

Rules-Based Accounting Standards and Litigation

Dain C. Donelson

McCombs School of Business, University of Texas at Austin
1 University Station, B6500, Austin, TX 78712
dain.donelson@mcombs.utexas.edu
Phone: (512) 232-3733 Fax: (512) 471-0587

John McInnis

McCombs School of Business, University of Texas at Austin
1 University Station, B6400, Austin, TX 78712
john.mcinnis@mcombs.utexas.edu
Phone: (512) 232-6791 Fax: (512) 471-3904

Richard D. Mergenthaler

Henry B. Tippie College of Business, University of Iowa
Iowa City, IA 52241
rick-mergenthaler@uiowa.edu
Phone: (319) 335-0848 Fax: (319) 335-1956

April 2010

Key Words: Securities litigation, rules-based standards, principles-based standards, restatements

JEL Codes: K22, K41, M41

We thank Shuping Chen, Ted Christensen, Cristi Gleason, Ross Jennings, Bruce Johnson, Bill Kinney, Robert Prentice, Catherine Schrand, Xiaoli Tian, Yong Yu and workshop participants at the Lone Star Accounting Research Conference held at Rice University, the University of Iowa, the University of Texas at Austin, and the University of Pennsylvania - The Wharton School for their helpful comments and suggestions. We thank Tzu-An Chen, Michael Cummings, Isaac Griesbaum, Apurwa Pokhrel, Taylor Stima, Kaylee Waite, and Tina Wang for excellent research assistance. We thank Andrew Leone for graciously sharing data regarding restatements. We thank the McCombs School of Business at the University of Texas and the Tippie College of Business at the University of Iowa for generous financial support.

ABSTRACT

Some claim that rules-based accounting standards shield firms from litigation, while others argue that violations of detailed rules give plaintiffs a “road map” to successful litigation. We inform this debate by investigating whether violations of rules-based standards affect the likelihood and outcome of class action securities lawsuits. Overall, our results suggest that violations of rules-based standards are associated with a lower threat of litigation. These results are of interest to the debate regarding the switch from a “more rules-based” U.S. GAAP to a “less rules-based” IFRS in the United States.

I. Introduction

This study examines the relation between rules-based accounting standards and the incidence and outcome of litigation. Following the accounting scandals at the turn of the millennium, many commentators have decried the “rules-based” nature of U.S. GAAP and have suggested moving toward more “principles-based” accounting standards. The SEC (2008) is considering a shift to the “less rules-based” International Financial Reporting Standards (IFRS) in the near future. One concern with such proposals, voiced by the SEC itself, is the effect that such a change will have on litigation. Despite important policy implications, arguments regarding rules-based standards and litigation rest on rhetoric. Schipper [2003, p. 68] summarizes the need for empirical evidence, stating that “there is no systematic evidence on the question of whether detailed accounting guidance has any effect on either the incidence or cost of litigation.” We provide such evidence.

We review the academic literature, popular press articles, and U.S. case law in order to distill arguments on the relation between violations of rules-based standards and litigation into two competing views. First, the “complexity” view holds that rules-based standards are complex and difficult to implement because they are detailed and contain volumes of implementation guidance and exceptions. This complexity provides executives with the plausible claim that GAAP violations are due to innocent errors. U.S. securities laws generally require plaintiffs to allege *intentional* misstatements, in which allegations of fraud are at least as compelling as any opposing inference of non-fraudulent intent. Thus, the complexity of rules-based standards provides the defendant with a plausible inference of non-fraudulent intent, which reduces the probability that a suit will be filed.

Second, the “specificity” view offers a different prediction regarding the relation between

violations of rules-based standards and litigation. Under this view, specificity increases the threat of litigation when firms violate a rules-based standard by providing plaintiffs with a “road map” for successful suits. Violations of specific, well-defined, and objective standards may create the inference that managers acted with the intent to defraud. Therefore, the specificity view suggests violations of rules-based standards increase the probability that a suit will be successful and thus increases the threat of litigation (e.g., Bogoslaw [2008], Leone [2009]).

We test the aforementioned views regarding rules-based standards by utilizing actual U.S. litigation data from 1996–2005. Specifically, we investigate whether violations of rules-based standards are associated with the incidence and outcome of securities class action lawsuits. Despite the perception that U.S. GAAP is rules-based, there is considerable variation in the extent to which standards contain rules-based characteristics (e.g., Cunningham [2007]). We exploit these within-GAAP differences by utilizing the rules-based continuum (RBC) instrument from Mergenthaler (2009) to measure the extent to which standards contain rules-based characteristics, including: (1) bright-line thresholds, (2) scope and legacy exceptions, (3) large volumes of implementation guidance, and (4) a high level of detail.

Our primary analyses focus on firms that restated their financial statements. Some of these firms were sued, and some could have been credibly sued, but were not. We find that firms are less likely to be sued when they violate standards that are more rules-based, consistent with the view that the complexity of rules-based standards provides a credible “innocent misstatement” presumption. This result is not only statistically significant, but is also economically meaningful. A one-unit increase in the RBC measure (i.e., the incremental presence of one of the four characteristics of rules-based standards) is associated with an 11 percentage point decrease in the likelihood of being sued. In an additional analysis of filed

lawsuits, we find no significant relation between violations of rules-based standards and the probability of a successful outcome for the plaintiff (i.e., a settlement). This result is consistent with potential plaintiffs taking into account the rules-based nature of standards violated when deciding whether to file a lawsuit. Given the “innocent misstatement” defense, many rules-based cases likely get screened out at the filing stage, leaving only relatively strong rules-based cases to be filed. Thus, plaintiffs’ discretionary filing choices work to ensure that there is no relation between violations of rules-based standards and lawsuit outcomes once the filing decision is made. Modeling the filing decision is therefore critical, and our findings in this regard suggest violations of rules-based standards are associated with a lower threat of litigation.

Our results are robust to a variety of specifications, including different methods of measuring the rules-based nature of accounting standards, as well as alternate sample selection choices. In addition, we conduct a supplementary analysis that examines lawsuits not involving an accounting restatement. We find that non-restatement lawsuits tend to allege less rules-based violations and have poorer outcomes for plaintiffs than do restatement lawsuits, suggesting plaintiffs rely more on broad “principles” when firms do not admit to accounting misstatements. This evidence is consistent with another view of rules-based standards: They provide a “safe harbor” against allegations of improper accounting, as long as firms comply with GAAP.

This study makes several important contributions to the literature. First, although others have explored the relation between rules-based standards and financial reporting decisions (e.g., Nelson, Elliott, and Tarpley [2002]; Mergenthaler [2009]), this is the first study to provide evidence on the relation between rules-based standards and litigation. We find evidence that violations of rules-based standards are associated with a lower incidence of litigation. Second, we distill prior discussions regarding the relation between rules-based standards and litigation

into a useable framework to guide future debate. Finally, in situations in which accounting-based securities class actions can be credibly filed, we find that the rules-based nature of accounting standards is a stronger (negative) predictor of litigation than are proxies utilized in prior research, such as firm size, industry, and stock return at the revelation of bad news. Given the extensive literature regarding the filing decision, this is a significant contribution. This finding is particularly relevant to policy debates because we utilize a comprehensive database of securities class action lawsuits, and our primary and supplementary samples comprise the universe of GAAP-related lawsuits that cite accounting standards among economically significant firms over the last decade.

In Section II, we review prior work. In Section III, we develop our testable hypotheses. Section IV contains our research design, empirical results, and robustness checks. In Section V, we address endogeneity concerns and potential limitations. In Section VI, we conclude.

II. Literature Review and Institutional Background

Most studies related to rules-based versus principles-based accounting standards investigate whether rules-based standards affect executives' financial reporting decisions.¹ However, there is significantly less work addressing enforcement with respect to GAAP violations. Although Mergenthaler [2009] finds that the SEC is less likely to penalize a rules-based GAAP violation, regulatory enforcement efforts are not a good proxy for the private enforcement arena of securities litigation, due to differing incentives (see Coffee [2006]). The SEC is a regulatory agency whose enforcement actions are undertaken to shape financial

¹ Nelson, Elliott, and Tarpley [2002] find that executives manage earnings by structuring transactions when standards are "precise," and that executives manage earnings in an "unstructured" manner when standards are "imprecise." Cuccia, Hackenbrack, and Nelson [1995] provide evidence that executives use judgment to defend aggressive tax behavior when standards are vague, and that they liberally evaluate the evidence when standards are strict. Finally, Mergenthaler [2009] finds that the magnitude of earnings management is larger when a rules-based standard is violated.

reporting policy and to punish non-compliance with securities laws (Cox and Thomas [2003]). Class action plaintiffs, on the other hand, are focused on the potential recoverable settlement amount. In addition, as we discuss below, the securities class action litigation environment in the U.S. is unique, and key procedural hurdles must be met for plaintiffs to bring a successful suit.

The securities class action litigation environment is now largely defined by the Private Securities Litigation Reform Act of 1995 (PSLRA), which was passed to limit frivolous securities litigation. Prior to the passage of the PSLRA, securities class action complaints were often filed any time a significant stock price decline occurred, regardless of the presence of actual fraud. Complaints were often of low quality and consisted largely of boilerplate allegations, “even copying verbatim allegations from [previous] complaints” (Casey [2008, p. 167]). The PSLRA sharply limits such practice, requiring that complaints allege facts that give rise to a “strong inference that the defendant acted with the required [fraudulent] state of mind” [15 U.S.C. section 78u-4(b)(2)]. The Supreme Court recently interpreted the “strong inference” requirement to mean that an inference of fraud “must be more than merely plausible or reasonable—it must be cogent and at least as compelling as any opposing inference of non-fraudulent intent.”² This strict pleading standard allows for the dismissal of suits that are unsupported by strong evidence at an early stage (e.g., Johnson, Nelson, and Pritchard [2007]). Thus, the motion to dismiss is now the key procedural hurdle in securities class action suits.

To survive a motion to dismiss, a plaintiff complaint must allege facts that are sufficient to satisfy each element of the cause of action. Liability theories in securities class action lawsuits most commonly rely on Rule 10b-5. The elements of a Rule 10b-5 violation are “(1) a misstatement or omission of (2) a material fact (3) made with intent (4) that the plaintiff justifiably relied on (5) causing injury in connection with the purchase or sale of securities”

² Tellabs, Inc. v. Makor Issues & Rights, Ltd., 551 U.S. 308 (2007).

(Skinner [1994]).³

Based on the elements of Rule 10b-5, accounting-related securities class action lawsuits follow a reasonably predictable pattern. First, to satisfy element (1), a firm either admits to a misstatement by restating its prior financial statements, or shareholders infer a misstatement of prior financial statements.⁴ Second, the admitted or alleged misstatement is accompanied by a large stock price decline, satisfying elements (2) (materiality) and (5) (causation). Element (4) is generally presumed under the fraud on the market theory (see Francis, Philbrick, and Schipper [1994]). Thus, the key element for the motion to dismiss in most accounting-based securities litigation is element (3), fraudulent intent (see Pritchard and Sale [2005]).

In cases involving accounting restatements, plaintiffs must allege facts that are sufficient to infer that the admitted GAAP violation was accompanied by fraudulent intent. Under the PSLRA pleading standard, the restatement alone is not sufficient to withstand a motion to dismiss, since restatements are commonly due to innocent errors. For example, the court in *Reiger v. Price Waterhouse Coopers, LLP*, 117 F. Supp. 2d 1003, 1010-1011 (S.D. Cal. 2000) stated that “Violations of GAAP or GAAS, standing alone, do not satisfy the particularity or strong inference requirements of the [PSLRA] because they provide no specific facts upon which a court can infer the state of mind of the accountant or its client, at any specific point in time.” Thus, courts require that GAAP violations be accompanied by “red flags,” such as suspicious insider trading, internal reports that are inconsistent with reported results, or other behavior consistent with managers promoting personal interests at stockholder expense (e.g., PR

³ Liability may also attach under Section 11 of the 1933 Securities Act, but only in connection with the public offering of securities. The elements of a Section 11 violation are similar to Rule 10b-5, except that the intent standard is lower. We find similar results when we exclude cases involving only Section 11 claims.

⁴ Non-restatement cases that require an inference of misstatement almost always involve the disclosure of bad news, such as inventory or receivables write-offs. Plaintiffs usually allege that prior financial statements were misstated and should have reflected this bad news sooner. Plaintiffs in these cases must allege persuasively at the filing stage both that GAAP was violated and that the violation was intentional, which can be quite difficult due to lack of discovery until the motion to dismiss is resolved.

Diamonds, Inc. v. Chandler, 364 F.3d 671, 682-83 (4th Cir. 2004)).

If the plaintiffs' complaint survives the motion to dismiss, securities class action lawsuits almost always settle rather than go to trial. If a motion to dismiss fails, corporations are then subject to a discovery process that generally requires high-level officials to submit to depositions and document production.⁵ Thus, even if a company believes it would likely prevail at trial, it is often cost efficient to settle in order to avoid the expense of defending the action and the large potential (even if unlikely) damages associated with losing a securities class action case (e.g., Pritchard and Sale [2005]).

III. Hypotheses Development

As noted, the plaintiffs' primary impediment in surviving the motion to dismiss in Rule 10b-5 lawsuits is the ability to allege facts that create a strong inference of fraudulent intent. Thus, rules-based standards affect the probability of litigation only to the extent that they affect the ability to allege fraud. The effect of rules-based standards on the ability to allege fraudulent intent is not clear due to conflicting theories linking rules-based standards to litigation.

We develop hypotheses about the relation between rules-based standards and litigation by distilling prior theories into two broad views. The first view is based on the added complexity that results when standards are more rules-based (complexity), whereas the second view is based on added specificity that results when standards are more rules-based (specificity). Although the concepts of complexity and specificity are linked, different predictions emerge with respect to litigation and these two aspects of rules-based standards.

The complexity view focuses on the difficulty of complying with rules-based standards containing voluminous detail, many exceptions, and large amounts of implementation guidance.

⁵ Under the PSLRA, defendant firms are not subject to discovery until after the motion to dismiss is resolved, greatly decreasing the cost of non-meritorious suits.

Consistent with this view, courts presume that misstatements are innocent errors, absent convincing evidence of intent (scienter). Thus, “the mere publication of inaccurate accounting figures, or a failure to follow GAAP, without more, does not establish scienter” (Dsam Global Value Fund v. Altris Software, Inc., 299 F.3d 385 (9th Cir. 2002)). In addition, the plausibility of innocent errors is affected by the complexity of the accounting standard. For instance, the court in *In re Microstrategy, Inc. Securities Litigation*, 115 F. Supp. 620, 652 (E.D. Va. 2000) stated that “the less complex the rules violated...the stronger is the inference that conscious fraud or recklessness is the explanation.” The Chairman of the IASB, David Tweedie [2007, p. 5], agrees with this view of rules-based accounting standards, stating that they “frequently baffle many accountants so much so that few audit partners can complete an audit without relying on the advice of experts within the firm.” The complexity view thus suggests that establishing fraudulent intent will be more difficult when the case involves rules-based violations due to the presumption that errors are innocent misapplications of GAAP. This view predicts a negative relation between violations of rules-based standards and the threat of litigation.

The specificity view yields an opposite prediction with respect to GAAP violations. When a firm violates a rules-based standard, the specific and less ambiguous nature of clear rules, scope guidance, and implementation details is thought to provide plaintiffs with a “road map” for litigation that is absent with principles-based standards. Leone [2009] cites a prominent attorney, noting that “in a case based on a principle, it’s ‘really hard’ to prove that executives or directors acted in bad faith.” Bogoslaw [2008] states that, “the big accounting firms that are drawn to [a less rules-based] IFRS believe they’ll get sued less since it will be harder to point to their mistakes.” This “road map” theory is logical, given the PSLRA requirement that plaintiffs provide specific factual allegations supporting a strong inference of

fraud prior to the start of discovery. The specificity view thus predicts a positive relation between violations of rules-based standards and the threat of litigation. Figure 1 summarizes the competing predictions from the complexity and specificity views given an observable GAAP violation.

Our primary empirical analysis tests the complexity and specificity views using a sample of suits involving restatements along with a control sample of restatements (in which the restatement announcements were accompanied by large stock price declines) that did not result in lawsuits. In a supplementary analysis, we examine lawsuits not involving a restatement.

We focus on restatements for three related reasons. First, restatements provide objective evidence of an accounting misstatement. Examining restatements is the only practical way to deal with the fact that the accounting standards that are potentially violated by non-sued, non-restatement firms are unobservable. Without a restatement, we cannot identify the standard violated and thus cannot measure the extent to which the standard is rules-based. Second, the restatement constraint is necessary to provide reasonably comparable cases in which there is an observable accounting standard violated and in which the firm is either sued or not sued. Requiring the presence of a restatement is therefore necessary to properly model the filing decision. Third, the focus on restatements provides us with a relatively homogenous sample in which only the intent element of Rule 10b-5 is likely in doubt because firms admit that they violated GAAP, and because all of the firms suffered material stock price declines at the restatement announcement or end of the class period.

Testable Hypotheses

We first consider the lawsuit filing decision, which should hinge on the plaintiffs' ability to successfully allege accounting fraud. Since the complexity and specificity views offer

competing predictions regarding the link between violations of rules-based standards and the appearance of accounting fraud, we state our first hypothesis in the null:

H₁: There is no relation between the rules-based characteristics of the standard violated and the probability of a lawsuit being filed. .

Next, we focus on the outcomes of filed suits. Both the dismissal decision and the settlement negotiation depend on the perceived strength of the plaintiff's evidence and ability to allege and potentially prove intent. Thus, one may argue that the very same complexity and specificity arguments should apply to the suit outcome. Hence, the complexity view predicts a negative relation between rules-based standards and the likelihood of a meritorious suit outcome, whereas the specificity view predicts a positive relation. However, to the extent that plaintiffs consider and accurately assess these factors in the filing decision, there may be very little relation between variation in the rules-based nature of standards violated and litigation outcomes among filed lawsuits. This view would predict no relation between rules-based standard and litigation outcomes because it is taken into account in the filing decision. Overall, it is not clear which of these views is the most appropriate, so we state our hypothesis in the null form:

H₂: Among filed lawsuits, there is no relation between the rules-based characteristics of the standard violated and the probability of a meritorious suit outcome.

IV. Empirical Analysis

Sample

We use the Securities Class Action Services (SCAS) database from RiskMetrics Group to select all resolved securities class action lawsuits alleging GAAP violations that were filed from 1996 to 2005. In other words, we exclude suits that are based purely on disclosure theories outside financial reporting. We end in 2005 because we require settlement outcomes, and the median time from filing to settlement of lawsuits is approximately 3 years. Beginning the

sample in 1996 ensures that all suits occur within a similar legal framework under the PSLRA.

We exclude lawsuits not involving common stockholders, and we require defendant firms to have coverage in I/B/E/S and CRSP. Requiring analyst coverage aids in ensuring reasonably efficient incorporation of information into stock prices (see Piotroski and Roulstone [2004]). Requiring CRSP coverage excludes thinly traded OTC stocks. Together, these restrictions ensure that sued firms are of interest to investors and are economically significant. We also require firms to have non-missing values for the variables in our empirical tests.

For firms that meet these data requirements, we also screen for an available plaintiff complaint on the Stanford Securities Class Action Clearinghouse. We read each complaint and note the accounting standards allegedly violated, and collect additional variables used in our empirical analysis. This procedure yields 353 cases that cite specific accounting standards allegedly violated. Of these 353 cases, 185 involve a restatement of class period financial statements by the defendant firm. We also select a sample of 84 restatements from the same time period that did not result in litigation, but whose announcements were accompanied by a decline in market value of equity of at least \$50 million.⁶ We use the \$50 million cutoff because potential damages are an important consideration in the filing decision (see Coffee [2006], Alexander [1991]). Together, these 269 restatement observations (some of which involve lawsuits and some of which do not) comprise the primary sample we use to test H₁ and H₂.

Research Design

Consistent with Nelson [2003] and Mergenthaler [2009], this study discusses the rules-based structure of accounting standards along a continuum. At the extremes of this continuum are standards that contain no rules-based characteristics and standards that contain many rules-based characteristics. Although many accounting standards are based upon broad principles

⁶ These control restatements are gathered from the Hennes, Leone, and Miller [2008] sample.

from the FASB conceptual framework, we avoid subjectively or arbitrarily classifying standards as being rules-based or principles-based. Instead, we adopt an empirical perspective and focus on the presence or absence of rules-based characteristics. To determine the extent to which a standard is “rules-based,” we utilize the Mergenthaler [2009] proxy that measures the presence of rules-based characteristics. Mergenthaler [2009] uses reports from industry experts (e.g., SEC, FASB, PCAOB, and Big 4 audit firms) and the prior literature (e.g., Nelson [2003] and Schipper [2003]) to identify characteristics of rules-based standards, including (1) bright-line thresholds, (2) scope and legacy exceptions, (3) large volumes of implementation guidance, and (4) a high level of detail. Mergenthaler [2009] then creates an instrument that increases by one when the standard contains one of these characteristics.⁷ Thus, the value of the instrument ranges from 0 (*a standard contains none of the characteristics*) to 4 (*a standard contains all of the characteristics*). The variable is referred to as the rules-based continuum (RBC).

Given the competing theories of the complexity view versus the specificity view, we considered splitting RBC into characteristics that perhaps captured complexity (such as detail or implementation guidance) versus those that captured more objective elements of specificity (such as bright line thresholds). However, this approach is problematic because elements such as implementation guidance can be viewed as both creating complexity and fostering specific, objective accounting guidance. Furthermore, as an empirical matter, the four dimensions are highly correlated. Standards with bright line thresholds, for example, tend to have more implementation guidance. An untabulated factor analysis reveals only one significant factor in the data, consistent with the notion that the four elements of the RBC proxy for a common

⁷ Mergenthaler [2009] uses the number of FASB “interpretive pronouncements” as a proxy for the amount of implementation guidance. Standard ranked in the upper quartile of interpretive pronouncements are classified as having large volumes of implementation guidance. The number of words in a standard measures detail, with standards in the upper word count quartile classified as having a high level of detail (Mergenthaler [2009]).

construct. Thus, we aggregate the four characteristics into one measure, but we discuss alternate measures of RBC as part of our robustness tests after our primary analysis.

Appendix A outlines the RBC score for several common standards and demonstrates a sensible relation between the RBC score and common perception of “rules-based” accounting standards. For instance, SFAS 5, a relatively judgmental standard about contingent liabilities, has an RBC score of zero, indicating that SFAS 5 does not contain any of the aforementioned rules-based characteristics. On the other hand, SFAS 13, a relatively prescriptive standard on leases, has a score of four, indicating that it contains all of the rules-based characteristics and is therefore much more rules-based. SFAS 133 (derivatives) has an RBC score of three, also consistent with relatively high rules-based content.

Figure 2 reports accounting standards commonly cited (i.e., more than 20 times) in plaintiffs’ complaints in our primary sample of sued and non-sued restatements. A wide range of standards are cited, both principles-based and rules-based. For example, SFAS 5 (with an RBC of zero) was allegedly violated 176 times in our sample, whereas SFAS 13 (with an RBC of four) was allegedly violated 34 times.

The Probability of Being Sued

To test H_1 , the effect of rules-based accounting standards on the filing of lawsuits, we estimate the following logistic regression:

$$Prob(Sued = 1) = F(\alpha + \beta_1 RBC + \beta' (Controls)) \quad (1)$$

Sued is a dichotomous variable that is set to 1 if a lawsuit is filed, and to zero otherwise. F is the cumulative distribution function of the logistic distribution, and RBC is as defined above for the accounting standard that was allegedly violated. If multiple standards are violated, then average

RBC is used.⁸ The coefficient estimate on RBC, β_1 , provides evidence on H_1 . A positive (negative) β_1 coefficient estimate suggests that firms violating a rules-based standard are more (less) likely to be sued than firms violating a “principles-based” standard. Control variables garnered from the prior literature include firm size, profitability, the presence of a Big N auditor, stock returns around announcement of the restatement, shareholder damages, insider selling activity, stock issuances, share turnover, stock price volatility, and indicator variables for high litigation risk industries and whether revenue was restated. Control variables are defined in Appendix B, and we discuss them in turn below.

We use the log of the market value of equity (SIZE), profitability (ROA), and the presence of a Big N auditor (BIGN) to proxy for “deep pockets,” and we expect these variables to be positively related to the probability of a lawsuit filing. Larger firms are more likely to be sued after restatements (Palmrose and Scholtz [2004]). We also entertain the possibility that more profitable firms or firms with large auditors are more likely to be targeted for lawsuits. We use the stock return around the restatement announcement (ANN_RET) and the maximum potential damage (LN (MAX_DAMAGE)) as proxies for the severity of the accounting misstatement. The stock return is directly related to the damages suffered by potential plaintiffs and is related to lawsuit filing (Palmrose and Schulz [2004], Francis, Philbrick, and Schipper [1994]). Maximum potential damage is the firm’s peak market value during the class period minus the market value on the restatement announcement date. Karpoff, Lee, and Martin [2008] and Mergenthaler [2009] use maximum potential damage as a proxy for the severity of the restatement. We expect ANN_RET to be negatively associated with the probability of a lawsuit filing and LN(MAX_DAMAGE) to be positively associated with the probability of a filing.

⁸ In an untabulated robustness test, we used the RBC score of the first standard cited in the complaint (on the theory that plaintiffs will lead the complaint with their strongest argument) and find results similar to those obtained using the average RBC score.

We include insider selling (INSIDER_SALE) and stock issuance (ISSUE) because plaintiffs must allege fraudulent intent in a Rule 10-b5 case. Insider selling or firm stock issuance could increase the appearance of fraud. Stock issuance also controls for potential Section 11 liability, which is subject to a lower pleading standard. Prior work (e.g., Shu [2000]) finds that stock-based characteristics, such as share turnover (SHARE_TURN) and price volatility (VOLATILITY), are positively related to lawsuit incidence, so we include these variables. Lawsuit incidence is higher in industries such as technology and pharmaceuticals, so we include an indicator variable (LIT_RISK) for firms in industries identified in Francis, Philbrick, and Schipper [1994]. Utilizing industry indicator variables produces similar results. Finally, we include an indicator variable (REVENUE) for whether revenue was restated, because revenue restatements are associated with lawsuit filings (e.g., Palmrose and Schulz [2004]).

The Probability of a Meritorious Outcome

To test H₂, the effect of rules-based accounting standards on the probability of a meritorious suit outcome, we estimate the following logistic regression as our base model:

$$Prob (Meritorious = 1) = F (\alpha + \beta_1 RBC + \beta' (Controls)) \quad (2)$$

Meritorious is a dichotomous variable that is coded 1 if the lawsuit is settled. The coefficient on RBC, β_1 , provides evidence on H₂. We again include firm size and profitability as control variables, since larger, more profitable firms may have access to better legal counsel and may be more successful in preventing a meritorious outcome. As discussed above, the outcome of the suit hinges on the perceived strength of the case and the ability to prove scienter. Thus, we include variables that are based on plaintiffs' complaints, which are plausibly positively related to the ability to prove scienter, including whether: (1) the firm's auditor was named as a defendant; (2) insider trading was alleged; (3) revenue manipulation was alleged; (4) an external whistleblower, such as the press, was mentioned in uncovering the alleged fraud; (5) an internal

(i.e., the board of directors) or external (i.e., SEC) investigation took place; (6) top executives resigned during or after the class period; and (7) the auditor resigned. We also include announcement stock returns and the maximum potential damage as a proxy for the extent to which fraud can be inferred. Finally, we include indicator variables for high litigation risk industries and whether the case alleges a violation of Section 11 of the 1933 Securities Act.

Results

Descriptive Statistics

Table 1 contains descriptive statistics for our primary sample involving restatements. The first column provides descriptive statistics for firms with a restatement where a lawsuit was filed, and the second column provides descriptive statistics for firms with a restatement where a lawsuit was not filed. The variables for the filing equation in (1) are available for all observations in our sample, whereas the variables in our meritorious litigation outcome regression are available only for filed lawsuits. The difference in the mean RBC score between filed (1.33) and potential (2.57) lawsuits is stark, and this difference is significant at the 1% level. In an untabulated analysis, we also find that inter-quartile range of RBC across the pooled sample is 1.40. Thus, there appears to be sufficient variation in RBC in our sample. Finally, firms in the restatement sample that were not sued are larger, more profitable, and more likely to be audited by the Big 4. Not surprisingly, restatement firms that were not sued also has less severe announcement returns, smaller damages, fewer revenue restatements, less volatile returns, and lower share turnover.

Correlations

Table 2 presents correlations among the sample variables. Panel A presents correlations for the variables in equation (1), whereas panel B presents correlations for the variables in

equation (2). In panel A, there is a strong, negative univariate relation between RBC and lawsuit incidence among our sample firms, consistent with the complexity view of RBC and litigation risk. RBC is positively associated with firm size, indicating that bigger (and likely more complex) firms have violations with higher RBC, which is potentially consistent with the complexity view as well. Inconsistent with the idea of “deep pockets” motives, large firms and profitable firms are less likely to be sued, perhaps because they are less likely to commit fraud in the first place. In panel B, there is no significant relation between RBC and meritorious outcomes on a univariate basis. However, the correlation table suggests that meritorious suits are more likely when the auditor is named in the lawsuit and when there is a whistleblower.

Lawsuit Filing Regression (Incidence of Litigation)

Table 3 contains results from estimating equation (1)—the lawsuit filing equation. As in Table 2, RBC is strongly negatively related to the probability of filing a lawsuit (t-stat=-5.17, $p < 0.01$), consistent with the complexity argument. This suggests that restatements involving rules-based accounting standards make it more difficult for potential plaintiffs to argue that the misstatement in question was intentional. Thus, we reject H_1 in favor of the complexity view. The marginal effects tabulated in Table 3 suggest that a one-unit increase in RBC decreases the likelihood of litigation by 11.1 percentage points. This effect is not only statistically significant, but is also economically meaningful. For example, the findings in Table 3 suggest that the likelihood of being sued decreases, on average, by approximately 11 percentage points when a company violates FAS 52 (an RBC of one) versus FAS 5 (an RBC of zero).

Turning to the control variables, consistent with our predictions, announcement returns are negatively related to the probability of a lawsuit. This is consistent with the notion that larger negative announcement returns potentially trigger the filing of a lawsuit. In addition, maximum

damage is positively correlated with the probability of filing a lawsuit, suggesting that restatements with larger potential damages are more likely to be sued. Finally, we observe that size is negatively associated with the probability of a lawsuit, perhaps because smaller firms are more likely to commit accounting fraud. The pseudo R-square tabulated in Table 3 is 44.3%, indicating that the model explains variation in lawsuit filings reasonably well.

Litigation Outcome Regression

Table 4 contains estimates from equation (2), using two proxies of meritorious suit outcomes. Column (1) uses the dismissal decision as a proxy for a meritorious suit. In column (1), *Meritorious* is coded as 1 if the suit survives the dismissal decision, and it is equal to 0 otherwise. In Column (2), we utilize the Johnson, Nelson, and Pritchard [2007] measure for meritorious lawsuit outcomes, coding *Meritorious* as 1 if the settlement is greater than 0.5% of the firm's market value of equity, and as 0 otherwise. Johnson, Nelson, and Pritchard [2007] use this measure because certain cases that survive the dismissal decision may be non-meritorious, even though the allegations were sufficient to survive a motion to dismiss. In these cases, the company may settle simply to avoid further litigation costs. We find no significant relation between RBC and meritorious suit outcomes using either proxy. Thus, we cannot reject H_2 .

This null result is consistent with potential plaintiffs anticipating the relatively poor average prospects that high RBC cases face, given the “innocent misstatement” defense (for which we find support in Table 3). High RBC cases that do get filed are therefore likely those that are strong along other dimensions. Thus, unlike the negative relation between RBC and lawsuit filings, variation in RBC among filed suits has little predictive ability for suit outcomes. In essence, the high RBC cases with poor prospects were “screened out” at the filing stage.

Turning to the control variables, the results suggest that lawsuits involving external

whistleblowers or firms in high litigation risk industries are more likely to lead to successful outcomes for plaintiffs. Other variables, such as whether the auditor is named in the lawsuit, whether the auditor resigns, or the magnitude of announcement period returns—have some explanatory power, but their statistical significance is inconsistent across specifications. The pseudo R-squares in Columns (1) and (2) are 17.9% and 25.8%, respectively, which is respectable but lower than the explanatory power of the filing model in equation (1).

Robustness Checks

The strong negative relation between the RBC of standards violated and the filing of lawsuits is robust to a variety of alternative specifications. We tabulate the most important of these tests in Table 5. To save space, we omit marginal effects. First, we consider whether our RBC measure proxies simply for underlying transaction complexity. To measure transaction complexity in an objective fashion, we use the number of words needed to define the underlying transaction governed by a particular standard (e.g., derivative, inventory, revenue, financial instrument, etc.).⁹ In Column (1) of Table 5, we orthogonalize RBC to transaction complexity. The results in Column (1) suggest that the negative relation between RBC and the probability of a lawsuit is not driven simply by the complexity of the underlying transaction. The RBC measure is negative and strongly significant in Column (1) ($p < 0.01$).

We also consider whether the decision to commit accounting fraud may be affected by the rules-based characteristics of accounting standards. To the extent that managers are more or less likely to commit accounting fraud via rules-based standards, an interpretation of our findings becomes more difficult. For example, if managers are more likely to commit accounting fraud in areas of GAAP with relatively principles-based standards, this tendency might explain why we

⁹ We utilize the following sources (listed in order) for the definition of the underlying transaction: Spiceland, Sepe, Nelson, and Tomassini [2009]; Investopedia.com; and the FASB ASC Master Glossary.

find a negative relation between RBC and the filing of lawsuits. More specifically, one could argue that our filed suits represent “real” accounting fraud, whereas our potential suits represent obvious accounting errors. In this case, our results simply suggest that accounting errors involve more rules-based standards than does accounting fraud.

To assess the impact of this possibility on our findings, we perform two additional analyses. First, we re-estimate equation (1) after excluding filed lawsuits that survive the dismissal decision and are settled. These excluded observations represent cases in which, ex-post, the inference of accounting fraud appears strong. Thus, we throw out more clear-cut accounting fraud cases and include only non-filed lawsuits and filed lawsuits that were dismissed (and were therefore less likely to be meritorious).¹⁰ Results are tabulated in Column (2) of Table 5. The strong negative relation between RBC and the filing of a lawsuit remains ($p < 0.01$).

Second, we use a sample of 131 restatement firms from Mergenthaler [2009], all of which were investigated (but not necessarily penalized) by the SEC for questionable accounting practices. Some of these firms were named in a class action lawsuit and some were not. Given that the SEC investigated these firms, the concern that non-sued observations represent obvious accounting errors is mitigated.¹¹ The results of this analysis are reported in Column (3) of Table 5. The relation between RBC and the filing decision is still significantly negative in this specification as well ($p < 0.01$).

We also performed a variety of additional robustness checks that we do not tabulate, in

¹⁰ Including only non-meritorious (dismissed) lawsuits and cases in which suits could credibly have been filed (due to the size of the market capitalization decline) may provide insight on the type of litigation that firms are seeking to avoid. Few would argue that firms that committed actual fraud should be shielded from litigation, so comparing non-filed suits with non-meritorious suits provides a closer test to the proverbial “strike suit” filed only with the hope of a quick settlement. The PSLRA diminished such filings (see Johnson, Nelson, and Pritchard [2007]), but likely did not eliminate them.

¹¹ We do not utilize this sample as our primary sample due to the conflicting incentives of the SEC and plaintiffs’ lawyers. As we discussed in Section II, plaintiffs’ lawyers are motivated by potential settlement size (see Coffee [2006]), which is why we screen on potential damages in our primary analysis.

order to save space. These tests include: (1) excluding violations of SFAS 13 and SFAS 133 (extreme rules-based standards that are often perceived to result in unintentional errors in their application) to ensure that they do not drive our results, (2) excluding observations involving earnings announcements within 3 days of the restatement announcement to avoid confounding our filing model with other news, and (3) measuring the RBC score using only the presence or absence of bright line thresholds. Results are qualitatively similar to those reported in Table 3. Finally, to allow for different relations between the RBC score and the filing decision among cases involving revenue recognition versus all other cases, we estimate our filing model with an interaction between RBC and our revenue dummy. We find that RBC is significantly negative ($p < 0.01$) and that the sum of RBC and the revenue interaction is significantly negative as well, but that it is weaker in magnitude ($p = 0.05$). This result suggests that the relation between RBC and the probability of a class action lawsuit is significant in cases involving revenue recognition violations, as well as in those not involving revenue recognition violations.

Supplementary Analysis

In a supplementary analysis, we examine lawsuits that involve alleged GAAP violations in which there is no restatement of class period financial statements. Cases not involving an explicit admission of an accounting misstatement are potentially more interesting than cases in which firms restate. Absent a restatement, plaintiffs must first allege convincingly that GAAP was violated and then provide evidence that such a violation was intentional. Rules-based accounting standards may affect the nature of such a case. There is a strong presumption among many accountants that prescriptive, rules-based accounting standards afford firms “safe harbor” protection against allegations of improper accounting (e.g., Schipper [2003]).¹² The idea is that

¹² It is not clear that this view is completely accurate, since the widely held belief that rules-based characteristics provide firms with a “safe harbor” is limited by *U.S. v. Simon*, 425 F.2d 796 (2d Cir. 1969), in which auditors were

as long as firms “follow the rules,” their accounting practices cannot be challenged in court.

Unfortunately, this “safe harbor” view is not easily tested with archival litigation data. Rules-based standards may indeed shield firms from litigation when they comply with the GAAP. However, absent a restatement, we can only observe instances in which plaintiffs formally allege accounting standards were violated (i.e., filed lawsuits). We are unable to observe the accounting standards involved in non-restatement cases in which plaintiffs could potentially file suit but chose not to (e.g., because no clear evidence of an accounting standard violation existed). Thus, we cannot directly model the filing decision with non-restatement cases.

Nevertheless, if rules-based accounting standards afford safe harbor protection, we would expect filed non-restatement cases to disproportionately involve alleged violations of relatively principles-based standards. Absent evidence of specific misstatements, plaintiffs in these cases are likely to allege violations in more subjective, “principles-based” areas of GAAP that involve significant judgment. Table 6 offers univariate evidence consistent with this conjecture.

As Table 6 demonstrates, non-restatement lawsuits have a lower mean ($p < 0.10$) and median ($p < 0.05$) RBC score than restatement lawsuits. However, the magnitude of the difference is not as large as the difference we observe between sued and non-sued firms (Table 1). Non-restatement lawsuits also appear less meritorious than lawsuits involving restatements, since they are less likely by 15.3 percentage points (roughly 25%) to settle for more than 0.5% of defendants’ market capitalization.¹³ These findings imply that plaintiffs’ allegations rely less on

convicted of mail fraud and securities fraud even though the financial statements technically complied with GAAP. Thus, rules-based accounting standards do not provide a safe harbor in all situations (Ball [2009]). The Simon case has taken on increased importance in recent years after Enron (see Cunningham [2007]).

¹³ We also conducted our primary analysis including these non-restatement observations. Our inferences are similar if we lump these non-restatement lawsuits together with our restatement lawsuits. When analyzed separately, we find no relation between RBC and meritorious suit outcomes, as in our primary analysis.

rules-based standards in situations in which firms do not admit to an accounting violation. That these relatively more “principles-based” cases tend to have poorer plaintiff outcomes is broadly consistent with the “safe-harbor” view of rules-based accounting standards, discussed above.

V. Endogeneity and Potential Limitations

At least three sources of endogeneity merit discussion in the context of our findings. The first involves the non-random selection of filed lawsuits. We address this concern in our primary analysis by explicitly modeling the filing decision using observable GAAP violations (i.e., restatements). However, absent a visible restatement, we are unable to observe potential lawsuits involving possible accounting violations that were contemplated but ultimately not filed due to lack of evidence. This lack of observability is a constraint on any archival study of litigation.

The second source of endogeneity is the possibility that ex-ante litigation risk affects the rules-based characteristics of accounting standards (i.e., preparers and auditors demand more guidance in areas for which litigation risk is higher). We do not attempt to model simultaneity in our data, primarily because measuring ex-ante litigation risk across roughly 80 years of U.S. GAAP standards using only post-1996 litigation data seems infeasible. At a practical level, one would expect this source of endogeneity to bias the results in favor of finding a positive relation between litigation risk and rules-based accounting standards. Since we find just the opposite, it does not appear that the ex-ante effect of litigation risk on accounting standards is a significant concern for inferences in our sample.

Finally, it is possible that the rules-based nature of accounting standards affects the underlying decision to restate. For example, rules-based misstatements may be more easily detectable, leading to more restatements. If this is the case, many principles-based violations would be unobservable, and our overall sample might be biased toward firms with rules-based

misstatements. Thus, although principles-based standards may increase lawsuit incidence conditional on a restatement (as we find), they may reduce the probability of restatements and thus may reduce the threat of litigation overall. Since we cannot model the restatement decision, we cannot definitively rule out this possibility. Two mitigating factors merit discussion, however. First, the potential for major principles-based violations going completely undiscovered is relatively minor, since large frauds are difficult to hide forever. Therefore, undetected principles-based violations would likely be relatively minor. Second, even if principles-based standards reduce the probability of restatement, we find evidence in our supplementary analysis above that plaintiffs tend to rely more on “principles-based” accounting standards in non-restatement cases. Thus, even if principles-based standards decrease the probability of restatements, they may provide plaintiffs with more flexibility in alleging accounting improprieties in non-restatement cases.

VI. Conclusion

This study provides the first empirical evidence regarding the association between rules-based accounting standards and litigation. Our evidence is important because the U.S. Congress issued a mandate in SOX requiring the SEC to conduct a study on the cost of implementing more “principles-based” standards in the U.S. More recently, the SEC issued a proposal that would require public firms in the U.S. to adopt the more “principles-based” IFRS. This study provides evidence on the legal implications of such a shift.

Using a sample of accounting restatements, we find that violations of rules-based standards are associated with a lower probability of being named in a class action securities lawsuit. This finding supports the view that complex, rules-based standards provide firms with an “innocent misstatement” defense. The negative relation between violations of rules-based

standards and filing decisions is robust to a variety of alternative specifications. In addition, among filed lawsuits, we find no relation between the rules-based nature of standards violated and lawsuit outcomes. This evidence is consistent with plaintiffs factoring the “innocent misstatement” defense into their filing decision so that only rules-based cases of high quality get filed. Overall, our primary analysis suggests that violating a rules-based standard is associated with a lower threat of litigation.

In a supplementary analysis, we compare cases involving restatements with those that do not, and find that plaintiffs allege more principles-based violations in non-restatement cases. The lack of rules-based allegations in non-restatement cases may suggest that rules-based standards provide a “safe harbor” from litigation when they are followed. We also find that non-restatement cases have poorer outcomes for plaintiffs relative to restatement cases. This evidence is generally consistent with the view that rules-based accounting standards reduce the threat of litigation in non-restatement cases.

In summary, our evidence suggests that rules-based accounting standards reduce the threat of litigation in both restatement and non-restatement cases. Although we offer no detailed policy prescriptions, the findings of the present paper can be used by both U. S. regulators and standard setters as they consider the potential impact of shifting to “less rules-based” accounting standards.

References

- ALEXANDER, J.C. "Do the Merits Matter? A Study of Settlements in Securities Class Actions." *Stanford Law Review* 43 (1991): 497-598.
- BALL, R. "Market and Political/Regulatory Perspectives on Recent Accounting Scandals." *Journal of Accounting Research* 47 (2009): 277-323.
- BARTUS, T. "Estimation of Marginal Effects using Margeff." *The Stata Journal* 5 (2005): 309-329.
- BOGOSLAW, D. "Global Accounting Standards? Not so fast." *BusinessWeek* (November 13, 2008).
- CASEY, L.L. "Class Action Criminality." *The Journal of Corporation Law* 34 (2008): 153-222.
- COFFEE, J.C. "Reforming the Securities Class Action: An Essay on Deterrence and its Implementation." *Columbia Law Review* 106 (2006): 1534-1586.
- CUCCIA, A.D.; K. HACKENBRACK; AND M.W. NELSON. "The Ability of Professional Standards to Mitigate Aggressive Reporting." *The Accounting Review* 70 (1995): 227-248.
- CUNNINGHAM, L.A. "A Prescription to Retire the Rhetoric of "Principles-Based Systems" in Corporate Law, Securities Regulation, and Accounting." *Vanderbilt Law Review* 60 (2007): 1411-1493.
- FINANCIAL ACCOUNTING STANDARDS BOARD (FASB). "Principles-Based Approach to Standard Setting." Norwalk, CT: FASB, 2002. Available at: http://www.fasb.org/project/principles-based_approach_project.shtml.
- FRANCIS, J.; D. PHILBRICK; AND K. SCHIPPER. "Shareholder Litigation and Corporate Disclosures." *Journal of Accounting Research* 32 (1994): 137-165.
- GREENE, W.H. *Econometric analysis (fifth edition)*. Upper Saddle River, NJ: Prentice Hall, 2003.
- HENNES, K. M.; A. J. LEONE; AND B. P. MILLER. "The Importance of Distinguishing Errors from Irregularities in Restatement Research: The Case of Restatements and CEO/CFO Turnover." *The Accounting Review* 83 (2008): 1487-1519.
- JOHNSON, M.F.; K.K. NELSON; AND A.C. PRITCHARD. "Do the Merits Matter More? The Impact of the Private Securities Litigation Reform Act." *Journal of Law, Economics & Organization* 23 (2007): 627-652.
- KARPOFF, J. M.; D. S. LEE; AND G. S. MARTIN. "The Cost to Firms of Cooking the Books." *Journal of Finance and Quantitative Analysis* 43 (2008): 581-612.

LEONE, M. "Fuzzy Accounting Principles." CFO.com (2009). Available at: <http://cfopub.com/blogs/index.cfm?detail/14451666>.

MERGENTHALER, R.D. "Principles-Based versus Rules-Based Standards and Earnings Management." Working paper, University of Iowa, 2009.

NELSON, M.W. "Behavioral Evidence on the Effects of Principles- and Rules-Based Standards." *Accounting Horizons* 17 (2003): 91-104.

NELSON, M.W.; J.A. ELLIOTT; AND R.L. TARPLEY. "Evidence from Auditors about Managers' and Auditors' Earnings Management Decisions." *The Accounting Review* 77 (2002): 175-202.

PALMROSE, Z.-V., AND S. SCHOLTZ. "The Circumstances and Legal Consequences of Non-GAAP Reporting: Evidence from Restatements." *Contemporary Accounting Research* 21 (2004): 139-180.

PIOTROSKI, J.D., AND D.T. ROULSTONE. "The Influence of Analysts, Institutional Investors, and Insiders on the Incorporation of Market, Industry and Firm-Specific Information into Stock Prices." *The Accounting Review* 79 (2004): 1119-1151.

PRITCHARD, A.C., AND H.A. SALE. "What Counts as Fraud? An Empirical Study of Motions to Dismiss under the Private Securities Litigation Reform Act." *Journal of Empirical Legal Studies* 2 (2005): 125-149.

SCHIPPER, K. "Principles-Based Accounting Standards." *Accounting Horizons* 17 (2003): 61-72.

SHU, S.Z. "Auditor Resignations: Clientele Effects and Legal Liability." *Journal of Accounting and Economics* 29 (2000): 173-205.

SKINNER, D. "Why Firms Voluntarily Disclose Bad News." *Journal of Accounting Research* 32 (1994): 38-60.

SPICELAND, D., J. SEPE, M. NELSON, L. TOMASSINI. *Intermediate Accounting (fifth edition)*. New York, NY: McGraw-Hill Irwin, 2009.

TWEEDIE, D. "Can Global Standards be Principle Based?" *Journal of Applied Research in Accounting and Finance* 2 (2007): 3-8.

U.S. SECURITIES AND EXCHANGE COMMISSION (SEC). "Study Pursuant to Section 108(d) of the Sarbanes-Oxley Act of 2002 on the Adoption by the United States Financial Reporting System of a Principles-Based Accounting System." (2003). Available at: <http://www.sec.gov/news/studies/principlesbasedstand.htm>.

U.S. SECURITIES AND EXCHANGE COMMISSION (SEC). "Roadmap for the Potential Use of Financial Statements Prepared in Accordance with International Financial Reporting Standards by U.S. Issuers." (2008). Available at: <http://www.sec.gov/rules/proposed/2008/33-8982.pdf>.

Appendix A: Rules-Based Continuum Score (RBC) for Select Standards

<i>Standard</i>	<i>Description</i>	<i>RBC</i>
arb 43_4	Inventory Pricing	0
fas 34	Capitalization of Interest Costs	0
fas 5	Contingent Liabilities	0
apb 29	Nonmonetary Transactions	1
sab 101	Revenue Recognition	1
fas 52	Foreign Currency Translation	1
fas 150	Instruments with Characteristics of Liabilities and Equity	1
fas 121	Impairment of Long-Lived Assets (predecessor to FAS 144)	1
apb 18	Investments in Common Stock	2
fas 123r	Stock Compensation	2
fas 142	Goodwill	3
apb 16	Business Combinations (predecessor to FAS 141)	3
fas 141	Business Combinations	3
fas 144	Impairment of Long-Lived Assets	3
fas 133	Derivatives	3
fas 87	Pensions	4
fas 140	Transfers and Servicing of Financial Assets	4
fas 123	Stock Compensation (predecessor to FAS 123r)	4
fas 109	Income Taxes	4
fas 66	Sales of Real Estate	4
fas 13	Leases	4

RBC = The rules-based continuum score (RBC) measures the presence of rules-based characteristics. The higher the RBC, the more rules-based characteristics the standard contains. RBC identifies whether the standard contains bright-line thresholds, scope and legacy exceptions, large volumes of implementation guidance, and a high level of detail.

Appendix B: Variable Definitions

Note: For firms that were not sued, the “class period” is defined as the time period between the announcement date of the first misstated quarterly period and the restatement announcement date.

ANN_RET is the cumulative return for the seven days centered on the restatement announcement date or class period end date, expressed as a percentage.

AUDITOR_NAMED is an indicator variable that is equal to one when the auditor is named in the complaint and is set to zero otherwise.

AUDITOR_RESIGN is equal to one if the auditor resigns during the class period and is equal to zero otherwise.

BIGN is an indicator variable equal to 1 if the auditor code from COMPUSTAT is between 1 and 8.

DISMISS is an indicator variable to one if the suit is dismissed.

EXT_INVESTIGATE is an indicator equal to one when the complaint indicates that there was an external investigation and is equal to zero otherwise.

INSIDER is average monthly net insider selling over the class period, from Thomson Reuters, scaled by total shares outstanding, expressed as a percentage.

INSIDER_SALE is equal to one when the plaintiff alleges insider selling activities and zero otherwise.

INT_INVESTIGATE is an indicator equal to one when the complaint indicates that the company conducted an internal investigation and is equal to zero otherwise.

ISSUE is an indicator variable equal to one when the firm issues stock during the class period (COMPUSTAT data item SCF) and is equal to zero otherwise.

LIT_RISK is an indicator variable that is set to one when the firm operates in a high litigation risk industry (see Francis 1994) and is equal to zero otherwise.

MAX_DAMAGE: The highest market value of the firm during the restatement period minus the market value of the firm on the restatement disclosure date (in millions).

MERITORIOUS is an indicator variable to one if the suit is meritorious, defined as either (a) a lawsuit that is not dismissed, or (b) a lawsuit that settles for more than 0.5% of the defendant firm’s market value of equity.

RBC is the average rules-based continuum score of the standards alleged to have been violated. The rules-based continuum score increases by one when the standard contains bright-line

thresholds, scope and legacy exceptions, voluminous implementation guidance, or a high level of detail. The minimum value of RBC is zero and the maximum is four. See Mergenthaler (2009) and Appendix A for further details.

REVENUE is an indicator variable equal to one if the plaintiff alleged that revenue was misstated and is equal to zero otherwise.

ROA is earnings before extraordinary items (as originally reported) for the quarter preceding the end of the class period, scaled by total assets, expressed as a percentage.

SEC_11 is an indicator variable that is equal to one when the complaint indicates a Section 11 violation and is equal to zero otherwise.

SHARE_TURN is equal to average daily turnover (volume / shares outstanding) over the class period, expressed as a percentage.

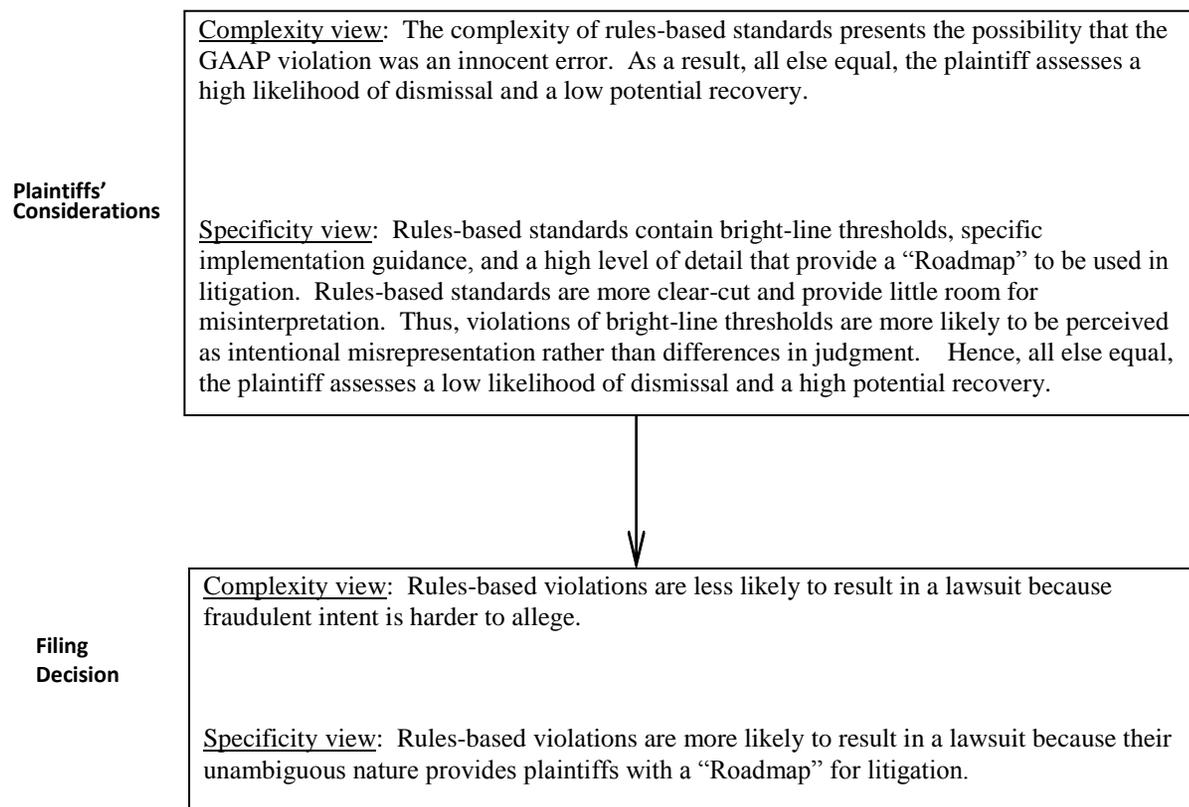
SIZE is log market value of equity at the end of the quarter preceding the end of the class period.

SUED is an indicator variable equal to one if the restatement resulted in a class action lawsuit and is equal to zero otherwise.

VOLATILITY is equal to the standard deviation of daily returns over the class period, expressed as a percentage.

WHISTLE is an indicator variable that is set to one when the complaint mentions a whistle blower and is equal to zero otherwise.

Figure 1:
Theories Relating Litigation Risk to Observable Violations of Accounting Standards (Restatements)



This figure provides a summary of views advanced in prior academic literature, the popular press and U.S. case law on the relation between violations of rules-based accounting standards and litigation.

Figure 2
Distribution of the Most Common Standards Violated

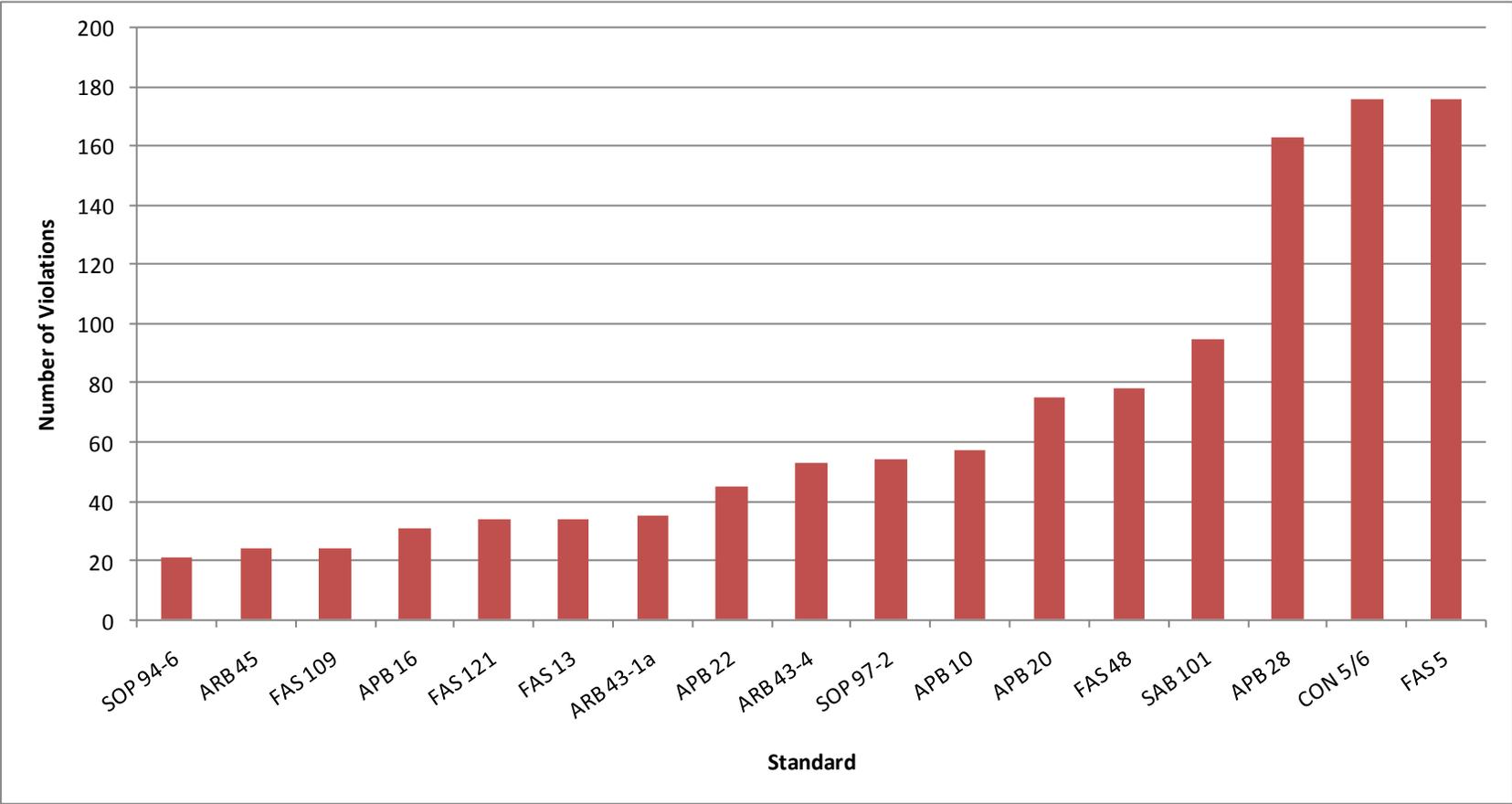


Table 1
Descriptive Statistics

We obtain lawsuit data from the RiskMetrics Securities Class Action Services database, complaints from the Stanford Securities Class Action Clearinghouse, and potential suits not filed from the Hennes, Leone, and Miller [2008] sample. ***, **, * Indicate t-tests and median tests of differences across groups significant at $p < 0.01$, 0.05, and 0.10 respectively. Certain variables were obtained from the complaint document and thus are not available for potential suits that were not filed. Variables are defined in Appendix B.

Variable	Filed Lawsuits				Potential Lawsuits			
	N	Std. Dev.	Mean	Median	N	Std. Dev.	Mean	Median
RBC	185	0.71	1.33	1.22	84	1.25	2.57 ***	3.00 ***
SIZE	185	1.83	6.76	6.69	84	1.46	7.72 ***	7.52 ***
ROA	185	11.91	-4.18	-0.42	84	3.38	0.53 ***	0.51 ***
BIGN	185	0.38	0.82	1.00	84	0.33	0.88	1.00
ANN_RET	185	20.35	-22.08	-18.25	84	9.86	-9.18 ***	-6.43 ***
MAX_DAMAGE	185	16,530	6,008	833	84	12,293	3,037	390 **
LN(MAX_DAMAGE)	185	1.92	6.91	6.72	84	1.71	6.18 ***	5.97 **
LIT_RISK	185	0.50	0.44	0.00	84	0.47	0.32	0.00 *
INSIDER	185	0.26	-0.13	-0.01	84	0.25	-0.11	-0.04 *
ISSUE	185	0.43	0.24	0.00	84	0.44	0.25	0.00
REVENUE	185	0.43	0.75	1.00	84	0.45	0.27 ***	0.00 ***
SHARE_TURN	185	1.03	1.28	0.96	84	0.66	0.85 ***	0.57 **
VOLATILITY	185	2.07	4.68	4.29	84	1.35	2.96 ***	2.70 ***
MERITORIOUS	185	0.44	0.74	1.00	.	.	.	.
AUDITOR_NAMED	185	0.42	0.23	0.00	.	.	.	.
INSIDER_SALE	185	0.4987	0.5514	1	.	.	.	.
WHISTLE	185	0.3428	0.1351	0	.	.	.	.
INT_INVESTIGATE	185	0.4876	0.3838	0	.	.	.	.
EXT_INVESTIGATE	185	0.4453	0.2703	0	.	.	.	.
EXEC_TURNOVER	185	0.463	0.6919	1	.	.	.	.
AUDITOR_RESIGN	185	0.4011	0.2	0	.	.	.	.
SEC_11	185	0.4051	0.2054	0	.	.	.	.

Table 2
Pearson Correlations

Panel A: Pearson Correlations Among Rules-based Characteristics and the Decision to Sue Variables (p-values are in parentheses)

	<i>SUED</i>	<i>RBC</i>	<i>SIZE</i>	<i>ROA</i>	<i>BIGN</i>	<i>ANN_RET</i>	<i>LIT_RISK</i>	<i>INSIDER</i>	<i>ISSUE</i>	<i>REVENUE</i>	<i>SHARE_TURN</i>	<i>VOLATILITY</i>
<i>RBC</i>	-0.53 (<.0001)											
<i>SIZE</i>	-0.25 (<.0001)	0.32 (<.0001)										
<i>ROA</i>	-0.21 0.00	0.09 (0.13)	0.30 (<.0001)									
<i>BIGN</i>	-0.08 (0.22)	0.03 (0.67)	0.18 (0.00)	0.12 (0.045)								
<i>ANN_RET</i>	-0.32 (<.0001)	0.21 (0.00)	0.28 (<.0001)	0.30 (<.0001)	0.13 (0.03)							
<i>LIT_RISK</i>	0.11 (0.06)	-0.17 (0.01)	-0.15 (0.02)	-0.17 (0.01)	-0.01 (0.85)	-0.03 (0.67)						
<i>INSIDER</i>	-0.03 (0.64)	-0.04 (0.56)	0.17 (0.00)	0.11 (0.06)	0.14 (0.02)	0.10 (0.12)	-0.15 (0.01)					
<i>ISSUE</i>	-0.01 (0.83)	0.02 (0.72)	-0.11 (0.06)	-0.07 (0.26)	0.03 (0.59)	0.01 (0.94)	0.01 (0.85)	-0.14 (0.02)				
<i>REVENUE</i>	0.45 (<.0001)	-0.40 (<.0001)	-0.25 (<.0001)	-0.16 (0.01)	0.00 (0.97)	-0.22 (0.00)	0.16 (0.01)	-0.08 (0.21)	0.02 (0.80)			
<i>SHARE_TURN</i>	0.21 (0.00)	-0.16 (0.00)	-0.16 (0.01)	-0.22 (0.00)	-0.14 (0.03)	-0.17 (0.00)	0.34 (<.0001)	-0.20 (0.00)	0.12 (0.05)	0.18 (0.00)		
<i>VOLATILITY</i>	0.39 (<.0001)	-0.32 (<.0001)	-0.46 (<.0001)	-0.46 (<.0001)	-0.21 (0.00)	-0.38 (<.0001)	0.38 (<.0001)	-0.09 (0.13)	0.06 (0.29)	0.33 (<.0001)	0.56 (<.0001)	
<i>LN(MAX_DAMAGE)</i>	0.18 (0.00)	0.07 (0.27)	0.68 (<.0001)	0.01 (0.91)	0.14 (0.02)	0.06 (0.35)	0.00 (1.00)	0.17 (0.00)	-0.06 (0.32)	0.07 (0.27)	0.03 (0.62)	0.03 (0.64)

**Table 2 (Cont.)
Pearson Correlations**

Panel B: Pearson Correlations Among Rules-based Characteristics and Litigation Outcome Variables (p-values are in parentheses)

	<i>RBC</i>	<i>ANN_</i> <i>SIZE</i>	<i>LIT_</i> <i>RET</i>	<i>RISK</i>	<i>REVENUE</i>	<i>MERITO</i> <i>RIOUS</i>	<i>AUDITOR</i> <i>_NAMED</i>	<i>INSIDER</i> <i>_SALE</i>	<i>WHISTLE</i>	<i>INT_</i> <i>INVESTIGATE</i>	<i>EXT_</i> <i>INVESTIGATE</i>	<i>EXEC_</i> <i>TURNOVER</i>	<i>AUDITOR</i> <i>_RESIGN</i>	<i>SEC_11</i>
<i>SIZE</i>	0.32 (<i><.0001</i>)													
<i>ANN_RET</i>	0.21 (0.00)	0.28 (<i><.0001</i>)												
<i>LIT_RISK</i>	-0.17 (0.01)	-0.15 (0.02)	-0.03 (0.67)											
<i>REVENUE</i>	-0.40 (<i><.0001</i>)	-0.25 (<i><.0001</i>)	-0.22 (0.00)	0.16 (0.01)										
<i>MERITORIOUS</i>	0.04 (0.59)	0.00 (0.95)	-0.09 (0.25)	0.14 (0.06)	0.14 (0.06)									
<i>AUDITOR_NAMED</i>	0.06 (0.43)	0.07 (0.35)	0.05 (0.52)	-0.10 (0.16)	0.11 (0.14)	0.21 (0.00)								
<i>INSIDER_SALE</i>	0.16 (0.03)	0.11 (0.13)	-0.06 (0.44)	-0.03 (0.72)	0.16 (0.03)	0.07 (0.31)	0.01 (0.92)							
<i>WHISTLE</i>	0.02 (0.81)	0.19 (0.01)	0.05 (0.48)	-0.13 (0.08)	0.04 (0.55)	0.17 (0.02)	0.19 (0.01)	0.17 (0.02)						
<i>INT_INVESTIGATE</i>	-0.07 (0.35)	0.04 (0.62)	0.10 (0.17)	0.08 (0.29)	0.20 (0.01)	0.07 (0.34)	0.07 (0.37)	0.11 (0.14)	0.01 (0.86)					
<i>EXT_INVESTIGATE</i>	0.07 (0.32)	0.33 (<i><.0001</i>)	0.07 (0.36)	0.00 (0.96)	0.10 (0.19)	0.09 (0.23)	0.13 (0.09)	0.26 (0.00)	0.19 (0.01)	0.17 (0.02)				
<i>EXEC_TURNOVER</i>	-0.07 (0.34)	0.00 (0.99)	0.02 (0.79)	0.19 (0.01)	0.24 (0.00)	0.08 (0.30)	0.01 (0.93)	0.01 (0.89)	-0.01 (0.89)	0.29 (<i><.0001</i>)	0.04 (0.62)			
<i>AUDITOR_RESIGN</i>	0.04 (0.59)	-0.02 (0.75)	-0.03 (0.64)	-0.04 (0.61)	0.13 (0.07)	0.18 (0.02)	0.08 (0.30)	0.12 (0.09)	0.00 (1.00)	0.02 (0.76)	0.09 (0.22)	0.1 (0.18)		
<i>SEC_11</i>	-0.05 (0.49)	0.10 (0.16)	-0.07 (0.37)	-0.05 (0.50)	-0.02 (0.82)	0.03 (0.66)	0.10 (0.17)	0.06 (0.46)	-0.04 (0.55)	0.09 (0.20)	-0.04 (0.61)	-0.04 (0.61)	0.01 (0.86)	
<i>LN_MAX_DAMAGE</i>	0.07 (0.27)	0.68061 (<i><.0001</i>)	0.06 (0.35)	0 (1.00)	0.07 (0.27)	0.11 (0.15)	0.1858 (0.01)	0.14 (0.06)	0.19 (0.01)	0.04 (0.59)	0.33 (<i><.0001</i>)	0.07 (0.36)	0.01 (0.94)	0.18 (0.02)

Variables are defined in Appendix B.

Table 3
Logistic Regression Results for the Effect of the Rules-Based Characteristics on the Filing of Class Action Lawsuits

$$\text{Prob (Sued=1)} = F(\alpha + \beta_1 \text{RBC} + \beta' (\text{Controls})) \quad (1)$$

This table reports the results of a logistic regression investigating the impact of rules-based characteristics on the decision to file a lawsuit. We utilize the RBC measure from Mergenthaler (2009) which increases by one when a standard contains any one of the four following criteria: (1) bright-line thresholds, (2) scope and legacy exceptions, (3) large volumes of implementation guidance, and (4) a high level of detail. Our sample of 185 firms with a restatement where a lawsuit was filed between 1996 and 2005 was obtained from the Securities Class Action Services database. Our sample of 84 restatements where a lawsuit was not filed was obtained from Hennes, Leone, and Miller [2008] and includes instances where the firm's restatement announcement caused the firm's market value to drop by at least \$50 million dollars. t-statistics are in parentheses. *(**)[***] denotes significance at the 0.10 (0.05) [0.01] level (two-tailed). All variables that lie below (above) the 1st (99th) percentiles are winsorized. The marginal effects are calculated for each observation in our sample and then averaged over all the observations (Greene [2003]). Variables are defined in Appendix B.

<u>Variable</u>	<u>Coeff.</u>	<u>t-stat</u>	<u>Marginal Effect</u>
Intercept	1.72	(1.13)	
RBC	-1.09	(-5.17) ***	-0.111
SIZE	-0.76	(-3.13) ***	-0.077
ROA	-0.09	(-1.38)	-0.009
BIGN	-0.56	(-0.97)	-0.057
ANN_RET	-0.03	(-2.08) **	-0.003
LN(MAX_DAMAGE)	0.93	(4.61) ***	0.095
LIT_RISK	-0.51	(-1.13)	-0.052
INSIDER_SALE	-0.92	(-1.14)	-0.093
ISSUE	-0.42	(-0.89)	-0.043
REVENUE	0.71	(1.73) *	0.072
SHARE_TURN	0.22	(0.73)	0.022
VOLATILITY	-0.02	(-0.10)	-0.002
Pseudo-R ²	44.3%		
N	269		

Table 4
Logistic Regression Results for the Effect of the Rules-Based Characteristics on the Lawsuit Outcomes

$$\text{Prob (Meritorious=1)} = F(\alpha + \beta_1 \text{RBC} + \beta' (\text{Controls})) \quad (2)$$

This table reports the results of a logistic regression examining the impact of rules-based characteristics on lawsuit outcomes. Column (1) utilizes the dismissal decision as a proxy for a meritorious outcome. A suit that survives the dismissal decision is equal to one while a suit that is dismissed is equal to zero. Column (2) follows Johnson, Nelson, and Pritchard [2007] and classifies a suit as meritorious if the settlement is at least .5% of the firm's market value of equity. Our sample of 185 firms with a restatement where a lawsuit was filed between 1996 and 2005 was obtained from the Securities Class Action Services database. t-statistics are in parentheses. *(**)[***] denotes significance at the 0.10 (0.05) [0.01] level (two-tailed). All variables that lie below (above) the 1st (99th) percentiles are winsorized. The marginal effects are calculated for each observation in our sample and then averaged over all the observations (Greene [2003]). Variables are defined in Appendix B.

Variable	(1)			(2)		
	Coeff.	t-stat	Marginal Effect	Coeff.	t-stat	Marginal Effect
Intercept	-1.51	(-1.41)		-1.67	(-1.63)	
RBC	0.18	(0.64)	0.029	0.32	(1.18)	0.056
SIZE	0.00	(0.02)	0.001	-0.36	(-1.71) *	-0.062
ROA	-0.06	(-1.61)	-0.010	-0.07	(-1.89) *	-0.012
ANN_RET	-0.01	(-1.02)	0.015	-0.02	(-2.18) **	0.044
LN(MAX_DAMAGE)	0.10	(0.50)	0.213	0.25	(1.34)	0.123
LIT_RISK	0.92	(2.25) **	-0.004	0.89	(2.33) **	0.082
AUDITOR_NAMED	1.34	(2.24) **	-0.002	0.70	(1.47)	-0.004
INSIDER_SALE	-0.03	(-0.06)	0.146	0.47	(1.25)	0.155
WHISTLE	1.50	(1.87) *	0.049	1.16	(1.94) *	0.087
REVENUE	0.31	(0.70)	0.238	0.50	(1.16)	0.202
INVESTIGATION_INTERN	0.14	(0.33)	0.023	0.13	(0.31)	0.022
INVESTIGATION_EXTERN	0.09	(0.19)	0.015	0.33	(0.72)	0.057
EXEC_TURNOVER	-0.01	(-0.03)	-0.002	0.20	(0.47)	0.034
AUDITOR_RESIGN	1.38	(2.27) **	0.220	0.77	(1.56)	0.133
SEC_11	0.05	(0.10)	0.008	0.30	(0.65)	0.053
R-Square	17.9%			25.8%		
N	185			185		

Table 5
Robustness Tests for Filing Decision

$$\text{Prob (Sued=1)} = F(\alpha + \beta_1 \text{RBC} + \beta' (\text{Controls})) \quad (1)$$

This Table reports the results of analyses that examine whether our main results from equation (1) are robust to alternate specifications. In Column (1), we orthogonalize RBC to transaction complexity to ensure that RBC is not simply picking up the complexity of the underlying transaction. Column (2) limits analysis to filed suits that were dismissed (i.e., suits that were non-meritorious or errors) and potential suits. Hence, if our potential sample does represent errors, then this analysis seeks to determine whether RBC impacts whether lawsuits were filed when an accounting error occurs. In Column (3), we use the sample of restatements investigated by the SEC in Mergenthaler (2009). t-statistics are in parentheses. *(**)[***] denotes significance at the 0.10 (0.05) [0.01] level (two-tailed). All variables that lie below (above) the 1st (99th) percentiles are winsorized. Variables are defined in Appendix B.

	(1)		(2)		(3)	
Variable	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Intercept	-0.04	(-0.03)	1.82	(0.83)	1.39	(0.79)
RBC	-0.67	(-3.40) ***	-0.97	(-3.84) ***	-1.21	(-3.55) ***
SIZE	-0.76	(-3.38) ***	-0.73	(-2.26) ***	0.05	(0.39)
ROA	-0.09	(-1.47)	-0.05	(-0.8)	0.01	(0.22)
BIGN	-0.47	(-0.86)	-0.30	(-0.35)	0.31	(0.41)
ANN_RET	-0.03	(-2.30) **	-0.02	(-1.12) **	-0.05	(-2.16) **
LN(MAX_DAMAGE)	0.87	(4.74) ***	0.75	(2.89) ***	0.23	(2.23) **
LIT_RISK	-0.35	(-0.83)	-0.72	(-1.29)	-0.87	(-1.56)
INSIDER_SALE	-0.57	(-0.76)	-0.15	(-0.14)	-0.40	(-0.59)
ISSUE	-0.44	(-0.98)	-0.29	(-0.48)	1.26	(1.07)
REVENUE	0.82	(2.05) **	0.60	(1.17) *	-0.26	(-0.49)
SHARE_TURN	0.28	(0.98)	0.50	(1.29)	0.88	(2.47) **
VOLATILITY	-0.02	(-0.10)	-0.19	(-0.75)	0.00	(0.00)
R-Square	39.8%		38.5%		35.1%	
N	269		133		131	

Table 6
Non-Restatement Descriptive Statistics

This table reports the mean and median of key variables across restatement and non-restatement lawsuits. Meritorious in this table is defined as only cases that settled for more than 0.5% of the defendant firm's market value of equity. *(**)[***] denotes significance at the 0.10 (0.05) [0.01] level (two-tailed). All variables that lie below (above) the 1st (99th) percentiles are winsorized. Variables are defined in Appendix B.

Variable	Non-restatement Class Action Lawsuits			Restatement with Class Action Lawsuit		
	N	Mean	Median	N	Mean	Median
RBC	168	1.19	1.00	185	1.33 *	1.22 **
MERITORIOUS	168	45.8%	0.0%	185	61.1% ****	100.0% ****
ANN_RET	168	-24.8%	-23.5%	185	-22.1%	-18.3% *
MAX_DAMAGE	168	5,284.6	737.0	185	6,007.6	832.9
