)
$Deferrals_t$	Current Assets Other (Compustat data68) + Inventory Deferral
Inventory Deferral$_t$	If Inventory (Compustat data3) > Accounts Payable (Compustat data70) < then Inventory (Compustat data3) - Accounts Payable (Compustat data70) , 0 otherwise
$CPCF_t$	Operating Income before Depreciation (Compustat data13) – Accruals$_t$ + Deferrals$_t$

Appendix A (continued)
Variable definitions

Litigation Filing and Outcome Variables	*Definition*
Settlement	Total value of settlements and awards (WS# 87)

Discretionary current accruals are calculated following Teoh, Welch and Wong (1998):

Discretionary Current Accruals$_t$ =	Current Accruals$_t$ - Nondiscretionary Current Accruals$_t$
Current Accruals$_t$ =	[Δ(Accounts Receivable$_t$ [Compustat data2] + Inventory$_t$ [Compustat data4] + Other Current Assets$_t$ [Compustat data68]) – Δ(Accounts Payable$_t$ [Compustat data70] + Taxes Payable$_t$ [Compustat data71] + Other Current Liabilities$_t$ [Compustat data72])]

The following regression based on industry as determined by two-digit SIC and year is used to obtain a model to estimate normal current accruals:

Current Accruals$_t$ = $\alpha_0 + \alpha_1(\Delta Sales_t$[Compustat data12] $+ \varepsilon_t$

The estimates of ($\widehat{\alpha_0}$ and $\widehat{\alpha_1}$) obtained from the above regression are used to estimate nondiscretionary accruals for the period:

Nondiscretionary Current Accruals$_t$^ =	$\widehat{\alpha_0} + \widehat{\alpha_1}$ ($\Delta Sales_t$ [Compustat data12] - ΔTrade Receivables$_t$[data151])
One-time Charges$_t$	-1 * [Special Items$_t$ (Compustat data17) + Extraordinary Items and Discontinued Operations$_t$ (Compustat data48)]
R&D Intensity$_t$	Research and Development Expense$_t$(Compustat data46)
Market-to-book$_t$	Common Shares Outstanding (Compustat data25) * Price Fiscal Year Close (Compustat data199) / Common Equity (Compustat data60)
Restatement	1 if GAO Database announcement date is within the damage period or 30 days following the later of the end of the damage period (WS#23) or the lawsuit filing date (WS#19)
Auditor Turnover	The integer value of Auditor/Auditor's Opinion Code (Compustat data149) identifies the firm's auditor. If the auditor changes from the previous year then the auditor change variable takes a value of 1.
SEC Investigation	1 if there is an SEC investigation (WS#92)

Appendix A (continued)
Variable definitions

Return Characteristics and Earnings Variables	Definition
Disclosure month return	The minimum monthly stock return (CRSP Monthly Stock Ret) during the damage period (WS# 22, WS#23)
At-Risk month return	The monthly stock return (CRSP Monthly Stock Ret) which classified the observation as at-risk.
Minimum daily return	The minimum daily return (CRSP Daily Stock Ret) during the year ending with the disclosure or at-risk month
Standard deviation of returns	The standard deviation of daily return (CRSP Daily Stock Ret) during the year ending with the disclosure or at-risk month
Return skewness	The skewness of daily returns (CRSP Daily Stock Ret) during the year ending with the disclosure or at-risk month
Share turnover	The average daily volume (CRSP Daily Stock Vol) / average daily shares outstanding (CRSP Daily Shrout) during the year ending with the disclosure or at-risk month
Beta	The coefficient from the regression of daily returns (CRSP Daily Stock Ret) on the market return of the value weighted portfolio (CRSP Daily Index Vwretd) during the year ending with the disclosure or at-risk month
Earnings	Income before extraordinary items (Compustat data18)
Net income	Net income (Compustat data172)
Firm size	Log total assets (Compustat data6)

Settlement amounts and all variables that are derived from financial statement data (except for the market-to-book ratio, indicator variables and firm size) have been scaled by lagged total assets (Compustat data6). All continuous variables were winsorized at the top and bottom 1% of observations. Financial statement data was obtained from the Compustat database, return data was obtained from the CRSP monthly and daily database, litigation data was obtained from the Woodruff-Sawyer database, restatement data was obtained from the GAO database. Where signs are predicted in the tables that follow (i.e., predicted signs are denoted as (+) positive or (-) negative) one-sided p-values are reported. Where no sign is predicted (i.e., no predicted sign is denoted as (?)) two sided p-values are reported.

Table 1
Settlement amounts

	(i)	(ii)	(iii)	(iv)
Sample	Litigation	Dismissed	Low	High
Gross Settlement ($Millions)				
Minimum	0.00	0.00	0.01	0.29
Maximum	8,011.20	0.00	1,100.00	8,011.20
Mean	22.71	0.00	18.01	52.42
Median	2.25	0.00	4.93	6.13
Standard Deviation	255.08	0.00	63.48	443.32
Settlement Scaled by Lagged Total Assets				
Minimum	0.0000	0.00	0.0000	0.0429
Maximum	1.9329	0.00	0.0427	1.9329
Mean	0.0967	0.00	0.0141	0.2858
Median	0.0088	0.00	0.0104	0.1309
Standard Deviation	0.2617	0.00	0.0120	0.3994
N	1,979	703	638	638

Table 1 reports descriptive statistics of gross settlement amounts and settlements scaled by lagged total assets.

Table 2
Descriptive statistics of accrual reliability variables
Panel A: comparing the litigation and at-risk samples

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Statistic	Mean	Mean	Difference	Median	Median	Difference
Sample	At-Risk	Litigation	(L - AR)	At-Risk	Litigation	(L - AR)
CFO_{t+1}	0.0098	0.0056	-0.0042	0.0428	0.0527	0.0099
$Accruals_t$	0.0315	0.0599	0.0284 ***	0.0197	0.0467	0.0270 **
$CPCF_t$	0.0947	0.0800	-0.0147	0.1102	0.1081	-0.0021
$Deferrals_{t+1}$	0.1185	0.1307	0.0122 *	0.0618	0.0770	0.0152 **
N	916	1,343		916	1,343	

Table 2 Panel A reports mean and median variable values for the litigation and at-risk samples. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Panel B: Comparing the dismissed, low and high settlement samples

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
Statistic	Mean	Mean	Mean	Difference	Median	Median	Median	Difference
Sample	Dismissed	Low	High	(H - D)	Dismissed	Low	High	(H - D)
CFO_{t+1}	0.0415	0.0584	-0.0822	-0.1237 ***	0.0787	0.0611	-0.0081	-0.0868 ***
$Accruals_t$	0.0384	0.0685	0.0722	0.0338 **	0.0340	0.0421	0.0674	0.0334 **
$CPCF_t$	0.0950	0.1196	0.0257	-0.0693 ***	0.1258	0.1357	0.0531	-0.0727 ***
$Deferrals_{t+1}$	0.1227	0.1167	0.1524	0.0297 **	0.0782	0.0721	0.0871	0.0089
N	442	450	451		442	450	451	

Table 2 Panel B reports mean and median variable values for the dismissed, low and high settlement samples. The difference in the means and medians are reported in columns (iv) and (viii) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 2
Descriptive statistics of accrual reliability variables
Panel C: Spearman and Pearson correlations

	Settlement	CFO_{t+1}	$Accruals_t$	$CPCF_t$	$Deferrals_{t+1}$
Settlement	1.0000	-0.0874	0.1187	-0.0735	0.0726
		<.0001	<.0001	0.0005	0.0006
CFO_{t+1}	-0.2224	1.0000	0.0261	0.5047	-0.0064
	<.0001		0.2146	<.0001	0.7605
$Accruals_t$	0.0096	0.0884	1.0000	-0.3103	0.2381
	0.6481	<.0001		<.0001	<.0001
$CPCF_t$	-0.1312	0.5534	-0.3213	1.0000	0.3197
	<.0001	<.0001	<.0001		<.0001
$Deferrals_{t+1}$	0.1437	-0.1468	0.1451	0.2729	1.0000
	<.0001	<.0001	<.0001	<.0001	

Table 2 Panel C reports the correlations among the accrual reliability variables. Spearman correlations are reported above the diagonal while Pearson correlations are reported below the diagonal. P-values are reported below the correlations.

Table 3
Accrual reliability regressions

Indicator Dependent Variable	Expected Sign	(i) Litigation CFO_{t+1} Coefficient	p-value	(ii) Outcome Level CFO_{t+1} Coefficient	p-value	(iii) Settlement Amount CFO_{t+1} Coefficient	p-value
Intercept	(?)	-0.0040	0.1494	-0.0051	0.2497	0.0000	0.2497
$Accruals_t$	(+)	0.7846	<0.0001	0.7788	<0.0001	0.7136	<0.0001
$CPCF_t$	(+)	0.8178	<0.0001	0.8110	<0.0001	0.8082	<0.0001
$Deferrals_{t+1}$	(-)	-0.7460	<0.0001	-0.7299	<0.0001	-0.7180	<0.0001
Litigation Indicator	(?)	0.0036	0.1734				
Accruals * Litigation	(-)	-0.1482	0.0025				
High Indicator	(?)			-0.0276	0.0565		
Accruals * High	(-)			-0.2126	0.0167		
Low Indicator	(?)			0.0048	<0.0001		
Accruals * Low	(-)			-0.0940	0.0194		
Dismissed Indicator	(?)			0.0322	<0.0001		
Accruals * Dismissed	(?)			-0.0810	0.0678		
Settlement Amount	(?)					-0.1374	0.0429
Accruals * Settlement Amount	(-)					-0.5895	0.0284
N		2,259		2,259		2,259	
Adjusted R-square		0.5416		0.5487		0.5460	

F-test of the difference		Difference	p-value
Accruals*High - Accruals*Dismissed		-0.1316	0.0391

Table 3 reports the results of the accrual reliability tests of the litigation sample relative to the at-risk sample. The regression tests the mapping of accruals into future cash flows:

$$CFO_{t+1} = \gamma_0 + \gamma_1 Accruals_t + \gamma_2 CPCF_t + \gamma_3 Defferals_{t+1} + \gamma_4 Indicator + \gamma_5(Accruals_t * I) + \varepsilon$$

Two dimensional clustered standard errors correct for cross correlation in the error term and were used to calculate t-statistics. Column (i) reports the accrual reliability of the litigation sample. Column (ii) reports the accrual reliability of the three outcome levels (i.e., dismissed, low or high). The last row of the table reports and tests the difference between the high and dismissed accrual interaction term using an F-test. Column (iii) reports the accrual reliability of the litigation sample based on settlement amounts.

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Table 4
Descriptive statistics of the litigation likelihood variables
Panel A: Comparing the litigation and at-risk samples

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Statistic	Mean	Mean	Difference	Median	Median	Difference
Sample	At-Risk	Litigation	(L-AR)	At-Risk	Litigation	(L-AR)
Discretionary Current Accruals	0.018	0.023	0.005	0.008	0.007	-0.001
One-time Charges	0.032	0.051	0.019 ***	0.000	0.000	0.000 **
R&D Intensity	0.113	0.152	0.039 ***	0.028	0.028	0.000
Market-to-book	4.234	6.000	1.766 ***	2.847	3.752	0.905 ***
Restatement	0.033	0.156	0.123 ***	0.000	0.000	0.000 ***
Auditor Turnover	0.084	0.122	0.037 **	0.000	0.000	0.000 ***
Disclosure month return	-0.347	-0.343	0.004	-0.333	-0.333	0.000
Minimum daily return	-0.277	-0.284	-0.007	-0.249	-0.256	-0.008
Standard deviation of returns	0.048	0.050	0.002 **	0.045	0.046	0.001
Return skewness	-0.714	-0.773	-0.059	-0.336	-0.385	-0.049
Share turnover	9.758	13.688	3.930 ***	7.164	10.626	3.462 ***
Beta	1.121	1.310	0.189 ***	1.029	1.227	0.199 ***
Earnings	-0.071	-0.204	-0.134 ***	0.015	0.039	0.024 ***
Firm Size	5.011	5.630	0.619 ***	4.807	5.381	0.573 ***
N	1,446	1,979		1,446	1,979	

Table 4 Panel A reports mean and median variable values for the litigation and at-risk samples. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Panel B: Spearman and Pearson correlations

	Settlement	Discretionary Current Accruals	One-time Charges	R&D Intensity	Market-to-book	Restatement	Auditor Turnover
Settlement	1	0.0659	0.0185	-0.0240	0.0672	0.1951	0.1106
		0.0001	0.2805	0.1598	<.0001	<.0001	<.0001
Discretionary Current Accruals	0.1336	1	-0.1024	-0.0632	-0.0178	-0.0098	-0.0006
	<.0001		<.0001	0.0002	0.2973	0.5647	0.9716
One-time Charges	0.1051	-0.0754	1	0.0370	-0.0239	0.1051	0.0075
	<.0001	<.0001		0.0306	0.1620	<.0001	0.6620
R&D Intensity	0.2170	-0.1323	0.3229	1	0.3821	-0.0351	-0.0352
	<.0001	<.0001	<.0001		<.0001	0.0399	0.0396
Market-to-book	0.1498	-0.0567	0.1118	0.3478	1	-0.0146	-0.0043
	<.0001	0.0009	<.0001	<.0001		0.3945	0.8023
Restatement	0.0902	0.0007	0.0949	-0.0136	-0.0111	1	0.0852
	<.0001	0.9697	<.0001	0.4272	0.5167		<.0001
Auditor Turnover	0.1154	0.0012	0.0330	-0.0297	-0.0095	0.0852	1
	<.0001	0.9454	0.0536	0.0824	0.5800	<.0001	

Table 4 Panel B reports the correlations among the litigation likelihood variables. Spearman correlations are reported above the diagonal while Pearson correlations are reported below the diagonal. The p-values of the correlations are reported below the correlations.

Table 5
Litigation likelihood analysis

Dependent Variable	Expected Sign	(i) Litigation	
Intercept	(?)	-1.941	<.0001
Discretionary current accruals	(+)	0.522	0.0019
One-time charges	(+)	0.127	0.3538
R&D intensity	(+)	0.204	0.1765
Market-to-book	(+)	0.036	<.0001
Restatement	(+)	1.648	<.0001
Auditor turnover	(+)	0.431	0.0004
Minimum daily return	(-)	0.714	0.1024
Standard deviation of daily returns	(+)	-0.214	0.4789
Return skewness	(-)	-0.059	0.0575
Share turnover	(+)	0.039	<.0001
Beta	(+)	0.076	0.1114
Earnings	(+)	-0.318	0.0003
Firm size	(+)	0.272	<.0001
N		3,425	
Pseudo R-square		0.1340	

Table 5 reports the logistic regression estimating the likelihood of litigation. The dependent variable is an indicator variable equal to one if the observation is from the litigation sample and zero if it is from the at-risk sample. The probability of litigation is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Litigation=1)} = \eta_0 + \eta_1 \text{Discretionary Current Accruals}_t +$$
$$\eta_2 \text{One-time Charges}_t + \eta_3 \text{R\&D}_t + \eta_4 \text{Market-to-book}_t + \eta_5 \text{Restatement} +$$
$$\eta_6 \text{Auditor Turnover} + \eta_7 \text{Minimum Daily Return}_t + \eta_8 \text{Standard Deviation of Returns}_t +$$
$$\eta_9 \text{Return Skewness}_t + \eta_{10} \text{Share Turnover}_t + \eta_{11} \text{Beta}_t + \eta_{12} \text{Earnings}_t + \eta_{13} \text{Firm Size}_t + v_t$$

P-values are reported next to the coefficient estimates.

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Table 6
Descriptive statistics of the litigation outcome variables
Panel A: Comparing the dismissed, low and high settlement samples

Statistic Sample	(i) Mean Dismissed	(ii) Mean Low	(iii) Mean High	(iv) Difference (H-D)	(v) Median Dismissed	(vi) Median Low	(vii) Median High	(viii) Difference (H-D)
Discretionary Current Accruals	-0.015	0.023	0.065	0.080 ***	-0.001	0.004	0.035	0.036 ***
One-time Charges	0.054	0.033	0.076	0.023 *	0.000	0.000	0.000	0.000
R&D Intensity	0.228	0.045	0.197	-0.032	0.070	0.000	0.076	0.006
Market-to-book	8.082	3.555	6.457	-1.625 ***	4.699	2.458	4.448	-0.251
Restatement	0.112	0.163	0.196	0.084 ***	0.000	0.000	0.000	0.000 ***
Auditor Turnover	0.081	0.118	0.171	0.090 ***	0.000	0.000	0.000	0.000 ***
SEC Investigation	0.038	0.082	0.086	0.048 ***	0.000	0.000	0.000	0.000 ***
Disclosure Month Return	-0.372	-0.307	-0.341	0.031 ***	-0.381	-0.308	-0.333	0.048 ***
Minimum Daily Return	-0.281	-0.256	-0.316	-0.034 ***	-0.253	-0.229	-0.292	-0.039 ***
Standard Deviation of Returns	0.056	0.040	0.054	-0.002 *	0.051	0.037	0.049	-0.002
Return Skewness	-0.454	-1.114	-0.789	-0.335 **	-0.053	-0.720	-0.481	-0.428 ***
Share Turnover	15.823	9.586	15.958	0.135	12.261	6.915	13.384	1.123
Beta	1.410	1.135	1.379	-0.031	1.343	1.074	1.328	-0.014
Earnings	-0.552	0.019	-0.221	0.331 ***	0.031	0.038	0.051	0.021 **
Firm Size	5.789	6.635	4.454	-1.335 ***	5.425	6.469	4.351	-1.073 ***
N	703	638	638		703	638	638	

Table 6 Panel A reports mean and median variable values for the dismissed, low and high settlement samples. The difference in the means and medians are reported in columns (iv) and (viii) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 7
Litigation outcome analysis
Panel A: Litigation outcome regressions

Dependent Variable	Expected Sign	(i) Outcome Level		(ii) Settlement	
Intercept	(?)	1.817	<.0001	0.296	<.0001
Intercept	(?)	3.370	<.0001		
Discretionary current accruals	(+)	0.371	0.0052	0.179	<.0001
One-time charges	(+)	0.954	0.0005	0.042	0.1814
R&D intensity	(+)	-0.150	0.2265	0.189	<.0001
Market-to-book	(+)	-0.022	0.0002	0.000	0.3873
Restatement	(+)	0.486	0.0001	0.046	0.0204
Auditor turnover	(+)	0.506	0.0001	0.115	<.0001
SEC Investigation	(+)	0.581	0.0010	0.156	<.0001
Minimum daily return	(-)	-2.815	<.0001	-0.518	<.0001
Standard deviation of daily returns	(+)	-31.139	<.0001	-4.433	<.0001
Return skewness	(-)	0.079	0.0236	0.019	0.0043
Share turnover	(+)	0.001	0.3807	0.000	0.4979
Beta	(+)	0.219	0.0009	0.015	0.1114
Earnings	(+)	0.137	0.0085	0.001	0.4520
Firm size	(+)	-0.388	<.0001	-0.052	<.0001
Sigma				0.311	<.0001
N		1,979		1,979	
Pseudo R-square		0.1715		0.2120	

Table 7 Panel A reports the results of the litigation outcome regressions. Column (i) reports the results of an ordered logistic regression of the outcome level. The probability of a high, low or dismissed outcome is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Settlement Level = Dismissed, Low or High)} = \tau_0 + \tau_{0'} +$$
$$\tau_1 \text{Discretionary Current Accruals}_t + \tau_2 \text{One-time Charges}_t + \tau_3 \text{R\&D}_t +$$
$$\tau_4 \text{Market-to-book} + \tau_5 \text{Restatement}_t + \tau_6 \text{Auditor Turnover}_t + \tau_7 \text{SEC Investigation}_t +$$
$$\tau_8 \text{Minimum Daily Return} + \tau_9 \text{Standard Deviation of Returns}_t + \tau_{10} \text{Return Skewness} +$$
$$\tau_{11} \text{Share Turnover}_t + \tau_{12} \text{Beta}_t + \tau_{13} \text{Earnings}_t + \tau_{14} \text{Firm Size}_t + v'_t$$

Column (ii) reports the tobit regression results which estimate the settlement amounts from accounting quality variables, return characteristics, earnings, firm size and a variable (sigma) to correct for biases caused by censoring of the settlement amount:

$$\text{Settlement} = \theta_0 + \theta_1 \text{Discretionary Current Accruals}_t + \theta_2 \text{One-time Charges}_t + \theta_3 \text{R\&D}_t +$$
$$\theta_4 \text{Market-to-book} + \theta_5 \text{Restatement}_t + \theta_6 \text{Auditor Turnover}_t + \theta_7 \text{SEC Investigation}_t +$$
$$\theta_8 \text{Minimum Daily Return} + \theta_9 \text{Standard Deviation of Returns}_t + \theta_{10} \text{Return Skewness}_t +$$
$$\theta_{11} \text{Share Turnover}_t + \theta_{12} \text{Beta}_t + \theta_{13} \text{Earnings}_t + \theta_{14} \text{Firm Size}_t + \theta_{14} \text{Sigma} + \varpi_t$$

P-values are shown next to the coefficient estimates.

Table 7
Litigation outcome regressions
Panel B: Settlement amount estimated with a selection model

		(i)		(ii)	
Model (estimated jointly by ML)		Probit		Tobit	
Dependent Variable	Expected Sign	Litigation		Settlement	
Intercept		-1.105	<.0001	-0.101	0.0009
Discretionary current accruals	(+)	0.609	<.0001	0.165	<.0001
One-time charges	(+)	0.172	0.15645	0.062	0.0724
R&D intensity	(+)	0.516	<.0001	0.116	<.0001
Market-to-book	(+)	0.022	<.0001	0.002	0.0034
Restatement	(+)	0.834	<.0001	0.141	<.0001
Auditor turnover	(+)	0.325	<.0001	0.111	<.0001
SEC Investigation	(+)			0.075	<.0001
Minimum daily return	(-)	0.155	0.3100	-0.273	0.0006
Standard deviation of daily returns	(+)	2.434	0.1437	-2.472	<.0001
Return skewness	(+)	-0.026	0.1116	0.007	0.1158
Share turnover	(+)	0.016	<.0001		
Beta	(+)	0.059	0.0444	0.037	<.0001
Earnings	(+)	-0.141	0.0017	-0.012	0.1446
Firm size	(+)	0.106	<.0001	-0.017	<.0001
Sigma	(?)			0.281	<.0001
Rho	(?)			0.991	<.0001
N		3,425		1,979	
Pseudo R-square		0.1325		0.1213	

Table 7 Panel B reports the results of the selection model; litigation likelihood and settlement amounts are estimated jointly using maximum likelihood. Column (i) reports the results of the probit regression of litigation likelihood estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Litigation} =1) = \eta_0 + \eta_1 \text{Discretionary Current Accruals}_t + \eta_2 \text{One-time Charges}_t + \eta_3 \text{R\&D}_t + \eta_4 \text{ Market-to-book} + \eta_5 \text{Restatement}_t + \eta_6 \text{Auditor Turnover}_t + \eta_7 \text{ Minimum Daily Return} + \eta_8 \text{Standard Deviation of Returns}_t + \eta_9 \text{Return Skewness} + \eta_{10} \text{Share Turnover}_t + \eta_{11} \text{Beta}_t + \eta_{12} \text{Earnings}_t + \eta_{13} \text{Firm Size}_t + + \nu'_t$$

Column (ii) reports the tobit regression results which estimate the settlement amounts from accounting quality variables, return characteristics, earnings, firm size, a variable (sigma) to correct for biases caused by censoring of the settlement amount and a variable (rho) to correct for selection biases:

$$\text{Settlement} = \theta_0 + \theta_1 \text{Discretionary Current Accruals}_t + \theta_2 \text{One-time Charges}_t + \theta_3 \text{R\&D}_t + \theta_4 \text{Market-to-book} + \theta_5 \text{Restatement}_t + \theta_6 \text{Auditor Turnover}_t + \theta_7 \text{SEC Investigation}_t + \theta_8 \text{Minimum Daily Return} + \theta_9 \text{Standard Deviation of Returns}_t + \theta_{10} \text{Return Skewness}_t + \theta_{11} \text{Share Turnover}_t + \theta_{12} \text{Beta}_t + \theta_{13} \text{Earnings}_t + \theta_{14} \text{Firm Size}_t + \omega_{15} \text{Sigma} + \omega_{16} \text{Rho} + \varpi_t$$

P-values are shown next to the coefficient estimates.

Table 8
Accrual reliability analysis with market capitalization robustness check
Panel A: Descriptive statistics comparing the litigation and at-risk-150 samples

Statistic	(i) Mean	(ii) Mean	(iii) Difference	(iv) Median	(v) Median	(vi) Difference
Sample	At-Risk-150	Litigation	(L - AR)	At-Risk-150	Litigation	(L - AR)
CFO_{t+1}	0.0114	0.0038	-0.0076	0.0480	0.0527	0.0047
$Accruals_t$	0.0210	0.0596	0.0386 ***	0.0049	0.0467	0.0418 ***
$CPCF_t$	0.0801	0.0792	-0.0009	0.1025	0.1081	0.0056
$Deferrals_{t+1}$	0.1063	0.1310	0.0247 **	0.0569	0.0770	0.0201 ***
N	710	1,343		710	1,343	

Table 8 Panel A reports mean and median accrual reliability variables for the litigation and at-risk-150 samples. The at-risk-150 sample is restricted to the at-risk sample firms with market capitalization greater than \$150MM; which is the first quartile of market capitalization of the litigation sample. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 8
Accrual reliability analysis with market capitalization robustness check
Panel B: Accrual reliability regressions

Indicator Dependent Variable		(i) Litigation CFO_{t+1}		(ii) Outcome Level CFO_{t+1}		(iii) Settlement Amount CFO_{t+1}	
	Expected Sign	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Intercept	(?)	0.0096	0.0731	0.0083	0.1757	0.0057	0.1132
$Accruals_t$	(+)	0.7547	<0.0001	0.7498	<0.0001	0.7057	<0.0001
$CPCF_t$	(+)	0.8472	<0.0001	0.8407	<0.0001	0.8336	<0.0001
$Deferrals_{t+1}$	(-)	-0.7710	<0.0001	-0.7535	<0.0001	-0.7376	<0.0001
Litigation Indicator	(?)	-0.0114	0.0856				
Accruals * Litigation	(-)	-0.0927	0.0364				
High Indicator	(?)			-0.0431	0.0255		
Accruals * High	(-)			-0.1574	0.0709		
Low Indicator	(?)			-0.0113	0.0870		
Accruals * Low	(-)			-0.0352	0.1751		
Dismissed Indicator	(?)			0.0186	0.0263		
Accruals * Dismissed	(?)			-0.0301	0.3923		
Settlement Amount	(?)					-0.1610	0.0356
Accruals * Settlement Amount	(-)					-0.4931	0.0470
N		2,053		2,053		2,053	
Adjusted R-square		0.5487		0.5546		0.5532	

F-test of the difference		Difference	p-value
Accruals*High - Accruals*Dismissed		-0.1273	0.1730

Table 8 Panel B reports the results of the accrual reliability tests of the litigation sample relative to the at-risk-150 sample. The at-risk-150 sample consists of firms from the at-risk sample with market capitalization greater than $150MM (which is the first quartile of market capitalization of the litigation sample). The regression tests the mapping of accruals into future cash flows:

$$CFO_{t+1} = \gamma_0 + \gamma_1 Accruals_t + \gamma_2 CPCF_t + \gamma_3 Defferals_{t+1} + \gamma_4 Indicator + \gamma_5 (Accruals_t * I) + \varepsilon_t$$

Two dimensional clustered standard errors correct for cross correlation in the error term and were used to calculate t-statistics. Column (i) reports the accrual reliability of the litigation sample. Column (ii) reports the accrual reliability of the three outcome levels (i.e., dismissed, low or high). The last row of the table reports and tests the difference between the high and dismissed accrual interaction term using an F-test. Column (iii) reports the accrual reliability of the litigation sample based on settlement amounts.

Table 9
Litigation likelihood analysis with market capitalization robustness check
Panel A: Descriptive statistics comparing the litigation and at-risk-150 samples

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Statistic	Mean	Mean	Difference	Median	Median	Difference
Sample	At-Risk-150	Litigation	(L-AR)	At-Risk-150	Litigation	(L-AR)
Discretionary Current Accruals	0.014	0.024	0.010	0.004	0.007	0.002
One-time Charges	0.038	0.052	0.014 **	0.000	0.000	0.000
R&D Intensity	0.123	0.154	0.031 **	0.030	0.028	-0.003
Market-to-book	4.884	6.005	1.121 ***	3.366	3.752	0.386 ***
Restatement	0.039	0.156	0.117 ***	0.000	0.000	0.000 ***
Auditor Turnover	0.088	0.122	0.034 **	0.000	0.000	0.000 **
Disclosure month return	-0.362	-0.342	0.019 **	-0.346	-0.333	0.012 **
Minimum daily return	-0.292	-0.284	0.007	-0.265	-0.256	0.009
Standard deviation of returns	0.047	0.050	0.003 ***	0.045	0.046	0.001
Return skewness	-0.980	-0.779	0.201 *	-0.546	-0.385	0.161 **
Share turnover	11.998	13.744	1.746 ***	9.429	10.626	1.197 ***
Beta	1.307	1.312	0.005	1.235	1.227	-0.008
Earnings	-0.062	-0.223	-0.162 ***	0.026	0.039	0.013
Firm Size	5.544	5.632	0.088	5.357	5.381	0.024
N	821	1,979		821	1,979	

Table 9 Panel A reports mean and median variable values for the litigation and at-risk-150 samples. The at-risk-150 sample consists of firms from the at-risk sample with market capitalization greater than \$150MM (which is the first quartile of market capitalization of the litigation sample). The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 9

Litigation likelihood analysis with market capitalization robustness check

Panel B: Litigation likelihood regression

Dependent Variable	Expected Sign	(i) Litigation	
Intercept	(?)	0.264	0.1319
Discretionary current accruals	(+)	0.437	0.0096
One-time charges	(+)	-0.018	0.4798
R&D intensity	(+)	0.052	0.4128
Market-to-book	(+)	0.018	0.0060
Restatement	(+)	1.469	<.0001
Auditor turnover	(+)	0.294	0.0222
Minimum daily return	(-)	1.596	0.0058
Standard deviation of daily returns	(+)	7.112	0.0620
Return skewness	(-)	-0.048	0.1217
Share turnover	(+)	0.017	0.0005
Beta	(+)	-0.134	0.0272
Earnings before extraordinary items	(+)	-0.264	0.0030
Firm size	(+)	0.062	0.0138
N		2,800	
Pseudo R-square		0.0540	

Table 9 Panel B reports the logistic regression estimating the likelihood of litigation. The dependent variable is an indicator variable equal to one if the observation is from the litigation sample and zero if it is from the at-risk-150 sample. The at-risk-150 sample consists of firms from the at-risk sample with market capitalization greater than $150MM (which is the first quartile of market capitalization of the litigation sample). The probability of litigation is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Litigation=1)} = \eta_0 + \eta_1 \text{Discretionary Current Accruals}_t +$$
$$\eta_2 \text{One-time Charges}_t + \eta_3 \text{R\&D}_t + \eta_4 \text{Market-to-book}_t + \eta_5 \text{Restatement} +$$
$$\eta_6 \text{Auditor Turnover} + \eta_7 \text{Minimum Daily Return}_t + \eta_8 \text{Standard Deviation of Returns}_t + \eta_9 \text{Return}$$
$$\text{Skewness}_t + \eta_{10} \text{ Share Turnover}_t + \eta_{11} \text{Beta}_t + \eta_{12} \text{Earnings}_t + \eta_{13} \text{Firm Size}_t + v_t'$$

P-Values are reported next to the coefficient estimates.

Table 10
Accrual reliability analysis with fifth percentile returns robustness check
Panel A: Descriptive statistics comparing the litigation and at-risk-p5 samples

Statistic	(i) Mean	(ii) Mean	(iii) Difference	(iv) Median	(v) Median	(vi) Difference
Sample	At-Risk-p5	Litigation	(L - AR)	At-Risk-p5	Litigation	(L - AR)
CFO_{t+1}	0.0620	0.0071	-0.0549 ***	0.0846	0.0527	-0.0319 ***
$Accruals_t$	0.0374	0.0592	0.0218 ***	0.0279	0.0467	0.0188 **
$CPCF_t$	0.1362	0.0805	-0.0557 ***	0.1470	0.1081	-0.0389 ***
$Deferrals_{t+1}$	0.1217	0.1300	0.0083 *	0.0712	0.0770	0.0058 *
N	3,398	1,343		3,398	1,343	

Table 10 Panel A reports mean and median variable values for the litigation and at-risk-p5 samples. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 10
Accrual reliability analysis with fifth percentile returns robustness check
Panel B: Accrual reliability regressions

		(i) Litigation CFO_{t+1}		(ii) Outcome Level CFO_{t+1}		(iii) Settlement Amount CFO_{t+1}	
Indicator Dependent Variable	Expected Sign	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Intercept	(?)	0.0094	0.0143	0.0089	0.0392	0.0076	0.0217
Accruals$_t$	(+)	0.7160	<0.0001	0.7128	<0.0001	0.6941	<0.0001
CPCF$_t$	(+)	0.7958	<0.0001	0.7919	<0.0001	0.7904	<0.0001
Deferrals$_{t+1}$	(-)	-0.6784	<0.0001	-0.6694	<0.0001	-0.6639	<0.0001
Litigation Indicator	(?)	-0.0144	0.0474				
Accruals * Litigation	(-)	-0.1030	0.0069				
High Indicator	(?)			-0.0461	0.0142		
Accruals * High	(-)			-0.1729	0.0291		
Low Indicator	(?)			-0.0127	0.0280		
Accruals * Low	(-)			-0.0404	0.1629		
Dismissed Indicator	(?)			0.0136	0.0928		
Accruals * Dismissed	(?)			-0.0320	0.3495		
Settlement Amount	(?)					-0.2121	0.0230
Accruals * Settlement Amount	(-)					-0.7865	0.0207
N		4,741		4,741		4,741	
Adjusted R-square		0.5581		0.5621		0.5609	

F-test of the difference		Difference	p-value
Accruals*High - Accruals*Dismissed		-0.1409	0.0753

Table 10 Panel B reports the results of the accrual reliability tests of the litigation sample relative to the at-risk-p5 sample. The regression tests the mapping of accruals into future cash flows:

$$CFO_{t+1} = \gamma_0 + \gamma_1 Accruals_t + \gamma_2 CPCF_t + \gamma_3 Defferals_{t+1} + \gamma_4 Indicator + \gamma_5 (Accruals_t * I) + \varepsilon_t$$

Two dimensional clustered standard errors correct for cross correlation in the error term and were used to calculate t-statistics. Column (i) reports the accrual reliability of the litigation sample. Column (ii) reports the accrual reliability of the three outcome levels (i.e., dismissed, low or high). The last row of the table reports and tests the difference between the high and dismissed accrual interaction term using an F-test. Column (iii) reports the accrual reliability of the litigation sample based on settlement amounts.

Table 11
Litigation likelihood analysis with fifth percentile returns robustness check
Panel A: Descriptive statistics comparing the litigation and at-risk-p5 samples

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Statistic	Mean	Mean	Difference	Median	Median	Difference
Sample	At-Risk-p5	Litigation	(L-AR)	At-Risk-p5	Litigation	(L-AR)
Discretionary Current Accruals	0.010	0.025	0.015 **	0.003	0.007	0.004 *
One-time Charges	0.023	0.046	0.023 ***	0.000	0.000	0.000 ***
R&D Intensity	0.082	0.147	0.065 ***	0.007	0.028	0.021 ***
Market-to-book	4.056	5.923	1.868 ***	2.832	3.752	0.920 ***
Restatement	0.030	0.156	0.126 ***	0.000	0.000	0.000 ***
Auditor Turnover	0.067	0.122	0.055 **	0.000	0.000	0.000 ***
Disclosure month return	-0.289	-0.344	-0.055 ***	-0.270	-0.333	-0.064 ***
Minimum daily return	-0.195	-0.284	-0.088 ***	-0.167	-0.256	-0.090 ***
Standard deviation of returns	0.039	0.050	0.011 ***	0.035	0.046	0.011 ***
Return skewness	-0.349	-0.771	-0.422 ***	-0.039	-0.385	-0.346 ***
Share turnover	9.413	13.635	4.222 ***	6.836	10.626	3.790 ***
Beta	1.196	1.310	0.114 ***	1.099	1.227	0.128 ***
Earnings	0.005	-0.174	-0.180 ***	0.054	0.039	-0.016 ***
Firm Size	5.860	5.634	-0.226 ***	5.755	5.381	-0.374 ***
N	3,718	1,979		3,718	1,979	

Table 11 Panel A reports mean and median variable values for the litigation and at-risk-p5 sample. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 11
Litigation likelihood analysis with fifth percentile returns robustness check
Panel B: Litigation likelihood regressions

Dependent Variable	Expected Sign	(i) Litigation	
Intercept	(?)	-2.629	<.0001
Discretionary current accruals	(+)	0.742	<.0001
One-time charges	(+)	0.071	0.4191
R&D intensity	(+)	0.153	0.2232
Market-to-book	(+)	0.022	<.0001
Restatement	(+)	1.673	<.0001
Auditor turnover	(+)	0.417	<.0001
Minimum daily return	(-)	-2.454	<.0001
Standard deviation of daily returns	(+)	16.445	<.0001
Return skewness	(-)	-0.128	0.0002
Share turnover	(+)	0.026	<.0001
Beta	(+)	-0.183	0.0003
Earnings before extraordinary items	(+)	-0.412	<.0001
Firm size	(+)	0.043	0.0294
N		5,697	
Pseudo R-square		0.1708	

Table 11 Panel B reports the logistic regression estimating the likelihood of litigation. The dependent variable is an indicator variable equal to one if the observation is from the litigation sample and zero if it is from the at-risk-p5 sample. The probability of litigation is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Litigation=1)} = \eta_0 + \eta_1 \text{Discretionary Current Accruals}_t +$$
$$\eta_2 \text{One-time Charges}_t + \eta_3 \text{R\&D}_t + \eta_4 \text{Market-to-book}_t + \eta_5 \text{Restatement} +$$
$$\eta_6 \text{Auditor Turnover} + \eta_7 \text{Minimum Daily Return}_t + \eta_8 \text{Standard Deviation of Returns}_t +$$
$$\eta_9 \text{Return Skewness}_t + \eta_{10} \text{Share Turnover}_t + \eta_{11} \text{Beta}_t + \eta_{12} \text{Earnings}_t + \eta_{13} \text{Firm Size}_t + v_t$$

P-Values are reported next to the coefficient estimates.

Table 12
Accrual reliability analysis with decile returns robustness check
Panel A: Descriptive statistics comparing the litigation and at-risk-p10 samples

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Statistic	Mean	Mean	Difference	Median	Median	Difference
Sample	At-Risk-p10	Litigation	(L - AR)	At-Risk-p10	Litigation	(L - AR)
CFO_{t+1}	0.0802	0.0113	-0.0689 ***	0.0926	0.0527	-0.0399 ***
$Accruals_t$	0.0397	0.0589	0.0192 ***	0.0301	0.0467	0.0166 **
$CPCF_t$	0.1547	0.0815	-0.0732 ***	0.1599	0.1081	-0.0518 ***
$Deferrals_{t+1}$	0.1180	0.1297	0.0117 **	0.0727	0.0770	0.0043
N	6,618	1,343		6,618	1,343	

Table 12 Panel A reports mean and median variable values for the litigation and at-risk-p10 samples. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 12
Accrual reliability analysis with decile returns robustness check
Panel B: Accrual reliability regressions

Indicator Dependent Variable		(i) Litigation CFO_{t+1}		(ii) Outcome Level CFO_{t+1}		(iii) Settlement Amount CFO_{t+1}	
	Expected Sign	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Intercept	(?)	0.0143	<0.0001	0.0141	<0.0001	0.0134	<0.0001
$Accruals_t$	(+)	0.6589	<0.0001	0.6561	<0.0001	0.6452	<0.0001
$CPCF_t$	(+)	0.7257	<0.0001	0.7225	<0.0001	0.7227	<0.0001
$Deferrals_{t+1}$	(-)	-0.6151	<0.0001	-0.6088	<0.0001	-0.6068	<0.0001
Litigation Indicator	(?)	-0.0143	0.0272				
Accruals * Litigation	(-)	-0.1169	0.0023				
High Indicator	(?)			-0.0452	0.0056		
Accruals * High	(-)			-0.1815	0.0167		
Low Indicator	(?)			-0.0110	0.0282		
Accruals * Low	(-)			-0.0684	0.1014		
Dismissed Indicator	(?)			0.0117	0.1030		
Accruals * Dismissed	(?)			-0.0398	0.3044		
Settlement Amount	(?)					-0.2367	0.0157
Accruals * Settlement Amount	(-)					-1.1059	0.0069
N		7,961		7,961		7,961	
Adjusted R-square		0.5344		0.5380		0.5369	

F-test of the difference		Difference	p-value
Accruals*High - Accruals*Dismissed		-0.1417	0.0354

Table 12 Panel B reports the results of the accrual reliability tests of the litigation sample relative to the at-risk-p10 sample. The regression tests the mapping of accruals into future cash flows:

$$CFO_{t+1} = \gamma_0 + \gamma_1 Accruals_t + \gamma_2 CPCF_t + \gamma_3 Defferals_{t+1} + \gamma_4 Indicator + \gamma_5(Accruals_t * I) + \varepsilon_t$$

Two dimensional clustered standard errors correct for cross correlation in the error term and were used to calculate t-statistics. Column (i) reports the accrual reliability of the litigation sample. Column (ii) reports the accrual reliability of the three outcome levels (i.e., dismissed, low or high). The last row of the table reports and tests the difference between the high and dismissed accrual interaction term using an F-test. Column (iii) reports the accrual reliability of the litigation sample based on settlement amounts.

Table 13
Litigation likelihood analysis with decile returns robustness check
Panel A: Descriptive statistics comparing the litigation and at-risk-p10 samples

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Statistic	Mean	Mean	Difference	Median	Median	Difference
Sample	At-Risk-p10	Litigation	(L-AR)	At-Risk-p10	Litigation	(L-AR)
Discretionary Current Accruals	0.007	0.023	0.016 **	0.002	0.007	0.005 ***
One-time Charges	0.018	0.042	0.024 ***	0.000	0.000	0.000 ***
R&D Intensity	0.064	0.139	0.075 ***	0.000	0.028	0.028 ***
Market-to-book	3.815	5.888	2.073 ***	2.564	3.752	1.188 ***
Restatement	0.028	0.156	0.128 ***	0.000	0.000	0.000 ***
Auditor Turnover	0.062	0.122	0.060 ***	0.000	0.000	0.000 ***
Disclosure month return	-0.241	-0.344	-0.103 ***	-0.220	-0.333	-0.114 ***
Minimum daily return	-0.160	-0.283	-0.122 ***	-0.133	-0.256	-0.123 ***
Standard deviation of returns	0.034	0.050	0.016 ***	0.031	0.046	0.015 ***
Return skewness	-0.147	-0.759	-0.611 ***	0.078	-0.385	-0.463 ***
Share turnover	8.003	13.461	5.459 ***	5.586	10.626	5.040 ***
Beta	1.107	1.307	0.200 ***	1.000	1.227	0.227 ***
Earnings	0.023	-0.138	-0.161 ***	0.056	0.039	-0.017 **
Firm Size	6.133	5.640	-0.492 ***	6.013	5.381	-0.633
N	7,140	1,979		7,140	1,979	

Table 13 Panel A reports mean and median variable values for the litigation and at-risk-p10 sample. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 13
Litigation likelihood analysis with decile returns robustness check
Panel B: Litigation likelihood regression

Dependent Variable	Expected Sign	(i) Litigation	
Intercept	(?)	-3.433	<.0001
Discretionary current accruals	(+)	0.882	<.0001
One-time charges	(+)	0.192	0.3075
R&D intensity	(+)	0.128	0.2699
Market-to-book	(+)	0.020	0.0001
Restatement	(+)	1.704	<.0001
Auditor turnover	(+)	0.411	<.0001
Minimum daily return	(-)	-3.263	<.0001
Standard deviation of daily returns	(+)	25.432	<.0001
Return skewness	(-)	-0.210	<.0001
Share turnover	(+)	0.031	<.0001
Beta	(+)	-0.191	0.0002
Earnings before extraordinary items	(+)	-0.433	<.0001
Firm size	(+)	-0.011	0.3063
N		9,119	
Pseudo R-square		0.2022	

Table 13 Panel B reports the logistic regression estimating the likelihood of litigation. The dependent variable is an indicator variable equal to one if the observation is from the litigation sample and zero if it is from the at-risk-p10 sample. The probability of litigation is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Litigation=1)} = \eta_0 + \eta_1\text{Discretionary Current Accruals}_t +$$
$$\eta_2\text{One-time Charges}_t + \eta_3\text{R\&D}_t + \eta_4\text{Market-to-book}_t + \eta_5\text{Restatement} +$$
$$\eta_6\text{Auditor Turnover} + \eta_7\text{Minimum Daily Return}_t + \eta_8\text{Standard Deviation of Returns}_t +$$
$$\eta_9\text{Return Skewness}_t + \eta_{10}\text{Share Turnover}_t + \eta_{11}\text{Beta}_t + \eta_{12}\text{Earnings}_t + \eta_{13}\text{Firm Size}_t + v_t$$

P-Values are reported next to the coefficient estimates.

Table 14
Accrual reliability analysis with median market capitalization robustness check
Panel A: Descriptive statistics comparing the litigation and at-risk-big samples

	(i)	(ii)	(iii)		(iv)	(v)	(vi)	
Statistic	Mean	Mean	Difference		Median	Median	Difference	
Sample	At-Risk-Big	Litigation	(L - AR)		At-Risk-Big	Litigation	(L - AR)	
CFO_{t+1}	0.1008	0.0079	-0.0929	***	0.1056	0.0527	-0.0529	***
$Accruals_t$	0.0273	0.0601	0.0328	***	0.0168	0.0467	0.0299	***
$CPCF_t$	0.1665	0.0807	-0.0858	***	0.1680	0.1081	-0.0599	***
$Deferrals_{t+1}$	0.1102	0.1300	0.0198	***	0.0655	0.0770	0.0115	**
N	1,488	1,343			1,488	1,343		

Table 14 Panel A reports mean and median variable values for the litigation and at-risk-big samples. The at-risk-big sample consists of firms with returns in the fifth percentile of monthly returns with market capitalization greater than the median litigation market capitalization of \$480MM. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of $<.0001$, $<.01$ and $<.05$ are denoted with ***, ** and * respectively.

Table 14
Accrual reliability analysis with median market capitalization robustness check
Panel B: Accrual reliability regressions

Indicator Dependent Variable	Expected Sign	(i) Litigation CFO_{t+1} Coefficient	p-value	(ii) Outcome Level CFO_{t+1} Coefficient	p-value	(iii) Settlement Amount CFO_{t+1} Coefficient	p-value
Intercept	(?)	0.0247	<0.0001	0.0244	<0.0001	0.0153	0.0008
$Accruals_t$	(+)	0.7058	<0.0001	0.6987	<0.0001	0.6560	<0.0001
$CPCF_t$	(+)	0.7836	<0.0001	0.7761	<0.0001	0.7768	<0.0001
$Deferrals_{t+1}$	(-)	-0.6687	<0.0001	-0.6527	<0.0001	-0.6473	<0.0001
Litigation Indicator	(?)	-0.0290	0.0009				
Accruals * Litigation	(-)	-0.1065	0.0140				
High Indicator	(?)			-0.0618	0.0012		
Accruals * High	(-)			-0.1719	0.0340		
Low Indicator	(?)			-0.0268	<0.0001		
Accruals * Low	(-)			-0.0562	0.1309		
Dismissed Indicator	(?)			-0.0016	0.4324		
Accruals * Dismissed	(?)			-0.0313	0.3745		
Settlement Amount	(?)					-0.2003	0.0168
Accruals * Settlement Amount	(-)					-0.6201	0.0275
N		2,831		2,831		2,831	
Adjusted R-square		0.5173		0.5246		0.5206	

F-test of the difference		Difference	p-value
Accruals*High - Accruals*Dismissed		-0.1406	0.0953

Table 14 Panel B reports the results of the accrual reliability tests of the litigation sample relative to the at-risk-big sample. The at-risk-big sample consists of firms with returns in the fifth percentile with market capitalization greater than the median litigation market capitalization of $480MM. The regression tests the mapping of accruals into future cash flows:

$$CFO_{t+1} = \gamma_0 + \gamma_1 Accruals_t + \gamma_2 CPCF_t + \gamma_3 Defferals_{t+1} + \gamma_4 Indicator + \gamma_5 (Accruals_t * I) + \varepsilon_t$$

Two dimensional clustered standard errors correct for cross correlation in the error term and were used to calculate t-statistics. Column (i) reports the accrual reliability of the litigation sample. Column (ii) reports the accrual reliability of the three outcome levels (i.e., dismissed, low or high). The last row of the table reports and tests the difference between the high and dismissed accrual interaction term using an F-test. Column (iii) reports the accrual reliability of the litigation sample based on settlement amounts.

Table 15
Litigation likelihood analysis with median market capitalization robustness check
Panel A: Descriptive statistics comparing the litigation and at-risk-big sample

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Statistic	Mean	Mean	Difference	Median	Median	Difference
Sample	At-Risk-Big	Litigation	(L-AR)	At-Risk-Big	Litigation	(L-AR)
Discretionary Current Accruals	0.010	0.026	0.016 **	0.003	0.007	0.004 **
One-time Charges	0.023	0.051	0.028 ***	0.000	0.000	0.000 *
R&D Intensity	0.071	0.152	0.082 ***	0.002	0.028	0.026 ***
Market-to-book	4.898	6.039	1.141 ***	3.399	3.752	0.353 **
Restatement	0.039	0.156	0.116 ***	0.000	0.000	0.000 ***
Auditor Turnover	0.062	0.122	0.060 **	0.000	0.000	0.000 ***
Disclosure month return	-0.290	-0.343	-0.053 ***	-0.268	-0.333	-0.065 ***
Minimum daily return	-0.195	-0.284	-0.089 ***	-0.168	-0.256	-0.088 ***
Standard deviation of returns	0.037	0.050	0.013 ***	0.033	0.046	0.013 ***
Return skewness	-0.528	-0.778	-0.250 ***	-0.129	-0.385	-0.256 ***
Share turnover	10.997	13.701	2.704 ***	8.044	10.626	2.581 ***
Beta	1.301	1.312	0.011	1.197	1.227	0.030
Earnings	0.033	-0.204	-0.237 ***	0.062	0.039	-0.023 ***
Firm Size	6.617	5.634	-0.983 ***	6.510	5.381	-1.129 ***
N	1,605	1,979		1,605	1,979	

Table 15 Panel A reports mean and median variable values for the litigation and at-risk-big sample. The at-risk-big sample consists of firms with returns in the fifth percentile with market capitalization greater than the median litigation market capitalization of $480MM. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 15
Litigation likelihood analysis with median market capitalization robustness check
Panel B: Litigation likelihood regression

Dependent Variable	Expected Sign	(i) Litigation	
Intercept	(?)	0.627	0.0027
Discretionary current accruals	(+)	0.504	0.0050
One-time charges	(+)	0.081	0.4218
R&D intensity	(+)	0.431	0.0505
Market-to-book	(+)	-0.009	0.0473
Restatement	(+)	1.487	<.0001
Auditor turnover	(+)	0.402	0.0020
Minimum daily return	(-)	-3.014	<.0001
Standard deviation of daily returns	(+)	13.599	0.0013
Return skewness	(-)	-0.036	0.1946
Share turnover	(+)	0.002	0.3630
Beta	(+)	-0.286	<.0001
Earnings before extraordinary items	(+)	-0.461	<.0001
Firm size	(+)	-0.255	<.0001
N		3,584	
Pseudo R-square		0.1986	

Table 15 Panel B reports the logistic regression estimating the likelihood of litigation. The dependent variable is an indicator variable equal to one if the observation is from the litigation sample and zero if it is from the at-risk-big sample. The at-risk-big sample consists of firms with returns in the fifth percentile with market capitalization greater than the median litigation market capitalization of \$480MM. The probability of litigation is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Litigation=1)} = \eta_0 + \eta_1\text{Discretionary Current Accruals}_t +$$
$$\eta_2\text{One-time Charges}_t + \eta_3\text{R\&D}_t + \eta_4\text{Market-to-book}_t + \eta_5\text{Restatement} +$$
$$\eta_6\text{Auditor Turnover} + \eta_7\text{Minimum Daily Return}_t + \eta_8\text{Standard Deviation of Returns}_t +$$
$$\eta_9\text{Return Skewness}_t + \eta_{10}\text{Share Turnover}_t + \eta_{11}\text{Beta}_t + \eta_{12}\text{Earnings}_t + \eta_{13}\text{Firm Size}_t + \nu_t$$

P-Values are reported next to the coefficient estimates.

Table 16
Accrual reliability analysis after excluding hard evidence events
Panel A: Descriptive statistics comparing the litigation and at-risk samples

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Statistic	Mean	Mean	Difference	Median	Median	Difference
Sample	At-Risk	Litigation	(L - AR)	At-Risk	Litigation	(L - AR)
CFO_{t+1}	0.0103	0.0045	-0.0058	0.0435	0.0546	0.0111 *
$Accruals_t$	0.0320	0.0559	0.0239 ***	0.0207	0.0423	0.0216 **
$CPCF_t$	0.0950	0.0798	-0.0152	0.1097	0.1124	0.0027
$Deferrals_{t+1}$	0.1187	0.1290	0.0103	0.0620	0.0776	0.0156 **
N	891	1,051		891	1,051	

Table 16 Panel A reports mean and median variable values for the litigation and at-risk samples after excluding observations with accounting restatements and / or SEC investigations. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Panel B: Descriptive statistics comparing the dismissed, low and high settlement samples

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
Statistic	Mean	Mean	Mean	Difference	Median	Median	Median	Difference
Sample	Dismissed	Low	High	(H - D)	Dismissed	Low	High	(H - D)
CFO_{t+1}	0.0317	0.0584	-0.0805	-0.1122 ***	0.0770	0.0670	-0.0089	-0.0859 ***
$Accruals_t$	0.0361	0.0614	0.0725	0.0364 **	0.0275	0.0375	0.0656	0.0381 **
$CPCF_t$	0.0909	0.1299	0.0164	-0.0745 ***	0.1310	0.1389	0.0527	-0.0783 ***
$Deferrals_{t+1}$	0.1231	0.1189	0.1458	0.0227 *	0.0808	0.0730	0.0853	0.0045
N	373	342	336		373	342	336	

Table 16 Panel B reports mean and median variable values for the dismissed, low and high settlement samples after excluding observations with accounting restatements and / or SEC investigations. The difference in the means and medians are reported in columns (iv) and (viii) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 16
Accrual reliability analysis after excluding hard evidence events
Panel C: Accrual reliability regressions

Indicator Dependent Variable		(i) Litigation CFO_{t+1}		(ii) Outcome Level CFO_{t+1}		(iii) Settlement Amount CFO_{t+1}	
	Expected Sign	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Intercept	(?)	-0.0018	0.1976	-0.0024	0.3652	0.0026	0.1691
$Accruals_t$	(+)	0.7877	<0.0001	0.7814	<0.0001	0.7256	<0.0001
$CPCF_t$	(+)	0.8254	<0.0001	0.8162	<0.0001	0.8161	<0.0001
$Deferrals_{t+1}$	(-)	-0.7710	<0.0001	-0.7571	<0.0001	-0.7528	<0.0001
Litigation Indicator	(?)	0.0031	0.1825				
Accruals * Litigation	(-)	-0.1295	0.0037				
High Indicator	(?)			-0.0273	0.0465		
Accruals * High	(-)			-0.1437	0.0629		
Low Indicator	(?)			0.0062	<0.0001		
Accruals * Low	(-)			-0.1527	0.0194		
Dismissed Indicator	(?)			0.0268	<0.0001		
Accruals * Dismissed	(?)			-0.0518	0.0678		
Settlement Amount	(?)					-0.1496	0.0510
Accruals * Settlement Amount	(-)					-0.3912	0.0608
CPCF * High	(?)						
CPCF * Low	(?)						
CPCF * Dismissed	(?)						
N		1,942		1,942		1,942	
Adjusted R-square		0.5570		0.5613		0.5597	

F-test of the difference	Difference	p-value
Accruals*High - Accruals*Dismissed	-0.0919	0.2069

Table 16 Panel C reports the results of the accrual reliability tests of the litigation sample relative to the at-risk sample after excluding observations with accounting restatements and / or SEC investigations. The regression tests the mapping of accruals into future cash flows:

$$CFO_{t+1} = \gamma_0 + \gamma_1 Accruals_t + \gamma_2 CPCF_t + \gamma_3 Defferals_{t+1} + \gamma_4 Indicator + \gamma_5(Accruals_t * I) + \varepsilon_t$$

Two dimensional clustered standard errors correct for cross correlation in the error term and were used to calculate t-statistics. Column (i) reports the accrual reliability of the litigation sample. Column (ii) reports the accrual reliability of the three outcome levels (i.e., dismissed, low or high). The last row of the table reports and tests the difference between the high and dismissed accrual interaction term using an F-test. Column (iii) reports the accrual reliability of the litigation sample based on settlement amounts.

Table 17
Litigation likelihood analysis after excluding hard evidence events
Panel A: Descriptive statistics comparing the litigation and at-risk samples

Statistic Sample	(i) Mean At-Risk	(ii) Mean Litigation	(iii) Difference (L-AR)	(iv) Median At-Risk	(v) Median Litigation	(vi) Difference (L-AR)
Discretionary Current Accruals	0.019	0.024	0.006	0.008	0.009	0.001
One-time Charges	0.030	0.043	0.013 **	0.000	0.000	0.000
R&D Intensity	0.113	0.159	0.046 ***	0.029	0.033	0.004 *
Market-to-book	4.277	6.094	1.817 ***	2.853	3.798	0.945 ***
Auditor Turnover	0.084	0.107	0.023 **	0.000	0.000	0.000 *
Disclosure month return	-0.348	-0.337	0.011 **	-0.333	-0.331	0.003
Minimum daily return	-0.277	-0.281	-0.004	-0.247	-0.254	-0.007
Standard deviation of returns	0.048	0.050	0.002 **	0.045	0.045	0.000
Return skewness	-0.713	-0.768	-0.055	-0.332	-0.387	-0.056
Share turnover	9.724	13.589	3.864 ***	7.246	10.599	3.352 ***
Beta	1.118	1.341	0.224 ***	1.019	1.272	0.253 ***
Earnings	-0.069	-0.200	-0.131 ***	0.018	0.046	0.028 ***
Firm Size	4.990	5.549	0.559 ***	4.789	5.264	0.475 ***
N	1,399	1,623		1,399	1,623	

Table 17 Panel A reports mean and median variable values for the litigation and at-risk samples after excluding observations with accounting restatements and / or SEC investigations. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 17
Litigation likelihood analysis after excluding hard evidence events
Panel B: Litigation likelihood regression

Dependent Variable	Expected Sign	(i) Litigation	
Intercept	(?)	-1.978	<.0001
Discretionary current accruals	(+)	0.545	0.0012
One-time charges	(+)	0.168	0.3310
R&D intensity	(+)	0.301	0.0903
Market-to-book	(+)	0.035	<.0001
Auditor turnover	(+)	0.407	0.0012
Minimum daily return	(-)	0.745	0.1024
Standard deviation of daily returns	(+)	-1.140	0.3922
Return skewness	(-)	-0.063	0.0562
Share turnover	(+)	0.038	<.0001
Beta	(+)	0.132	0.0190
Earnings before extraordinary items	(+)	-0.320	0.0004
Firm size	(+)	0.273	<.0001
N		3,022	
Pseudo R-square		0.1001	

Table 17 Panel B reports the logistic regression estimating the likelihood of litigation after excluding all observations with accounting restatements and / or SEC investigations. The dependent variable is an indicator variable equal to one if the observation is from the litigation sample and zero if it is from the at-risk sample. The probability of litigation is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Litigation=1)} = \eta_0 + \eta_1 \text{Discretionary Current Accruals}_t + \eta_2 \text{One-time Charges}_t + \eta_3 \text{R\&D}_t + \eta_4 \text{Market-to-book}_t + \eta_5 \text{Auditor Turnover} + \eta_6 \text{Minimum Daily Return}_t + \eta_7 \text{Standard Deviation of Returns}_t + \eta_8 \text{Return Skewness}_t + \eta_9 \text{Share Turnover}_t + \eta_{10} \text{Beta}_t + \eta_{11} \text{Earnings}_t + \eta_{12} \text{Firm Size}_t + \nu_t$$

P-Values are reported next to the coefficient estimates.

Table 18
Litigation outcome analysis after excluding hard evidence events
Panel A: Descriptive statistics comparing the dismissed, low and high settlement Samples

Statistic Sample	(i) Mean Dismissed	(ii) Mean Low	(iii) Mean High	(iv) Difference (H-D)	(v) Median Dismissed	(vi) Median Low	(vii) Median High	(viii) Difference (H-D)
Discretionary Current Accruals	-0.017	0.028	0.067	0.084 **	-0.001	0.005	0.037	0.039 ***
One-time Charges	0.049	0.029	0.059	0.010	0.000	0.000	0.000	0.000
Research & Development	0.243	0.048	0.190	-0.053 *	0.084	0.000	0.079	-0.005
Market-to-book	8.357	3.506	6.232	-2.125 ***	4.897	2.458	4.430	-0.467 **
Auditor Turnover	0.069	0.106	0.154	0.085 ***	0.000	0.000	0.000	0.000 ***
Disclosure Month Return	-0.375	-0.293	-0.329	0.046 ***	-0.384	-0.296	-0.322	0.062 ***
Minimum Daily Return	-0.286	-0.247	-0.308	-0.023 **	-0.257	-0.224	-0.287	-0.030 **
Standard Deviation of Returns	0.057	0.039	0.052	-0.004 **	0.052	0.035	0.048	-0.004 **
Return Skewness	-0.499	-1.112	-0.754	-0.256 *	-0.066	-0.734	-0.426	-0.360 **
Share Turnover	16.049	9.312	15.469	-0.580	12.559	6.549	13.265	0.705
Beta	1.444	1.147	1.422	-0.022	1.384	1.084	1.368	-0.015
Earnings	-0.580	0.027	-0.160	0.420 ***	0.033	0.047	0.074	0.041 ***
Firm Size	5.719	6.572	4.282	-1.437 ***	5.364	6.471	4.273	-1.090 ***
N	611	517	495		611	517	495	

Table 18 Panel A reports mean and median variable values for the dismissed, low and high settlement samples after excluding all observations with SEC investigations and / or accounting restatements. The difference in the means and medians are reported in columns (iv) and (viii) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 18
Litigation outcome analysis after excluding hard evidence events
Panel B: Litigation outcome regressions

Dependent Variable	Expected Sign	(i) Outcome Level		(ii) Settlement	
Intercept	(?)	2.247	<.0001	0.371	<.0001
Intercept	(?)	3.806	<.0001		
Discretionary current accruals	(+)	0.242	0.0590	0.084	<.0001
One-time charges	(+)	0.899	0.0061	0.042	0.1925
R&D intensity	(+)	-0.273	0.1104	0.164	<.0001
Market-to-book	(+)	-0.031	<.0001	-0.001	0.0746
Auditor turnover	(+)	0.578	0.0002	0.109	<.0001
Minimum daily return	(-)	-2.945	<.0001	-0.361	0.0002
Standard deviation of daily returns	(+)	-35.001	<.0001	-3.892	<.0001
Return skewness	(-)	0.124	0.00305	0.016	0.0063
Share turnover	(+)	-0.004	0.2332	0.000	0.2809
Beta	(+)	0.255	0.0004	0.009	0.2044
Earnings before extraordinary items	(+)	0.156	0.0105	0.017	0.0295
Firm size	(+)	-0.418	<.0001	-0.054	<.0001
Sigma				0.257	<.0001
N		1,623		1,623	
Pseudo R-square		0.1850		0.2082	

Table 18 Panel B reports the results of the litigation outcome regressions after excluding all observations with SEC investigations and / or accounting restatements. Column (i) reports the results of an ordered logistic regression of the outcome level. The probability of a high, low or dismissed outcome is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Settlement Level = Dismissed, Low or High)} = \tau_0 + \tau_{0'} +$$
$$\tau_1 \text{Discretionary Current Accruals}_t + \tau_2 \text{One-time Charges}_t + \tau_3 \text{R\&D}_t +$$
$$\tau_4 \text{ Market-to-book} + \tau_5 \text{Auditor Turnover}_t + \tau_6 \text{Minimum Daily Return} +$$
$$\tau_7 \text{Standard Deviation of Returns}_t + \tau_8 \text{Return Skewness} + \tau_9 \text{Share Turnover}_t + \tau_{10} \text{Beta}_t +$$
$$\tau_{11} \text{Earnings}_t + \tau_{12} \text{Firm Size}_t + v_t'$$

Column (ii) reports the tobit regression results which estimate the settlement amounts from accounting quality variables, return characteristics, earnings, firm size and a variable (sigma) to correct for biases caused by censoring of the settlement amount:

$$\text{Settlement} = \theta_0 + \theta_1 \text{Discretionary Current Accruals}_t + \theta_2 \text{One-time Charges}_t + \theta_3 \text{R\&D}_t +$$
$$\theta_4 \text{Market-to-book} + \theta_5 \text{ Auditor Turnover}_t + \theta_6 \text{Minimum Daily Return} +$$
$$\theta_7 \text{Standard Deviation of Returns}_t + \theta_8 \text{Return Skewness}_t + \theta_9 \text{Share Turnover}_t + \theta_{10} \text{Beta}_t +$$
$$\theta_{11} \text{Earnings}_t + \theta_{12} \text{Firm Size}_t + \theta_{13} \text{Sigma} + \varpi_t$$

P-values are shown next to the coefficient estimates.

Table 18
Litigation outcome analysis after excluding hard evidence events
Panel C: Settlement amount estimated with selection model

Model (estimated jointly by ML)		(i) Probit		(ii) Tobit	
Dependent Variable	Expected Sign	Litigation		Settlement	
Intercept		-1.199	<.0001	0.417	<.0001
Discretionary current accruals	(+)	0.337	0.0015	0.089	0.0003
One-time charges	(+)	0.065	0.3778	0.048	0.1584
R&D intensity	(+)	0.202	0.0688	0.123	<.0001
Market-to-book	(+)	0.020	<.0001	-0.002	0.0561
Auditor turnover	(+)	0.244	0.0013	0.096	<.0001
Minimum daily return	(-)	0.460	0.0990	-0.364	0.0001
Standard deviation of daily returns	(+)	-0.500	0.4220	-3.764	<.0001
Return skewness	(+)	-0.039	0.0539	0.017	0.0043
Share turnover	(+)	0.022	<.0001	-0.001	0.1813
Beta	(+)	0.082	0.0174	0.010	0.1641
Earnings	(+)	-0.207	0.0002	0.015	0.1120
Firm size	(+)	0.166	<.0001	-0.056	<.0001
Sigma	(?)			0.242	<.0001
Rho	(?)			-0.162	0.1724
N		3,022		1,623	
Pseudo R-square		0.0993		0.0864	

Table 18 Panel C reports the results of the selection analysis after excluding all observations with SEC investigations and/or accounting restatements. The litigation likelihood and settlement model are estimated jointly by maximum likelihood. Column (i) reports the results of the probit regression of litigation likelihood estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Litigation} = 1) = \eta_0 + \eta_1 \text{Discretionary Current Accruals}_t +$$
$$\eta_2 \text{One-time Charges}_t + \eta_3 \text{R\&D}_t + \eta_4 \text{Market-to-book} + \eta_5 \text{Auditor Turnover}_t +$$
$$\eta_6 \text{Minimum Daily Return} + \eta_7 \text{Standard Deviation of Returns}_t + \eta_8 \text{Return Skewness} +$$
$$\eta_9 \text{Share Turnover}_t + \eta_{10} \text{Beta}_t + \eta_{11} \text{Earnings}_t + \eta_{12} \text{Firm Size}_t + v_t'$$

Column (ii) reports the tobit regression results which estimate the settlement amounts from accounting quality variables, return characteristics, earnings, firm size, a variable (sigma) to correct for biases caused by censoring of the settlement amount and a variable (rho) to correct for selection biases:

$$\text{Settlement} = \theta_0 + \theta_1 \text{Discretionary Current Accruals}_t + \theta_2 \text{One-time Charges}_t + \theta_3 \text{R\&D}_t +$$
$$\theta_4 \text{Market-to-book} + \theta_5 \text{Auditor Turnover}_t + \theta_6 \text{Minimum Daily Return} +$$
$$\theta_7 \text{Standard Deviation of Returns}_t + \theta_8 \text{Return Skewness}_t + \theta_9 \text{Share Turnover}_t + \theta_{10} \text{Beta}_t +$$
$$\theta_{11} \text{Earnings}_t + \theta_{12} \text{Firm Size}_t + \omega_{13} \text{Sigma} + \omega_{14} \text{Rho} + \varpi_t$$

P-values are shown next to the coefficient estimates.

Table 19
Accrual reliability analysis controlling for CFO_t
Panel A: Descriptive statistics comparing the litigation and at-risk samples

Statistic Sample	(i) Mean At-Risk	(ii) Mean Litigation	(iii) Difference (L - AR)	(iv) Median At-Risk	(v) Median Litigation	(vi) Difference (L - AR)
CFO_{t+1}	0.0098	0.0056	-0.0042	0.0428	0.0527	0.0099 *
$Accruals_t$	0.0315	0.0599	0.0284 ***	0.0197	0.0467	0.0270 ***
$CPCF_t$	0.0947	0.0800	-0.0147	0.1102	0.1081	-0.0021
$Deferrals_{t+1}$	0.1185	0.1307	0.0122 *	0.0618	0.0770	0.0152 **
CFO_t	0.0118	0.0110	-0.0008	0.0422	0.0453	0.0031
N	916	1,343		916	1,343	

Table 19 Panel A reports mean and median variable values for the litigation and at-risk samples. The difference in the means and medians are reported in columns (iii) and (vi) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Panel B: Descriptive Statistics Comparing the Dismissed, Low and High Settlement Samples

Statistic Sample	(i) Mean Dismissed	(ii) Mean Low	(iii) Mean High	(iv) Difference (H - D)	(v) Median Dismissed	(vi) Median Low	(vii) Median High	(viii) Difference (H - D)
CFO_{t+1}	0.0415	0.0584	-0.0822	-0.1237 ***	0.0787	0.0611	-0.0081	-0.0868 ***
$Accruals_t$	0.0384	0.0685	0.0722	0.0338 ***	0.0340	0.0421	0.0674	0.0334 **
$CPCF_t$	0.0950	0.1196	0.0257	-0.0693 ***	0.1258	0.1357	0.0531	-0.0727 ***
$Deferrals_{t+1}$	0.1227	0.1167	0.1524	0.0297 **	0.0782	0.0721	0.0871	0.0089
CFO_t	0.0280	0.0510	-0.0456	-0.0736 ***	0.0657	0.0514	0.0133	-0.0524 ***
N	442	450	451		442	450	451	

Table 19 Panel B reports mean and median variable values for the dismissed, low and high settlement samples. The difference in the means and medians are reported in columns (iv) and (viii) respectively. Significance levels for the difference in means and medians are based on one-sided t-tests and Wilcoxon signed rank tests respectively. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 19
Accrual reliability analysis controlling for CFO_t
Panel C: Accrual reliability regressions

Indicator Dependent Variable	Expected Sign	(i) Litigation CFO_{t+1} Coefficient	p-value	(ii) Outcome Level (Median) CFO_{t+1} Coefficient	p-value	(iv) Settlement Amount CFO_{t+1} Coefficient	p-value
Intercept	(?)	0.0071	0.0853	0.0059	0.2187	0.0104	0.0313
$Accruals_t$	(+)	0.4809	<0.0001	0.4879	<0.0001	0.4158	<0.0001
$CPCF_t$	(+)	0.4366	<0.0001	0.4454	<0.0001	0.4377	<0.0001
$Deferrals_{t+1}$	(-)	-0.5077	<0.0001	-0.5042	<0.0001	-0.4896	<0.0001
CFO_t	(+)	0.5375	<0.0001	0.5167	<0.0001	0.5264	<0.0001
Litigation Indicator	(?)	0.0042	0.0744				
Accruals * Litigation	(-)	-0.1487	0.0016				
High Indicator	(?)			-0.0199	0.1142		
Accruals * High	(-)			-0.1938	0.0269		
Low Indicator	(?)			0.0062	0.2240		
Accruals * Low	(-)			-0.1153	0.0173		
Dismissed Indicator	(?)			0.0254	<0.0001		
Accruals * Dismissed	(?)			-0.0955	0.0738		
Settlement Amount	(?)					-0.1077	0.0700
Accruals * Settlement Amount	(-)					-0.5504	0.0374
N		2,259		2,259		2,259	
Adjusted R-square		0.5795		0.5832		0.5822	

F-test of the difference				Difference	p-value		
Accruals*High - Accruals*Dismissed				-0.0453	0.0445		

Table 19 Panel C reports the results of the accrual reliability tests of the litigation sample relative to the at-risk sample after controlling for lagged operating cash flows. The regression tests the mapping of accruals into future cash flows:

$$CFO_{t+1} = \zeta_0 + \zeta_1 Accruals_t + \zeta_2 CPCF_t + \zeta_3 Defferals_{t+1} + \zeta_4 CFO_t +$$
$$\zeta_4 Indicator + \zeta_5 (Accruals_t * I) + \varepsilon_t$$

Two dimensional clustered standard errors correct for cross correlation in the error term and were used to calculate t-statistics. Column (i) reports the accrual reliability of the litigation sample. Column (ii) reports the accrual reliability of the three outcome levels (i.e., dismissed, low or high). The last row of the table reports and tests the difference between the high and dismissed accrual interaction term using an F-test. Column (iii) reports the accrual reliability of the litigation sample based on settlement amounts.

Table 20
Impact of the PSLRA on litigation likelihood
Panel A: Descriptive statistics comparing the means of the litigation outcome samples pre- and post-PSLRA

Sample Period	Pre-PSLRA			Post-PSLRA		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Statistic	Mean	Mean	Difference	Mean	Mean	Difference
Sample	At-Risk	Litigation	(Pre L-Pre AR)	At-Risk	Litigation	(Pre L-Pre AR)
Discretionary Current Accruals	0.030	0.050	0.020 *	0.012	0.008	-0.004
One-time Charges	0.015	0.029	0.013 *	0.039	0.063	0.024 ***
R&D Intensity	0.072	0.104	0.032 **	0.132	0.179	0.047 ***
Market-to-book	3.371	4.210	0.839 **	4.625	6.992	2.368 ***
Auditor Turnover	0.055	0.120	0.065 ***	0.098	0.123	0.025 *
Disclosure Month Return	-0.299	-0.270	0.065 ***	-0.369	-0.384	-0.015 **
Minimum Daily Return	-0.226	-0.244	0.029 *	-0.301	-0.307	-0.006
Standard Deviation of Returns	0.040	0.039	-0.018	0.051	0.056	0.005 ***
Return Skewness	-0.695	-0.938	-0.001 **	-0.722	-0.681	0.041
Share Turnover	6.415	10.253	-0.244 ***	11.273	15.592	4.319 ***
Beta	1.023	1.321	3.838	1.166	1.304	0.138 ***
Earnings	0.028	0.006	0.298	-0.115	-0.321	-0.206 ***
Firm Size	4.665	5.324	-0.022 ***	5.168	5.799	0.631 ***
N	451	706		995	1,273	

	Difference in Post- and Pre-PSLRA Means by Sample	
	(vii)	(viii)
Statistic	(Post - Pre PSLRA)	(Post - Pre PSLRA)
Sample	At-Risk	Litigation
Discretionary Current Accruals	-0.018 *	-0.042 **
One-time Charges	0.023 ***	0.034 ***
R&D Intensity	0.061 ***	0.075 ***
Market-to-book	1.253 ***	2.782 ***
Auditor Turnover	0.042 **	0.002
Disclosure Month Return	-0.070 ***	-0.113 ***
Minimum Daily Return	-0.075 ***	-0.063 ***
Standard Deviation of Returns	0.012 ***	0.017 ***
Return Skewness	-0.028	0.257 **
Share Turnover	4.858 ***	5.339 ***
Beta	0.143 ***	-0.017
Earnings	-0.143 ***	-0.327 ***
Firm Size	0.503 ***	0.475 ***

Table 20 Panel A reports mean variable values for the litigation and at-risk samples. Columns (i) – (iii) reports statistics for the pre-PSLRA period, columns (iv) – (vi) report statistics for the post-PSLRA period. Column (vii) reports the difference in variable values of the at-risk sample between the post- and pre-PSLRA periods. Column (viii) reports the difference in variable values of the litigation sample between the post- and pre-PSLRA periods. Significance levels for the difference in means are based on one-sided t-tests. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 20
Impact of the PSLRA on litigation likelihood
Panel B: Litigation likelihood regressions

		(i)		(ii)		(iii)	
Sample		Pooled		Pre-PSLRA		Post-PSLRA	
Dependent Variable	Expected Sign	Litigation		Litigation		Litigation	
Intercept	(?)	-2.405	<.0001	-3.165	<.0001	-2.810	<.0001
Discretionary current accruals	(+)	0.740	0.0085	0.743	0.0135	0.372	0.0463
One-time charges	(+)	0.797	0.1369	0.550	0.2521	0.564	0.0714
R&D intensity	(+)	1.258	0.0052	0.642	0.1158	0.141	0.2869
Market-to-book	(+)	0.056	0.0003	0.053	0.0006	0.040	<.0001
Auditor turnover	(+)	0.552	<.0001	1.152	<.0001	0.343	0.0095
Minimum daily return	(-)	0.562	0.1589	-2.890	0.0123	1.702	0.0041
Standard deviation of daily returns	(+)	9.757	0.0098	-17.929	0.0375	19.366	<.0001
Return skewness	(-)	-0.058	0.0616	0.076	0.1541	-0.110	0.0075
Share turnover	(+)	0.048	<.0001	0.110	<.0001	0.040	<.0001
Beta	(+)	-0.105	0.0511	0.158	0.1010	-0.316	<.0001
Earnings before extraordinary items	(+)	-0.338	0.0003	-0.590	0.0219	-0.280	0.0031
Firm size	(+)	0.374	<.0001	0.453	<.0001	0.358	<.0001
Discretionary current accruals*PSLRA	(+)	-0.380	0.1578				
One-time charges*PSLRA	(+)	-0.298	0.3581				
R&D intensity*PSLRA	(+)	-1.236	0.0099				
Market-to-book*PSLRA	(+)	-0.019	0.1351				
PSLRA	(+)	-0.646	<.0001				
N		3,425		1,157		2,268	
Pseudo R-square		0.1279		0.1839		0.1256	

Table 20 Panel B reports coefficient estimates and p-values of the logistic regressions which estimate the likelihood of litigation (i.e., the dependent variable is an indicator variable if the observation is from the litigation sample and zero if from the at-risk sample). The probability of litigation is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Litigation=1)} = \eta_0 + \eta_1\text{Discretionary Current Accruals}_t + \eta_2\text{One-time Charges}_t + \eta_3\text{R\&D}_t + \eta_4\text{Market-to-book}_t + \eta_5\text{Auditor Turnover} + \eta_6\text{Minimum Daily Return}_t + \eta_7\text{Standard Deviation of Returns}_t + \eta_8\text{Return Skewness}_t + \eta_9\text{ Share Turnover}_t + \eta_{10}\text{Beta}_t + \eta_{11}\text{Earnings}_t + \eta_{12}\text{Firm Size}_t + v_t$$

Column (i) includes an indicator variable (PSLRA) for disclosure months following the passage of the PSLRA as well as variables which interact the PSLRA indicator with accounting quality variables. Column (ii) reports the results of the logistic regression for the pre-PSLRA period. Column (iii) reports the results of the logistic regression for the post-PSLRA period.

Table 21
Impact of the PSLRA on litigation outcomes
Panel A: Descriptive statistics comparing the means of the litigation outcome samples pre- and post-PSLRA

PSLRA Sample	Pre-PSLRA				Post-PSLRA			
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
Statistic	Mean	Mean	Mean	Difference	Mean	Mean	Mean	Difference
Outcome Sample	Dismissed	Low	High	(Pre H-Pre D)	Dismissed	Low	High	(Post H-Post D)
Discretionary Current Accruals	0.008	0.042	0.079	0.071 **	-0.019	0.005	0.052	0.071 **
One-time Charges	0.012	0.020	0.046	0.034 **	0.061	0.044	0.104	0.044 **
R&D Intensity	0.116	0.047	0.161	0.045 *	0.247	0.043	0.229	-0.018
Market-to-book	4.352	3.105	5.373	1.021	8.708	3.959	7.438	-1.271
Auditor Turnover	0.099	0.096	0.152	0.053	0.078	0.137	0.188	0.110 ***
Disclosure Month Return	-0.242	-0.244	-0.298	-0.056 ***	-0.394	-0.362	-0.380	0.014
Minimum Daily Return	-0.219	-0.206	-0.290	-0.071 ***	-0.292	-0.301	-0.339	-0.047 ***
Standard Deviation of Returns	0.036	0.033	0.047	0.011 ***	0.059	0.047	0.060	0.001
Return Skewness	-0.819	-0.969	-0.957	-0.138	-0.392	-1.243	-0.637	-0.245
Share Turnover	10.723	7.667	12.678	1.955 *	16.679	11.310	18.924	2.245 *
Beta	1.490	1.177	1.410	-0.080	1.397	1.098	1.351	-0.046
Earnings	0.135	0.056	-0.092	-0.227 ***	-0.667	-0.014	-0.337	0.331 **
Firm Size	5.558	6.444	4.122	-1.436 ***	5.828	6.806	4.755	-1.072 ***
N	101	302	303		602	336	335	

	Difference in Post- and Pre-PSLRA Means by Sample		
	(ix)	(x)	(xi)
Statistic	(Post - Pre-PSLRA)	(Post - Pre-PSLRA)	(Post - Pre-PSLRA)
Sample	Dimissed	Low	High
Discretionary Current Accruals	-0.027	-0.037 **	-0.027
One-time Charges	0.049 ***	0.023 **	0.058 **
R&D Intensity	0.131 ***	-0.004	0.068 **
Market-to-book	4.357 ***	0.854 *	2.065 **
Auditor Turnover	-0.021	0.041	0.036
Disclosure Month Return	-0.152 ***	-0.118 ***	-0.081 ***
Minimum Daily Return	-0.073 ***	-0.095 ***	-0.049 ***
Standard Deviation of Returns	0.023 ***	0.014 ***	0.013 ***
Return Skewness	0.427 *	-0.274 *	0.320 *
Share Turnover	5.956 ***	3.643 ***	6.246 ***
Beta	-0.093	-0.078	-0.059
Earnings	-0.802 ***	-0.071 ***	-0.244 **
Firm Size	0.270	0.362 *	0.634 ***

Table 21 Panel A reports mean variable values for the dismissed, low and high settlement samples. Columns (i) – (iv) reports statistics for the pre-PSLRA period, columns (v) – (viii) report statistics for the post-PSLRA period. Columns (ix) – (xi) report the difference in variable values of the three samples between the post- and pre-PSLRA periods. Significance levels for the difference in means are based on one-sided t-tests. Significance levels of <.0001, <.01 and <.05 are denoted with ***, ** and * respectively.

Table 21
Impact of the PSLRA on litigation outcomes
Panel B: Litigation outcome level regressions

Dependent Variable	Expected Sign	(i) Pooled Outcome Level		(ii) Pre-PSLRA Outcome Level		(iii) Post-PSLRA Outcome Level	
Intercept	(?)	0.978	0.0001	0.882	0.1178	0.235	0.2230
Intercept	(?)	2.577	<.0001	3.413	<.0001	1.481	<.0001
Discretionary current accruals	(+)	0.568	0.0282	0.874	0.0032	0.237	0.0927
One-time charges	(+)	1.481	0.0284	0.005	0.4980	1.337	<.0001
R&D intensity	(+)	1.243	0.0077	0.779	0.0903	-0.280	0.1201
Market-to-book	(+)	0.016	0.1527	0.014	0.2153	-0.019	0.0038
Auditor turnover	(+)	0.601	<.0001	0.279	0.1302	0.697	<.0001
Minimum daily return	(-)	-2.458	<.0001	0.395	0.3967	-2.654	0.0001
Standard deviation of daily returns	(+)	-13.963	0.0013	14.978	0.1230	-18.738	0.0002
Return skewness	(-)	0.053	0.0922	-0.074	0.1744	0.076	0.0628
Share turnover	(+)	0.009	0.0294	0.026	0.0186	0.007	0.0690
Beta	(+)	-0.006	0.4691	-0.082	0.2783	0.055	0.2701
Earnings before extraordinary items	(+)	0.172	0.0024	-1.208	0.0010	0.199	0.0014
Firm size	(+)	-0.268	<.0001	-0.380	<.0001	-0.202	<.0001
Discretionary current accruals*PSLRA	(+)	-0.316	0.1792				
One-time charges*PSLRA	(+)	-0.052	0.4753				
R&D intensity*PSLRA	(+)	-1.743	0.0008				
Market-to-book*PSLRA	(+)	-0.040	0.0099				
PSLRA	(-)	-0.669	<.0001				
N		1,979		706		1,273	
Pseudo R-square		0.2019		0.2446		0.2825	

Table 21 Panel B reports the results of the ordered logistic regressions of case outcome level. The probability of a high, low or dismissed outcome is estimated with accounting quality variables, return characteristics, earnings and firm size:

$$\text{Probability(Settlement Level = Dismissed, Low or High)} = \tau_0 + \tau_{0'} +$$
$$\tau_1 \text{Discretionary Current Accruals}_t + \tau_2 \text{One-time Charges}_t + \tau_3 \text{R\&D}_t +$$
$$\tau_4 \text{ Market-to-book} + \tau_5 \text{Auditor Turnover}_t + \tau_6 \text{SEC Investigation}_t + \tau_7 \text{Minimum Daily}$$
$$\text{Return} + \tau_8 \text{Standard Deviation of Returns}_t + \tau_9 \text{Return Skewness} + \tau_{10} \text{Share Turnover}_t +$$
$$\tau_{11} \text{Beta}_t + \tau_{12} \text{Earnings}_t + \tau_{13} \text{Firm Size}_t + v_t^{'}$$

Column (i) includes an indicator variable for disclosure months following the passage of the PSLRA as well as variables which interact the PSLRA indicator with accounting quality variables. Column (ii) reports the results of the ordered logistic regression for the pre-PSLRA period. Column (iii) reports the results of the ordered logistic regression for the post-PSLRA period. P-values are shown next to the coefficient estimates.

Table 21
Impact of the PSLRA on litigation outcomes
Panel C: Settlement regressions

Sample Dependent Variable	Expected Sign	(i) Pooled Settlement		(ii) Pre-PSLRA Settlement		(iii) Post-PSLRA Settlement	
Intercept	(?)	0.117	0.0046	0.050	0.5075	0.026	0.6364
Discretionary current accruals	(+)	0.248	<.0001	0.237	<.0001	0.135	<.0001
One-time charges	(+)	0.054	0.2738	0.094	0.1624	0.116	0.0153
R&D intensity	(+)	0.456	<.0001	0.478	<.0001	0.101	0.0044
Market-to-book	(+)	0.009	<.0001	0.009	<.0001	0.000	0.4810
Auditor turnover	(+)	0.128	<.0001	0.145	<.0001	0.113	<.0001
Minimum daily return	(-)	-0.410	<.0001	0.063	0.3773	-0.524	<.0001
Standard deviation of daily returns	(+)	-1.306	0.0497	4.320	0.0044	-2.998	0.0009
Return skewness	(-)	0.013	0.0275	0.005	0.3147	0.014	0.0632
Share turnover	(+)	0.001	0.0550	0.002	0.1141	0.001	0.0738
Beta	(+)	-0.021	0.0440	-0.057	0.0014	0.007	0.3288
Earnings before extraordinary items	(+)	0.002	0.4001	0.043	0.0685	-0.006	0.2603
Firm size	(+)	-0.029	<.0001	-0.030	0.0001	-0.024	<.0001
Discretionary current accruals*PSLRA	(+)	-0.117	0.0096				
One-time charges*PSLRA	(+)	0.072	0.2412				
R&D intensity*PSLRA	(+)	-0.357	<.0001				
Market-to-book*PSLRA	(+)	-0.010	<.0001				
PSLRA	(-)	-0.083	<.0001				
Sigma	(?)	0.301	<.0001	0.283	<.0001	0.310	<.0001
N		1,979		706		1,273	
Pseudo R-square		0.2409		0.3855		0.1154	

Table 21 Panel C reports the tobit regression results which estimate the settlement amounts from accounting quality variables, return characteristics, earnings, firm size and a variable (sigma) to correct for biases caused by censoring of the settlement amount:

$$Settlement = \theta_0 + \theta_1 Discretionary\ Current\ Accruals_t + \theta_2 One\text{-}time\ Charges_t + \theta_3 R\&D_t + \theta_4 Market\text{-}to\text{-}book + \theta_5 Auditor\ Turnover_t + \theta_6 Minimum\ Daily\ Return +$$
$$\theta_7 Standard\ Deviation\ of\ Returns_t + \theta_8 Return\ Skewness_t + \theta_9 Share\ Turnover_t + \theta_{10} Beta_t + \theta_{11} Earnings_t + \theta_{12} Firm\ Size_t + \theta_{13} Sigma + \varpi_t$$

Column (i) includes an indicator variable for disclosure months following the passage of the PSLRA as well as variables which interact the PSLRA indicator with accounting quality variables. Column (ii) reports the results of the tobit regression for the pre-PSLRA period. Column (iii) reports the results of the tobit regression for the post-PSLRA period. P-values are shown next to the coefficient estimates.

Table 21
Impact of the PSLRA on litigation outcomes
Panel D: Settlement amount estimated with selection model

		(i)		(ii)		(iii)		(iv)		(v)		(vi)	
Sample		Pooled		Pooled		Pre-PSLRA		Pre-PSLRA		Post-PSLRA		Post-PSLRA	
Model (estimated jointly by ML)	Expected	Probit		Tobit		Probit		Tobit		Probit		Tobit	
Dependent Variable	Sign	Litigation		Settlement		Litigation		Settlement		Litigation		Settlement	
Intercept		-1.402	<.0001	0.241	<.0001	-1.547	<.0001	-0.294	<.0001	-1.697	<.0001	0.303	0.0002
Discretionary current accruals	(+)	0.439	0.0166	0.153	<.0001	0.680	<.0001	0.215	<.0001	0.257	0.0257	0.106	0.0003
One-time charges	(+)	0.462	0.1346	0.031	0.3465	0.055	0.4427	-0.043	0.3042	0.303	0.0891	0.137	0.0050
R&D intensity	(+)	0.769	0.0068	0.328	<.0001	1.156	<.0001	0.261	<.0001	0.159	0.1531	0.066	0.0352
Market-to-book	(+)	0.032	0.0002	0.006	0.0003	0.032	<.0001	0.008	<.0001	0.024	<.0001	-0.001	0.1064
Auditor turnover	(+)	0.324	<.0001	0.092	<.0001	0.792	<.0001	0.165	<.0001	0.196	0.0132	0.082	0.0004
Minimum daily return	(-)	0.366	0.1426	-0.311	0.0001	-1.267	0.0259	-0.205	0.0940	1.049	0.0040	-0.451	<.0001
Standard deviation of daily returns	(+)	5.675	0.0123	-1.150	0.0394	1.120	0.4131	1.080	0.1926	11.671	<.0001	-3.142	0.0002
Return skewness	(+)	-0.038	0.0504	0.010	0.0372	0.052	0.0896	0.007	0.2228	-0.069	0.0065	0.014	0.0353
Share turnover	(+)	0.028	<.0001	0.000	0.3823	0.046	<.0001	0.009	<.0001	0.024	<.0001	0.000	0.3497
Beta	(+)	-0.057	0.0703	-0.011	0.1320	0.061	0.1757	-0.009	0.2679	-0.178	0.0001	0.022	0.0594
Earnings	(+)	-0.223	0.0001	0.014	0.1002	-0.079	0.2778	-0.088	0.0006	-0.202	0.0008	0.024	0.0385
Firm size	(+)	0.221	<.0001	-0.037	<.0001	0.122	<.0001	0.006	0.1755	0.212	<.0001	-0.042	<.0001
Discretionary accruals*PSLRA	(+)	-0.213	0.1709	-0.039	0.1962								
One-time charges*PSLRA	(+)	-0.205	0.3314	0.117	0.0988								
R&D intensity*PSLRA	(+)	-0.714	0.0206	-0.279	<.0001								
Market-to-book*PSLRA	(+)	-0.010	0.1348	-0.007	0.0002								
PSLRA	(-)	-0.401	<.0001	-0.050	0.0031								
Sigma	(?)			0.239	<.0001			0.253	<.0001			0.269	<.0001
Rho	(?)			-0.294	0.0047			0.996	<.0001			-0.528	<.0001
N		1,979		3,425		1,157		706		2,268		1,273	
Pseudo R-square		0.1268		0.1607		0.1830		0.2735		0.1744		0.0462	

Table 21 Panel D reports the results of the selection analysis which jointly estimates litigation likelihood and settlement amounts by maximum likelihood. Columns (i), (iii) and (v) report the results of the probit regression of litigation likelihood estimated with accounting quality variables, return characteristics, earnings and firm size:

Probability(Litigation =1) = η_0 + η_1Discretionary Current Accruals$_t$ + η_2One-time Charges$_t$ + η_3R&D$_t$ + η_4Market-to-book + η_5Auditor Turnover$_t$ + η_6Minimum Daily Return + η_7Standard Deviation of Returns$_t$ + η_8Return Skewness + τ_9Share Turnover$_t$ + η_{10}Beta$_t$ + η_{11}Earnings$_t$ + η_{12}Firm Size$_t$ + v'_t

Column (ii), (iv) and (vi) report the tobit regression results which estimate the settlement amounts from accounting quality variables, return characteristics, earnings, firm size, a variable (sigma) to correct for biases caused by censoring of the settlement amount and a variable (rho) to correct for selection biases:

Settlement = θ_0 + θ_1Discretionary Current Accruals$_t$ + θ_2One-time Charges$_t$ + θ_3R&D$_t$ + θ_4Market-to-book + θ_5Auditor Turnover$_t$ + θ_6Minimum Daily Return + θ_7Standard Deviation of Returns$_t$ + θ_8Return Skewness$_t$ + θ_9Share Turnover$_t$ + θ_{10}Beta$_t$ + θ_{11}Earnings$_t$ + θ_{12}Firm Size$_t$ + ω_{13}Sigma + ω_{14}Rho + ϖ_t

Columns (i) and (ii) report the pooled results and include the PSLRA indicator as well as accounting quality variables interacted with the PSLRA indicator. Columns (iii) and (iv) report the results for the pre-PSLRA sample. Columns (v) and (vi) report the results for the post-PSLRA sample. P-values are shown next to the coefficient estimates.

Figure 1
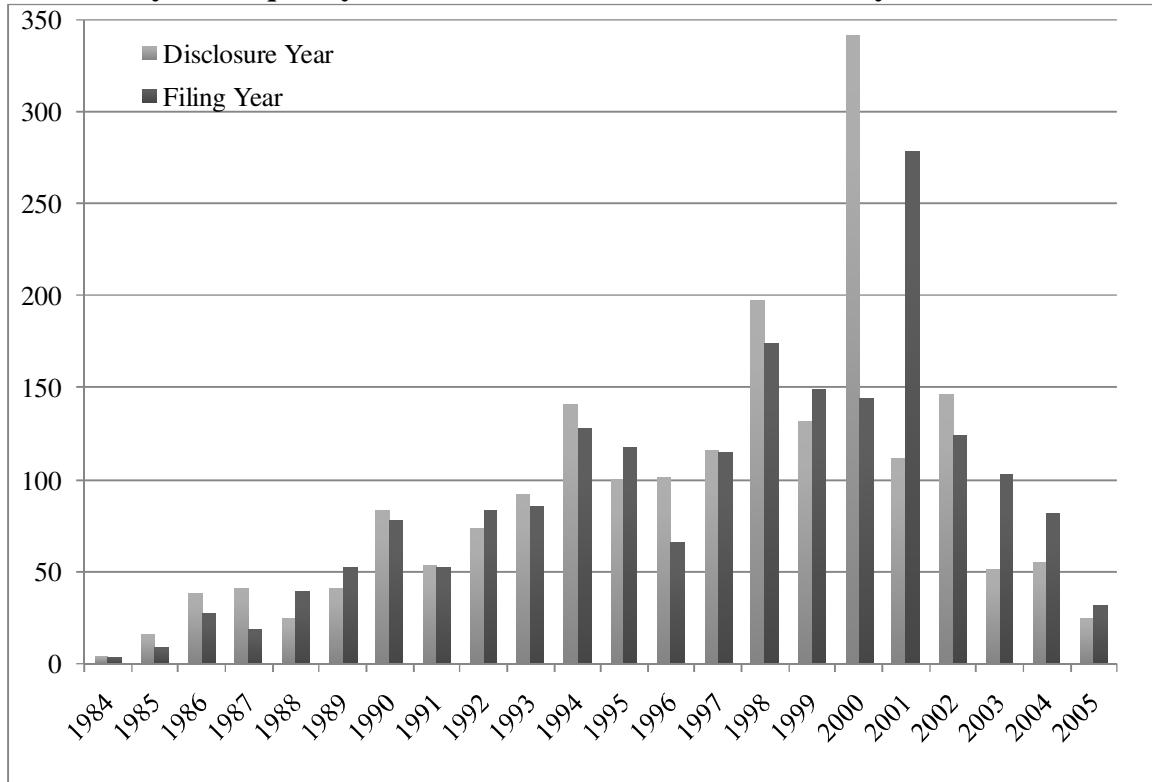**Disclosure year frequency and the number of cases filed annually**

Figure 1 depicts disclosure year frequency and the number of cases filed annually. The disclosure month is the month with the lowest monthly return during the damage period. The gray columns graph the frequency of disclosure months per year (i.e., the number of litigation observations with disclosure months in a given year). The black columns graph the number cases filed annually that were resolved (i.e., dismissed or settled) prior to the end of 2006.