

Disclosure strategies and shareholder litigation risk

Evidence from earnings restatements¹

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Abstract

Using a comprehensive data set of restatement announcements and regulatory filings by more than 1600 U.S.-listed firms between 2003 and 2009, we find evidence that managers strategically time disclosures of negative information to minimize litigation risk by (1) bundling negative information, such as earnings restatements, with other public announcements, and (2) leaking negative information prior to public announcements. Our findings suggest that some managers use bundling and leaking strategies to adapt to the litigation environment, particularly to a major Supreme Court decision requiring that plaintiffs plead a connection between a firm's revelation of negative information and a statistically significant decline in the firm's stock price.

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1 Introduction

1.1 Motivation

At the center of this paper are the controversial news release strategies that could be used by corporate managers to protect themselves and their firms from shareholder lawsuits. The finance, accounting, and law and economics literatures have identified a number of reasons that corporate managers have for trying to avoid litigation and shareholder litigation in particular.

First, as event studies have found (see Bhattacharya, Galpin, and Haslem (2007) for a survey), the filing of a lawsuit against a publicly listed firm has an economically and statistically significant negative effect on the firm's stock price. One possible interpretation of this result is that lawsuits decrease investors' confidence in the competence or trustworthiness of the firm's managers. Another possible interpretation of the result is that the costs of litigation, or the potential penalties, can be expected to have a direct negative effect on the defendant firm's future earnings. A second reason for managers to try to avoid litigation is that addressed by Karpoff and Lott (1993): reputational effects, both for the firm and for individual managers, that can reduce the firm's profitability and the managers' career prospects. A third reason for managers to avoid litigation, introduced theoretically and examined empirically by Haslem (2005), is that the litigation process sheds light on what many managers do not want disclosed. More specifically, if managers believe that they benefit from the information asymmetry between insiders and outside shareholders, then the managers will want to avoid litigation, since the discovery process may weaken their informational advantage. Haslem finds that firms with weak corporate governance are more likely to settle their pending litigation than are other firms; the implication of his model and results is that managers do not want the litigation process to reveal their true competence and details of their projects. While Haslem's study focuses on managers' handling of lawsuits after they have been brought, the underlying intuition suggests that managers would prefer to avoid litigation in the first place.

Erroneous and fraudulent corporate accounting can cause massive losses for investors. According to a 2007 report prepared for Congress by the Government Accountability Office, firms that restated earnings between July 2002 and September 2005 saw their market capitalization fall by a total of \$36 billion (adjusted for market movements) in the days immediately surrounding the restatement announcements (G.A.O. (2007)). When a securities class action suit occurs, the amount of money involved can be enormous. Since 2000, the eight largest securities class actions settlements in the

U.S. have involved settlement amounts totalling nearly \$27 billion. According to Ryan and Simmons (2010), the year 2009 saw 103 settlements in securities class actions, with a mean settlement amount of \$37 million. Securities litigation also involves substantial direct costs and expense, shifts managerial time away from other potentially useful projects, and generates tertiary costs from behavior directed at avoiding litigation.

Our study focuses on managers' use of two potential disclosure strategies whose effectiveness may have been boosted as an unintended consequence of a regulatory change. A landmark event in the recent history of securities litigation was the 2005 United States Supreme Court case known as *Dura Pharmaceuticals v. Broudo*. [See Section 2 of this paper for more discussion of *Dura*.] Any shareholder suit must include a plea of "loss causation"—that is, the plaintiffs must argue that they lost money as a result of the defendant firm's false statements. Prior to the Supreme Court's *Dura* decision, the Ninth Circuit Court of Appeals had ruled that demonstrating price inflation was enough to establish loss causation; in other words, if the plaintiffs could show that they had purchased the stock at an artificially inflated price because of the misinformation, then loss causation would be established in the court of law. However, in the *Dura* ruling, the Supreme Court overturned the Ninth Circuit, ruling that in order to establish loss causation, the plaintiffs needed to show that their losses occurred as a direct result of the disclosure or revelation of the alleged fraud reaching the market. In the legal community, the *Dura* standard for loss causation has been interpreted as a requirement that plaintiffs show that the stock price fell after a corrective disclosure.

Our empirical study is motivated by theoretical evidence from the law literature. For several years, legal scholars and securities law experts have speculated that *Dura* may have had the unintended consequence of giving corporate executives new strategies for protecting themselves from shareholder litigation. Spindler (2006) carefully dissects the logic of the Court's statement and argues that firms might have more incentive to bundle news in order to minimize liability risk. Given that there is some negative news that the firm must inevitably disclose, the executives now have an incentive to release the news in such a way that will minimize the directly attributable stock price drop. One way in which the firm can "strategically release" the bad news is to bundle the unsavory disclosure with some other major or complicated news, such as an earnings report. By mixing the bad (and potentially actionable) news with some better news, the firm can cause a positive or neutral — or at least not sharply negative — stock price reaction and discourage shareholders from bringing suit. Some recent work in the behavioral finance literature would support the idea that a simultaneous

news disclosure could attenuate the stock price drop. For example, Hirshleifer, Lim, and Teoh (2009) find that investors are "driven to distraction" and underreact to multiple pieces of simultaneous news.

Considering that law firms sometimes search for inviting targets for class actions by looking for stocks whose prices plummet suddenly,² this news bundling strategy could be an effective way of staying off those law firms' radars. And even if the stock price does fall sharply at the time of the announcements, it is plausible that plaintiffs in a court of law would have a difficult time establishing that the price drop should be attributed only to the troublesome, actionable news.³

Another possible disclosure strategy involves leaking the bad news to selected analysts or investors before announcing the bad news formally and publicly. Theoretically, once the leaked information has been incorporated into investors' decisions, the official announcement of the news should have little or no effect on the stock price, and so potential plaintiffs would be discouraged from bringing suit. From private conversations with lawyers, managers, and finance journalists, we have compelling anecdotal evidence that these disclosure strategies are being used with the *Dura* standard in mind. The possible use of this leakage strategy for avoiding litigation has been mentioned in the literature before (for example, by Skinner (1997)).

Our goals in this paper are (1) to estimate the extent to which managers use these disclosure strategies, and (2) to determine whether the *Dura* ruling's standard for loss causation has increased the use of those disclosure strategies. Our empirical evidence supports the belief that corporate managers, particularly of large firms and firms located in certain courts' jurisdictions, are indeed using these disclosure strategies more than they were before the *Dura* ruling. These results suggest the normative implication that federal courts should expand the set of circumstances allowing for the establishment of loss causation, particularly in the presence of multiple pieces of relevant news.

²Graham, Harvey, and Rajgopal (2005) mention anecdotal evidence that law firms specializing in bringing class action suits will use computer programs to identify firms whose stock prices plunge suddenly and are thus inviting targets for a shareholder suit.

³Olson (2004), in his brief to the Supreme Court as Solicitor General, argued that the courts should not be fooled by this bundling strategy when hearing loss causation pleadings. In our analysis, we take the view that the absence of a large price drop would make loss causation pleadings more difficult or uncertain for plaintiffs' lawyers and would thus discourage suits from being brought.

1.2 Previous research

The strategies of managers regarding disclosure in the presence of private information have attracted considerable attention in the corporate governance and accounting literatures. Skinner (1997) finds that managers often use a preemption strategy to disclose adverse earnings news that may result in litigation. Skinner's findings suggest that managers prefer to release extremely bad news sooner rather than later, since voluntarily releasing the news sooner can reduce the expected costs of possible ensuing litigation.

Given the policy arena's recent focus on issues of accounting reliability, it is no surprise that earnings restatements and non-reliance disclosures have become a growing subfield in the academic literature. Palmrose, Richardson, and Scholz (2004) document the serious negative effect that an earnings restatement can have on the firm's stock; they find that for a sample of 403 restatements in the late 1990s, the restating firm's stock price fell by an average of nine percent over the two trading days surrounding the announcement. Their regressions find that for restatement announcements occurring in an earnings release, higher earnings surprises are associated with higher (or less negative) stock returns surrounding the announcement. Files, Swanson, and Tse (2009) and Myers, Scholz, and Sharp (2010) also find that including an income-reducing restatement in an earnings announcement can attenuate the stock price drop. Furthermore, Files, Swanson, and Tse (2009) find that restatement disclosures that are quietly slipped into other news releases can reduce the likelihood that shareholder litigation will ensue. The findings in these two papers support one of the ideas motivating our study: that if managers are forced to announce some troubling news, they can protect against a stock price plunge by releasing some other news at the same time. One of our hypotheses, which we will discuss in more detail in later sections, is that after the *Dura* decision, managers had extra motivation to use this stock price protection strategy.

Graham, Harvey, and Rajgopal (2005) present stylized facts that emerged from a survey administered to several hundred chief financial officers (CFOs) in the United States. The survey results suggest that "...bad news is sometimes delayed to allow in-depth analysis, interpretation, and consolidation into larger news releases." More than one-third of the questioned CFO's said they believed in a strategy of packaging bad news with better news (although for many managers, there are other motives, not related to litigation, for this packaging strategy).

To the best of our knowledge, our study is the first to examine empirically the *Dura* ruling’s effect on managers’ disclosure strategies for avoiding litigation. There is at least one paper in the literature—Gelbach, Helland, and Klick (2009)—that examines whether the standard set in *Dura* would have affected earlier securities litigation. Their paper poses the question, “Does *Dura* matter?” and their conclusion is that it does not. That is, had the *Dura* standard been applied to securities litigation cases from the previous twenty years, the outcomes of those lawsuits generally would not have changed much. Our paper takes a different approach to evaluating the impact of *Dura*, as we are more interested in the changes in incentives and behavior of firm managers.

2 Background on U.S. securities law and the Supreme Court’s *Dura* decision

This lawsuit in *Dura* was of a type known as a fraud-on-the-market case. The plaintiffs had claimed that investors had incorporated false information from the firm’s managers when deciding the price at which they were willing to buy or sell shares, and that those false or misleading statements had driven up the price of the shares. The logic inherent in fraud-on-the-market cases implies that a security’s price reflects all information available to the investing public, even if some of that information is false. If an individual investor purchases a firm’s stock shortly after that firm has issued a false earnings statement, that investor can suffer losses resulting from the false statement even if he was not aware of the particular statement, if the false statement has affected the stock price.

Before the Supreme Court agreed to hear the case, the Ninth Circuit Court of Appeals had ruled that the “plaintiffs establish loss causation if they have shown that the price on the date of purchase was inflated because of the misrepresentation.” As a result of the Ninth Circuit’s ruling, the plaintiffs became entitled to receive damages from the defendant. However, *Dura Pharmaceuticals*, the firm being sued, appealed the case to the Supreme Court of the United States, which granted certiorari in June 2004 to hear arguments in January 2005. In April 2005, in a rare 9-0 ruling from the Rehnquist Court, the Ninth Circuit’s decision was reversed. The Supreme Court determined that for investors, simply having purchased a share at an inflated price was not equivalent to having suffered a loss. According to the decision, the plaintiff’s losses only occur if and when the value of the stock declines as a result of the corrected information reaching the market.

A number of scholars writing in the law literature and the economics literature have interpreted *Dura* as establishing and clarifying a strict and verifiable standard for plaintiffs trying to establish loss causation. In this paper, we will use the analytical framework of Spindler (2006), Ferrell and Saha (2007), and Gelbach, Helland, and Klick (2009), which interprets the *Dura* standard as requiring a “corrective disclosure” and a subsequent fall in market value. That is, in order to establish loss causation, plaintiffs must be able to point to the date when the firm’s actionable statements were disclosed and corrected, and must then be able to show that investors incurred losses. As will be discussed in the next section of this paper, we will focus on corrective disclosures in the form of restatements of financial reports, which are at the center of a large fraction of securities class actions.

Finally, it should be noted that in the law literature, some have interpreted *Dura* as a decision that resolved a dispute among the Circuit courts. Even before the Supreme Court granted certiorari to *Dura Pharmaceuticals v. Broudo*, some of the Circuit courts had already been using the Supreme Court’s standards for loss causation in securities class actions, whereas other Circuit courts (e.g. the Ninth Circuit) were more receptive to the price-inflation argument. For detailed analysis of various Circuits’ positions on standards for loss causation, we refer the reader to Ferrell and Saha (2007) and Spindler (2006).

3 Data and data sources

The empirics for this paper involved merging a number of data sets from various sources. The data sources and sample construction are discussed in detail below.

3.1 Data sources and descriptions

3.1.1 Non-reliance disclosures and financial restatement announcements

One goal of this study is to determine whether a systematic change took place in managers’ strategies for disclosing potentially actionable news. There are innumerable many types of actionable news, but we will focus on one specific type of disclosure that often leads to litigation: restatements of previously posted financial data. Issues of accounting accuracy and restatements form the basis

for a large fraction of securities lawsuits.⁴ The papers by Files, Swanson, and Tse (2009) and Palmrose and Scholz (2004) also examine in detail the relationship between restatement characteristics and litigation risk.

Data on firms' announcements of the need to restate came from the Non-Reliance Restatement dataset distributed by Audit Analytics. The following passage, taken from the database's documentation, explains the dataset's contents and how it was assembled:

The restatement data set covers all SEC registrants who have disclosed a financial statement restatement in electronic filings since 1 January 2001. The data has been extracted principally from the following form types: 8-K, 8-K/A, 10-K, 10-Q, 10-Q/A, 10-K/A, 10KSB, 10KSB/A, 20-F, 20-F/A, 40-F and 40-F/As. We analyze all 8-K and 8-K/A filings containing restatement information identified with the title 4.02 Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review since August 2004. Amended filings are analyzed by queuing for analysis those filings which contain any of the words restate, restatement or restated. Additional analysis includes the quarterly search of all audit opinions for derivatives of the word restate and the subsequent examination of the corresponding filings.

Our dataset includes all restatement announcements made by firms listed on the New York Stock Exchange (NYSE), NASDAQ, and the American Stock Exchange (AmEx) from January 1, 2003 to December 31, 2009. To investigate empirically *Dura*'s impact on restatements, we partitioned the restatements sample into "before" and "after" samples: a restatement observation is considered to be post-*Dura* if it takes place after April 19, 2005. We chose January 1, 2003 as the starting date for the "before" sample. Using an earlier starting date would have raised serious issues, for in the wake of the 2001-2002 wave of accounting scandals, the SEC in the summer of 2002 issued an order requiring CEOs of publicly listed firms to confirm personally that their firms' financial statements were accurate. Many restatements from mid-to-late 2002 are likely to have been issued and timed with this SEC order in mind, and so we begin our "before" sample in January 2003. We also exclude from our sample all firms whose stock is not traded on one of the three major U.S. exchanges (the New York Stock Exchange, NASDAQ, and the American Stock Exchange).

⁴According to one empirical study, "79 percent of all securities class action complaints in 2004 contained allegations of misrepresentations in corporations financial documents, and nearly 50 percent alleged violations of Generally Accepted Accounting Principles" (Cornerstone Research 2004, as cited and described by Coughlin, Isaacson, and Daley (2005)).

Other fields in the restatements dataset were useful for constructing variables for our investigation. We used the main location of the firm to classify each firm as being located in one of three jurisdictional regions based on the careful analysis of the Circuits' positions by Spindler (2006): (1) the Eight and Ninth Circuits, as their loss causation standards were overturned by *Dura*; (2) the Second, Third, and Eleventh Circuits, as they were already using the *Dura* standard before 2005); and (3) all other Circuits. Furthermore, the Audit Analytics dataset includes fields that allow us to identify the large firms that make up the Fortune 1000.

3.1.2 Corporate governance data

The primary reason for using director data in our analysis is to address the issue of sample selection (the sample selection bias correction technique will be discussed in more detail in the next section). Following the research of Agrawal and Chada (2005), we believe that corporate governance data, particularly board of directors data, can be especially useful for predicting which firms are likely to self-select into the sample of firms that have to restate their financial reports.

For variables pertaining to boards of directors and firms' corporate governance mechanisms, we used historical data provided by The Directors Database Archive (TDDA). The Directors Database provides monthly files in the form of Microsoft Access databases. For each SEC-registered corporation in the database, TDDA lists the individual directors along with their titles and certain biographical characteristics. Furthermore, for each firm-director observation, TDDA includes binary variables indicating whether that director is also a high-level manager (e.g. CEO, President, CFO, etc.) or some other type of insider. The directors data were used for constructing other key variables for the sample selection bias correction, such as board size and a dummy indicating whether the CEO is also the board chairman. The number of boards upon which a director sits is also of interest and can be computed from TDDA data.

When merging the director data with, say, the restatements dataset, we joined an observation from the restatements dataset with the firm-month observation from the directors dataset from December of the previous calendar year.

3.1.3 Securities and Exchange Commission filings

We downloaded a full listing of SEC filings over the period 2003-2009 from the SEC’s Edgar FTP site (<ftp://ftp.sec.gov/edgar/full-index/>). The listing includes identifying information for all SEC registrants along with the dates of all filings and the types of forms that were submitted. We do not extract any data from the individual filings listed; in using this dataset, we are interested simply in knowing which forms were filed on which day by a particular firm. The firm-level identifier known as the Central Index Key (CIK) can be used to merge the SEC filings listing with other datasets, particularly the restatement dataset described above. Our SEC filings dataset has 6,142,440 observations whose filers are identified by the CIK. There are 311,978 unique CIK identifiers of SEC registrants whose filings are part of this dataset.

3.1.4 Securities class action lawsuit data

Data on class action lawsuits filed against publicly listed firms were taken from the webpage of Stanford Law School’s Securities Class Actions Clearinghouse (SCAC). We believe SCAC to be the most comprehensive and accurate data source for this type of litigation data. Our dataset contains an observation for each of 1,118 securities class actions filed in federal courts between 2003 and 2010. Each observation lists the name of the defendant firm, the exchange on which the defendant firm’s stock is traded, the ticker symbol of the defendant firm’s common stock, and the date on which the lawsuit was filed.

3.1.5 Firm-level accounting data and stock prices

For daily stock prices and dividends, we used data from the Center for the Study of Securities Prices (CRSP). Firm-level accounting data, as well as data on firm characteristics, come from the Compustat database, also within WRDS. Our dataset includes only firms whose stock is traded on the NYSE, NASDAQ, and AmEx. Excluded are firms whose stocks are traded via the OTC Bulletin Board and the Pink Sheets.

It should be noted that our sample includes firms whose equities are traded on U.S. exchanges via American Depositary Receipts (ADRs). Bhattacharya, Galpin, and Haslem (2007) found evidence of what can be called a “home court advantage in litigation. According to their results, in U.S.

courts, foreign firms are more likely to lose lawsuits than are domestic firms. One explanation is that foreign firms' managers and their lawyers are comparatively inept at dealing with American civil courts; another explanation is that judges and juries in the U.S. are biased in favor of domestic firms and domestic plaintiffs. Furthermore, that study's results show that the ADR prices of foreign firms react much more sharply than do the stock prices of domestic firms in upon news of litigation events.

3.2 Merging and sample attrition

Table 1 describes the data sample construction and attrition for our first empirical approach, which investigates firms' bundling of restatement announcements with other news. There were data points for more than 6 million SEC filings made by nearly 312,000 unique parties between 2003 and 2009; many, if not most, of those filings were made by SEC registrants who are not relevant to our empirics. Using the CIK identifier, we were able to merge almost all of those filings with the SEC filings dataset. See Table 1 for details of the sample attrition at each stage.

4 Methodology

4.1 Strategic timing and packaging of the disclosure

We are particularly interested in knowing whether restating firms became more likely to bundle their corrective restatement announcements with other news, such as earnings filings, after the *Dura* decision in 2005. The empirical approach we take for this problem is the logit binary choice regression. In the main set of regressions, the dependent variable, EARNINGSDAY, is a dummy that equals one if the restatement announcement was made on the same day as a formal earnings filing and zero otherwise. Our intuition suggests that large firms, such as those in the Fortune 1000 index, and firms located in the Eighth and Ninth Circuits' jurisdictions, were differentially affected by *Dura* and so those firms may have changed their disclosure strategies more than other firms. For this reason, we include on the right-hand side a dummy for whether the firm is part of the Fortune 1000, a dummy for whether the firm is located in the Eighth or Ninth Circuit (the circuits whose loss causation standard was overturned in *Dura*), and a dummy for whether the firm is located⁵ in the Second, Third, or Eleventh Circuit (the Circuits whose courts were already committed

⁵This variable is based on the state in which the firm is principally located, not on the state in which the firm is incorporated.

to the *Dura* standard before the Supreme Court’s decision).⁶ We are especially interested in the interaction effects between a post-*Dura* dummy variable and the Fortune 1000 and Eighth/Ninth Circuit dummies.

We use a number of control variables on the right-hand side. The variable AUDITFEES is the dollar amount paid by the firm to its outside auditor the previous fiscal year; the likely interpretation of this variable is that it captures how difficult or complicated the firm’s financial bookkeeping is. We also include a number of announcement-specific variables that are defined by Audit Analytics, the data provider for the restatements data. The binary variable RESFRAUD equals one if the restatement indicates that fraud was a reason for the original misstatement. We also include a variable REPEAT which equals zero if this is the firm’s first restatement announcement in the 2000s, and it equals one if the firm had made at least one prior restatement in that decade. The variable AUDIT equals one if the restatement was initiated by the firm’s outside auditor (as opposed to the firm’s own accounting unit, management, or the board of directors) and zero otherwise. We also include the variable BOARD, which equals one if and only if the firm’s board of directors had to approve the restatement announcement before it was made to the public. The variable BOARD may capture agency problems or conflicts between management and the board; a firm that has in its corporate charter a clause requiring board approval for an announcement like a restatement is most likely a firm whose founders recognized the potential for such conflicts. Alternatively, a BOARD value equal to one may simply be an indication of strong corporate governance mechanisms.

There are intuitive and plausible reasons why large firms would be differentially affected by the standard set in the *Dura* decision. First, as Field, Lowry, and Shu (2005) and others have argued, managers of large corporations might worry more constantly about shareholder litigation risk than do managers of small companies. Small companies are not as attractive as targets for law firms specializing in bringing securities class action suits, and so small companies’ managers might be less worried about the prospect of inviting shareholder litigation risk. Large corporations’ managers, therefore, may be more likely to consider it worth the cost of adjusting their disclosure practices. The “cost” of adjusting the news release practices could take a number of forms. For example, the cost could be that of arousing the suspicions of regulatory authorities.⁷ The cost could also be

⁶See Spindler (2006) and Ferrell and Saha (2007) for detailed analyses of the Circuit Courts’ positions on loss causation standards prior to the Supreme Court’s decision.

⁷Consider this quote from a speech made by an SEC official speaking at an accounting conference in December 2006: “If a company files a 4.02 8-K on the same day it files an amended periodic report to restate its financial statements, it is highly likely that the staff would question the timing of the 8-K filing. Generally, the staff believes

a reputational penalty: investors and other members of the business community may recognize a manager's strategic disclosure timing and give him a reputation as a sneaky manager. Furthermore, as the findings of Graham, Harvey, and Rajgopal (2005) suggest, managers can be concerned about developing a consistent style for disclosures; deviating from an earlier disclosure style by starting to bundle bad news with earnings filings can perhaps be considered an adjustment cost.

A second possible reason for large corporations to react more strongly to *Dura* has to do with resources and legal sophistication. Large firms are more likely to have in-house counsel with some sophistication about shareholder litigation risk. Finally, large firms are more likely to employ internal and external public relations personnel whose responsibilities include managing the investor reaction and reputational effects of firm disclosures.

For each firm, Audit Analytics can tell us in which state the firm is principally located. It is important to note that principal location is not the same as state of incorporation; it is quite possible, and common, for a firm to be incorporated in a state other than that of its principal location. A firm can be principally based in, say, North Carolina but incorporated in Delaware. In that case, the Delaware incorporation does not tell us much more than that the fact that firm's charter complies with Delaware corporate law. For our study, we are interested in the principal location because shareholder suits are usually filed close to home. Although theoretically the suit is portable and can be taken to other jurisdictions, lawsuits are highly disproportionately filed in the firm's home state. In the SCAC dataset over the years in our sample, more than 80 percent of securities class action suits were filed in the defendant firm's home state.

Legal scholars such as Spindler (2006) and Ferrell and Saha (2007) have interpreted the Supreme Court's ruling as a resolution of a dispute among the Circuit courts. For years, the question of what constitutes loss causation in a securities class-action had been a contentious issue surrounding litigation. Under the theory motivating our empirics, firms located in the Eighth and Ninth Circuits' jurisdictions should be more affected by the *Dura* decision than other firms, especially those located in the Second, Third, and Eleventh Circuits' jurisdictions.⁸ The regions covered by these circuits

it is unlikely that a nonreliance conclusion and the filing of restated financial statements can happen within 4 days of one another."

⁸The Eighth and Ninth Circuits' jurisdictions include Alaska, Arizona, Arkansas, California, Hawaii, Idaho, Iowa, Minnesota, Missouri, Montana, Nebraska, Nevada, North Dakota, Oregon, South Dakota, and Washington. The Second, Third, and Eleventh Circuits' jurisdictions include Alabama, Connecticut, Delaware, Florida, Georgia, New Jersey, New York, and Pennsylvania.

can be seen on the map in Figure 1.

Considering that we are interested in the interactions between the post-*Dura*, Eighth/Ninth Circuit, and Fortune 1000 dummy variables in our logit regressions, a note about the econometric issues is in order. The marginal effects of the interaction terms may be useful for understanding the effect of *Dura* on restating firms' propensity to bundle the restatement with earnings news. However, we must take caution not only in calculating the interaction terms' marginal effects, but in interpreting them as well. Ai and Norton (2003) provide a correct procedure for computing the marginal effect of an interaction term in a logit model. Puhani (2008), however, shows that if we are interested in an interaction term to give us an estimate of a treatment effect, then the Ai and Norton (2003) marginal effect calculation is not useful. Furthermore, Puhani (2008) shows that the coefficient estimate for the interaction term is still informative, as the sign of the coefficient estimate will be the same as the sign of the treatment effect. In describing our logit results, we will mention the Ai and Norton (2003) marginal effects for interactions of interest, but as Puhani (2008) points out, we are limited in the specificity of our interpretations of the marginal effects of the interactions.

4.2 Event study methodology

We use an event study framework for two avenues of investigation: (1) to determine if bundling troublesome news with other news is an effective tool for mitigating the stock price reaction, and (2) to investigate whether information leakage is occurring prior to restatement announcements. For more details on the second avenue of investigation, see the next subsection.

Following the event study methodology (and much of the notation) presented by MacKinlay (1997), we must choose an estimation window and an event window. We use days -83 to -21 in event time to calculate firm-specific α and β estimates according to the single-factor market model (we use the CRSP variable `vwretd`, defined as the value-weighted market return, as our proxy for the overall stock market performance). We will use the 20 trading days immediately before the announcement, the announcement date itself, and 20 trading days thereafter as our event window.

For the 41 days in the event window for each stock, we compute the vector of abnormal returns as

$$\hat{\epsilon}_i^* = \mathbf{R}_i^* - \hat{\alpha}_i \mathbf{1} - \hat{\beta}_i \mathbf{R}_m^*,$$

where ι is a 41x1 vector of ones, and \mathbf{R}_m^* is the 41x1 vector of daily market returns during this period. We define $CAR_i(\tau)$ as the cumulative abnormal return for security i for trading date τ in our event window ($\tau \in \{-20, -19, \dots, 19, 20\}$). We calculate our estimate $\widehat{CAR}_i(\tau)$ as

$$\widehat{CAR}_i(\tau) = \gamma' \hat{\epsilon}_i^*,$$

where γ is a vector containing ones up to the $(\tau + 21)^{th}$ place and zeros for the rest of the vector.

To gauge the immediate stock price reaction to the public announcement of the restatement, we use the two-day abnormal return for the two days surrounding the public announcement. This return is equivalent to

$$\widehat{CAR}_i(1) - \widehat{CAR}_i(-1).$$

The reason for using the window of $t = -1$ to $t = 1$ in event time, rather than starting at $t = 0$, is that although we know the date of the public announcement, we do not know the time of the announcement. It is possible that the news broke before trading hours, or during trading hours, or after trading hours. Numerous empirical studies use this approach. One drawback is that it allows additional noise into the estimate of the stock price reaction to the public restatement announcement.

In Tables 7 and 8, we use a cross-sectional event study approach to examine whether the news bundling strategy is an effective tool for mitigating the stock price effect of a restatement. For a cross section of restatement announcements, we regress the firm's two-day abnormal return on a number of restatement-specific and firm-specific variables. We are particularly interested in two dummy variables: a dummy variable that equals one if the restatement was included inside an earnings filing, and a dummy that equals one if the restatement was made in a separate form (e.g. an 8-K or press release) but on the same day as an earnings filing. We expect to find positive coefficient estimates for both of those binary variables. In the next table, we perform the same event study analysis, but we use a Heckman (1979) correction procedure to control for sample selection bias. In doing this event study analysis, we can also check whether our results are roughly consistent with the findings of Files, Swanson, and Tse (2009) and Myers, Scholz, and Sharp (2010), who find that less transparent disclosure venues can attenuate the market's reaction to the restatement news.

4.3 Quiet leaking of the information

If we are to believe that managers quietly leak sensitive information to investors prior to announcing it publicly, then it seems plausible that the information would travel gradually through networks of investors and analysts. For that reason, we can hypothesize that if troubling news is quietly leaked, then the stock price should experience a gradual descent in the days or weeks leading up to the public announcement. In short, if leakage is occurring, then we should observe negative cumulative abnormal returns prior to the time of the restatement announcement.

Some existing work has documented negative cumulative abnormal returns on average for restating firms in the days and weeks preceding a restatement announcement. [See, for example, Hirschey, Palmrose, and Scholz (2003).] The empirical literature is decidedly mixed on the magnitude and significance of pre-announcement information leakage. Some studies notice negative abnormal returns on average, but find that they are small in magnitude or not statistically significant. That is the conclusion reached by both Palmrose, Richardson, and Scholz (2004) and Hranaiova and Byers (2007). Other studies, however, such as Agrawal and Chada (2005), find a significant negative trend in abnormal returns for restating firms that starts a couple of months before the restatement announcement. Empirical studies generally attribute to information leakage any pre-announcement negative abnormal returns there are to be found.

We can perform a series of univariate tests on the cumulative abnormal returns to determine if significant leakage of information is taking place. For the day $t = -1$ in event time, we can perform a t-test on the null hypothesis that the mean CAR of restating firms is equal to zero. To mitigate the influence of a handful of extreme outliers, we can run those tests on a sample that has been Winsorized at the 5th and 95th percentiles. It may be useful to focus our attention on negative restatements.

Once we establish that negative cumulative abnormal returns are present, which may suggest information leakage, it would be interesting to examine whether the *Dura* decision led to a change in the amount of information that was communicated or disseminated to the market in the days leading up to the formal announcement. One blunt tool for answering this question would be a comparison of means of the pre-announcement CAR 's for the pre-*Dura* and post-*Dura* periods. See Figure 2 and Table 10 for the results of this approach.

Another useful investigation would involve exploiting variation in how much firms were affected by the courts' imposition of the *Dura* standard. We can investigate whether certain firms—particularly those that were differentially affected by the change in the courts' standards for loss causation—began to leak more information prior to restatements. This would involve a modified event study regression, in which we regress the cumulative abnormal returns at day $t = -1$ in event time (our rough measure of information leakage) on a similar set of variables as the controls in Tables 6 and 7. (The results for this regression exercise are generally not significant. For brevity, we will not report them in detail.)

5 Empirical results

5.1 Strategic timing and packaging of the disclosure

The results of the logit parameter estimation suggest that the *Dura* decision had some effects on firms' disclosure strategies, and that those effects were concentrated in large firms and in firms located in the Eighth and Ninth Circuits. Because the logit model is not a linear regression, we unfortunately cannot interpret coefficient estimates as marginal effects; however, the signs and relative magnitudes of parameter estimates can be informative, and we will provide some discussion of the marginal effects.

The first set of logit results is presented in Table 6. This set of results should help us understand the determinants of managers' decisions of whether to bundle a restatement with quarterly or annual reports. The left-hand-side variable, *EARNINGS**DAY*, equals 1 if the restatement happened on the same day as a quarterly or annual earnings statement. The coefficient on *FORTUNE* and its marginal effect negative and significant at the one-percent level, whereas the marginal effect of the interaction term *POSTDURA***FORTUNE* is positive and of a similar magnitude, and also significant at the one-percent level. Together, these results indicate that prior to *Dura*, after controlling for a number of variables, large firms were less likely than others to bundle their restatement news with an earnings announcement, but that result reversed after *Dura*. This result is consistent with the idea that *Dura* had a differential effect on the disclosure strategies of large firms. The parameter estimate for *CIRCUIT*89 and the marginal effect of its interaction with *POSTDURA* suggest

that restating firms in the Eighth and Ninth Circuits' jurisdictions became more likely to package their restatements with earnings news after April 2005. The marginal effects results suggest that after *Dura*, Fortune 1000 firms were 20-35 percent more likely to bundle their restatement news than before the Court decision. The marginal effects also suggest that firms in the Eighth and Ninth Circuit states were 10-12 percent more likely to bundle their news than before, whereas the *POSTDURA* and *POSTDURA*-circuit interaction terms' marginal effects were close to zero for the other firms.

A few other interesting findings from this first set of results are worth mentioning. The coefficient on *BOARD* is very negative and very significant (at the 0.1-percent level), and the coefficient on *AUDITOR* is positive and borderline-significant (at the ten-percent level). There may be multiple interpretations of the *BOARD* variable; perhaps firms that require their managers to go through the board of directors give their managers less freedom over the announcements, or perhaps the *BOARD* variable is merely picking up more general corporate governance quality. The coefficient on *AUDITOR* may mean that if the firm's internal governance mechanisms are weak (as indicated by the fact that it was the outside auditor, not the internal accountants, who discovered the problem with the books), the managers may have more discretion to time the announcement strategically, or the firm may have managers who are more willing to engage in strategic activities related to disclosure. Finally, we should mention a caveat: the negative signs on the coefficient estimates for the variables proxying for the severity of the disclosure may suggest that relatively minor restatement announcements are more likely to be bundled with quarterly or annual filings.

The next set of regressions, which we present in Table 7, is to examine the effects of various firm-specific and restatement-specific variables on the restating firm's stock price. The dependant variable is the two-day abnormal return for the two-day window surrounding the restatement announcement. The results indicate that restatements that are included in regular earnings announcements are associated with higher—or less negative—abnormal returns. In fact, the coefficient estimates suggest that the abnormal returns are 2-2.5 percentage points higher. This result is consistent with the results of the studies by Files, Swanson, and Tse (2009) and Myers, Scholz, and Sharp (2010). Another interesting finding, and one that is more central to our own paper, is that restatement announcements that are not included in earnings reports, but that are still released on the same day as the company's earnings report, are associated with higher (or less negative) abnormal returns, although this result is borderline-significant at the ten-percent level. Predictably, the coefficient on

the fraud indicator was negative and significant. Neither the log of the market cap nor the market-to-book ratio appear to have much predictive value. The BOARD variable's coefficient is negative and significant, suggesting that investors react more seriously to restatements coming from firms with known agency problems. Alternatively, this result could be driven by the possibility that more serious restatements involve the board. The coefficient on the CAR(-20,-1) variable is positive and significant (recall that most CARs are zero or slightly negative for this window), suggesting that investors may react more strongly if they feel that the restatement confirms possible rumors that have been circulating.

Our results in Table 8, which is similar to Table 7 but includes a Heckman (1979) selection bias correction procedure, are qualitatively similar. The coefficient on the “bundling” variable is more significant in these specifications. Although they do not change the second-stage results much, the first-stage selection results are somewhat interesting. We find that the average number of boards that each director serves on is negatively associated with the firm's propensity to restate. This result is consistent with the belief that experienced directors are more effective monitors of management, or with the belief that directors who sit on multiple boards have more incentive to preserve their “reputational capital.” The size of the board (number of directors) and the fraction of directors who are insiders are both positively associated with the likelihood of restating.

Table 9 presents the results of logit regressions in which the dependent variable equals one if the firm became the target of a shareholder class action within six months of the restatement, and zero otherwise. It should be no surprise that firms that saw a sharply negative two-day abnormal return are more likely to be sued. Restatements that are not included in earnings statements, but released on the same day as earnings statements, are associated with a smaller likelihood of shareholder litigation. This variable's effect appears to be stronger and more robust than the dummy for whether the restatement was included in a regular earnings statement. The marginal effects results suggest that firms that bundle their restatements are about one-third less likely to be sued than are other restating firms. Unsurprisingly, we find that higher firm size is associated with a higher likelihood of litigation, a result that supports the ‘deep pockets’ hypothesis described by Field, Lowry, and Shu (2005). There is some weak evidence that a more negative CAR(-20,-1) value is associated with a lower probability of litigation—which would suggest that the leakage strategy is an effective way to discourage litigation—but the coefficient estimates are not significant at conventional levels. There is also some evidence that after controlling for all of these variables and a few others, firms in the

post-*Dura* period were less likely to be sued after issuing a restatement. This result holds when including two controls for the severity of the restatement. It should be mentioned that the results in Table 10 should be taken with an important caveat in mind. The *Two-day abnormal return* variable on the right-hand side may be endogenous, since the stock's return may incorporate investors' worries about the possibility of ensuing litigation.⁹

5.2 Quiet leaking of the information

Our results regarding the information leakage hypothesis are mixed. On one hand, we find evidence that pre-announcement cumulative abnormal returns are on average about negative 1.43 percent (for the Winsorized sample), and that the mean *CAR* estimate is statistically significantly different from zero. Furthermore, using a one-sided t-test against the hypothesis that average returns were lower (more negative) after the *Dura* decision, we find that it is possible to reject the null in favor of the alternative at the ten-percent significance level. This result is consistent with the idea that the *Dura* decision had an effect on pre-announcement abnormal returns, which are generally considered to be driven by information leakage. On the other hand, the cross-sectional regressions of pre-announcement abnormal returns are less supportive of that hypothesis. We do not find that any of our right-hand-side variables have much power for predicting which restating firms are likely to leak information. In particular, we do not find significant evidence that firms in the Eighth and Ninth Circuits' jurisdictions, or large firms, are more likely to experience negative pre-announcement returns. These negative results might suggest that the univariate test results might be driven by factors other than managers' direct responses to the courts' use of the *Dura* standard. At the very least, the results of the univariate tests suggest that pre-announcement negative returns may have become a more serious issue in the last few years than they were at the time of the *Dura* decision in 2005.

6 Discussion

For years, there has been concern in legal and accounting circles that corporate managers could insulate themselves from litigation risk by using certain controversial disclosure strategies. We have examined managers' use of two such strategies: packaging troublesome news with other news, and quietly leaking the troublesome news to the market prior to a disclosing the news formally.

⁹We believe the endogeneity bias to be second-order, considering that expected litigation costs for sued firms are a relatively small fraction of the market capitalization loss that has occurred.

There has long been an intuition among lawyers and academics that mitigating the stock price drop attributable to troubling news may reduce the risk of a shareholder class action occurring. The Supreme Court's decisive ruling in 2005 in the case of *Dura Pharmaceuticals v. Broudo* defined and underscored the requirements for securities class action plaintiffs to establish loss causation. At the time of this Supreme Court case, and since then, concerns about managers' use of questionable disclosure strategies has heightened. Furthermore, the recent studies by Files, Swanson, and Tse (2009) and Myers, Scholz, and Sharp (2010) have found evidence that disclosure venues can affect stock price reactions; furthermore, Files, Swanson, and Tse (2009) show evidence that disclosing a restatement discreetly and quietly can reduce litigation risk. Our results suggest that releasing a restatement transparently, but with other major disclosures to provide distraction or plausible deniability, can achieve these aims as well.

Our empirical investigation finds that prior to the *Dura* decision, large firms and those with strong corporate governance were less likely to package their restatement news with earnings news. However, it appears that after the 2005 Court decision, the firm size effect went away, and large firms were more likely to bundle news than they were before. Furthermore, our results suggest that firms based in the jurisdictions of the Eighth and Ninth Circuits (whose loss causation standards were overturned in *Dura*) changed their disclosure behaviors more. These results are consistent with the belief that large firms are more likely to be targeted in securities class actions, and so large firms' managers are more likely to consider it worth the cost of adopting these disclosure strategies. We then examine whether the pre-announcement movements of stock prices are indicative of some leakage of the sensitive information. Our results for the leakage investigation are mixed, but they do suggest that negative information making its way into stock prices prior to formal announcements may be more of a practical issue now than at the time of the Supreme Court's important *Dura* decision in 2005.

Our results have implications for the empirical literature on restatements, which often assumes that restatements impact the stock price at the time of the announcement and afterward. Policy makers and the courts should also be aware that managers have these news release strategies at their disposal, and that these strategies appear to be effective tools both for protecting the firm's stock price and for discouraging litigation from taking place. Our results may have the normative implication that the courts should relax the *Dura* loss causation pleading requirements if there are multiple pieces of firm-specific news occurring simultaneously or if there is evidence of a pre-announcement

downward drift in the share price. Courts and policy makers should also be aware that managers can and do choose their disclosure strategies to adapt to the litigation environment.

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Table 1: Sample construction and attrition

Data source merged	Reason for dropping observations	# Obs dropped	Obs remaining in sample
Audit Analytics n.r.o.p.			2,689
SEC Edgar	Missing filings data	3	2,686
CRSP	Missing stock price data	681	2,005
Audit Analytics	Missing bal sheet or incm st data	363	1,642
Directors Database Archive	Missing board composition data	155	1,487

Table 2: Industry classifications of firms in restatement sample

sic.industry	No.
Agriculture, mining, and construction	153
Communications	46
Financial services	318
Manufacturing	532
Services	138
Technology	138
Transportation	29
Utilities	77
Wholesale/retail	211
Total	1,642

Table 3: Form in which restatement is announced

Restatement venue	No.
10-K	145.0
10-K/A	108.0
10-Q	83.0
10-Q/A	112.0
10-QT	1.0
10KSB	3.0
10KSB/A	12.0
10QSB	2.0
10QSB/A	6.0
20-F	34.0
20-F/A	19.0
40-F	3.0
40-F/A	7.0
6-K	17.0
8-K	726.0
8-K/A	12.0
ARS	1.0
N-CSR	32.0
N-CSRS	1.0
NT 10-K	41.0
NT 10-Q	49.0
NT 20-F	1.0
NTN 10Q	1.0
Press Release	225.0
S-1	1.0
Total	1,642.0

Table 4: Characteristics of firms in restating sample

Variable	Mean	Std. Dev.	Min.	Max.	N
Market cap (millions USD)	3159.08	16933.79	0.96	386402.06	1642
Market-to-book ratio	6.59	23.8	0	523.29	1642
Assets (millions USD)	9916.61	80115.60	2.47	1908635.25	1642
Audit fees (millions USD)	2.2	6.24	0.01	90.2	1642
Firm is in Fortune 1000	0.2	0.4	0	1	1642
US firm	0.9	0.31	0	1	1642
Firm is in 8th or 9th Circuit	0.28	0.45	0	1	1642
Firm is in 2nd, 3rd, or 11th Circuit	0.25	0.43	0	1	1642
Listed on NYSE	0.4	0.49	0	1	1642
Listed on AMEX	0.08	0.27	0	1	1642
Listed on NASDAQ	0.52	0.5	0	1	1642

Table 5: Restatement-specific variables

Variable	Mean	Std. Dev.	Min.	Max.
Restatement on same day as earnings filing	0.24	0.43	0	1
Restatement included in regular earnings statement	0.17	0.37	0	1
Restatement not in earnings statement but bundled with it	0.08	0.27	0	1
Number of reasons cited for restatement	2.46	1.6	0	13
Multiple SEC filings on restatement day	0.39	0.49	0	1
Year 2003	0.08	0.27	0	1
Year 2004	0.11	0.31	0	1
Year 2005	0.22	0.41	0	1
Year 2006	0.21	0.4	0	1
Year 2007	0.17	0.37	0	1
Year 2008	0.12	0.32	0	1
Year 2009	0.1	0.3	0	1
Post-Dura	0.70	0.46	0	1
Fraud indicated	0.02	0.13	0	1
SEC investigation pending	0.11	0.32	0	1
Restatement has neg effect on books	0.83	0.38	0	1
Restatement improves numbers	0.17	0.38	0	1
Number of quarters restated	9.64	8.89	1	89
CAR(-20,-1)	-0.01	0.15	-0.70	1.15
N		1642		

Clarification of selected variables in Table 5:

“Restatement on same day as earnings filing” means that the restatement announcement occurred on the same day as the filing of a 10-Q or 10-K (or other annual or quarterly earnings filing, such as a 20-F).

“Restatement included in regular earnings statement” refers to restatements that were included in quarterly or annual earnings filings according to the *form* field in the Audit Analytics database.

“Restatement not in earnings statement but bundled with it” refers to restatements that were *not* included in regular earnings filings (e.g. they were disclosed in an 8-K form or a press release, according to the *form* field in Audit Analytics) but were disclosed the same day as a regular earnings filing.

Table 6: Logit regression results, dependant variable = EarningsDay

	L1A b/se	L2A b/se	L3A b/se
Restatement on same day as earnings filing			
Firm is in Fortune 1000	-1.02*** (0.32)		-1.14*** (0.34)
Firm is in 8th or 9th Circuit	-0.73** (0.29)		-0.53* (0.31)
Firm is in 2nd, 3rd, or 11th Circuit	-0.06 (0.27)		-0.11 (0.29)
Circuit89 * Fortune	0.64* (0.37)		0.51 (0.41)
Circuit2311 * Fortune	-0.50 (0.40)		-0.48 (0.43)
Post-Dura	-0.21 (0.20)		-0.04 (0.22)
Post-Dura * Circuit89	0.59* (0.33)		0.61* (0.35)
Post-Dura * Circuit2311	0.09 (0.32)		0.16 (0.34)
Post-Dura * Fortune	1.00*** (0.35)		1.27*** (0.37)
Log audit fees		0.12** (0.05)	0.14*** (0.05)
Restatement required board approval		-1.80*** (0.16)	-1.88*** (0.16)
Outside auditor initiated restatement		0.32** (0.15)	0.28* (0.15)
Firm already had a restatement in previous 3 years		0.15 (0.13)	0.09 (0.13)
Securities class action in past 3 yrs		-0.35 (0.24)	-0.22 (0.24)
Restatement improves numbers		0.30* (0.16)	0.29* (0.16)
Number of reasons cited for restatement		-0.06 (0.04)	-0.04 (0.04)
Number of quarters restated		-0.04*** (0.01)	-0.04*** (0.01)
Constant	-0.85*** (0.17)	-1.80*** (0.61)	-1.91*** (0.69)
N	1642.00	1642.00	1642.00

Figure 1: 8th and 9th Circuit states are in blue; 2nd, 3rd, and 11th Circuit states are in yellow.

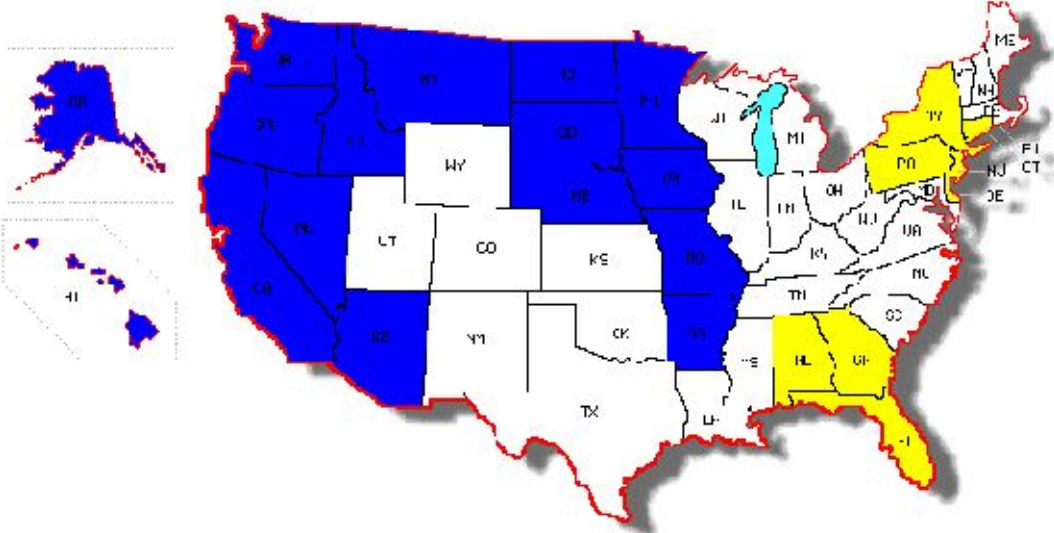


Table 7: Restatement disclosures and immediate stock price reaction, dep var = 2-day abnormal ret

	reg1 b/se	reg2 b/se	reg3 b/se	reg4 b/se
Restatement included in regular earnings statement	0.0243*** (0.0047)	0.0194*** (0.0052)	0.0208*** (0.0054)	0.0195*** (0.0053)
Restatement not in earnings statement but bundled with it	0.0182* (0.0110)	0.0172 (0.0110)	0.0178** (0.0069)	0.0172** (0.0069)
Number of reasons cited for restatement	0.0022 (0.0013)	0.0025* (0.0014)	0.0021* (0.0012)	0.0025** (0.0012)
Fraud indicated	-0.0434* (0.0249)	-0.0425* (0.0248)	-0.0448*** (0.0141)	-0.0429*** (0.0141)
Restatement improves numbers	0.0050 (0.0054)	0.0053 (0.0055)	0.0054 (0.0048)	0.0053 (0.0048)
Number of quarters restated	-0.0002 (0.0002)	-0.0001 (0.0002)	-0.0001 (0.0002)	-0.0001 (0.0002)
Market-to-book ratio	-0.0000 (0.0001)	-0.0000 (0.0001)	-0.0000 (0.0001)	-0.0000 (0.0001)
CAR(-20,-1)	0.0366** (0.0170)	0.0346** (0.0169)	0.0349*** (0.0122)	0.0346*** (0.0122)
Log market cap	0.0002 (0.0010)			
Restatement required board approval		-0.0123** (0.0053)	-0.0109** (0.0049)	-0.0121** (0.0049)
Outside auditor initiated restatement		0.0045 (0.0051)	0.0058 (0.0051)	0.0045 (0.0050)
Firm is in Fortune 1000			0.0031 (0.0076)	0.0011 (0.0046)
Firm is in 8th or 9th Circuit			0.0025 (0.0082)	-0.0029 (0.0044)
Firm is in 2nd, 3rd, or 11th Circuit			0.0007 (0.0082)	-0.0007 (0.0045)
Post-Dura			-0.0041 (0.0065)	
Post-Dura * Fortune			-0.0043 (0.0095)	
Post-Dura * Circuit89			-0.0077 (0.0097)	
Post-Dura * Circuit2311			-0.0020 (0.0098)	
Constant	-0.0237 (0.0196)	-0.0164*** (0.0049)	-0.0136* (0.0070)	-0.0156*** (0.0053)
N	1642.0000	1642.0000	1642.0000	1642.0000
r2	0.0334	0.0374	0.0401	0.0377

Table 8: Restatements and stock price reaction, dep var = 2-day abnormal ret, Heckman 2-step

	H1	H2	H3	H4
	b/se	b/se	b/se	b/se
Two-day abnormal return				
Restatement included in regular earnings statement	0.0212*** (0.0055)	0.0175*** (0.0059)	0.0187*** (0.0059)	0.0175*** (0.0059)
Restatement not in earnings statement but bundled with it	0.0146* (0.0076)	0.0136* (0.0076)	0.0142* (0.0076)	0.0136* (0.0076)
Number of reasons cited for restatement	0.0010 (0.0013)	0.0012 (0.0013)	0.0010 (0.0013)	0.0012 (0.0013)
Fraud indicated	-0.0552*** (0.0160)	-0.0546*** (0.0159)	-0.0556*** (0.0160)	-0.0549*** (0.0160)
Restatement improves numbers	0.0076 (0.0052)	0.0077 (0.0052)	0.0081 (0.0052)	0.0077 (0.0052)
Number of quarters restated	-0.0003 (0.0002)	-0.0003 (0.0002)	-0.0003 (0.0002)	-0.0003 (0.0002)
Market-to-book ratio	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)
CAR(-20,-1)	0.0412*** (0.0136)	0.0406*** (0.0136)	0.0409*** (0.0136)	0.0407*** (0.0136)
Log market cap	0.0002 (0.0013)			
Restatement required board approval		-0.0104* (0.0055)	-0.0088 (0.0055)	-0.0101* (0.0055)
Outside auditor initiated restatement		0.0060 (0.0056)	0.0066 (0.0057)	0.0059 (0.0056)
Firm is in Fortune 1000			0.0048 (0.0082)	-0.0011 (0.0051)
Firm is in 8th or 9th Circuit			-0.0038 (0.0090)	-0.0036 (0.0048)
Firm is in 2nd, 3rd, or 11th Circuit			-0.0045 (0.0091)	-0.0015 (0.0051)
Post-Dura			-0.0042 (0.0072)	
Post-Dura * Fortune			-0.0113 (0.0103)	
Post-Dura * Circuit89			0.0008 (0.0107)	
Post-Dura * Circuit2311			0.0048 (0.0110)	
Constant	-0.0326 (0.0494)	-0.0240 (0.0300)	-0.0204 (0.0314)	-0.0232 (0.0311)
select				
Avg boards per director	-0.0884*** (0.0242)	-0.0884*** (0.0242)	-0.0884*** (0.0242)	-0.0884*** (0.0242)
CEO=Chair	-0.0006 (0.0318)	-0.0006 (0.0318)	-0.0006 (0.0318)	-0.0006 (0.0318)
Number of Directors	0.0490*** (0.0051)	0.0490*** (0.0051)	0.0490*** (0.0051)	0.0490*** (0.0051)
Fraction of insiders on board	0.2757* (0.1471)	0.2757* (0.1471)	0.2757* (0.1471)	0.2757* (0.1471)
Constant	-1.6323*** (0.0955)	-1.6323*** (0.0955)	-1.6323*** (0.0955)	-1.6323*** (0.0955)
mills				
lambda	0.0099 (0.0201)	0.0076 (0.0180)	0.0074 (0.0186)	0.0079 (0.0186)
N	1.06e+04	1.06e+04	1.06e+04	1.06e+04
r2				

Table 9: Logit regression results, dependant variable = Sued

	L1	L2	L3
	b/se	b/se	b/se
sued			
Two-day abnormal return	-17.23*** (1.71)	-17.00*** (1.73)	-17.63*** (1.79)
Restatement included in regular earnings statement	-1.25** (0.61)	-0.86 (0.64)	-0.71 (0.65)
Restatement not in earnings statement but bundled with it	-1.57* (0.83)	-1.53* (0.84)	-1.40* (0.83)
Number of reasons cited for restatement	0.12* (0.07)	0.11 (0.07)	0.12 (0.08)
Fraud indicated	0.02 (0.62)	-0.02 (0.62)	-0.06 (0.63)
Restatement improves numbers	-0.94* (0.48)	-0.98** (0.48)	-0.94* (0.50)
Number of quarters restated	0.02* (0.01)	0.01 (0.01)	0.02 (0.01)
Log market cap	0.46*** (0.07)	0.47*** (0.08)	0.51*** (0.09)
CAR(-20,-1)	1.14 (0.82)	1.20 (0.83)	1.28 (0.82)
Restatement required board approval		0.41 (0.38)	0.41 (0.40)
Outside auditor initiated restatement		0.64 (0.46)	0.74 (0.47)
Post-Dura			-0.83* (0.43)
Firm is in 8th or 9th Circuit			0.59 (0.47)
Firm is in 2nd, 3rd, or 11th Circuit			-0.70 (0.69)
Post-Dura * Circuit89			0.39 (0.59)
Post-Dura * Circuit2311			0.85 (0.83)
Post-Dura * Fortune			-0.12 (0.40)
Constant	-13.33*** (1.58)	-14.39*** (1.69)	-15.10*** (2.00)
N	1642.00	1642.00	1642.00

Table 10: t-test on cumulative abnormal returns at $t = -1$

Group	obs	mean	std. error
pre- <i>Dura</i>	408	-0.0086	0.005
post- <i>Dura</i>	951	-0.017	0.0038
Combined sample	1359	-0.0143	0.0031
Difference		0.0081	0.0063
$H_0 : \text{Difference} = 0$			
$H_A : \text{Difference} > 0$			
$Pr(T > t) : 0.098$			

Figure 2: Cumulative abnormal returns, pre- and post-*Dura*

