

## Debtholders' Demand for Conservatism: Evidence from Changes in Directors' Fiduciary Duties

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Received 24 May 2012; accepted 31 August 2014

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### ABSTRACT

Debtholders' demand has been widely discussed as a key determinant of conservatism but clear causal evidence is not yet established. Using a natural experiment setting, wherein a Delaware court ruled that the fiduciary duties of directors in near insolvent Delaware companies extend to creditors, we predict and find that firms subject to the ruling significantly increased their accounting conservatism. In addition, our results suggest that the increase in conservatism is more pronounced in near insolvent Delaware firms with stronger boards, confirming that the court ruling takes effect through the channel of the board of directors. Our results are robust to using alternative

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Accepted by Christian Leuz. We appreciate helpful comments from an anonymous referee, Ron Allen, Bill Baber, Augustine Duru, Keith Jones, Gopal Krishnan, Tao Ma, Xiumin Martin, Sarah Nutter, Sugata Roychowdhury, Partha Sengupta, Phil Shane, Min Shen, Anup Srivastava, Gnanakumar Visvanathan, Regina Wittenberg-Moerman, Fei Xie, and workshop participants at American University, George Mason University, University of Illinois at Chicago, Suffolk University, and 2012 Virginia Accounting Research Conference. Long Chen acknowledges the summer research grants from George Mason University's Provost Office and School of Business. Mikhail Pevzner acknowledges the assistance of Ernst and Young Chair in Accounting at the University of Baltimore. We thank Larry Friedman and Hui Zhang for their insights on corporate law. An online appendix to this paper can be downloaded at <http://research.chicagobooth.edu/arc/journal-of-accounting-research/online-supplements>.

measures of conservatism and near insolvency status, and controlling for potential confounding factors and other stakeholders' demand for conservatism. Overall, our study provides empirical evidence to support the causal relation between debtholders' demand and accounting conservatism previously suggested in the literature, and offers some insights into the role of the board of directors in financial reporting.

**JEL codes:** M41; G34; K20

**Keywords:** Conservatism; fiduciary duties; near insolvency; board governance

### 1. Introduction

Research on accounting conservatism posits that demand from lenders is the main reason why firms adopt conservative accounting policies (Watts [2003]). Supporting evidence for this conjecture is primarily based on documented associations between conservatism and various characteristics of debt contracting (e.g., Ahmed et al. [2002], Ball and Shivakumar [2005], Beatty, Weber, and Yu [2008], Zhang [2008]), but most of them are not of a causal nature, raising the question of whether conservatism is indeed demanded by debtholders. Moreover, conservatism could also be excessive and thus inefficient for firms and even detrimental to debtholders, which appears to conflict with the presumption that debtholders would always demand conservatism. For instance, too much conservatism may result in tighter debt covenants leading to premature transfer of decision rights to debtholders, which might unduly constrain a firm's investment and financing policies (Leuz [2001]). Also, excessive conservatism may allow managers to create hidden reserves, which may be reversed in the future at the discretion of shareholders (Leuz [1998]). To help resolve this ambiguity on debtholder preferences, we exploit an important legal event to identify a causal link between debtholders' demand and accounting conservatism.

A 1991 Delaware court in the ruling of *Credit Lyonnais Bank v. Pathe Communications* (hereafter "the court ruling") expanded the scope of directors' fiduciary duties to include creditors when a Delaware incorporated firm is in the "vicinity of insolvency." The fact that the court ruling had no judgment on financial reporting per se, combined with the natural event setting, which helps mitigate the issue of confounding factors, makes it possible to attribute any post-ruling change in conservatism by near insolvent Delaware companies to debtholders' demand for conservatism.<sup>1</sup>

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<sup>1</sup> The idea is that the court ruling provides an exogenous change in fiduciary duties, which in turn should affect firms' supply of conservative accounting. This exogenous variation allows us to identify debtholders' demand for conservatism. If the shift in supply leads to no change in conservatism, this suggests that the demand for conservatism is either fully inelastic (which is implausible) or absent, which is the null for our tests.

We use a difference-in-differences research design to capture the differential post-ruling changes in financial reporting conservatism between firms near insolvency and away from insolvency and between firms incorporated in and outside the State of Delaware. We employ a firm-year specific composite score as our main measure of conservatism and supplement it with the asymmetric timeliness models of Basu [1997] and Ball and Shivakumar [2006]. Overall, we find that, in the immediate period following the court ruling in 1991, financial reporting conservatism significantly increased for near insolvent Delaware firms. The results indicate that, in response to their increased fiduciary obligations to creditors, directors of firms subject to the court ruling influence managers to adopt more conservative financial reporting.

We further examine the role of board characteristics on the effect of the court ruling since this legal event increased the fiduciary duties of individual directors, thereby establishing a firm's board as the primary channel through which any response to the ruling should occur. Our finding of a more pronounced increase in conservatism for near insolvent Delaware firms with stronger boards provides additional support to our argument that the observed changes in conservatism are driven by the court ruling.

We conduct a number of additional analyses to test the robustness of our findings. Our results hold after controlling for confounding factors like real actions that firms can take as they become distressed, large negative write-offs, covenant violations and bankruptcies, and other stakeholders' demand for conservatism. To account for the effect of fluctuating firm performance, we rerun our main test on a performance-matched sample, a subsample that holds a firm's near insolvency status constant, and a shortened sample period during which firms are less likely to change their near insolvency status. We also address possible selection biases on account of state of incorporation choice and the level of default risk. Our main results remain significant and consistent across all supplemental tests.

Our study makes a number of contributions. First, it establishes a clear causal link between debtholders' demand and accounting conservatism. Prior studies have struggled to provide causal evidence on debtholders' demand for conservatism due to potential confounding factors that may also contribute to a firm's decision to adopt more accounting conservatism.<sup>2</sup> We use an exogenous shock of a legal event, which expanded fiduciary duties of directors to include creditors, as a mechanism to examine whether debtholders indeed demand conservatism. This natural setting significantly mitigates endogeneity concerns and makes it easier to attribute changes in conservatism around the event to debtholders' demand. Second, our findings of a more pronounced increase in conservatism for firms with stronger

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<sup>2</sup> Gormley, Kim, and Martin [2012] exploit an exogenous regulatory change in the Indian banking industry. They document that foreign bank entry is associated with more timely loss recognition, and this change appears to be driven by a shift in firms' incentives to supply additional information to lenders.

boards suggest that the effect of the court ruling on accounting conservatism comes through the channel of the board of directors. These results also add to our understanding of the role of directors in corporate financial reporting. Last, consistent with Bushman and Piotroski [2006], our study provides additional support to the premise that judicial decisions and the associated litigation risk can have a significant impact on a company's financial reporting decisions.

This paper is subject to two limitations. First, any variable that purports to capture "vicinity of insolvency" will be noisy due to lack of a precise legal definition of the concept. We attempt to mitigate this possible measurement error by using multiple proxies for near insolvency status. Second, our sample may include firms that either have violated certain debt covenants or are severely distressed. In such situations, debtholders may have already been actively engaged in business decisions and pushing for more conservatism. To rule out the confounding effects of covenant violations, we control for debt covenant violations in a subsample of firms with available hand-collected data on covenant violations and find robust results. In addition, in our main analyses, we also constrain the sample to near insolvent firms and find a significantly larger increase in conservatism for such firms that are incorporated in Delaware, thus ruling out financial distress as an alternative explanation for the observed results.

The rest of the paper is organized as follows. We develop hypotheses in section 2 and present regression models in section 3. In sections 4 and 5, we discuss sample data and elaborate on the empirical results respectively. Section 6 presents sensitivity analyses and section 7 concludes.

## 2. *Motivation and Hypotheses*

### 2.1 EXOGENOUS SHOCK TO FIDUCIARY DUTIES OF DIRECTORS

Delaware is a popular state of incorporation, as evidenced by the fact that more than 50% of publicly traded companies in the United States have opted to register in that state under the Delaware General Incorporation Law ([corp.delaware.gov](http://corp.delaware.gov)). As a result of choosing to incorporate in Delaware, businesses are subject to the jurisdiction of Delaware courts and are bound by their rulings and legal interpretations.<sup>3</sup> Under common law, directors have fiduciary responsibilities to exercise due care, to demonstrate loyalty, and to act in good faith. It is commonly accepted that the fiduciary duties of directors are owed primarily to shareholders in financially healthy firms, and a number of Delaware court rulings have supported this common law belief.<sup>4</sup>

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<sup>3</sup> For example, see *McDermott, Inc. v. Lewis*, 531 A.2d 206, 215–17, Del. 1987 and reaffirmed again in *Examen, Inc. v. Vantageport Venture Partners*, 873 A.2d 318, 320, Del. Ch. 2005.

<sup>4</sup> For example, see *Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.*, 506 A.2d 173, Del. 1986; *Katz v. Ak Industries*, 508 A.2d 873, 880, Del. Ch. 1986. More recently, in the case of *North*

But the circumstances changed for near insolvent Delaware firms as a result of a court ruling in one landmark case, *Credit Lyonnais Bank Nederland, N.V. v. Pathe Communications Corp.* (C.A. No. 12150, 1991 WL 277613). The dispute involved the actions of the CEO and executive committee of directors appointed at the behest of a major creditor of MGM Corporation, Credit Lyonnais Bank Nederland, as part of a corporate governance agreement. MGM's controlling stockholder, Pathe Communications, sued the board for breach of fiduciary duties to shareholders and favoring creditors' interests when the executive committee rejected Pathe's request to sell certain assets. The court ruled that the board had acted in the interests of the company and observed, "Where a corporation is operating in the vicinity of insolvency, a board of directors is not merely the agent of the residual risk-bearers, but owes its duty to the corporate enterprise." The judge further elaborated by way of an example in a separate annotation (footnote 55) that:

The possibility of insolvency can do curious things to incentives, exposing creditors to risks of opportunistic behavior and creating complexities for directors... Such directors will recognize that in managing the business affairs of a solvent corporation in the vicinity of insolvency, circumstances may arise when the right (both the efficient and the fair) course to follow for the corporation may diverge from the choice that the stockholders (or the creditors, or the employees, or any single group interested in the corporation) would make if given the opportunity to act.

The footnote gained a fair amount of attention in the business press and among corporate law scholars.<sup>5</sup> The consensus was that, as a result of the court ruling, the scope of fiduciary duties of directors of Delaware firms was expanded to include creditors when a firm approached insolvency (Varallo and Finkelstein [1992], Barondes [1998], Dionne [2007]).<sup>6</sup> While the phrase "vicinity of insolvency" does not refer to an insolvency or bankruptcy status, there is no legal definition of the term.<sup>7</sup> Nevertheless, the newly introduced firm status brought an additional dimension to

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*American Catholic Educational Programming Foundation, Inc. v. Ghezwalla*, 930 A.2d 92, 99 (Del. 2007), the Delaware Supreme Court stated that "it is well established that the directors owe their fiduciary obligations to the corporation and its shareholders."

<sup>5</sup> Becker and Stromberg [2012] find that, in just three months after the court ruling (November 1991 to January 1992), the Credit Lyonnais case was covered 62 times in the mainstream press and newswires. It also received extensive attention in the legal community with over 150 law review citations through mid-2006 (Hu and Westbrook [2007]).

<sup>6</sup> Our reading of many subsequent court cases that referred to the Credit Lyonnais case suggests that the focus was almost always on creditors' claims (e.g., see *Geyer v. Ingersoll Publications*, Delaware, 1992). Hence, even though the Credit Lyonnais case technically referred to all stakeholders (such as employees), the interpretation of the court ruling anchored on creditors. For example see, *Official Committee of Unsecured Creditors v. Reliance Capital Group, Inc.*, 1994; *Weaver v. Kellogg*, 1997; *Medlin v. Wells Fargo Bank*, 2007.

<sup>7</sup> Judicial courts and legal scholars have not provided a precise definition of the phrase "vicinity of insolvency." It is also uncertain as to when or how a firm enters the indeterminate

directors' fiduciary obligations and increased their legal exposure. Therefore, directors in near insolvent firms would be more likely to consider debtholder interests after the court ruling became effective.

## 2.2 THE COURT RULING AND ACCOUNTING CONSERVATISM

Conservative accounting constrains upward valuations of net assets and cumulative earnings, and consequently it helps mitigate wealth appropriations by lower order claimants (Watts [2003]). Basu [1997] and Ball and Shivakumar [2005] further suggest that external parties, such as debtholders, are likely to demand more timely disclosure of bad news to offset managers' incentive to disclose good news early. Prior research has relied on this accounting principle to conjecture that conservatism is mainly driven by debtholders' demand. While this conjecture is plausible, the extant empirical findings are in general not of a causal nature and thus make it difficult to rule out the possibility that conservatism is driven by factors other than debtholders' demand. In addition, potential negative effects of excessive conservatism cast further doubt on whether conservatism indeed benefits debtholders.<sup>8</sup> Therefore, it is empirically challenging to identify a setting where a causal link can be established between debtholder preferences and conservatism.

A Delaware court in 1991 introduced a new "vicinity of insolvency" status wherein the fiduciary obligations of directors were expanded to include creditors. This natural event allows us to identify a clear causal link between debtholder preferences and conservatism. The court ruling gave creditors the ability to sue directors of near insolvent companies for breach of fiduciary obligations if actions taken by board members were viewed as either too risky or too shareholder friendly. Creditors, especially those lending to near insolvent Delaware firms, should favor conservative accounting as it induces timely recognition of losses while imposing a higher level of verifiability requirement for gains (Ryan [2006]).<sup>9</sup> Consequently, given the expanded fiduciary duties to creditors after the court ruling, directors of near insolvent Delaware firms could influence management to adopt more accounting conservatism to meet the preference of debtholders and thus mitigate the increased litigation risk on account of directors' new fiduciary duties to creditors.

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zone of insolvency. Throughout this paper, we use the term "near insolvent" or "near insolvency" to capture the underlying principle in the Credit Lyonnais court ruling.

<sup>8</sup> For instance, future reversals of current period accruals on account of conservatism may be used at the discretion of managers and shareholders to transfer wealth, such as distributing debt- and liquidation-financed dividends, particularly when the firm is struggling (Leuz [1998], Leuz [2001]).

<sup>9</sup> Early recognition of losses would constrain managers from engaging in overinvestments during acquisitions (Francis and Martin [2010]), encourage early abandonment of loss making projects (Srivastava, Tse, and Sunder [2010]), and prevent value expropriation during unfavorable economic periods (Nikolaev [2010]).

Under Delaware laws, directors are usually protected by the business judgment rule for actions taken in the best interests of the corporation, and companies are required to indemnify directors for expenses arising out of third party legal proceedings brought against the directors as long as they act in good faith; also, Directors' and Officers' (D&O) liability insurance provides additional protection. However, as firms approach insolvency, directors' litigation concerns increase because struggling companies may not be able to provide indemnification, thus exposing directors to personal liability in the event of lawsuits. Moreover, if directors fail in their fiduciary duties, companies cannot indemnify directors and D&O insurance may not pay for damages either (Dickey et. al [2003]).<sup>10</sup>

A recent study by Becker and Stromberg [2012] offers a possible contradicting view. The authors find that the court ruling led to a reduction in risk-taking in near insolvent Delaware firms as well as their greater willingness to invest in projects that likely benefit both shareholders and debtholders. In other words, the Becker and Stromberg [2012] study suggests that the increased fiduciary duties of directors in near insolvent Delaware firms significantly mitigated shareholder-debtholder conflicts. Following this line of reasoning, with new claims arising from fiduciary duties of directors, creditors may no longer need to rely on financial reporting conservatism to protect their interests and this could result in a lower demand for accounting conservatism from lenders. Consequently, it is possible that near insolvent Delaware firms may exhibit no change (or even a reduction) in financial reporting conservatism following the court ruling.

However, based on the discussions, the reasons to expect higher conservatism after the Delaware court ruling are more persuasive and hence we propose the following hypothesis (stated in alternative form):

*H1: Near insolvent Delaware firms increase accounting conservatism after the 1991 Delaware court ruling.*

### 2.3 ROLE OF BOARD CHARACTERISTICS IN THE EFFECT OF COURT RULING ON ACCOUNTING CONSERVATISM

The court ruling directly impacts the fiduciary obligations of directors and therefore the board of directors serves as a channel through which the court ruling should take effect. Prior literature documents that board characteristics like the presence of outsiders or specialists strengthen board governance, because those directors have higher reputational concerns, are less likely to be controlled by shareholders, and are more effective in

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<sup>10</sup> Judicial courts have held directors personally liable for providing misleading information and gross negligence (e.g., see *Escott v. Barchris Constr. Corp.* 283 F. Supp. 643, S.D.N.Y. 1968 and *Smith v. Van Gorkom* 488 A.2d 858, 3 EXC 112, Del. 1985). More recently, directors of Enron and Worldcom paid out of their pockets as part of the settlement (see *In re Enron Corp., Sec., Derivative & ERISA Litig.*, 391 F. Supp. 2d 541, S.D. Tex. 2005 and *In re WorldCom, Inc. Sec. Litig.*, 388 F. Supp. 2d 319, S.D. N.Y. 2005).



monitoring financial reporting decisions (Ahmed and Duellman [2007], Krishnan and Visvanathan [2008], Cohen et al. [2014]).<sup>11</sup> Therefore, if the observed changes in conservatism in near insolvent Delaware firms are due to the effects of the court ruling, we expect firms with stronger boards to be more likely to respond to the expanded fiduciary obligations implied by the court ruling and pay more attention to debtholder interests, which would result in a more pronounced change in conservatism among near insolvent Delaware firms with stronger boards.

### 3. *Research Design*

This section presents the discussion on variable measurement, empirical model specifications, and estimation methods. Detailed definitions of all key variables are given in the appendix.

#### 3.1 EFFECT OF THE COURT RULING ON ACCOUNTING CONSERVATISM

We follow a difference-in-differences approach across three dimensions, namely, state of incorporation, near insolvency status, and court ruling period to explore the differential post-ruling changes in conservatism across treatment and control groups. Specifically, we first examine (i) the pre-post difference in conservatism for near insolvency firms in Delaware versus in other states and (ii) the pre-post difference in conservatism for Delaware near insolvent versus Delaware non-near insolvent firms; and we then (iii) combine the two approaches (both of which are imperfect due to nonrandomness of treatment/control group assignment) and perform a double difference-in-differences test, whereby we allow for cross-sectional variations in both a firm's Delaware incorporation status and its near insolvency status. This empirical design is equivalent to teasing out the effect of the court ruling in two steps: isolating the effect of the ruling on conservatism attributable to state of incorporation and to near insolvency status, and comparing this effect in pre- and post-court-ruling periods.

Our primary dependent variable is an estimate of firm-year level conservatism score similar to that of Beatty, Weber, and Yu [2008] and Zhang [2008]. We focus on a composite measure since accounting conservatism is multifaceted (Ryan [2006]) and litigation risk induces both conditional and unconditional conservatism (Beaver and Ryan [2005], Qiang [2007]). A composite measure also helps avoid generalizability and estimation problems associated with any single measure of conservatism.

To test our hypothesis, we estimate the following regression model using the firm-year-specific conservatism score:

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<sup>11</sup> Ahmed and Duellman [2007] state that "Because stronger boards are likely to be more proficient at efficient contracting and understand the benefits of conservatism they are likely to demand more conservative accounting" (p. 415).



$$\begin{aligned}
CRANK\_ALL = & \beta_0 + \beta_1 DEL + \beta_2 HEDF93 + \beta_3 DEL \times HEDF93 \\
& + \beta_4 POST + \beta_5 POST \times DEL + \beta_6 POST \times HEDF93 \\
& + \beta_7 POST \times DEL \times HEDF93 + \beta_{8-13} Control\ Variables \\
& + Industry\ Dummies + Year\ Dummies + e,
\end{aligned} \tag{1}$$

where *CRANK\_ALL* is a composite conservatism measure equal to the average decile ranks of three conservatism proxies identified in prior studies: (i) *C\_ACCR*, that is, negative non-operating accruals, calculated as  $(-1) \times$  the average of non-operating accruals scaled by total assets over a five-year window (with a minimum of two years) centered in the observation year  $t$ , (ii) *C\_SKEW*, which is relative skewness of earnings versus cash flows, calculated as  $(-1) \times$  skewness of earnings scaled by skewness of cash flows over a 20-quarter window (with a minimum of five quarters) centered in the observation year  $t$ ,<sup>12,13</sup> and (iii) *C\_PZ* for the unrecorded reserves on the balance sheet at the end of the observation year based on Penman and Zhang [2002].<sup>14</sup> *CRANK\_ALL* incorporates different aspects of conservatism: conditional conservatism proxied by negative non-operating accruals and relative skewness measure, as well as adoption of unconditional accounting

<sup>12</sup> Conservatism results in persistently negative accruals, while the rate of accumulation of negative non-operating accruals indicates the degree of conservatism (Givoly and Hayn [2000]). Averaging over a number of periods mitigates the impact of any temporary large accruals on conservatism measurement, as accruals tend to reverse within two years (Richardson et al. [2005]). In addition, measuring over a five-year window centered in year  $t$ , that is  $[t-2, t+2]$ , ensures that the transitory component in year  $t$ 's non-operating accruals is reversed by year  $t+2$ , while the noise with reversal of temporary large accruals from  $t-2$  through  $t-1$  can also be removed. Last, choosing the measurement window centered in year  $t$  (as in Ahmed and Duellman [2007], Krishnan and Visvanathan [2008]) instead of up to year  $t$  (as in Zhang [2008], Beatty, Weber, and Yu [2008]), facilitates the appropriate lead-lag model specification since we measure the determinants of conservatism in year  $t-1$ .

<sup>13</sup> In additional analyses, we measure *C\_ACCR* and *C\_SKEW* over either a five-year window centered in year  $t+1$  or a three-year window centered in year  $t$ , and still find a positive effect of the court ruling on conservatism when conservatism is measured as negative non-operating accruals, relative earnings skewness, and the composite conservatism measure (see online appendix table A1).

<sup>14</sup> Specifically, *C\_PZ* is calculated as the sum of (i) LIFO reserve as reported in the observation year  $t$ 's financial statement, (ii) R&D reserve that would have been on the balance sheet at the end of the observation year  $t$  if R&D expenditures had been capitalized and amortized using the industry coefficients estimated by Lev and Sougiannis [1996], and (iii) advertising reserves that would have been on the balance sheet at the end of the observation year  $t$  if advertising expenditures had been capitalized and amortized using a sum-of-the-year's digits method over two years, deflated by net operating assets. We include PZ score to capture the variations in unconditional conservatism, as firms have discretion to change their inventory accounting method, to capitalize direct response advertising, and to capitalize costs of internally developed software that reached a state of technological feasibility, that is, R&D expenditure. We also test the robustness of our results by dropping PZ score from the composite conservatism measure and the inferences remain the same (see online appendix table A2).

conservatism through unrecorded reserves, which result in lower reported net income (PZ score).<sup>15</sup>

The court ruling applies only to Delaware-incorporated firms near insolvency. Since there is no legal definition of the term “near insolvency,” we follow Becker and Stromberg [2012] in using Estimated Default Frequency (EDF) based on the probability transformation of “distance-to-default” developed by Merton [1974] to develop our measure of near insolvency.<sup>16</sup> We construct the near insolvency indicator *HEDF93* based on the 1993 EDF score, because 1993 is the first post-transition full year in our analysis when the ruling became effective.<sup>17</sup> *HEDF93* is a dichotomous variable equal to one if a firm’s 1993 EDF score is in the top quartile of its distribution, and zero otherwise. Consistent with Becker and Stromberg [2012], *HEDF93* only varies cross-sectionally in our models, as we need to fix the status of near insolvency at the 1993 level in order to conduct the difference-in-differences analyses.<sup>18</sup>

Other variables in the model are defined as follows. *DEL* is a dichotomous variable equal to one if the firm is incorporated in the State of Delaware, and zero otherwise. *POST* is a dichotomous variable equal to one for the post-ruling period defined as 1993–1996 and zero for the pre-ruling period of 1988–1991.<sup>19</sup> We include natural log of market value of equity (*LNMVE*) in our regression model to control for the effect of firm size on financial reporting conservatism as the literature provides arguments for either a positive or negative association of firm size with conservatism.<sup>20</sup> The control for firms’ leverage (ratio of total liabilities to total assets, *LEV*) captures creditors’ overall demand for conservatism (Ahmed et al. [2002]). In addition, we include book-to-market ratio (*BTM*) and asset growth (*GROWTH*) to

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<sup>15</sup> We do not include C-score in our composite measure because C-score would capture changes in firm characteristics following the regime change, which need not have anything to do with conservatism in our setting. We thank the anonymous referee for pointing this out.

<sup>16</sup> We thank Tyler Shumway for sharing the SAS program to calculate EDF scores ([www-personal.umich.edu/~shumway/papers.dir/nuiter99-print.sas](http://www-personal.umich.edu/~shumway/papers.dir/nuiter99-print.sas)).

<sup>17</sup> The judge passed his ruling on November 6, 1991, and the case was finally decided on December 30, 1991.

<sup>18</sup> A fundamental assumption with the definition of *HEDF93* is that the sample firms’ status of near insolvency does not change throughout the sample period. In supplemental analyses, we test the validity of this assumption by constraining our sample to firms that are near insolvent throughout the whole sample period and by shortening the pre- and post-ruling periods so that the near insolvency status is less likely to change (online appendix A15).

<sup>19</sup> Our pre-ruling period begins in 1988 because 1988 is the first year in which operating cash flows data become widely available in Compustat, and this variable is required to estimate two-dimensional conservatism measures, that is, negative non-operating accruals (*CACCR*) and relative earnings skewness (*C\_SKEW*). We exclude year 1992 from our analysis because the ruling was passed at the end of 1991, and it is unlikely to be fully implemented during the transition year of 1992.

<sup>20</sup> Political costs hypothesis suggests a positive association, while income aggregation and information asymmetries hypothesis suggests a negative association between conservatism and firm size (LaFond and Watts [2008]).

control for the effects of firms' growth prospects on their financial reporting conservatism. High growth firms could prefer less conservative accounting because of greater pressures to present better accounting and stock performance (Ahmed and Duellman [2013]). To capture the effect of a greater demand for conservatism from firms in more litigious industries, we include a dichotomous variable for high-litigation industries, *LITIG* (Watts [2003], Khan and Watts [2009]). Finally, we also control for institutional ownership *INSTOWN* since prior research shows that institutional investors demand a higher level of accounting conservatism to ensure more efficient investment allocation (Ahmed and Duellman [2007], Ramalingagowda and Yu [2012]). Consistent with prior literature, we measure all control variables at the beginning of the year with all continuous variables winsorized at 1% and 99%. We cluster standard errors in all models by firm and year.<sup>21</sup> The primary focus of our analysis is  $\beta_7$ , which is predicted to be positive, that is, we expect near insolvent Delaware firms to experience an increase in conservatism in the post-ruling period.

### 3.2 ROLE OF BOARD CHARACTERISTICS IN THE EFFECT OF COURT RULING ON ACCOUNTING CONSERVATISM

To corroborate our findings in section 3.1, we explore board characteristics identified in prior literature to examine the role of board characteristics in the adoption of accounting conservatism. We create a composite measure of board governance, *BSCORE*, that is equal to the sum of the four dichotomous variables, namely: board size (*D\_SMBRD*), board independence (*D\_MAJIND*), board accounting expertise (*D\_ACCEXP*), and board industry expertise (*D\_INDEXP*). *D\_SMBRD* is a dichotomous variable equal to one if the total count of directors on the board is smaller than the sample median of eight members and zero otherwise. Similar to Ajinkya, Bhojraj, and Sengupta [2005], we measure board independence (*D\_MAJIND*) as a dichotomous variable equal to one if more than 50% of directors on the board are independent, and zero otherwise. *D\_ACCEXP* is measured as a dichotomous variable equal to one if at least one independent director on the board has accounting expertise, and zero otherwise.<sup>22</sup> We define *D\_INDEXP* as a dichotomous variable equal to one if at least one independent director on the board has industry expertise, defined as any prior experience in another firm that operates in the same two-digit primary SIC industry, and zero otherwise (Faleye, Hoitash, and Hoitash [2012]). To examine how the board of directors could serve as a channel for the court ruling, we estimate

<sup>21</sup> In an additional analysis, we also cluster standard errors of the main model by firm and find the effect of ruling on the composite conservatism measure, *CRANK\_ALL*, is still positive and significant (the coefficient on  $POST \times DEL \times HEDF93 = 0.489$ ,  $t\text{-stat} = 3.10$ ). We present this result in online appendix table A3.

<sup>22</sup> Following Defond, Hann, and Hu [2005], we define accounting financial experts as directors with experience as a certified public accountant, auditor, principal/chief financial officer, controller, or principal/chief accounting officer.

the following equation:

$$\begin{aligned}
 CRANK\_ALL = & \beta_0 + \beta_1 DEL + \beta_2 HEDF93 + \beta_3 DEL \times HEDF93 \\
 & + \beta_4 BSCORE + \beta_5 BSCORE \times DEL + \beta_6 BSCORE \times HEDF93 \\
 & + \beta_7 BSCORE \times DEL \times HEDF93 + \beta_{8-13} Control\ Variables \\
 & + Industry\ Dummies + Year\ Dummies + e.
 \end{aligned} \tag{2}$$

### 3.3 MEASURING ACCOUNTING CONSERVATISM USING ASYMMETRIC TIMELINESS MODELS

*3.3.1. Asymmetric Timeliness of Earnings.* In addition to our primary year-specific conservatism measure, we estimate cross-sectional conditional conservatism (asymmetric timeliness) models modified to capture the effects of the court ruling on near insolvent Delaware firms. First, we estimate the following regression based on Basu [1997] asymmetric timeliness of earnings model<sup>23</sup>:

$$\begin{aligned}
 X/P = & \beta_0 + \beta_1 RET + \beta_2 D + \beta_3 D \times RET + \beta_4 POST + \beta_5 POST \times RET \\
 & + \beta_6 POST \times D + \beta_7 POST \times D \times RET + [\beta_8 HEDF93 + \beta_9 HEDF93 \\
 & \times RET + \beta_{10} HEDF93 \times D + \beta_{11} HEDF93 \times D \times RET + \beta_{12} HEDF93 \\
 & \times POST + \beta_{13} HEDF93 \times POST \times RET + \beta_{14} HEDF93 \times POST \times D \\
 & + \beta_{15} HEDF93 \times POST \times D \times RET] + [\beta_{16} DEL + \beta_{17} DEL \times RET \\
 & + \beta_{18} DEL \times D + \beta_{19} DEL \times D \times RET + \beta_{20} DEL \times POST + \beta_{21} DEL \\
 & \times POST \times RET + \beta_{22} DEL \times POST \times D + \beta_{23} DEL \times POST \times D \times RET] \tag{3} \\
 & + [\beta_{24} HEDF93 \times DEL + \beta_{25} HEDF93 \times DEL \times RET + \beta_{26} HEDF93 \\
 & \times DEL \times D + \beta_{27} HEDF93 \times DEL \times D \times RET + \beta_{28} HEDF93 \times DEL \times POST \\
 & + \beta_{29} HEDF93 \times DEL \times POST \times RET + \beta_{30} HEDF93 \times DEL \times POST \times D \\
 & + \beta_{31} HEDF93 \times DEL \times POST \times D \times RET] + Control\ Variables \\
 & + Control\ Variables \times RET + Control\ Variables \times D + Control\ Variables \times D \\
 & \times RET + Industry\ Dummies + Year\ Dummies + e,
 \end{aligned}$$

where  $X/P$  is a firm's earnings per share deflated by the beginning of the year price,  $RET$  is a firm's buy-and-hold annual stock return, and  $D$  is a dichotomous variable equal to one if  $RET$  is negative and zero otherwise. In addition to the six control variables used in model (1), that is, size

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<sup>23</sup> One caveat with using asymmetric timeliness of earnings as a conservatism measure in our setting is that its construction uses market returns, while market prices possibly respond to the court ruling and may embed an expectation of what the firm will do in response to the ruling. This is the primary reason why we rely on several conservatism proxies in our study.

(*LNME*), leverage (*LEV*), book-to-market (*BTM*), growth (*GROWTH*), litigation risk (*LITIG*), and institutional ownership (*INSTOWN*), we also control for stock return volatility (*STDRET*) and natural log of stock price (*LNPRC*) because these variables have been shown to mitigate biases in the Basu [1997] model (Ball, Kothari, and Nikolaev [2013]). We measure all control variables at the beginning of the year. To control for possible confounding effects of these control variables on the cross-sectional variation in asymmetric timeliness, we include a full set of interaction terms of these control variables with *D*, *RET*, and our primary variable of interest *D*×*RET*.<sup>24</sup> Our hypothesis predicts that  $\beta_{31}$  is positive and significant, that is, near insolvent Delaware firms experience a large increase in asymmetric timeliness of earnings in the post-ruling period.

**3.3.2. Asymmetric Timeliness of Accruals.** Following Ball and Shivakumar [2006], we also run an accrual-based conditional conservatism model as follows:

$$\begin{aligned}
 ACCR = & \beta_0 + \beta_1 CF + \beta_2 DCF + \beta_3 DCF \times CF + \beta_4 POST + \beta_5 POST \times CF \\
 & + \beta_6 POST \times DCF + \beta_7 POST \times DCF \times CF + [\beta_8 HEDF93 + \beta_9 HEDF93 \\
 & \times CF + \beta_{10} HEDF93 \times DCF + \beta_{11} HEDF93 \times DCF \times CF + \beta_{12} HEDF93 \\
 & \times POST + \beta_{13} HEDF93 \times POST \times CF + \beta_{14} HEDF93 \times POST \times DCF \\
 & + \beta_{15} HEDF93 \times POST \times DCF \times CF] + [\beta_{16} DEL + \beta_{17} DEL \times CF \quad (4) \\
 & + \beta_{18} DEL \times DCF + \beta_{19} DEL \times DCF \times CF + \beta_{20} DEL \times POST + \beta_{21} DEL \\
 & \times POST \times CF + \beta_{22} DEL \times POST \times DCF + \beta_{23} DEL \times POST \times DCF \times CF] \\
 & + [\beta_{24} HEDF93 \times DEL + \beta_{25} HEDF93 \times DEL \times CF + \beta_{26} HEDF93 \times DEL \\
 & \times DCF + \beta_{27} HEDF93 \times DEL \times DCF \times CF + \beta_{28} HEDF93 \times DEL \times POST \\
 & + \beta_{29} HEDF93 \times DEL \times POST \times CF + \beta_{30} HEDF93 \times DEL \times POST \times DCF \\
 & + \beta_{31} HEDF93 \times DEL \times POST \times DCF \times CF] + Control\ Variables \\
 & + Control\ Variables \times CF + Control\ Variables \times DCF \\
 & + Control\ Variables \times DCF \times CF + Industry\ Dummies + Year\ Dummies + e,
 \end{aligned}$$

where *ACCR* is a firm's accruals (defined as the difference between income from continuing operations and operating cash flows) scaled by beginning of the year total assets, *CF* is a firm's operating cash flows scaled by beginning of the year total assets, and *DCF* is a dichotomous variable equal to one if *CF* is negative and zero otherwise. We include the same set of control variables as in model (1). Similar to model (3), to control for possible confounding effects of control variables on asymmetric timeliness of accruals, we include a full set of interaction terms of control variables with *DCF*, *CF*, and *DCF*×*CF*.

<sup>24</sup> To alleviate multicollinearity concerns due to a very large number of interaction terms, we demean all continuous variables in this model.

TABLE 1  
Sample Description

<b>Panel A: Sample selection procedure</b>						
All Compustat observations from calendar years 1988–1991 & 1993–1996						86,672
less observations with missing incorporation data						(11,092)
less observations in financial industries						(17,148)
less observations with missing data to compute conservatism measures (i.e., $C\_ACCR$ , $C\_SKEW$ , and $C\_PZ$ )						(8,131)
less observations with missing data on near insolvency measure, that is, 1993 Estimated Default Frequency (EDF).						(22,389)
less observations with negative market value equity or missing data on firm size, book leverage, book-to-market, asset growth, and institutional ownership, etc.						(5,256)
less firms without at least one observation in both pre- and post-rule periods						(3,829)
Final sample of firm observations in 1988–1991 & 1993–1996						18,827
Number of firms in the final sample						2,705
<b>Panel B: Sample distribution (pre- and post-ruling)</b>						
	<i>DEL</i>		<i>HEDF93</i>			
Year	= 1	= 0	= 1	= 0	Total	
1988	867	902	301	1,468	1,769	
1989	1,147	1,174	446	1,875	2,321	<i>POST</i> = 0
1990	1,230	1,207	447	1,966	2,437	9,112
1991	1,320	1,265	510	2,075	2,585	
1993	1,346	1,279	519	2,106	2,625	
1994	1,281	1,220	461	2,040	2,501	<i>POST</i> = 1
1995	1,207	1,147	412	1,942	2,354	9,715
1996	1,145	1,090	386	1,849	2,235	
Total	9,543	9,284	3,482	15,321	18,827	

4. Sample Selection and Descriptive Statistics

Panel A of table 1 describes construction of the sample used to test our main hypothesis. We begin with 86,672 firm-year observations from Compustat for 1988–1991 and 1993–1996. We first drop 11,092 firm-years with missing state of incorporation data in Compustat and another 17,148 observations of financial firms. We lose an additional 8,131 observations because of missing data needed to estimate the three conservatism measures, that is,  $C\_ACCR$ ,  $C\_SKEW$ , and  $C\_PZ$ . We also drop 22,389 observations with missing data to compute 1993 EDF scores to measure near insolvency, and another 5,256 observations with negative market value equity or missing financial statement and institutional ownership data. Finally, after requiring each firm in our sample to have at least one observation in each of the pre- and post-ruling periods, our final sample has 18,827 firm-year observations (2,705 unique firms). Panel B of table 1 shows annual distribution of sample firms partitioned by *DEL* and *HEDF93*.

We present the descriptive statistics of our sample in table 2. Conservatism rank in our main sample has a mean of 4.500 and a median of 4.333

**TABLE 2**  
*Summary Statistics*

Variable	N	Mean	Std. Dev.	Lower Quartile	Median	Upper Quartile
<i>CRANK_ALL</i>	18,827	4.500	1.756	3.333	4.333	5.667
<i>C_ACCR</i>	18,827	0.017	0.041	-0.002	0.009	0.026
<i>C_SKEW</i>	18,827	0.820	10.478	-1.145	0.191	2.533
<i>C_PZ</i>	18,827	0.356	1.113	0.034	0.100	0.246
<i>POST</i>	18,827	0.516	0.500	0	1	1
<i>DEL</i>	18,827	0.507	0.500	0	1	1
<i>EDF93</i>	18,827	0.054	0.144	0.000	0.000	0.016
<i>HEDF93</i>	18,827	0.186	0.389	0	0	0
<i>MVE</i> (\$M)	18,827	852.401	2,371.800	23.638	94.500	492.618
<i>LN MVE</i>	18,827	4.724	2.069	3.163	4.549	6.200
<i>LEV</i>	18,827	0.508	0.193	0.368	0.526	0.650
<i>BTM</i>	18,827	0.720	0.530	0.371	0.598	0.897
<i>GROWTH</i>	18,827	0.161	0.434	-0.009	0.073	0.196
<i>LITIG</i>	18,827	0.247	0.431	0	0	0
<i>INSTOWN</i>	18,827	0.276	0.211	0.090	0.238	0.435
<i>BSCORE</i>	6,584	1.951	0.740	1	2	2

This table provides the summary statistics of the primary test variables. All variables are defined in the appendix. All continuous variables are winsorized at 1st and 99th percentiles.

on a 0–9 scale. Mean (median) *C\_ACCR* (i.e., negative non-operating accruals) is 0.017 (0.009) and mean (median) *C\_SKEW* (i.e., the ratio of earnings skewness to cash flows skewness) is 0.820 (0.191), generally consistent with prior literature (e.g., Givoly and Hayn [2000], Ahmed and Duellman [2007], Beatty, Weber, and Yu [2008], and Zhang [2008]). Similar to Penman and Zhang [2002], our sample has a mean (median) *C\_PZ* of 0.356 (0.100). About half of our sample is in the post-ruling period (mean of *POST*, 0.516). Consistent with prior findings (e.g., Daines [2001]), approximately 51% of firm-years in our sample correspond to firms incorporated in Delaware (mean of *DEL*, 0.507). Mean (median) *EDF93* of 5.4% (0.002%) implies that the 1993 EDF distribution is right skewed, that is, our sample includes some firms that were highly distressed in 1993.<sup>25</sup> The mean value of *HEDF93* (0.186) indicates that about 19% of sample firm-year observations have a 1993 EDF score in the top quartile of its distribution. Mean (median) *MVE* of our sample is \$852.401 (94.500) million, suggesting that our sample is somewhat skewed toward larger firms. Descriptive statistics on other control variables are in general consistent with expectations.<sup>26</sup>

Table 3 presents Spearman correlations among variables in our main sample. *CRANK\_ALL* is negatively correlated with firm size, supporting

<sup>25</sup> In section 6, we run several robustness tests to disentangle the effect of including firms that may be practically insolvent or extremely distressed.

<sup>26</sup> We collect the measures of board characteristics from Compact Disclosure disks only for the post-period between 1993 and 1996 because data for the pre-ruling period was not available to us. In this smaller sample of 6,584 observations (i.e., in the post-ruling period with available governance data), the average *BRDSIZE* is 8.226, indicating that a typical corporate



TABLE 3  
Correlation Matrix

	<i>L.CRANK.ALL</i>	2	3	4	5	6	7	8	9
<i>2.POST</i>	<b>0.065</b> <i>0.00</i>								
<i>3.DEL</i>	<b>0.054</b> <i>0.00</i>	0.012 <i>0.11</i>							
<i>4.HEDF93</i>	<b>0.031</b> <i>0.00</i>	-0.009 <i>0.24</i>	0.012 <i>0.10</i>						
<i>5.LNMVE</i>	<b>-0.057</b> <i>0.00</i>	<b>0.102</b> <i>0.00</i>	<b>0.058</b> <i>0.00</i>	<b>-0.412</b> <i>0.00</i>					
<i>6.LEV</i>	<b>-0.102</b> <i>0.00</i>	0.003 <i>0.65</i>	<b>0.025</b> <i>0.00</i>	<b>0.111</b> <i>0.00</i>	<b>0.120</b> <i>0.00</i>				
<i>7.BTM</i>	<b>-0.083</b> <i>0.00</i>	<b>-0.102</b> <i>0.00</i>	<b>-0.072</b> <i>0.00</i>	<b>0.153</b> <i>0.00</i>	<b>-0.347</b> <i>0.00</i>	-0.002 <i>0.77</i>			
<i>8.GROWTH</i>	<b>-0.072</b> <i>0.00</i>	<b>-0.064</b> <i>0.00</i>	<b>0.028</b> <i>0.00</i>	<b>-0.098</b> <i>0.00</i>	<b>0.152</b> <i>0.00</i>	<b>-0.071</b> <i>0.00</i>	<b>-0.309</b> <i>0.00</i>		
<i>9.LITIG</i>	<b>0.173</b> <i>0.00</i>	<b>0.013</b> <i>0.07</i>	<b>0.064</b> <i>0.00</i>	-0.010 <i>0.17</i>	<b>-0.052</b> <i>0.00</i>	<b>-0.165</b> <i>0.00</i>	<b>-0.106</b> <i>0.00</i>	<b>0.055</b> <i>0.00</i>	
<i>10.INSTOWN</i>	<b>0.055</b> <i>0.00</i>	<b>0.126</b> <i>0.00</i>	<b>0.052</b> <i>0.00</i>	<b>-0.344</b> <i>0.00</i>	<b>0.699</b> <i>0.00</i>	<b>0.052</b> <i>0.00</i>	<b>-0.06</b> <i>0.00</i>	<b>0.021</b> <i>0.00</i>	<b>-0.014</b> <i>0.05</i>

This table provides the Spearman correlation coefficients for the main variables in the main tests. Italicized rows are  $p$ -values. Significant correlations are indicated in bold ( $p < 0.10$ , two-tailed test). All variables are calculated as defined in the appendix. All continuous variables are winsorized at 1st and 99th percentiles.

the income aggregation and information asymmetries hypothesis by LaFond and Watts [2008] and consistent with prior literature (Ramalingegowda and Yu [2012], LaFond and Roychowhury [2008]); and is positively correlated with litigation risk and institutional ownership (e.g., Beatty, Weber, and Yu [2008] and Ramalingegowda and Yu [2012]). The negative correlation between our conservatism measure and leverage appears to contradict prior studies (e.g., Khan and Watts [2009]), but multivariate analyses confirm the documented positive association of leverage with conservatism. The negative association of book-to-market ratio with conservatism is consistent with the expected positive association between conservatism and market-to-book (e.g., Roychowdhury and Watts [2007]). *HEDF93* is positively correlated with *CRANK.ALL*, that is, firms approaching near insolvency in 1993 are on average more conservative during the sample period. Predictably, firm size (natural log of market value of equity)

board in our sample has about eight directors (similar to Anderson, Mansi, and Reeb [2004]). The average *PCT.INDDIR* is 0.675, suggesting that on average about 68% of the directors on the board are independent, similar to data reported in Ahmed and Duellman [2007]. The mean *D.MAJIND* is 0.873, implying that about 87% of firms in our sample have majority independent boards. In addition, consistent with the perceived lack of accounting expertise on boards prior to the passage of the Sarbanes-Oxley Act in 2002 and with the findings in Krishnan and Visvanathan [2008], we find that only 22.1% of our sample observations have at least one director with accounting expertise. Finally, we find at least one director with industry expertise on 28.2% of firm-years in our sample.

and default risk in 1993 are also negatively correlated, as near insolvent firms are more likely to be undercapitalized. Other significant correlations are generally in line with expectations.

## 5. Empirical Results

### 5.1 MAIN RESULTS ON THE COURT RULING AND ACCOUNTING CONSERVATISM

Panel A of table 4 presents three types of difference-in-differences tests. First, we constrain the sample to Delaware firms (i.e.,  $DEL = 1$ ) and compare the increase in conservatism for firms near insolvency and those that are not. We find that, after the court ruling, near insolvent Delaware firms increase conservatism significantly more than not near insolvent Delaware firms (column (i): coefficient on  $POST \times HEDF93 = 0.393$ ,  $t\text{-stat} = 4.48$ ). Second, we focus on a subsample of near insolvent firms (i.e.,  $HEDF93 = 1$ ) and find that the change in conservatism around the court ruling is significantly larger for near insolvent firms incorporated in Delaware than those incorporated elsewhere (column (ii): coefficient on  $POST \times DEL = 0.497$ ,  $t\text{-stat} = 4.26$ ).

Last, we estimate the full model (1) on the entire sample and present the result in column (iii) in panel A. As predicted by our hypothesis, we find that the coefficient on  $POST \times DEL \times HEDF93$  is positive and significant ( $\beta_7 = 0.489$ ,  $t\text{-stat} = 3.82$ ), which suggests that near insolvent Delaware firms exhibit a larger increase in conservatism around the court ruling. Focusing on the full specification in column (iii), we find that  $CRANK\_ALL$  is positively associated with litigation risk and institutional ownership, and negatively with firm size, book-to-market ratio, and asset growth, consistent with prior literature (e.g., Roychowdhury and Watts [2007], Beatty, Weber, and Yu [2008], Ramalingegowda and Yu [2012]).

We also estimate model (1) using dimensional conservatism ranks (i.e., negative non-operating accruals, relative earnings skewness, and unrecorded reserves on the balance sheet) as the dependent variable. Dimensional results in panel B of table 4 also provide similar evidence to those in column (iii) of panel A, suggesting that our result on the composite conservatism measure is not driven by a particular measure of conservatism. Overall, the results in table 4 are consistent with the notion that near insolvent Delaware firms increased conservatism as a response to the 1991 court ruling.<sup>27</sup>

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<sup>27</sup> To test robustness of our main findings to the confounding effects of firm-level characteristics, we run the following sensitivity tests: (1) as presented in online appendix table A4, we include a full set of interaction terms of control variables with  $DEL$ ,  $HEDF93$ ,  $DEL \times HEDF93$ ,  $POST$ ,  $POST \times DEL$ ,  $POST \times HEDF93$ , and  $POST \times DEL \times HEDF93$ , respectively. Our results remain qualitatively similar to those reported in table 4 ( $\beta_7$  for  $CRANK\_ALL = 0.794$ ,  $t\text{-stat} = 3.59$ ). (2) In the online appendix table A5, we add controls for a firm's business process, i.e.,

TABLE 4  
Effect of the 1991 Delaware Court Ruling on Conservatism Rank

Panel A: Court ruling and composite conservatism rank							
Dep. Var. = <i>CRANK_ALL</i>		(i)		(ii)		(iii)	
		<i>DEL</i> = 1		<i>HEDF93</i> = 1		Full sample	
Independent Var.		Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat
Intercept	$\beta_0$	4.625***	33.10	5.295***	23.16	4.637***	42.25
<i>DEL</i>	$\beta_1$			−0.368***	−4.33	−0.021	−0.58
<i>HEDF93</i>	$\beta_2$	−0.135**	−2.07			0.207***	3.05
<i>DEL</i> × <i>HEDF93</i>	$\beta_3$					−0.320***	−3.53
<i>POST</i>	$\beta_4$	−0.005	−0.07	−0.382***	−2.89	−0.045	−0.84
<i>POST</i> × <i>DEL</i>	$\beta_5$			0.497***	4.26	0.027	0.54
<i>POST</i> × <i>HEDF93</i>	$\beta_6$	0.393***	4.48			−0.084	−0.89
<i>POST</i> × <i>DEL</i> × <i>HEDF93</i>	$\beta_7$					0.489***	3.82
<i>LNMVE</i>	$\beta_8$	−0.051***	−3.92	0.032	1.04	−0.030***	−3.21
<i>LEV</i>	$\beta_9$	0.144	1.52	−0.342**	−2.13	0.095	1.37
<i>BTM</i>	$\beta_{10}$	−0.107***	−2.81	−0.126**	−2.41	−0.092***	−3.17
<i>GROWTH</i>	$\beta_{11}$	−0.203***	−4.49	−0.217***	−3.18	−0.203***	−5.78
<i>LITIG</i>	$\beta_{12}$	0.871***	10.93	0.489***	3.29	0.686***	11.64
<i>INSTOWN</i>	$\beta_{13}$	0.835***	7.54	0.634**	2.42	0.810***	9.77
Industries dummies		Included		Included		Included	
Year dummies		Included		Included		Included	
No. observations		9,543		3,506		18,827	
Adj. <i>R</i> <sup>2</sup>		15.4%		12.1%		17.2%	

Panel B: Court ruling and dimensional conservatism rank							
Independent Var.		(i)		(ii)		(iii)	
		Dep. Var. = <i>CRANK_ACCR</i>		Dep. Var. = <i>CRANK_SKEW</i>		Dep. Var. = <i>CRANK_PZ</i>	
		Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat
Intercept	$\beta_0$	4.764***	25.89	3.596***	19.56	5.551***	32.00
<i>DEL</i>	$\beta_1$	−0.068	−1.07	−0.046	−0.70	0.051	0.96
<i>HEDF93</i>	$\beta_2$	0.364***	3.12	0.153	1.32	0.105	1.13
<i>DEL</i> × <i>HEDF93</i>	$\beta_3$	−0.125	−0.77	−0.057	−0.36	−0.777***	−6.10
<i>POST</i>	$\beta_4$	−0.029	−0.31	−0.037	−0.38	−0.070	−0.92
<i>POST</i> × <i>DEL</i>	$\beta_5$	0.204**	2.33	−0.094	−1.04	−0.027	−0.37
<i>POST</i> × <i>HEDF93</i>	$\beta_6$	−0.260	−1.56	−0.145	−0.91	0.155	1.18
<i>POST</i> × <i>DEL</i> × <i>HEDF93</i>	$\beta_7$	0.587**	2.54	0.424*	1.91	0.456**	2.50
<i>LNMVE</i>	$\beta_8$	0.005	0.28	0.113***	6.76	−0.208***	−15.71
<i>LEV</i>	$\beta_9$	0.404***	3.29	0.590***	4.99	−0.709***	−6.81
<i>BTM</i>	$\beta_{10}$	−0.093*	−1.85	0.334***	6.98	−0.515***	−12.74
<i>GROWTH</i>	$\beta_{11}$	−0.055	−0.99	−0.213***	−4.71	−0.340***	−6.04
<i>LITIG</i>	$\beta_{12}$	1.224***	12.16	0.153	1.58	0.681***	8.35
<i>INSTOWN</i>	$\beta_{13}$	0.553***	3.94	0.888***	6.12	0.990***	8.38
Industries dummies		Included		Included		Included	
Year dummies		Included		Included		Included	
No. observations		18,827		18,827		18,827	
Adj. <i>R</i> <sup>2</sup>		5.4%		2.6%		37.7%	

Panel A (panel B) presents regression estimates to test the effect of the 1991 Delaware court ruling on the composite (dimensional) conservatism ranks as in model 1. The sample includes 18,827 observations for 2,705 firms spanning calendar years 1988-1991 and 1993-1996. All variables are calculated as defined in appendix A. All continuous variables are winsorized at the 1st and 99th percentiles. Reported *t*-statistics are adjusted for clustering by both firm and year.

\*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 levels, respectively for a two-tailed test.

In additional analyses presented in online appendix table A6, we examine whether our main finding in column (iii) of table 4, panel A is robust to alternative definitions of near insolvency. This test is important because it is possible that, since the EDF measure we employ to identify near insolvent firms is based on accounting and stock performance, it could already capture effects of conservatism, potentially biasing our results. To corroborate our findings, we construct three alternative measures of near insolvency: (i) *HMLEV93*, an indicator variable equal to 1 if the firm is in the top quartile of 1993 market leverage distribution and 0 otherwise, where market leverage is measured as the ratio of short- and long-term debt to short- and long-term debt plus market value of equity; (ii) *HBLEV93*, an indicator variable equal to 1 if the firm is in the top quartile of 1993 book leverage distribution and 0 otherwise, where book leverage is measured as the ratio of short- and long-term debt to total assets; and (iii) *LALT93*, an indicator variable that equals 1 if the firm falls in the bottom quartile of distribution of Altman's Z-score in 1993 and 0 otherwise. Results using alternative near insolvency measures remain generally consistent with those reported in table 4 except the one using *LALT93*, which is significant at a one-tailed test ( $\beta_7 = 0.153$ ,  $t\text{-stat} = 1.44$ ).

## 5.2 RESULTS ON THE ROLE OF BOARD CHARACTERISTICS

We use a single board governance measure *BSCORE*, which combines four dimensional board characteristics to explore the effect of board characteristics on conservatism in the post-ruling period because biographical information on directors is available to us only for years 1993–1996 (results reported in table 5). We start our analysis in this subsample with the baseline regression without board measures, and the result in column (i) suggests that, in the post-ruling period, the difference in conservatism between near insolvent and not near insolvent firms is larger for firms incorporated in Delaware than those incorporated elsewhere. Column (ii) in table 5 presents the main result of model (2), and column (iii) further includes the interaction terms of firm characteristics with the ruling-related variables, i.e., *DEL*, *HEDF93*, and *DEL*×*HEDF93*. The positive and significant coefficient on *BSCORE*×*DEL*×*HEDF93* in column (iii) ( $\beta_7 = 0.397$ ,  $t\text{-stat} = 2.39$ ) combined with the insignificant coefficient on *DEL*×*HEDF93* indicates that the higher post-ruling conservatism level in near insolvent Delaware firms is driven by firms with stronger boards. In a supplemental analysis tabulated in online appendix table A7, we provide evidence on dimensional measures of board strength and find that  $\beta_7$  is similarly positive and significant at conventional levels for all board measures except industry expertise, the result of which is marginally significant in a one-tailed

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operating cycle and cash flow volatility, with or without their interaction terms with the seven ruling-related variables. The results of these estimations are all consistent with those reported in table 4.

TABLE 5  
*Conservatism Rank After the 1991 Delaware Court Ruling: Effect of Corporate Governance*

Dep. Var. = CRANK_ALL		(i)		(ii)		(iii)	
Independent Var.		Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Intercept	$\beta_0$	4.584***	20.90	4.777***	20.37	4.791***	18.02
DEL	$\beta_1$	-0.054	-1.23	0.236**	2.01	0.064	0.25
HEDF93	$\beta_2$	0.059	0.64	0.232	0.92	0.745	1.37
DEL× HEDF93	$\beta_3$	0.213*	1.86	-0.532	-1.53	-0.881	-1.26
BSCORE	$\beta_4$			0.025	0.64	0.035	0.88
BSCORE× DEL	$\beta_5$			-0.124**	-2.17	-0.137**	-2.35
BSCORE× HEDF93	$\beta_6$			-0.078	-0.65	-0.113	-0.91
BSCORE× DEL× HEDF93	$\beta_7$			0.353**	2.16	0.397**	2.39
LN MVE	$\beta_8$	-0.012	-0.74	-0.040**	-2.52	-0.040*	-1.68
LEV	$\beta_9$	0.498***	4.16	0.447***	3.77	0.445**	2.49
BTM	$\beta_{10}$	-0.260***	-4.69	-0.286***	-5.10	-0.243**	-2.41
GROWTH	$\beta_{11}$	-0.639***	-7.39	-0.604***	-7.08	-0.569***	-4.11
LITIG	$\beta_{12}$	0.726***	7.24	0.756***	7.50	0.624***	5.34
INSTOWN	$\beta_{13}$	0.921***	6.95	0.950***	7.21	0.894***	4.53
Controls× DEL						Included	
Controls× HEDF93						Included	
Controls× DEL× HEDF93						Included	
Industries dummies		Included		Included		Included	
Year dummies		Included		Included		Included	
No. observations		6,584		6,584		6,584	
Adj. R <sup>2</sup>		18.6%		18.9%		18.9%	

This table presents regression estimates to test the combined effect of board characteristics on conservatism rank post the 1991 Delaware court ruling (model 2). The sample in this test includes 6,584 observations for 1,968 firms spanning calendar years 1993–1996 with available data on the board of directors from Compact Disclosure. All variables are defined in the appendix. All continuous variables are winsorized at the 1st and 99th percentiles. Reported *t*-statistics are adjusted for clustering by both firm and year.

\*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 levels, respectively, for a two-tailed test.

test ( $\beta_7 = 0.407$ ,  $t\text{-stat} = 1.41$ ). Taken together, the evidence on the effect of court ruling on firms with stronger boards provides further support to the main hypothesis that near insolvent Delaware firms increase their conservatism in the post-ruling period, and the effect of the court ruling is achieved through the board of directors’ channel.

5.3 RESULTS USING ASYMMETRIC TIMELINESS MODELS OF CONSERVATISM

5.3.1. *Asymmetric Timeliness of Earnings.* Results of model (3) are shown in table 6. In column (i), we first constrain our sample to Delaware firms and vary their near insolvency status. Consistent with prior literature,  $\beta_3$ , the coefficient on timeliness of bad news recognition ( $D \times RET$ ) is positive and significant (0.223,  $t\text{-stat} = 3.59$ ). Moreover, consistent with our hypothesis, the post-ruling increase in asymmetric timeliness of earnings for near insolvent Delaware firms is significantly larger than that of non-near insolvent Delaware firms (coefficient on  $HEDF93 \times POST \times D \times RET = 0.143$ ,  $t\text{-stat} = 2.49$ ). In column (ii), we constrain our sample to near insolvent firms only and allow Delaware incorporation status to vary. We find that the post-ruling increase in conservatism is significantly larger for near insolvent

**TABLE 6**  
*Effect of the 1991 Delaware Court Ruling on Asymmetric Timeliness of Earnings*

Independent Var.	Dep. Var. = $X/P$	(i)		(ii)		(iii)	
		$DEL = 1$		$HEDF93 = 1$		Full sample	
		Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat
Intercept	$\beta_0$	-0.002	-0.16	-0.040	-1.32	-0.001	-0.11
$RET$	$\beta_1$	0.040**	2.12	0.052	1.37	0.031**	2.28
$D$	$\beta_2$	-0.005	-0.21	0.048	1.17	0.002	0.11
$D \times RET$	$\beta_3$	0.223***	3.59	0.235**	2.35	0.186***	4.24
$POST$	$\beta_4$	0.010**	2.42	0.049***	3.64	0.007**	2.10
$POST \times RET$	$\beta_5$	-0.010*	-1.73	-0.027	-1.46	-0.010	-1.55
$POST \times D$	$\beta_6$	0.007	1.34	-0.039*	-1.91	0.014***	2.92
$POST \times D \times RET$	$\beta_7$	0.047**	2.31	-0.010	-0.18	0.050**	2.52
$HEDF93$	$\beta_8$	-0.007	-0.81			-0.024***	-2.89
$HEDF93 \times RET$	$\beta_9$	0.003	0.31			0.016	1.08
$HEDF93 \times D$	$\beta_{10}$	-0.014	-0.97			0.018	1.48
$HEDF93 \times D \times RET$	$\beta_{11}$	-0.030	-0.89			0.040	1.27
$HEDF93 \times POST$	$\beta_{12}$	0.010	0.86			0.022**	2.01
$HEDF93 \times POST \times RET$	$\beta_{13}$	-0.014	-0.81			-0.014	-0.71
$HEDF93 \times POST \times D$	$\beta_{14}$	0.028	1.34			-0.047**	-2.38
$HEDF93 \times POST \times D \times RET$	$\beta_{15}$	0.143**	2.49			-0.039	-0.71
$DEL$	$\beta_{16}$			0.012	0.96	-0.007**	-2.56
$DEL \times RET$	$\beta_{17}$			-0.007	-0.40	0.006	1.06
$DEL \times D$	$\beta_{18}$			-0.033*	-1.78	0.004	0.77
$DEL \times D \times RET$	$\beta_{19}$			-0.083*	-1.91	0.008	0.43
$DEL \times POST$	$\beta_{20}$			-0.018	-1.13	0.003	0.67
$DEL \times POST \times RET$	$\beta_{21}$			0.010	0.41	-0.001	-0.16
$DEL \times POST \times D$	$\beta_{22}$			0.087***	3.12	-0.007	-0.99
$DEL \times POST \times D \times RET$	$\beta_{23}$			0.214***	2.92	0.000	-0.01
$HEDF93 \times DEL$	$\beta_{24}$					0.016	1.34
$HEDF93 \times DEL \times RET$	$\beta_{25}$					-0.011	-0.64
$HEDF93 \times DEL \times D$	$\beta_{26}$					-0.031*	-1.67
$HEDF93 \times DEL \times D \times RET$	$\beta_{27}$					-0.069	-1.53
$HEDF93 \times DEL \times POST$	$\beta_{28}$					-0.018	-1.08
$HEDF93 \times DEL \times POST \times RET$	$\beta_{29}$					0.006	0.22
$HEDF93 \times DEL \times POST \times D$	$\beta_{30}$					0.080***	2.81
$HEDF93 \times DEL \times POST \times D \times RET$	$\beta_{31}$					0.172**	2.22
Controls		Included		Included		Included	
Controls $\times RET$		Included		Included		Included	
Controls $\times D$		Included		Included		Included	
Controls $\times D \times RET$		Included		Included		Included	
Industries dummies		Included		Included		Included	
Year dummies		Included		Included		Included	
No. observations		8,857		2,937		17,533	
Adj. $R^2$		28.9%		31.0%		30.4%	

This table presents regression estimates to test the effect of the 1991 Delaware court ruling on conditional conservatism as measured by asymmetric timeliness of earnings per Basu [1997] as in model 3. The sample includes 17,533 observations for 2,460 firms spanning calendar years 1988–1991 and 1993–1996.  $X/P$  is earnings per share scaled by year beginning price.  $RET$  is buy-and-hold stock returns for the year.  $D$  is a dichotomous variable equal to 1 if  $RET < 0$  and 0 otherwise. Controls include  $LN MVE$ ,  $LEV$ ,  $BTM$ ,  $GROWTH$ ,  $LITIG$ ,  $INSTOWN$ ,  $STDRET$  (which is the daily stock return volatility during the prior year) and  $LNPRC$  (which is log of year-beginning stock price). All other variables are calculated as defined in the appendix. All continuous variables are winsorized at the 1st and 99th percentiles. Reported *t*-statistics are adjusted for clustering by both firm and year.

\*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 levels, respectively for a two-tailed test.

Delaware firms than for near insolvent non-Delaware firms (coefficient on  $DEL \times POST \times D \times RET = 0.214$ ,  $t\text{-stat} = 2.92$ ). Finally, we allow both Delaware incorporation and near insolvency status of a firm to vary in the full sample and present a complete version of model (3) in column (iii).  $\beta_{31}$ , the coefficient on our main variable of interest ( $HEDF93 \times DEL \times POST \times D \times RET$ ), is positive and significant ( $0.172$ ,  $t\text{-stat} = 2.22$ ), suggesting that the post-ruling increase in asymmetric timeliness of earnings is stronger for near insolvent Delaware firms. Our results similarly hold when we omit control variables and their interaction terms from model (3). These results are shown in online appendix table A8.

*5.3.2. Asymmetric Timeliness of Accruals.* We present results of model (4) in table 7. In column (i), we first constrain our sample to Delaware firms and vary their near insolvency status. Consistent with our expectation, near insolvent Delaware firms exhibit a higher increase in asymmetric timeliness of accruals after the ruling than non-near insolvent Delaware firms (coefficient on  $HEDF93 \times POST \times DCF \times CF = 0.448$ ,  $t\text{-stat} = 3.47$ ). Similarly, in column (ii), near insolvent Delaware firms increase asymmetric timeliness of accruals significantly more than near insolvent non-Delaware firms (coefficient on  $DEL \times POST \times DCF \times CF = 0.343$ ,  $t\text{-stat} = 2.17$ ). Finally, when allowing both Delaware incorporation and near insolvency status to vary (see column (iii)), we find that near insolvent Delaware firms exhibit significantly more asymmetric timeliness of accruals (coefficient on  $HEDF93 \times DEL \times POST \times DCF \times CF = 0.444$ ,  $t\text{-stat} = 2.31$ ). Our results continue to hold when we omit control variables and their interaction terms from model (4) (see online appendix table A9).

Overall, results on asymmetric timeliness of earnings (table 6) and asymmetric timeliness of accruals (table 7) supplement our main results on year-specific conservatism ranks in table 4, and provide further support to our main hypothesis that near insolvent Delaware firms respond to the 1991 court ruling by increasing financial reporting conservatism.

## 6. Additional Analyses

We conduct a number of supplemental analyses to test the robustness of the empirical models and rule out alternative explanations for our results.

### 6.1 OTHER CORPORATE DECISIONS

The natural experiment setting helps us attribute the change in conservatism around the court ruling to debtholders' demand. However, it is still possible that other corporate decisions that accompanied the ruling may drive the change in conservatism. For example, near insolvent firms may undertake a number of operational changes, such as writing off assets and reducing capital expenditure, to improve profitability and/or increase liquidity, which could manifest themselves in the form of more conservative accounting policies. Because creditors could demand these actions as a



**TABLE 7**  
*Effect of the 1991 Delaware Court Ruling on Asymmetric Timeliness of Accruals*

Dep. Var. = <i>ACCR</i>		(i)		(ii)		(iii)	
Independent Var.		<i>DEL</i> = 1		<i>HEDF93</i> = 1		Full sample	
		Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat
Intercept	$\beta_0$	0.013	1.37	-0.025*	-1.73	0.030***	4.47
<i>CF</i>	$\beta_1$	-0.400***	-7.28	-0.395***	-3.94	-0.428***	-9.79
<i>DCF</i>	$\beta_2$	-0.015	-0.81	0.006	0.31	-0.025*	-1.90
<i>DCF</i> × <i>CF</i>	$\beta_3$	0.578***	4.11	0.197	0.99	0.344***	2.89
<i>POST</i>	$\beta_4$	0.002	0.50	0.014	1.62	0.003	0.96
<i>POST</i> × <i>CF</i>	$\beta_5$	-0.015	-0.60	0.115**	2.03	-0.018	-0.69
<i>POST</i> × <i>DCF</i>	$\beta_6$	-0.007	-0.80	0.008	0.65	0.006	0.71
<i>POST</i> × <i>DCF</i> × <i>CF</i>	$\beta_7$	0.137**	2.02	0.250**	2.22	0.242***	2.68
<i>HEDF93</i>	$\beta_8$	-0.018***	-3.48			-0.028***	-5.90
<i>HEDF93</i> × <i>CF</i>	$\beta_9$	0.072	1.64			0.068*	1.76
<i>HEDF93</i> × <i>DCF</i>	$\beta_{10}$	-0.012	-1.13			0.021**	1.99
<i>HEDF93</i> × <i>DCF</i> × <i>CF</i>	$\beta_{11}$	-0.430***	-4.41			0.017	0.17
<i>HEDF93</i> × <i>POST</i>	$\beta_{12}$	0.020***	2.85			0.001	0.17
<i>HEDF93</i> × <i>POST</i> × <i>CF</i>	$\beta_{13}$	-0.116*	-1.90			0.117*	1.89
<i>HEDF93</i> × <i>POST</i> × <i>DCF</i>	$\beta_{14}$	-0.003	-0.22			-0.003	-0.17
<i>HEDF93</i> × <i>POST</i> × <i>DCF</i> × <i>CF</i>	$\beta_{15}$	0.448***	3.47			0.014	0.09
<i>DEL</i>	$\beta_{16}$			0.010*	1.65	-0.005*	-1.76
<i>DEL</i> × <i>CF</i>	$\beta_{17}$			0.041	0.79	0.037	1.60
<i>DEL</i> × <i>DCF</i>	$\beta_{18}$			-0.017	-1.45	0.011	1.320
<i>DEL</i> × <i>DCF</i> × <i>CF</i>	$\beta_{19}$			-0.155	-1.39	0.255***	3.29
<i>DEL</i> × <i>POST</i>	$\beta_{20}$			0.018*	1.93	-0.002	-0.56
<i>DEL</i> × <i>POST</i> × <i>CF</i>	$\beta_{21}$			-0.246***	-3.10	0.005	0.15
<i>DEL</i> × <i>POST</i> × <i>DCF</i>	$\beta_{22}$			-0.016	-0.94	-0.014	-1.17
<i>DEL</i> × <i>POST</i> × <i>DCF</i> × <i>CF</i>	$\beta_{23}$			0.343**	2.17	-0.110	-1.02
<i>HEDF93</i> × <i>DEL</i>	$\beta_{24}$					0.012*	1.75
<i>HEDF93</i> × <i>DEL</i> × <i>CF</i>	$\beta_{25}$					-0.001	-0.02
<i>HEDF93</i> × <i>DEL</i> × <i>DCF</i>	$\beta_{26}$					-0.031**	-2.14
<i>HEDF93</i> × <i>DEL</i> × <i>DCF</i> × <i>CF</i>	$\beta_{27}$					-0.424***	-3.04
<i>HEDF93</i> × <i>DEL</i> × <i>POST</i>	$\beta_{28}$					0.018*	1.72
<i>HEDF93</i> × <i>DEL</i> × <i>POST</i> × <i>CF</i>	$\beta_{29}$					-0.221**	-2.57
<i>HEDF93</i> × <i>DEL</i> × <i>POST</i> × <i>DCF</i>	$\beta_{30}$					0.003	0.14
<i>HEDF93</i> × <i>DEL</i> × <i>POST</i> × <i>DCF</i> × <i>CF</i>	$\beta_{31}$					0.444**	2.31
<i>Controls</i>		Included		Included		Included	
<i>Controls</i> × <i>CF</i>		Included		Included		Included	
<i>Controls</i> × <i>DCF</i>		Included		Included		Included	
<i>Controls</i> × <i>DCF</i> × <i>CF</i>		Included		Included		Included	
Industries dummies		Included		Included		Included	
Year dummies		Included		Included		Included	
No. observations		9,289		3,300		18,261	
Adj. <i>R</i> <sup>2</sup>		33.7%		35.1%		36.5%	

This table presents regression estimates to test the effect of the 1991 Delaware court ruling on conditional conservatism as measured by asymmetric timeliness of accruals per Ball and Shivakumar [2006] as in model 4. The sample includes 18,261 observations for 2,460 firms spanning calendar years 1988–1991 and 1993–1996. *ACCR* is accruals (IBC-OANCF) scaled by year-beginning total assets (AT). *CF* is cash flow from operations in a year (OANCF) scaled by year-beginning total assets (AT). *DCF* is a dichotomous variable equal to 1 if *CF* < 0 and 0 otherwise. Controls include *LN*MVE, *LEV*, *BTM*, *GROWTH*, *LITIG*, and *INSTOWN*. All other variables are calculated as defined in the appendix. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. Reported *t*-statistics are adjusted for clustering by both firm and year.

\*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 levels, respectively for a two-tailed test.

near insolvent firm approaches default and, in particular, if debt covenants are violated,<sup>28</sup> such one-time actions could disproportionately affect near insolvent Delaware firms in the post-ruling period. We therefore identify a number of control variables for operating and real changes to isolate the effect of the court ruling on conservatism.

*6.1.1. Real Actions.* Asquith, Gertner, and Scharfstein [1994] show that, as firms approach distress, they engage in asset sales, or improve their operating efficiency through optimizing the inventory and discretionary expenditure policies. The authors also suggest that better performing distressed firms are more likely to avoid insolvency. To mitigate the concern that our observed change in conservatism could be driven by real actions taken by firms, we augment our model (1) with additional controls for the following real actions: (i) *DEC\_CAPEX*, a dichotomous variable equal to one if a firm's capital expenditure decreases when compared to the prior year and zero otherwise; (ii) *INC\_SPPE*, a dichotomous variable equal to one if a firm's sale of PP&E increases from the prior year and zero otherwise; (iii) *DEC\_NSEG*, a dichotomous variable equal to one if a firm decreases the number of its business or geographic segments during the year and zero otherwise; (iv) *NABN\_DISEXP*,  $(-1) \times$  abnormal discretionary expenses (Roychowdhury [2006]), and (v) *NABN\_PROD*,  $(-1) \times$  abnormal production costs (Roychowdhury [2006]). As reported in table 8, we continue to find the coefficient on *POST* $\times$ *DEL* $\times$ *HEDF93* to be positive and significant when either controlling for the five real actions variables themselves (column (i):  $\beta_7 = 0.472$ ,  $t\text{-stat} = 3.67$ ), or controlling for both these variables and their interactions with all the seven ruling-related variables (column (ii):  $\beta_7 = 0.326$ ,  $t\text{-stat} = 1.70$ ). In sum, the robust results after controlling for real actions corroborate the main findings in table 4 and lend stronger support to our hypothesis.

*6.1.2. Special Items.* Negative special items could be one mechanism through which firms adopt more accounting conservatism (Callen, Segal, and Hope [2010]). To the extent that negative special items, for example, one-time write-offs, could be more prevalent among near insolvent firms, the presence of negative special items could confound our results. We control for the presence of negative special items by including sales-deflated negative special items *SI*, which is equal to  $(-1) \times \text{SPI}/\text{SALES}$  if  $\text{SPI} < 0$  and 0 otherwise, and its interactions with all the seven ruling-related variables in addition to other control variables in model (1). The results (online appendix table A10) show that controlling for the effect of negative special items on conservatism as well as their possible variations along

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<sup>28</sup> For instance, Chava and Roberts [2008] show that capital expenditures decrease following violations of debt covenants. Tan [2013] further elaborates on the mechanism of how creditors can impose restructuring changes on defaulting borrowers.

**TABLE 8**  
*Controlling for Real Actions*

Dep. Var. = <i>CRANK_ALL</i>		(i)		(ii)	
Independent Var.		Coef.	t-stat	Coef.	t-stat
Intercept	$\beta_0$	4.482***	39.81	4.517***	39.07
<i>DEL</i>	$\beta_1$	-0.042	-1.14	-0.077	-1.43
<i>HEDF93</i>	$\beta_2$	0.163**	2.42	0.170	1.63
<i>DEL</i> × <i>HEDF93</i>	$\beta_3$	-0.319***	-3.52	-0.286**	-2.05
<i>POST</i>	$\beta_4$	0.011	0.21	-0.043	-0.64
<i>POST</i> × <i>DEL</i>	$\beta_5$	0.044	0.86	0.083	1.11
<i>POST</i> × <i>HEDF93</i>	$\beta_6$	-0.038	-0.41	-0.010	-0.07
<i>POST</i> × <i>DEL</i> × <i>HEDF93</i>	$\beta_7$	0.472***	3.67	0.326*	1.70
<i>LN MVE</i>	$\beta_8$	-0.025***	-2.59	-0.024**	-2.56
<i>LEV</i>	$\beta_9$	0.226***	3.19	0.224***	3.14
<i>BTM</i>	$\beta_{10}$	-0.039	-1.33	-0.043	-1.46
<i>GROWTH</i>	$\beta_{11}$	-0.227***	-6.19	-0.229***	-6.20
<i>LITIG</i>	$\beta_{12}$	0.642***	10.95	0.638***	10.88
<i>INSTOWN</i>	$\beta_{13}$	0.804***	9.60	0.809***	9.64
<i>Real Action Controls:</i>					
<i>DEC.CAPEX</i>	$\beta_{14}$	0.115***	4.77	0.045	0.88
<i>INC.SPPE</i>	$\beta_{15}$	-0.019	-0.69	-0.024	-0.43
<i>DEC.NSEG</i>	$\beta_{16}$	-0.018	-0.31	-0.108	-0.81
<i>NABN.DISEXP</i>	$\beta_{17}$	-0.680***	-10.25	-0.529***	-3.18
<i>NABN.PROD</i>	$\beta_{18}$	0.116	1.58	0.197	1.13
<i>Real Action Controls</i> × <i>DEL</i>				Included	
<i>Real Action Controls</i> × <i>HEDF93</i>				Included	
<i>Real Action Controls</i> × <i>DEL</i> × <i>HEDF93</i>				Included	
<i>Real Action Controls</i> × <i>POST</i>				Included	
<i>Real Action Controls</i> × <i>POST</i> × <i>DEL</i>				Included	
<i>Real Action Controls</i> × <i>POST</i> × <i>HEDF93</i>				Included	
<i>Real Action Controls</i> × <i>POST</i> × <i>DEL</i> × <i>HEDF93</i>				Included	
Industries dummies		Included		Included	
Year dummies		Included		Included	
No. observations		18,402		18,402	
Adj. $R^2$		18.1%		18.2%	

This table presents regression estimates to test the effect of the 1991 Delaware court ruling on conservatism rank after controlling for effects of real actions. The sample includes 18,402 observations for 2,676 firms spanning calendar years 1988–1991 and 1993–1996. *DEC.CAPEX* is a dichotomous variable equal to 1 if the capital expenditure (CAPX) decreases from the prior year and 0 otherwise. *INC.SPPE* is a dichotomous variable equal to 1 if the sale of PPE (SPEE) increases from the prior year and 0 otherwise. *DEC.NSEG* is a dichotomous variable equal to 1 if either the number of business segments or number of geographic segments decreases from prior year and 0 otherwise. *NABN.DISEXP* is  $(-1) \times$  abnormal discretionary expenditures (the sum of XRD, XAD, XSGA) per Roychowdhury [2006]. *NABN.PROD* is  $(-1) \times$  abnormal production costs (COGS + change in INVT) per Roychowdhury [2006]. All other variables are defined in the the appendix. All continuous variables are winsorized at the 1st and 99th percentiles. Reported  $t$ -statistics are adjusted for clustering by both firm and year.

\*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 levels, respectively for a two-tailed test.

the court ruling does not change the tenor of our main inferences (coefficient on *POST* × *DEL* × *HEDF93* = 0.447,  $t$ -stat = 3.26).

## 6.2 DEMAND FOR CONSERVATISM

Alternatively, our findings could be driven by the demand for conservatism from stakeholders other than creditors, who may also influence the

extent of conservatism in financial reporting. Moreover, a shift of control rights to creditors or recorded losses in prior years may also explain debtholders' increased demand for conservatism. To rule out these alternative explanations, we conduct additional tests as explained later.

*6.2.1. Recorded Losses.* Recorded losses are mechanically correlated with increases in conservatism and thus could confound our results. We rule out this concern by excluding firms most likely to have recorded large losses, which include (i) firms that experience most negative earnings changes (i.e., in the lowest decile of the distribution of earnings change), (ii) firms with negative operating cash flows yet positive net income, (iii) firms whose total liabilities exceed total assets, and (iv) firms whose current liabilities exceed current assets. After dropping 5,737 observations that meet at least one of these criteria, we continue to find a post-ruling increase in conservatism among near insolvent Delaware firms in this non-losses subsample ( $\beta_7 = 0.329$ ,  $t\text{-stat} = 2.01$ ). These results are summarized in online appendix table A11.

*6.2.2. Covenant Violations and Bankruptcies.* Covenant violations may confound our findings in two opposite ways. On one hand, distressed firms are more likely to violate debt covenants (Dichev and Skinner [2002]), and any consequent revisions to loan agreements could give lenders more influence in firms' financial reporting decisions (Nini, Smith, and Sufi [2012]). On the other hand, once covenants are actually violated, additional conservatism may provide little incremental benefit to creditors because control rights shift to creditors anyway, and creditors can monitor borrowers directly.<sup>29</sup> However, there is no a priori reason to believe that the likelihood of covenant violations is systematically higher or lower for Delaware than non-Delaware firms. Since the covenant violations data provided by Nini, Smith, and Sufi [2012] start from 1996 only, we manually collect covenant violations from Mergent/Moody's Manuals for a random subsample about 10% of our main sample size.<sup>30</sup> On this subsample, we first run a logit regression model where we use an indicator variable for covenant violations as the dependent variable and keep all the right-hand side variables specified in model (1). The results presented in panel A of online appendix table A12 suggest that the post-ruling increase in the likelihood of violating covenant is not significantly higher for near insolvent Delaware firms

<sup>29</sup>Recent research, however, disputes that notion and shows that even after covenants are violated firms adopt more accounting conservatism (Wang, Xie, and Xin [2011], Tan [2013]).

<sup>30</sup>To keep the hand collection effort reasonable and representative, we randomly select 10% of both treatment and control samples to obtain 271 firms (30 treatment and 241 control firms), which represent 1,807 firm-year observations across all sample years. Our hand collection yields a total of 116 covenant violations in 72 out of the 271 firms. The firm-level violation occurrence rate of 26.6% in our sample is higher than the 10–20% in Nini, Smith, and Sufi [2012], possibly due to the presentation of near insolvent firms and earlier years in our sample.

( $\beta_7 = -0.915$ ,  $t\text{-stat} = -0.83$ ), that is, the court ruling does not seem to exert an effect on covenant violations similar to its effect on conservatism. In our analyses of this hand-collected subsample, summarized in panel B of online appendix table A12, the main results still hold either including a control variable for covenant violations (column (i):  $\beta_7 = 0.778$ ,  $t\text{-stat} = 2.19$ ) or dropping the covenant violation observations (column (ii):  $\beta_7 = 0.691$ ,  $t\text{-stat} = 1.82$ ).

In addition, while near insolvency does not necessarily lead to bankruptcy, voluntary filings for bankruptcy (chapters 7 or 11) or court-initiated bankruptcy proceedings could require firms to follow liquidation basis of accounting, which may be correlated with our conservatism measure. Following Shumway [1997], we identify six firms (26 firm-year observations) that were delisted due to bankruptcy (CRSP delisting code 574) at any time during the period 1988–1996. We still obtain results in line with our hypothesis when we exclude these 26 bankruptcy observations from our sample ( $\beta_7 = 0.483$ ,  $t\text{-stat} = 3.77$ ). These results are summarized in column (iii) of panel B in online appendix table A12.

*6.2.3. Other Stakeholders.* Our results could be driven by the influence of auditors, as opposed to debtholders, on accounting conservatism. Prior studies show that firms audited by Big-N auditors have higher reporting conservatism and better earnings quality (Francis and Krishnan [1999], Francis, Maydew, and Sparks [1999]). To rule out this confounding factor, we regress conservatism ranks on a dichotomous variable *BIGN* (equal to one if the firm is audited by a Big-N auditor and zero otherwise) and its interactions with the seven ruling-related variables in addition to the other controls. The coefficient on *POST*×*DEL*×*HEDF93* remains positive and significant ( $\beta_7 = 0.322$ ,  $t\text{-stat} = 1.69$ ) after controlling for the Big-N auditors effect, while the sign on *BIGN*×*POST*×*DEL*×*HEDF93* is not significant (see online appendix table A13, panel A).

Furthermore, our results could be driven by CEO/CFOs' influence on accounting quality since higher managerial ownership mitigates the severity of the agency problems and thus reduces the demand for conservatism (LaFond and Roychowdhury [2008]). To address this concern, we conduct a post-ruling analysis (since Execucomp data are unavailable for the pre-ruling period) similar to model (2) with *BSCORE* replaced by the CEO/CFO ownership percentage, *EXEOWN*. As presented in panel B of online appendix table A13, after controlling for the effect of CEO/CFO ownership, the main variable of interest *DEL*×*HEDF93* remains significantly positive ( $\beta_3 = 1.282$ ,  $t\text{-stat} = 2.86$ ) in the full model.

*6.2.4. Tax-Related Incentives.* Firms may adopt conservatism to reduce the present value of tax payments (Watts [2003]). Similar to Beatty, Weber, and Yu [2008], in online appendix table A14, we control for the tax status of the firm by incorporating the simulated corporate marginal tax rate of the prior year based on income after interest expense has been

deducted.<sup>31</sup> We follow Graham and Mills [2008] to fill in missing values. Our main results remain similar to those reported in table 4 (coefficient on  $POST \times DEL \times HEDF93 = 0.829$ ,  $t\text{-stat} = 4.64$ ) after controlling for the tax-related incentives.

### 6.3 CONTROLLING FOR FIRM PERFORMANCE

To rule out the concern that the differential change in conservatism between treatment and control groups may be driven by the confounding changes in firm performance, as opposed to the court ruling, we conduct the following tests.

*6.3.1. Sample Matched on Accounting Performance.* An alternative explanation for our results could be that near insolvent Delaware firms in the sample have experienced stronger performance deteriorations than near insolvent non-Delaware firms. To rule out this concern, we perform a matched sample analysis, whereby we match every Delaware firm with a non-Delaware firm with either the closest ROA or the closest change in ROA in the same year and the same two-digit SIC industry. We continue to find that near insolvent Delaware firms exhibit higher conservatism in the post-ruling period (e.g., in the sample matched by ROA, the coefficient on  $POST \times DEL \times HEDF93 = 0.347$ ,  $t\text{-stat} = 2.00$ ). These results are reported in columns (i) and (ii) of panel A in the online appendix table A15.

*6.3.2. Holding Firms' Near Insolvency Status Constant.* It is possible that, throughout our sample period, Delaware firms moved out of near insolvency status, thereby taking themselves out of the scope of the court ruling. To address this concern, we restrict our sample to those Delaware and non-Delaware firms that consistently appear to be near insolvent, i.e., with annual EDF scores consistently in the highest quartile (693 observations) or consistently above median (3,774 observations) throughout the sample period. As our results in columns (iii) and (iv) in panel A of online appendix table A15 indicate, the effect of the court ruling on conservatism for near insolvent Delaware firms remains positive and significant (column (iii):  $\beta_7 = 1.584$ ,  $t\text{-stat} = 1.88$ ; column (iv):  $\beta_7 = 0.624$ ,  $t\text{-stat} = 2.75$ ) when firms' near insolvency status is held constant. Thus, our findings do not appear to be confounded by Delaware firms moving out of the near insolvency zone.

*6.3.3. Shorter Pre- and Post-Ruling Periods.* As we discuss in section 3.1, a fundamental assumption in our paper is that a firm's near insolvency status does not change throughout the whole sample period. In order to minimize concerns about the fixed near insolvency measure across years, we rerun model (1) using shorter pre- and post-ruling sample periods and summarize the results in panel B of online appendix table A15. Specifically,

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<sup>31</sup>We thank John Graham for providing us with these data (<https://faculty.fuqua.duke.edu/~jgraham/taxform.html>).

we find that the estimated effect of the ruling on conservatism for near insolvent Delaware firms is consistently positive and significant for two-year ( $\beta_7 = 0.369$ ,  $t\text{-stat} = 1.45$ ), four-year ( $\beta_7 = 0.428$ ,  $t\text{-stat} = 2.42$ ), and six-year ( $\beta_7 = 0.513$ ,  $t\text{-stat} = 3.54$ ) event windows.<sup>32</sup> The robustness of results on shortened event windows further supports our main findings by not only validating our definition of *HEDF93* but also ruling out the possible confounding events during a longer period.

#### 6.4 CONTROLLING FOR POSSIBLE SELECTION BIASES

A firm's state of incorporation and near insolvency status may not be random; rather, they can be driven by factors that also affect financial reporting choices. We address such selection biases using Propensity Score Matching methodology.

*6.4.1. Possible Selection Bias of Near Insolvent Firms.* Deteriorating performance and/or financial constraints systematically drive firms to be near insolvent. We control for such variables by implementing propensity score matching on firms' near insolvency status. In the first stage, we estimate a logit regression model following Jones and Hensher [2004], where the explanatory variables for the probability of  $HEDF93 = 1$  include a new economy indicator, cash resources deflated by total assets, operating cash flow deflated by total assets, debt–equity ratio, cash flow interest coverage ratio (i.e., operating cash flow deflated by net interest expense), and industry and year dummies as tabulated in panel A of online appendix table A16. We then use the predicted propensity of being near insolvent obtained from this model to match non-near insolvent firms ( $HEDF93 = 0$ ) with near insolvent firms ( $HEDF93 = 1$ ). In this matched sample we again find that the post-ruling increase in conservatism is larger for near insolvent Delaware firms ( $\beta_7 = 0.385$ ,  $t\text{-stat} = 2.15$ )—see panel B of online appendix table A16.

*6.4.2. Possible Selection Bias of State of Incorporation.* Prior studies suggest that firms strategically choose to incorporate in certain states like Delaware, and this decision can improve firm value (Daines [2001], Bebchuk and Cohen [2003]). More recently, Litwak [2011] provides evidence that the results of increased firm value and performance among Delaware incorporated firms disappear after controlling for the general choice of out-of-state incorporation. Although the literature is in disagreement over the influence of Delaware incorporation choice on firm behaviors, we still conduct an additional analysis by matching Delaware and non-Delaware companies

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<sup>32</sup> The marginal significance for the two-year event window is probably due to two reasons: (1) conservatism measures are estimated over multiple years (e.g., *C.ACRR* and *C.SKEW*) to mitigate the impact of any temporary large accruals, and thus the change in conservatism over a short period may be small; (2) the effect of the ruling may also need more than one year to take hold.



based on firms' propensity to incorporate in Delaware to rule out the concern that the observed post-ruling increase in conservatism in near insolvent Delaware firms is related to factors that have driven the firm's decision to incorporate in Delaware. We first estimate the probability of being incorporated in Delaware using firm characteristics identified by Bebchuk and Cohen [2003], which include log of sales, Tobin's Q, ROA, number of employees, firm age, indicator variables for the state of business, and two-digit SIC industry dummies (see panel A of online appendix table A17). In the sample matched on the propensity score of being incorporated in Delaware, our main result on the larger post-ruling increase in conservatism for near insolvent Delaware firms ( $\beta_7 = 0.394$ ,  $t\text{-stat} = 1.82$ ) remains consistent with those reported in table 4 (see panel B of online appendix table A17).

### 6.5 OTHER CONFOUNDING EVENTS

Last, our finding may be confounded by events that were concurrent to the court ruling in 1991. For example, a number of state antitakeover laws came into effect in the late 1980s–early 1990s and the passage of some of these laws coincided with our sample period. Armstrong, Balakrishnan, and Cohen [2012] document that Delaware adopted a stronger version of these laws in 1988, and further find that the adoption of state antitakeover laws led to increased financial statement informativeness. Their results suggest that the adoption of antitakeover provisions could confound our finding of increased accounting conservatism after the 1991 court ruling (Jayaraman and Shivakumar [2013]). To mitigate this concern, we extend the sample period to include the years 1998–2001, when adoptions of antitakeover laws should have been completed across all state jurisdictions and their possible effects on conservatism should be stable. We rerun our analysis on the extended period (i.e., 1988–1991 as pre-ruling period and 1993–2001 as post-ruling period) and still find a positive and significant sign on  $POST \times DEL \times HEDF93$  ( $\beta_7 = 0.414$ ,  $t\text{-stat} = 3.93$ ) as reported in online appendix table A18. Therefore, the adoption of the state antitakeover laws is ruled out as an alternative explanation for our main results.

## 7. Conclusion

A 1991 Delaware court ruling expanded the scope of director fiduciary duties to include creditors for near insolvent Delaware firms. We exploit this natural event setting to establish a causal relation between accounting conservatism and debtholders' demand. We find that near insolvent Delaware firms increased their conservatism in the period following the court ruling and this effect is more pronounced in near insolvent Delaware companies with stronger boards. The results are robust to alternative measures of conservatism and near insolvency status, controlling for operational changes, covenant violations, declines in firm performance, selection biases of the near insolvency status and the state of incorporation,

other stakeholders' demand for conservatism, and confounding events like the adoption of state antitakeover laws. Our findings provide evidence to support the casual link between debtholders' demand and accounting conservatism as suggested in the literature. The study also offers some insights into the role of boards in financial reporting and suggests that litigation risk arising from fiduciary obligations is one reason why boards may influence financial reporting decisions.

## APPENDIX

### *Definitions of Variables*

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#### Conservatism Measures

<i>CRANK_ACCR</i>	=	Deciles rank of <i>C_ACCR</i> , where <i>C_ACCR</i> is a measure of negative non-operating accruals and calculated as $(-1) \times$ the average of non-operating accruals ( $NI + DP - OANCF + RECCH + INVCH + APALCH + TXACH$ ) scaled by total assets ( <i>AT</i> ) over a five-year window (with a minimum of two years) centered in the observation year.
<i>CRANK_SKEW</i>	=	Deciles rank of <i>C_SKEW</i> , where <i>C_SKEW</i> is a measure of earnings skewness and calculated as $(-1) \times$ the skewness of earnings ( <i>IBQ</i> ) scaled by the skewness of cash flows ( <i>OANCFY</i> ) over a 20-quarter window (with a minimum of five quarters) centered in the observation year.
<i>CRANK_PZ</i>	=	Deciles rank of <i>C_PZ</i> , where <i>C_PZ</i> is a measure of unrecorded reserves on the firm's balance sheet at the end of the observation year and calculated as the sum of (i) LIFO reserve as reported in the financial statement, LIFR, (ii) R&D reserve that would have been on the balance sheet if R&D expenditures, XRD, had been capitalized and amortized using the industry coefficients estimated by Lev and Sougiannis [1996], and (iii) advertising reserve that would have been on the balance sheet if advertising expenditures, XAD, had been capitalized and amortized using a sum-of-the-year's digits method over two years, deflated by net operating assets ( $CEQ - DVPA + DLC + DLTT + PSTK + DVPA - CHE - IVAO + MIB$ ) (Penman and Zhang [2002]).
<i>CRANK_ALL</i>	=	A composite conservatism measure calculated as the simple average of the three-dimensional conservatism ranks for the observation year, that is, $(CRANK\_ACCR + CRANK\_SKEW + CRANK\_PZ)/3$ .

#### Case ruling-related measures

<i>POST</i>	=	A dichotomous variable equal to 1 if the calendar year is in the post-ruling period of 1993–1996, and 0 if in 1988–1991.
<i>DEL</i>	=	A dichotomous variable equal to 1 if the firm is incorporated in the State of Delaware and 0 otherwise.

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(Continued)

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<i>HEDF93</i>	=	A dichotomous variable equal to 1 if <i>EDF93</i> , that is, the EDF score in the year 1993 when the case ruling became effective, is ranked in the top quartile of its distribution and 0 otherwise, where EDF score is Estimated Default Frequency for a firm to measure the bankruptcy probability in a year implied in the stock price and based on the Merton model.
Control variables for firm characteristics		
<i>LN MVE</i>	=	Nature log of <i>MVE</i> , where <i>MVE</i> is measured as market value of equity at the beginning of the observation year ( $PRCC.F \times CSHO$ ).
<i>LEV</i>	=	Total liabilities (LT) divided by total assets (AT), both measured at the beginning of the observation year.
<i>BTM</i>	=	The ratio of book value equity (CEQ) to market value equity ( $PRCC.F \times CSHO$ ), both measured at the beginning of the observation year.
<i>GROWTH</i>	=	Change in total assets (AT) from the prior year divided by year-beginning total assets.
<i>LITIG</i>	=	A dichotomous variable equal to 1 if the firm is in a high litigation risk industry (SIC codes 2833–2836, 3570–3577, 3600–3674, 5200–5961, 7370–7374), and 0 otherwise.
<i>INSTOWN</i>	=	The average percentage of institutional ownership over the four quarters of the prior year, using Spectrum 13F institutional holdings data.
Board governance measure		
<i>BSCORE</i>	=	<p>A composite measure of board governance that is equal to the sum of the following four dichotomous variables: <i>D_SMBRD</i>, <i>D_MAJIND</i>, <i>D_ACCEXP</i>, and <i>D_INDEXP</i>.</p> <p>(i) <i>D_SMBRD</i> is a dichotomous variable equal to 1 if the total count of directors on the board is smaller than the sample median (8) and 0 otherwise;</p> <p>(ii) <i>D_MAJIND</i> is a dichotomous variable equal to 1 if the percentage of independent directors is 50% or above and 0 otherwise;</p> <p>(iii) <i>D_ACCEXP</i> is a dichotomous variable equal to 1 if at least one independent director on the board has accounting expertise and 0 otherwise, where accounting expertise is defined as having any prior experience as being a CFO, a CPA, an accountant, or an auditor;</p> <p>(iv) <i>D_INDEXP</i> is a dichotomous variable equal to 1 if at least one independent director on the board has industry expertise and 0 otherwise, where industry expertise is defined as having any prior experience in another firm that operates in the same two-digit primary SIC industry as the focal firm. All board characteristics variables are calculated using Compact Disclosure data.</p>

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