Shareholder litigation rights and CEO turnover decisions: evidence from securities class action lawsuits

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Abstract

This paper investigates the impact of shareholder litigation rights on CEO turnover decisions. We exploit an unanticipated court decision that reduced the risk of securities class action lawsuits for firms headquartered in the Ninth Circuit. We find that, relative to CEOs of firms outside of the Ninth Circuit, the sensitivity of forced turnover to stock returns is lower for CEOs of Ninth Circuit firms after the court ruling. Reduced director monitoring incentives likely explain this result. We find that directors of Ninth Circuit firms attend fewer meetings and hold more external board positions after the court decision. The findings of this study contribute to the debate on the importance of shareholder litigation in corporate governance.

Keywords: *Shareholder litigation rights, securities class action lawsuit, CEO turnover, corporate governance*

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1. Introduction

One of the major functions of the board of directors is to hire a CEO who will maximise shareholder value. In the event that the CEO fails to maximise value for shareholders, it is the board of director's responsibility to dismiss the incumbent CEO. However, whether directors adequately perform this duty depends on their incentives to monitor and act in shareholders' best interests. Directors who have inadequate incentives, who have become captured by the CEO, or who are distracted may fail to fire an underperforming CEO (Hwang and Kim, 2009; Coles et al., 2014; Guo and Masulis, 2015; Chen et al., 2019; Masulis and Zhang, 2019). We test this prediction in this paper by examining whether the susceptibility of directors to litigation affects their decision to dismiss an underperforming CEO.

The effect of shareholder litigation rights on CEO turnover-performance sensitivity is ambiguous. On the one hand, shareholder ligation rights are an important governance mechanism that can ensure managers and directors act in shareholders' best interests by providing shareholders with a means to seek retribution in the event of wrongdoing by corporate officers or directors (Shleifer and Vishny, 1997; Porta et al., 1998).[1] Since shareholder litigation can impose significant reputational costs on directors and limit their opportunities in the market for directorships (Fich and Shivdasani, 2007; Ferris et al., 2007; Liu et al., 2016), directors have heightened incentives to monitor when the firm operates in a strong litigious environment. Thus, through enhancing directors' monitoring incentives, shareholder litigation rights can increase the likelihood that the board dismisses an underperforming CEO.

On the other hand, shareholders with strong litigation rights may adopt a passive approach to firm monitoring since litigation can act as an ex-post governance tool after wrongdoing has occurred (Pukthuanthong et al., 2017). Therefore, facing less active monitoring from shareholders, directors may not monitor as effectively in a strong litigious environment. Under this hypothesis, CEO turnover should be less sensitive to firm performance when shareholders possess strong litigation rights. Thus, the effect of litigation risk on CEO turnover-performance sensitivity is left as an empirical question, which we explore in this paper.

There are several challenges that make it difficult to empirically establish a link between ex-ante litigation risk and firm outcomes. Prior research on securities class actions focuses on stock market reactions to lawsuit announcements or firm outcomes after settlement (McTier and Wald, 2011; Brochet and Srinivasan, 2014). Other studies employ measures of litigation risk such as industry membership or estimated litigation probabilities based on regressions of actual lawsuits on corporate behavior (Francis et al., 1994; Arena and Julio, 2023; Arena and Julio, 2015; Kim and Skinner, 2012). These measures,

[1] Previous empirical studies show that firms face a higher cost of capital when shareholders' ability to discipline managers through legal action is reduced (Houston et al., 2018; Ni and Yin, 2018).

however, are likely subject to endogeneity concerns since they are likely correlated with unobservable firm characteristics.

To overcome endogeneity issues, our empirical strategy exploits a 1999 Ninth Circuit Court of Appeals ruling. The Private Securities Litigation Reform Act (PSLRA) requires proof of scienter for plaintiffs in securities class actions. Proof of scienter requires plaintiffs to demonstrate knowledge of wrongdoing. On July 2 1999, the Ninth Circuit Court of Appeals made a ruling that made it more difficult for plaintiffs in the circuit to satisfy this requirement (Re: Silicon Graphics Inc. Securities Litigation, 183 F.3d 970): to form a class, plaintiffs have to show that the defendants acted with deliberate recklessness, which is a stricter requirement compared to other circuits. This decision by the Ninth Circuit Court of Appeals made it more difficult for plaintiffs to initiate a securities class action lawsuit (Pritchard and Sale, 2005), thus reducing litigation risk for firms in this circuit. We use a difference-in-differences model around the Ninth Circuit court ruling to test the effect of (reduced) litigation risk on the sensitivity of CEO turnover to performance. The Ninth Circuit court ruling is a plausible exogenous shock to directors' litigation risk, and thus, endogeneity is less likely to be an issue in this setting.

We focus on the sensitivity of CEO turnover to stock returns. In particular, we examine how the sensitivity of CEO turnover to stock market performance is affected by the Ninth Circuit court ruling.[2] We find that the negative relation between stock market performance and CEO turnover is less pronounced for firms that are located in a Ninth Circuit state after the Ninth Circuit court ruling. Since the Ninth Circuit court ruling reduces litigation risk for firms, this finding suggests that directors are less likely to dismiss a CEO after poor performance when the firm faces lower litigation risk. Economically, the probability of a forced CEO dismissal increases by 0.561 percentage points for a one standard deviation decline in the firm's stock return for a firm outside of the Ninth Circuit. In contrast, for a firm in the Ninth Circuit, the probability of a forced CEO dismissal increases by 0.1 percentage points for a one standard deviation decline in the firm's stock return.[3]

The main results of this paper are robust to alternative econometric models and various other settings. First, the main tests use ordinary least squares with firm and year fixed effects to examine the effect of the Ninth Circuit court ruling on CEO turnover. The same inference is drawn when we use either logistic regressions or a Cox proportional hazard model, as is common in other papers that examine CEO turnover (Jenter and Kanaan, 2015; Jenter and Lewellen, 2021). Second, the results are also robust to the exclusion of

[2]The main results of this paper use firms' raw stock returns (while controlling for industry performance) as a proxy for CEO performance. However, directors may not consider raw stock returns when evaluating CEO turnover decisions since raw stock returns may include systemic factors that are out of the CEO's control. Thus, raw stock returns may not be informative of the CEO's performance. Therefore, we follow Jenter and Kanaan (2015) and decompose firms' stock returns into firm-specific and market-wide components. Consistent with the main tests, we find that forced CEO turnover is less sensitive to the firm-specific component of the firm's stock return (which is attributable to the CEO's performance) after the Ninth Circuit court ruling.

[3]These calculations are based on the coefficient estimates in column 5 of Table 3

technology firms, which experienced the dotcom bubble burst in 2000, and are robust to controlling for industry and state dynamics by including industry×year and state×year fixed effects respectively in place of year fixed effects. Third, the main results hold in a propensity score matched sample, which further alleviates concerns that the main results are driven by unobserved firm heterogeneity.

Finally, shareholders may pursue a derivative lawsuit instead of a securities class action lawsuit. Since shareholders have multiple avenues to pursue litigation, we test if the main results are unique to securities class action lawsuits, or if they hold more generally for other types of litigation. Specifically, we exploit the staggered adoption of universal demand (UD) laws across 23 US states, which significantly raise procedural hurdles for shareholders seeking to initiate a derivative lawsuit.[4] Consistent with the Ninth Circuit ruling, we find that CEO turnover-performance sensitivity is lower after the adoption of UD laws. Since the adoption of UD laws is staggered through time, these results address concerns that the documented effect is limited to one specific event or time-period.

Next, we shed light on the channels through which the Ninth Circuit court ruling reduces CEO turnover-performance sensitivity. We argue that this reduction is due to a decline in the effectiveness of board monitoring after the court ruling. Therefore, the effect should be more pronounced for firms that are ex-ante more reliant on shareholder litigation rights to induce effective board monitoring. We use ex-ante institutional ownership to proxy for firms' reliance on the threat of litigation. Institutional owners are more sophisticated than other investors and can influence firms through active monitoring or the threat of exit. Hence, sophisticated institutional owners are less likely to rely on securities class action lawsuits (or other types of litigation) to discipline managers (i.e. institutional monitoring can act as a substitute for litigation). Consistent with this notion, we find that the dampening effect of a decrease in litigation risk on CEO performance-turnover sensitivity is concentrated mostly amongst firms who have relatively low levels pre-shock institutional ownership.

Crane and Koch (2018) find that Ninth Circuit firms experienced an increase in institutional ownership and ownership concentration after the 1999 court ruling. They further find that such changes in ownership likely substitute for a loss of governance through reduced threat of litigation. Therefore, we further explore whether monitoring from sophisticated institutional investors can act as a substitute for shareholder litigation rights in the setting of CEO turnover decisions by distinguishing between firms that experience an increase in institutional ownership after the court ruling and those that experience a decrease. We provide evidence that the decrease in the sensitivity of CEO dismissal to performance is only present among firms that do not experience an increase in institutional ownership after the Ninth Circuit court ruling, consistent with a substitution of

[4]Studies in this area have found that the adoption of UD laws are associated with worsening corporate governance, lower cash holdings, a higher cost of capital, increased insider trading, and increased CEO compensation (Houston et al., 2018; Nguyen et al., 2018; Appel, 2019).

litigation rights for institutional monitoring.

Next, to further substantiate the argument that lower CEO turnover-performance sensitivity after the Ninth Circuit court ruling is due to dampened director monitoring incentives, we examine director monitoring quality after the court decision. Previous research shows that directors attend fewer board meetings when they face distracting events such as major health problems or winning awards (Masulis and Zhang, 2019). Consistent with directors exerting less monitoring effort when they face lower litigation risk, we find that directors of firms in Ninth Circuit states attend fewer meetings after the Ninth Circuit court ruling. Moreover, we find that the decline in director meeting attendance is mainly concentrated among directors who are members of the audit committee, likely because these directors face the greatest reputational costs from securities class action lawsuits. This latter finding is consistent with Brochet and Srinivasan (2014), who find that audit committee members are more likely to be named as defendants in securities class actions.

We further examine the number of board positions held by directors after the Ninth Circuit court ruling. We argue that, if directors exert less monitoring effort when they face lower litigation risk, then this should free up capacity for them to take on additional board positions. Consistent with this argument, we find an increase in the number of directorships for directors who sit on at least one Ninth Circuit board following the court ruling.

This paper contributes to the literature that studies how firms choose and monitor their CEO. Theoretical models assume that directors are unable to fully observe CEO skill at the time of hiring, and hence, that their knowledge of CEO skill updates over time as they observe firm performance and receive other signals (Hirshleifer and Thakor, 1994; Hirshleifer and Thakor, 1998; Eisfeldt and Kuhnen, 2013; Jenter and Kanaan, 2015). Once the board's estimate of the CEO's skill falls below some threshold, such as when the cost of keeping the incumbent CEO is greater than the cost of hiring a new CEO, the incumbent CEO is dismissed and a new CEO is hired. Empirical studies generally find support for the hypothesis that CEOs are dismissed when they underperform relative to the market or to industry peers (Coughlan and Schmidt, 1985; Warner et al., 1988; Weisbach, 1988; Jenter and Kanaan, 2015; Jenter and Lewellen, 2021). However, whether the CEO is dismissed after underperformance depends on the board's monitoring incentives. Previous studies show that CEOs are relatively insulated from underperformance when there are fewer outside directors on the board (Weisbach, 1988; Guo and Masulis, 2015), when the board is busy (Fich and Shivdasani, 2007), when directors have social ties to the CEO (Hwang and Kim, 2009), and when directors are captured by the CEO (Coles et al., 2014; Chen et al., 2019). This paper contributes to this literature by showing that directors' litigation risk also affects monitoring quality and hence the sensitivity of CEO turnover to performance.

This paper also contributes to the literature that studies shareholder litigation rights. Litigation rights are viewed as an important governance device for shareholders (Shleifer and Vishny, 1997; Porta et al., 1998). However, concerns exist that a large number of securities class action lawsuits are frivolous and merely transfer wealth from one group of investors to another, or exist as a means for private attorneys to extract legal fees from shareholders (Alexander, 1990; Helland, 2006). Some prior research finds evidence that the threat of securities class actions improves corporate governance (Crane and Koch, 2018), while others provide evidence that securities class action lawsuits have little impact on governance (Helland, 2006). Arena et al. (2021) and Huang et al. (2020) find an increase in corporate tax avoidance and real earnings management, respectively, after the Ninth Circuit court ruling. Both of these studies report evidence that their findings are likely managerial motivated. On the other hand, Hassan et al. (2021) find that strong shareholder litigation rights prior to the court ruling promote myopic behaviour, as firms increase R&D after the court ruling. This study contributes to this debate by providing evidence that the threat of securities class action lawsuits improves corporate governance through director monitoring.

This paper proceeds as follows. Section 2 provides a background on securities class action lawsuits and the Ninth Circuit court ruling, section 3 describes the methodology and data sources, section 4 discusses the main results, section 5 tests the channels, seciton 6 presents robustness tests, and section 7 concludes.

2. Background and hypotheses

2.1. Securities Class Actions and the Ninth Circuit Court Ruling

A securities class action is a means by which a large group of investors can recover damages from firms after fraudulent statements by top managers. Since defending securities class actions is often very costly, defendants often opt to settle suits quickly. Thus, historically, many securities class action lawsuits have been frivolous and are simply a means for plaintiff law firms to extract a quick settlement. In response, the US Congress enacted the Private Securities Litigation Reform Act (PSLRA) in 1995, which requires plaintiffs to provide proof of scienter (the defendant acted with intent or knowledge of wrong-doing). However, the exact interpretation of the pleading standard is left to each circuit court.

On July 2, 1999, the Ninth Circuit Court of Appeals issued a ruling (Re: Silicon Graphics Inc. Securities Litigation, 183 F. 3d 970) that resulted in a stricter interpretation of the pleading standard compared to other circuits (Johnson et al., 1999). The Ninth Circuit court ruled that "plaintiffs proceeding under the PSLRA must plead, in great detail, facts that constitute strong circumstantial evidence of deliberately reckless or conscious misconduct." This requirement is stricter compared to other circuits, which merely require plaintiffs to provide facts showing simple recklessness or a motive to com-

mit fraud and the opportunity to do so. Empirical evidence suggests that this decision by the Ninth Circuit Court of Appeals reduced the number of securities class action lawsuits filed in the Ninth Circuit. Pritchard and Sale (2005) find evidence that the rate of lawsuit dismissal is higher in the Ninth Circuit compared to the Second Circuit after the Silicon Graphics decision, and Crane and Koch (2018) find a reduction in the number of lawsuits filed in the Ninth Circuit after the decision. Overall, it is likely that the Silicon Graphics decision represents an exogenous shock to litigation risk for Ninth Circuit firms. Especially since, prior to the decision, the Ninth Circuit was regarded as one of the least strict circuits for plaintiffs.

2.2. Hypotheses

We propose two competing hypotheses to explain the effect of reduced litigation risk after the Ninth Circuit court ruling on CEO turnover decisions. First, securities class action lawsuits are potentially reputation-damaging for top executives and directors. For example, Fich and Shivdasani (2007) study outside directors of firms that are accused of financial fraud and find that, although outside directors do not experience abnormal turnover on the board of the sued firm, they do experience a significant decline in other board seats held. They further find that this effect is stronger for more severe cases of financial fraud and when outside directors are more responsible for monitoring financial fraud. Similarly, Ferris et al. (2007) find evidence that the proportion of outside directors on boards increases after shareholders file derivative lawsuits. Liu et al. (2016) study environmental, antitrust, intellectual property (IP) and contractual lawsuits in the US and find that CEOs face poorer employment prospects following lawsuits.

Therefore, directors of firms that face high litigation risk have greater incentives to monitor the CEO and act in shareholders' best interests in order to avoid class action lawsuits and protect their reputation and potential to gain directorships in the future. If directors exert more effort in monitoring, then they should be more likely to replace a CEO if the firm performs poorly. It follows that, after the Ninth Circuit court ruling when Ninth Circuit firms are relatively protected from Securities Class Action lawsuits, board monitoring will decline and directors will be less likely to replace an underperforming CEO. Formally, our first hypothesis is:

H1: The sensitivity of forced CEO dismissal to firm performance is lower for Ninth Circuit firms (relative to non-Ninth Circuit firms) after the Ninth Circuit court ruling.

It is possible that reduced litigation risk increases the sensitivity of forced CEO dismissals to firm performance. Shareholders with strong litigation rights may adopt a passive approach to firm monitoring since litigation can be invoked after wrongdoing has occurred. Pukthuanthong et al. (2017) find evidence that short-term investors rely more on litigation compared to firm monitoring. Therefore, if firms face less scrutiny

from shareholders when they face a high probability of litigation, directors may exert less monitoring effort compared to when the firm faces a low probability of litigation, implying a negative effect of litigation risk on turnover-performance sensitivity. In our setting, this hypothesis suggests that CEO turnover should be more sensitive to performance for Ninth Circuit firms after the Ninth Circuit court ruling since shareholders will actively monitor the firm when their litigation rights are suppressed. Thus, the alternative hypothesis is:

H2: The sensitivity of forced CEO dismissal to firm performance is higher for Ninth Circuit firms (relative to non-Ninth Circuit firms) after the Ninth Circuit court ruling.

3. Research design, variables, and data

3.1. Empirical model

Our empirical strategy exploits the 1999 Ninth Circuit Court of Appeals ruling in Re: Silicon Graphics Inc. Securities Litigation, 183 F.3d 970 in order to examine the impact of reduced shareholder litigation rights on the sensitivity of CEO turnover to performance. We estimate the following difference-in-differences (DiD) specification following Dasgupta et al. (2018) and Wu and Zhang (2019):

$$\begin{aligned}\text{Turnover}_{it} =& \beta_1 \text{Ninth Circuit}_s + \beta_2 \text{Post}_t + \beta_3 \text{Ninth Circuit}_s * \text{Post}_t + \beta_4 \text{Performance}_{it} \\ &+ \beta_5 \text{Ninth Circuit}_s * \text{Performance}_{it} + \beta_6 \text{Post}_t * \text{Performance}_{it} \\ &+ \beta_7 \text{Ninth Circuit}_s * \text{Post}_t * \text{Performance}_{it} + \varepsilon_{ist} \end{aligned} \quad (1)$$

Where i indexes firms, s indexes firms' state of incorporation, and t indexes years. Turnover is a dummy variable that is equal to one if the firm experiences a forced CEO turnover in the year t and 0 otherwise, performance is the firm's annual stock return, Ninth Circuit is a dummy variable equal to one if the firm's headquarters are in the Ninth Circuit (Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington), and Post is a dummy variable equal to one if the year is 2000-2003.

The main focus of this paper is whether turnover is less sensitive to performance in Ninth Circuit firms after the Ninth Circuit court ruling. The coefficient on performance (β_4) is performance-turnover sensitivity for non-Ninth Circuit firms before the 1999 court ruling. The coefficient on the interaction term (β_7) is the change in turnover-performance sensitivity for Ninth Circuit firms relative to non-Ninth Circuit firms after the 1999 court ruling. Thus, this interaction term is the main coefficient of interest. If turnover is sensitive to performance, then β_4 is expected to be negative. If turnover is less sensitive to performance after the court ruling, then β_7 is expected to be positive.

The main tests use a linear probability model (estimated using ordinary least squares).

However, previous papers that study CEO turnover employ non-linear models such as logistic or Cox proportional hazard regressions (Jenter and Kanaan, 2015; Jenter and Lewellen, 2021). Therefore, we also estimate equation (1) using these alternative methodologies as robustness tests.

3.2. CEO turnover

We focus on forced CEO dismissals as the main dependent variable. We identify forced CEO turnovers from the CEO dismissal database (Gentry et al., 2021). The CEO dismissal database groups the reason for a CEO departure into 9 categories.[5] Of these 9 categories, we focus on category (3) (Involuntary – CEO dismissed for job performance), which is defined as 'the CEO stepped down for reasons related to job performance. This included situations where the CEO was immediately terminated as well as when the CEO was given some transition period, but the media coverage was negative. Often the media cited financial performance or some other failing of CEO job performance (e.g., leadership deficiencies, innovation weaknesses, etc.).'

3.3. Performance measures

The main measure of performance that we consider in this study is the firm's stock return. The main tests use the firm's raw stock return. However, raw stock return may not be informative of the CEO's individual performance, as it may include systemic factors that are out of the CEO's control. Hence, as a robustness test, we use the firm's excess return relative to their two-digit SIC industry peers and re-estimate equation (1) using excess stock returns as a proxy for CEO performance.

3.4. Data sources

Data on CEO turnover comes from the ExecuComp database by identifying instances where there is a change of CEO. Of these turnover events, we identify which are forced from the CEO dismissal database (Gentry et al., 2021).[6] We also obtain information about CEOs' equity, compensation, age, and tenure from ExecuComp. We obtain data on firms' accounting performance and control variables from the Compustat database, data on firms' stock market performance from CRSP, and institutional ownership data from the Thomson Reuters 13f filing database. We further collect information on director meeting attendance and other board characteristics from Institutional Shareholder Services (ISS).

[5] These categories include: (1) Involuntary - CEO death, (2) Involuntary - CEO illness, (3) Involuntary – CEO dismissed for job performance, (4) Involuntary - CEO dismissed for personal issues, (5) Voluntary - CEO retired, (6) Voluntary - new opportunity (new career driven succession), (7) Other, (8) Missing, (9) Execucomp error.

[6] The CEO dismissal database can be accessed here.

3.5. Sample and summary statistics

The main sample in this study consists of 7,535 firm-year observations, which covers 1,657 firms and spans the period 1995-2003, excluding 1999 (the year of the Ninth Circuit court ruling). We exclude utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms from the sample. We require firms to have non-missing data for the main and control variables, and to have at least one year of data in both the pre (1995-1998) and post (2000-2003) period. In total, of the 1,657 firms in the sample, 374 are incorporated in a state in the Ninth Circuit; and of the 7,535 firm-years, 1,664 are of firms in the Ninth Circuit. Table 1 presents summary statistics for the main variables considered in this study. It shows that a CEO turnover occurs in approximately 16% of all firm-years, and that a forced turnover occurs in approximately 2% of all firm-years.

4. Results and discussion

4.1. Univariate tests of the Ninth Circuit court ruling on CEO turnover-performance sensitivity

Table 2 presents univariate difference-in-differences tests of the effect of the Ninth Circuit court ruling on CEO turnover and forced CEO turnover. This table reports pre- (1995-1998) and post-court ruling (2000-2003) rates of CEO dismissal separately for firms headquartered in Ninth Circuit states and firms headquartered in other states. It also reports differences in turnover rates (t-statistics in parentheses) from the pre- to post-period, as well as the difference-in-differences. This table shows a lower rate of CEO turnover and forced CEO turnover in Ninth Circuit firms after the 1999 court ruling. Focusing on firms outside of the Ninth Circuit, Table 2 reveals a lower rate of turnover and a higher rate of forced turnover after the court ruling. Further, both of these differences are statistically significant relative to changes in turnover rates for firms outside of Ninth Circuit states. These univariate tests provide preliminary evidence that CEOs are less likely to be dismissed when shareholder litigation rights are weakened.

4.2. Multivariate tests of the Ninth Circuit court ruling on CEO turnover-performance sensitivity

This section presents multivariate tests of the effect of the Ninth Circuit court ruling on the sensitivity of CEO turnover to performance from equation (1). Coefficient estimates are presented in Table 3. For each specification, we present results with and without control variables. Models (1) and (2) do not use fixed effects, models (3) and (4) include industry and year fixed effects, and models (5) and (6) include firm and year fixed effects. Standard errors are clustered at the state level.[7]

[7] Results are robust to clustering standard errors at the firm and firm-year levels.

As expected, stock return is negative and significant in all but one model in Table 3, meaning that CEOs are more likely to be dismissed if the firm's stock market performance is poor. Moreover, the main variable of interest, Ninth Circuit*Post*Stock return, which is the difference in the change in CEO performance-sensitivity between Ninth Circuit and non-Ninth Circuit firms before and after the court ruling, is positive and significant in all specifications. A positive coefficient suggests that CEOs of Ninth Circuit firms are less likely to experience a forced dismissal after poor stock market performance after the court ruling. Economically, the probability of a forced CEO dismissal increases by 0.561 percentage points for a one standard deviation decrease in the firm's stock return for a firm outside of the Ninth Circuit. In contrast, for a firm in the Ninth Circuit, the probability of a forced CEO dismissal increases only by 0.1 percentage points for a one standard deviation decrease in the firm's stock return.[8]

4.3. Tests of parallel trends assumption

In this section, we test the validity of the difference-in-differences setting by investigating the parallel trends assumption. This assumption requires that, in the absence of treatment, the difference in the outcome variable of interest between the treatment and control groups is constant through time. To test this assumption, we re-estimate equation (1) and include a series of dummy variables for each year relative to the Ninth Circuit court ruling. Since we are interested in the effect of the court ruling on the sensitivity of turnover to performance, we interact each of these dummy variables with stock return:

$$\text{Turnover}_{it} = \sum_{t=-3}^{3} \theta_t \text{Ninth Circuit}_{st} + \beta_1 \text{Performance}_{it} + \sum_{t=-3}^{3} \delta_t \text{Ninth Circuit}_{st} * \text{Performance}_{it} + \omega_i + \tau_t + \varepsilon_{ist} \quad (2)$$

Results from the parallel trends tests are presented in Table 4. Column (1) shows results without control variables and column (2) shows results with control variables. In both models, Ninth Circuit$_{t-3}$, Ninth Circuit$_{t-2}$, and Ninth Circuit$_{t-1}$ are statistically insignificant. However, Ninth Circuit$_{t+4}$ is negative and significant. These results indicate the absence of a pre-treatment effect.

Further, in both column (1) and column (2) of Table 4, we find that the interaction of the pre-treatment dummies with stock return are also statistically indistinguishable from 0. This finding suggests that there is no difference in the sensitivity of forced CEO dismissals to stock returns between treatment and control firms prior to the 1999 court ruling. However, we find that the interaction of stock return and the $t+3$ and $t+4$

[8] These calculations are based on the coefficients on column (5).

dummies are positive and significant, indicating that turnover-performance sensitivity is closer to 0 in these years for firms that are in the Ninth Circuit. Figure (1) graphs the difference in turnover-return sensitivity through time with 95 percent confidence intervals. This graph shows no difference in turnover-performance sensitivity pre-court ruling, consistent with the regression results.

4.4. Propensity score matching

In this section, we construct a propensity score matched sample of control firms to address the concern that the main results are driven by systematic differences between Ninth Circuit and non-Ninth Circuit firms. First, we estimate propensity scores based on firm characteristics using a logit model. Next, we follow Huang et al. (2020) and match each treated (Ninth Circuit) firm to one control (non-Ninth Circuit) firm based on estimated propensity scores in 1998, with replacement. We then estimate equation (1) using the propensity score matched sample.

Results of the propensity score matched sample tests are presented in Table 5. Before testing the effect of the Ninth Circuit court ruling on turnover-performance sensitivity in the propensity score matched sample, we compare firm characteristics for the matched treated and control firms. Panel A of Table 5 shows that there are no statistically significant differences in means between the two groups.

Panel B of Table 5 presents results from estimating equation (1) on the matched sample. We continue to find a decrease in the sensitivity of forced CEO dismissals to stock returns in the post-ruling period for firms in the Ninth Circuit. Thus, these tests somewhat alleviate concerns that the results are driven by differences in firm characteristics between Ninth Circuit and non-Ninth Circuit firms.

4.5. CEO-specific performance

The baseline results of this paper use raw stock returns as the main CEO performance measure. However, stock returns may include some component that is exogenous to the firm and therefore out of the CEO's control. Theory suggests that, when assessing the quality of the CEO, the board of directors should filter the component of performance that is out of the CEO's control (Jenter and Kanaan, 2015). Therefore, in this section, we test the robustness of our main results to alternative measures of performance that capture the CEO-specific component of performance.

We use firms' excess return relative to firms in the same two-digit SIC code industry as a measure of CEO-specific performance. In particular, every year, we calculate the equal-weighted mean return for every two-digit SIC code and subtract this value from the focal firm's stock return. We then re-estimate equation (1) and replace the firm's raw stock return with the firm's excess return. Results from these tests are presented in

Table 6. The results from these tests are largely consistent with results in Table 3: there is a negative relation between CEO performance, and the interaction of Ninth Circuit and CEO performance is positive and significant.

5. Channel tests

In this section, we attempt to shed light on the channels through which reduced litigation risk affects CEO turnover decisions.

5.1. Substitution of institutional monitoring

We begin by exploring whether the effect of the Ninth Circuit court ruling on CEO turnover-performance sensitivity varies by ex ante institutional ownership. Institutional owners are more sophisticated than other investors and can influence firms through active monitoring or the threat of exit. Hence, sophisticated institutional owners are less likely to rely on securities class action lawsuits (or other types of litigation) to discipline managers. In other words, institutional ownership can act as a substitute for litigation. It therefore follows that Ninth Circuit firms with substantial institutional ownership are impacted less by the court ruling compared to firms with relatively low levels of institutional ownership.

To test this hypothesis, we split our sample firms into high and low institutional ownership in 1998 based on the median level of institutional ownership in 1998. We then re-estimate equation (1) separately for each sub-sample. Results are presented in Panel A of Table 7. Both with and without control variables, we find that the interaction of stock return and Ninth Circuit is only positive and significant in the low institutional ownership sub-sample. Panel A of Table 7 provides support for the hypothesis that sophisticated institutional owners can act as a substitute for shareholder litigation rights, consistent with Crane and Koch (2018). Moreover, these results provide suggestive evidence that litigation rights contribute to corporate governance.

Crane and Koch (2018) find that the level of institutional ownership increases in Ninth Circuit firms after the 1999 court ruling. They further find that firms for which it is likely to be costly for institutions to invest in experience worse operating performance after the court ruling, consistent with institutional monitoring substituting for shareholder litigation rights. We further test the substitution hypothesis by examining CEO turnover-performance sensitivity after the 1999 court ruling separately for firms that experience an increase in institutional ownership after the Ninth Circuit ruling and firms that experience no change or a decline. These tests are presented in Panel B of Table 7. Similar to Panel A, Panel B shows that the decrease in the sensitivity of forced CEO dismissal to performance is concentrated amongst firms that do not experience an adjustment in the level of institutional ownership.

5.2. Board monitoring quality

Next, we explore board monitoring quality after the Ninth Circuit court ruling. We argue that litigation risk can impose reputational costs on directors if they serve on the board during a securities class action, and that such reputational penalties can reduce their opportunities in the market for directorships. Indeed, prior research documents that directors suffer reputational costs if they are named as the defendant in a securities class action lawsuit or a derivative lawsuit (Helland, 2006; Fich and Shivdasani, 2007; Ferris et al., 2007; Liu et al., 2016). Thus, the threat of litigation should provide directors with incentives to monitor and correct action that could lead to litigation in the future. However, if shareholders' litigation rights are suppressed, and directors face relatively low litigation risk, they may lack incentives to take preventative actions. Therefore, in the absence of shareholder litigation rights, directors may not need to exert as much effort in monitoring.

We perform several empirical tests to explore whether director monitoring quality declines after the Ninth Circuit court ruling. First, we examine director meeting attendance. Director meeting attendance data is from the Institutional Shareholder Services (ISS) database. These tests appear in Panel A of Table 8. The dependent variable in these models is the fraction of directors on the board who attend less than 75% of meetings. Panel A of Table 8 shows that the coefficient on Ninth Circuit is positive and statistically significant at the 10 percent level or better in all models. Thus, directors of firms in the Ninth Circuit attend fewer board meetings after the Ninth Circuit court ruling, consistent with directors exerting less monitoring effort when they face lower litigation risk.

Next, we explore the number of board positions held by directors. We assume that directors have limited capacity to take on directorships, and that this capacity is somewhat determined by the intensity of monitoring required by their current boards. Therefore, if a director experiences a shock to the monitoring requirements of any of their current roles, it should free up capacity for the director to take on other positions. We hypothesise that the Ninth Circuit court ruling increases the ability of directors to take on other positions since it reduces the amount of effort they must expend on Ninth Circuit firms.

These tests appear in Panel B of Table 8. The sample for these tests is all directors in the ISS database and data is at the director-year level. Column (1) is estimated via OLS and the dependent variable is the natural log of the number of board positions held. Column (2) presents results from a Poisson model where the dependent variable is the number of board positions held. In these tests, Ninth Circuit is equal to one if the director sits on the board of at least one firm that is located in the Ninth Circuit and the year is 2000-2003. The coefficient on Ninth Circuit is positive and statistically significant in both the OLS and Poisson models. Thus, it appears that directors of Ninth Circuit firms take on additional directorships after the Ninth Circuit court ruling. This finding

is consistent with reduced litigation risk after the Ninth court ruling freeing up capacity for directors to take on other positions.

6. Robustness tests

6.1. Alternative empirical models

The baseline results in Table 3 present results from linear probability models (estimated via OLS). However, prior research on CEO turnover frequently estimates logit or Cox proportional hazard models (Jenter and Kanaan, 2015; Jenter and Lewellen, 2021). Therefore, we repeat our main analysis using these alternative estimation methods. These results are presented in panel A of Table 9. Columns (1) and (2) present results from logit models, and columns (3) and (4) presented results from Cox proportional Hazard models. These tests reveal that the main findings are robust to these alternative estimation methods: the relation between stock return and forced CEO turnover is negative and statistically significant, and the coefficient on the interaction term is positive and statistically significant.

6.2. Dotcom bubble

Huang et al. (2020) point out that Ninth Circuit firms are disproportionately represented by tech firms, which experienced the dotcom bubble burst in 2000. To address the possibility that the results of this study are driven by the dotcom bubble burst, we repeat our main analysis after excluding firms in technology industries. Specifically, we exclude firms with SIC codes beginning in 35 as well as firms with SIC codes 7370, 7371, 7372, 7373, and 7374. we also run tests where we exclude only firms with SIC codes 7370-7374 since firms in these industries are more likely to have been affected by the dotcom bubble.

Results from these tests are presented in Panel B of Table 9. In all four models, the coefficient on stock return is negative and statistically significant, and the coefficient on the interaction of stock return and Ninth Circuit is positive and significant. Thus, it does not appear that the main results of this paper are driven by technology firms and the dotcom bubble burst.

6.3. Industry and state dynamics

Next, we test if the main results are driven by time-varying industry or state characteristics. We do this by repeating the analysis in Table 3 after including firm, industry×year, and state×year fixed effects in place of firms and year fixed effects. Results from these tests are reported in Panel C of Table 9. Models (1) and (2) include industry×year

fixed effects, models (3) and (4) include state×year, and models (5) and (6) include both industry×year and state×year fixed effects. The dampening effect of the Ninth Circuit court ruling on CEO turnover-performance sensitivity continues to hold, ruling out the possibility that the main results are driven by industry or state dynamics.

6.4. State-level heterogeneity

Since treatment is assigned at the state-level, we design several tests to ensure the main results are not driven by state-level heterogeneity. First, we consider a subset of treated and control firms in bordering states, where local economic conditions are likely to be similar. Specifically, we only include Ninth Circuit firms with headquarters in Nevada, Idaho, Arizona, and Montana in the treatment group; and we only include firms with headquarters in Utah, New Mexico, Wyoming, Colorado, North Dakota, and South Dakota in the control group. These results are presented in Panel D of Table 9. As shown in the table, these filters reduce the sample size significantly, with only 163 observations. However, The Ninth Circuit*Post*Stock return interaction remains positive and statistically significant at the 10 percent level.

Next, we perform placebo tests in which we replace the treatment group with firms from other circuits, and re-estimate equation (1). These tests are performed separately for each circuit. Results are presented in Table A2. The coefficient on The Treated*Post*Stock return interaction term is negative and statistically significant for two circuits (sixth and eighth), and statistically insignificant for all other circuits. These results provide support for the notion that the Ninth Circuit court decision altered firm behaviour.

6.5. Universal demand laws

Shareholders have multiple avenues to pursue litigation. For example, shareholders may pursue a derivative lawsuit in the event that directors or managers breach their fiduciary duty to refrain from self-serving actions and from negligent conduct. Further, while there are some instances where shareholders may initiate both a derivative lawsuit and a class action lawsuit concurrently, the two are not perfect substitutes. In fact, Appel (2019) finds no evidence that class action lawsuits are more common after the adoption of UD laws, which make derivative lawsuits more difficult for shareholders to pursue. Therefore, in this section, we test if the results of this paper are unique to securities class actions, or if they hold more generally for other types of litigation. These tests also serve to address concerns that the main results are limited to one specific event or time-period.

The empirical setting for these tests is the staggered adoption of universal demand (UD) laws across 23 US states from 1989 to 2005. Derivative lawsuits require shareholders to make a demand on the board of directors to correct any wrongdoing before going to

court. However, the futility exception allows shareholders to bypass this requirement if directors are named in the derivative lawsuit since directors rarely allow a lawsuit to proceed if they are named as the defendants. As a result of much debate, many states have passed UD laws, which always require shareholders to make a demand, even if directors are named as the defendants.[9] Thus, this requirement imposes significant procedural hurdles on shareholders seeking to initiate a derivative lawsuit.

Appel (2019) finds that governance quality declines after the adoption of UD laws. Other studies find that UD laws are associated with lower cash holdings, a higher cost of capital, increased insider trading, increased CEO compensation, and increased accounting conservatism (Houston et al., 2018; Nguyen et al., 2018; Manchiraju et al., 2021). However, despite their recent prevalence in the literature, Donelson et al. (2022) fail to find any evidence of a decline in derivative litigation after the adoption of UD laws and hence cast doubt on the validity of the staggered adoption of UD laws as an exogenous shock to shareholder litigation rights. Thus, we interpret these results with caution.

The sample period for these tests is 1992 to 2010. we begin in 1992 since this is the earliest year for which we have CEO turnover data. we exclude firms that are headquartered in states that adopt UD laws before 1992.[10] Each year that a UD law is adopted, we define a sample of control and treated firms spanning 5 years before and 5 years after the law adoption. Control firms include all firms that are headquartered in a state that has not adopted UD laws at that point in time. Treated firms are those headquartered in the state that adopts UD laws. we do this separately for each UD law adoption year. We then stack all cohorts to form our final sample. Thus, firms can appear in the sample multiple times, and can be control firms for some UD law adoptions and treated firms for others. Therefore, we use firm×cohort fixed effects in all regressions.

Results from these tests appear in Table A3. Interestingly, we find that the coefficient on UD law is negative and significant at the 10 percent level when we do not include control variables. This finding provides suggestive evidence that CEOs are overall more insulated from forced dismissals when shareholders' ability to pursue derivative litigation is restricted, which is indicative of worsening corporate governance, consistent with Appel (2019). Further, consistent with the Ninth Circuit court ruling, we find that CEOs of firms in states that adopt UD laws are less likely to be dismissed after poor stock market performance after the adoption of UD laws (the coefficient on stock return is negative and significant at the one percent level, and the coefficient on the interaction of UD law and stock return is positive and significant at the five percent level). However, the economic

[9] Legal commentators have often argued that demand futility is inefficient for two reasons (See, for example, Coffee Jr (1992)). First, the demand requirement allows directors to address and potentially correct any wrongdoing, thus preventing the need for litigation. Further, companies often have special litigation committees to address allegations impartially. Second, the demand requirement potentially acts as a safeguard against frivolous allegations, thus saving legal system resources. As a result, over the period 1989 to 2005, many states in the US adopted universal demand (UD) laws.

[10] UD laws have been adopted in Georgia and Michigan (1989); Florida (1990); Wisconsin (1991); Montana, Virginia, and Utah (1992); New Hampshire and Mississippi (1993); North Carolina (1995); Arizona and Nebraska (1996); Connecticut, Maine, Pennsylvania, Texas, and Wyoming (1997); Idaho (1998); Hawaii (2001); Iowa (2003); Massachusetts (2004); and Rhode Island and South Dakota (2005).

magnitude is lower compared to the Ninth Circuit tests. Overall, this section provides support for the notion that restricted shareholder litigation rights protect CEOs from poor performance.

6.6. Alternative proxy for litigation risk

In this subsection, we test the robustness of our main results to an alternative empirical strategy. In particular, we follow Arena and Julio (2015), Arena (2018), and Arena and Julio (2023) and use future litigation as a proxy for litigation risk. we collect all lawsuits that were filed from 1992 to 2021 from the Federal Judicial Center (FJC) where the defendant is a US firm that can be linked to Compustat via the WRDS Compustat-FJC linking table. Following Arena and Julio (2023), we define a dummy variable equal to one in the year before a firm is sued as a proxy for litigation risk. We then estimate the following linear probability model using OLS:

$$\begin{aligned}\text{Turnover}_{it} =& \beta_1 \text{I(Lawsuit)}_{it} + \beta_2 \text{Performance}_{it} + \beta_3 \text{I(Lawsuit)}_{it} * \text{Performance}_{it} \\ &+ \omega_i + \tau_t + \varepsilon_{it} \end{aligned} \tag{3}$$

Results from equation (3) are presented in Table A4. We show results with and without control variables. Standard errors are clustered at the firm and year levels. Table A4 shows that the lawsuit dummy is positive and statistically significant at the five percent level in column (1), suggesting that firms are more likely to dismiss their CEO in the year before a lawsuit. The coefficient on the lawsuit dummy and stock return interaction is negative and statistically significant at the one percent level both with and without controls. This finding suggests that CEO dismissal is more sensitive to stock returns when firms face a heightened risk of litigation, consistent with the Ninth Circuit results.

7. Conclusion

We study the effect of litigation risk on the sensitivity of CEO turnover to stock market performance. We take advantage of a 1999 court decision that reduced litigation risk for firms in the Ninth Circuit. We find that CEO turnover responds less to stock returns for Ninth Circuit firms after the court ruling relative to non-Ninth Circuit firms. The documented effect is robust to alternative model specifications, propensity-score matching, and to controlling for state and industry dynamics. This decrease in performance-turnover sensitivity is concentrated among firms with lower levels of pre-court ruling institutional ownership and firms that experience no change in the level of institutional ownership after the court ruling. We further show that Ninth Circuit directors attend fewer meetings and take on more board positions after the court ruling, suggesting a decline in monitoring

quality when access to Securities Class Action Lawsuits is restricted.

We contribute to the literature by highlighting the governance role of securities class action lawsuits. There is debate as to whether class action lawsuits play a role in corporate governance. Some legal commentators contend that many securities class action lawsuits are frivolous and mostly serve plaintiff law firms. Our study shows that access to securities class action lawsuits is an effective governance mechanism as they contribute to the alignment of CEO job security and shareholder wealth maximisation.

References

Alexander, Janet Cooper (1990) Do the merits matter: a study of settlements in securities class actions, *Stan. L. Rev.* **43**, 497.

Appel, Ian (2019) Governance by litigation, *Available at SSRN 2532278*.

Arena, Matteo and Julio, Brandon (2015) The effects of securities class action litigation on corporate liquidity and investment policy, *Journal of Financial and Quantitative Analysis* **50**, 251–275.

Arena, Matteo P (2018) Corporate litigation and debt, *Journal of Banking & Finance* **87**, 202–215.

Arena, Matteo P and Julio, Brandon (2023) Litigation risk management through corporate payout policy, *Journal of Financial and Quantitative Analysis* **58**, 148–174.

Arena, Matteo P, Wang, Bin, and Yang, Rong (2021) Securities litigation and corporate tax avoidance, *Journal of Corporate Finance* **66**, 101546.

Brochet, Francois and Srinivasan, Suraj (2014) Accountability of independent directors: evidence from firms subject to securities litigation, *Journal of Financial Economics* **111**, 430–449.

Chen, Jie et al. (2019) CEO and director compensation, CEO turnover and institutional investors: is there cronyism in the uk?, *Journal of Banking & Finance* **103**, 18–35.

Coffee Jr, John C (1992) New myths and old realities: the american law institute faces the derivative action, *Bus. Law.* **48**, 1407.

Coles, Jeffrey L, Daniel, Naveen D, and Naveen, Lalitha (2014) Co-opted boards, *The Review of Financial Studies* **27**, 1751–1796.

Coughlan, Anne T and Schmidt, Ronald M (1985) Executive compensation, management turnover, and firm performance: an empirical investigation, *Journal of accounting and economics* **7**, 43–66.

Crane, Alan D and Koch, Andrew (2018) Shareholder litigation and ownership structure: evidence from a natural experiment, *Management Science* **64**, 5–23.

Dasgupta, Sudipto, Li, Xi, and Wang, Albert Y (2018) Product market competition shocks, firm performance, and forced CEO turnover, *The Review of Financial Studies* **31**, 4187–4231.

Donelson, Dain C et al. (2022) The need to validate exogenous shocks: shareholder derivative litigation, universal demand laws and firm behavior, *Journal of Accounting and Economics* **73**, 101427.

Eisfeldt, Andrea L and Kuhnen, Camelia M (2013) Ceo turnover in a competitive assignment framework, *Journal of Financial Economics* **109**, 351–372.

Ferris, Stephen P et al. (2007) Derivative lawsuits as a corporate governance mechanism: empirical evidence on board changes surrounding filings, *Journal of Financial and Quantitative Analysis* **42**, 143–165.

Fich, Eliezer M and Shivdasani, Anil (2007) Financial fraud, director reputation, and shareholder wealth, *Journal of financial Economics* **86**, 306–336.

Francis, Jennifer, Philbrick, Donna, and Schipper, Katherine (1994) Shareholder litigation and corporate disclosures, *Journal of accounting research* **32**, 137–164.

Gentry, Richard J et al. (2021) A database of CEO turnover and dismissal in s&p 1500 firms, 2000–2018, *Strategic Management Journal* **42**, 968–991.

Guo, Lixiong and Masulis, Ronald W (2015) Board structure and monitoring: new evidence from CEO turnovers, *The Review of Financial Studies* **28**, 2770–2811.

Hassan, M Kabir, Houston, Reza, and Karim, M Sydul (2021) Courting innovation: the effects of litigation risk on corporate innovation, *Journal of Corporate Finance* **71**, 102098.

Helland, Eric (2006) Reputational penalties and the merits of class-action securities litigation, *The Journal of Law and Economics* **49**, 365–395.

Hirshleifer, David and Thakor, Anjan V (1994) Managerial performance, boards of directors and takeover bidding, *Journal of Corporate Finance* **1**, 63–90.

Hirshleifer, David and Thakor, Anjan V (1998) Corporate control through board dismissals and takeovers, *Journal of Economics & Management Strategy* **7**, 489–520.

Houston, Joel F, Lin, Chen, and Xie, Wensi (2018) Shareholder protection and the cost of capital, *The Journal of Law and Economics* **61**, 677–710.

Huang, Sterling, Roychowdhury, Sugata, and Sletten, Ewa (2020) Does litigation deter or encourage real earnings management?, *The Accounting Review* **95**, 251–278.

Hwang, Byoung-Hyoun and Kim, Seoyoung (2009) It pays to have friends, *Journal of financial economics* **93**, 138–158.

Jenter, Dirk and Kanaan, Fadi (2015) CEO turnover and relative performance evaluation, *the Journal of Finance* **70**, 2155–2184.

Jenter, Dirk and Lewellen, Katharina (2021) Performance-induced CEO turnover, *The Review of Financial Studies* **34**, 569–617.

Johnson, Marilyn F, Nelson, Karen K, and Pritchard, Adam C (1999) In re silicon graphics inc.: shareholder wealth effects resulting from the interpretation of the private securities litigation reform act's pleading standard, *S. Cal. L. Rev.* **73**, 773.

Kim, Irene and Skinner, Douglas J (2012) Measuring securities litigation risk, *Journal of Accounting and Economics* **53**, 290–310.

Liu, Chelsea et al. (2016) Corporate litigation and changes in CEO reputation: guidance from us federal court lawsuits, *Journal of Contemporary Accounting & Economics* **12**, 15–34.

Manchiraju, Hariom, Pandey, Vivek, and Subramanyam, KR (2021) Shareholder litigation and conservative accounting: evidence from universal demand laws, *The Accounting Review* **96**, 391–412.

Masulis, Ronald W and Zhang, Emma Jincheng (2019) How valuable are independent directors? evidence from external distractions, *Journal of Financial Economics* **132**, 226–256.

McTier, Brian C and Wald, John K (2011) The causes and consequences of securities class action litigation, *Journal of Corporate Finance* **17**, 649–665.

Nguyen, Hien T, Phan, Hieu V, and Sun, Lingna Selina (2018) Shareholder litigation rights and corporate cash holdings: evidence from universal demand laws, *Journal of Corporate Finance* **52**, 192–213.

Ni, Xiaoran and Yin, Sirui (2018) Shareholder litigation rights and the cost of debt: evidence from derivative lawsuits, *Journal of Corporate Finance* **48**, 169–186.

Porta, Rafael La et al. (1998) Law and finance, *Journal of political economy* **106**, 1113–1155.

Pritchard, Adam C and Sale, Hillary A (2005) What counts as fraud? an empirical study of motions to dismiss under the private securities litigation reform act, *Journal of Empirical Legal Studies* **2**, 125–149.

Pukthuanthong, Kuntara et al. (2017) Litigation risk and institutional monitoring, *Journal of Corporate Finance* **45**, 342–359.

Shleifer, Andrei and Vishny, Robert W (1997) A survey of corporate governance, *The journal of finance* **52**, 737–783.

Warner, Jerold B, Watts, Ross L, and Wruck, Karen H (1988) Stock prices and top management changes, *Journal of financial Economics* **20**, 461–492.

Weisbach, Michael S (1988) Outside directors and CEO turnover, *Journal of financial Economics* **20**, 431–460.

Wu, Joanna Shuang and Zhang, Ivy Xiying (2019) Mandatory ifrs adoption and the role of accounting earnings in CEO turnover, *Contemporary Accounting Research* **36**, 168–197.

Figure 1. Ninth Circuit Court of Appeals Ruling and CEO turnover-performance sensitivity: parallel trends

This figure plots point estimates from a firm-panel regression of forced CEO dismissals on *stock return*, *Ninth circuit* ($t \pm x$), and the respective interactions. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). *Ninth circuit* ($t \pm x$) is a dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and the year is $t \pm x$, where t is 1999, the year of the Ninth Circuit court ruling. The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms.

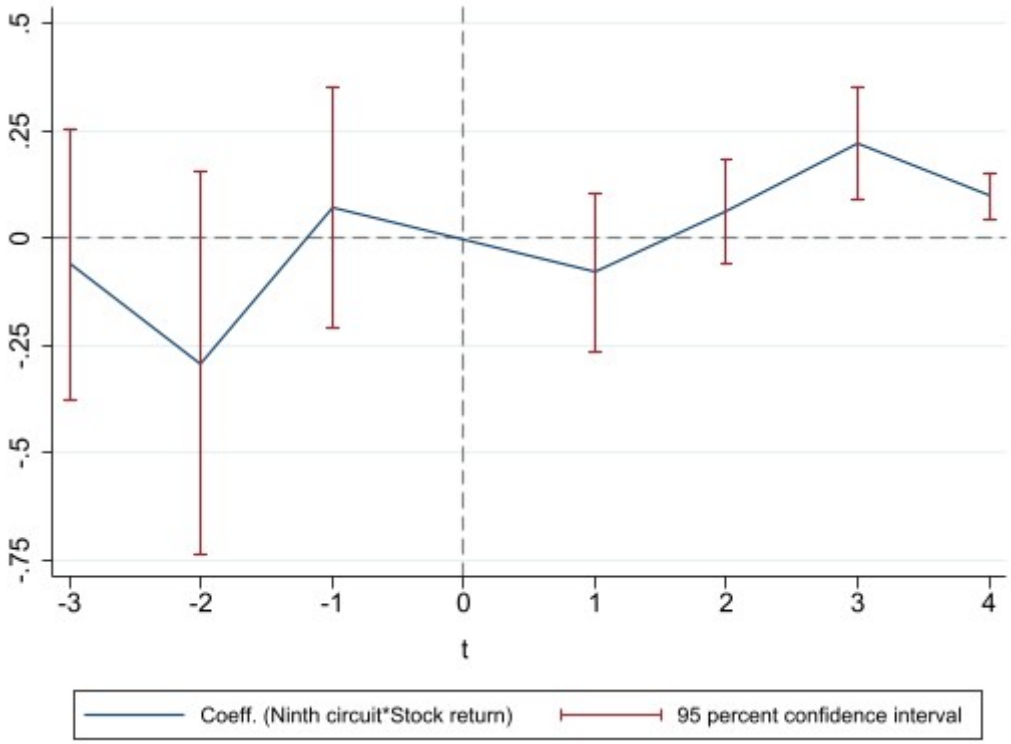

Table 1. Descriptive statistics
This table presents descriptive statistics for the variables used in this study. The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. Variable definitions appear in Table A1.

	Mean	SD	p10	Median	p90
Forced CEO turnover	0.02	0.15	0.00	0.00	0.00
CEO turnover	0.16	0.37	0.00	0.00	0.00
Stock return	0.08	0.51	-0.49	0.02	0.65
Industry return	0.27	0.33	-0.12	0.24	0.70
Return on assets	0.02	0.13	-0.08	0.05	0.12
log(Total Assets)	7.03	1.53	5.19	6.84	9.24
Market-to-book	2.03	1.42	0.96	1.56	3.67
Leverage	0.23	0.17	0.00	0.22	0.45
R&D/Total assets	0.04	0.07	0.00	0.00	0.13
Capex/Total assets	0.08	0.07	0.01	0.05	0.16
Institutional ownership	0.60	0.21	0.32	0.63	0.84
CEO tenure	7.04	7.76	1.00	5.00	17.00
Salary/Total compensation	0.34	0.25	0.08	0.27	0.73
Bonus/Total compensation	0.17	0.16	0.00	0.14	0.40
I(CEO equity>5%)	0.00	0.06	0.00	0.00	0.00

Table 2. Descriptive statistics by Ninth Circuit states

Panel A of this table presents means and two-tail t-tests of differences in means for the variables used in this study for firms in Ninth Circuit states and firms in non-Ninth Circuit states. Ninth Circuit states are Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington. Panel B presents univariate difference-in-differences tests of the effect of the Ninth Circuit court ruling on CEO dismissals and forced CEO dismissals. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. Variable definitions appear in Table A1. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Panel A: Differences in means

	Non-Ninth Circuit	Ninth Circuit	Diff.	t	p
Forced CEO turnover	0.021	0.030	0.009	2.357**	0.018
CEO turnover	0.159	0.168	0.009	0.935	0.350
Stock return	0.083	0.070	-0.013	-0.981	0.327
Stock return	0.213	0.196	-0.016	-0.946	0.344
Industry return	0.267	0.265	-0.002	-0.265	0.791
Return on assets	0.032	-0.013	-0.045	-12.922***	0.000
log(Total assets)	7.143	6.625	-0.518	-12.982***	0.000
Market-to-book	1.932	2.409	0.478	12.880***	0.000
Leverage	0.236	0.184	-0.052	-11.513***	0.000
R&D/Total assets	0.028	0.082	0.054	30.123***	0.000
Capex/Total assets	0.075	0.077	0.002	1.083	0.279
Institutional ownership	0.601	0.593	-0.008	-1.521	0.128
CEO tenure	7.083	6.877	-0.206	-1.006	0.315
Salary/Total assets	0.342	0.322	-0.021	-3.104***	0.002
Bonus/Total assets	0.177	0.155	-0.023	-5.233***	0.000
I(CEO equity>5%)	0.004	0.001	-0.003	-1.806*	0.071

Panel B: Univariate difference-in-differences tests

	Control firms			Ninth Circuit firms			
	Pre	Post	Diff	Pre	Post	Diff	DiD
CEO turnover	0.166	0.153	0.013	0.201	0.144	0.057***	-0.044**
			(1.421)			(3.229)	(-2.280)
Forced CEO turnover	0.027	0.031	-0.003	0.049	0.037	0.012	-0.015*
			(-0.922)			(1.261)	(-1.680)

Table 3. Ninth Circuit Court of Appeals Ruling and CEO turnover-performance sensitivity
This table presents the effect of the Ninth Circuit Court of Appeals ruling on forced CEO dismissals. The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. The dependent variable in all models is a dummy variable equal to one if the firm experiences a forced CEO turnover in the year t. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). *Ninth circuit* is a dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and *Post* is a dummy variable equal to one if the year is 2000-2003. All other variable definitions appear in Table A1. t-statistics (clustered at the state level) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

	Forced CEO turnover					
	(1)	(2)	(3)	(4)	(5)	(6)
Ninth Circuit	0.014***	0.011*	0.013**	0.011*		
	(2.96)	(1.79)	(2.45)	(1.74)		
Post	0.012***	0.010**				
	(3.24)	(2.68)				
Ninth Circuit*Post	-0.013**	-0.012*	-0.013**	-0.013*	-0.002	-0.000
	(-2.21)	(-1.76)	(-2.13)	(-1.78)	(-0.18)	(-0.04)
Stock return	-0.013***	-0.008**	-0.014***	-0.009**	-0.011**	-0.009
	(-3.42)	(-2.38)	(-3.74)	(-2.53)	(-2.02)	(-1.66)
Ninth Circuit*Stock return	-0.013**	-0.009*	-0.011**	-0.007	-0.010	-0.008
	(-2.29)	(-1.80)	(-2.07)	(-1.48)	(-1.41)	(-1.13)
Post*Stock return	-0.008	-0.010*	-0.006	-0.008	-0.005	-0.006
	(-1.33)	(-1.69)	(-0.94)	(-1.25)	(-0.63)	(-0.70)
Ninth Circuit*Post*Stock return	0.032***	0.029***	0.030***	0.028***	0.028***	0.028***
	(4.52)	(4.65)	(4.32)	(4.31)	(2.99)	(2.90)
Industry return		0.012**		0.014**		0.014**
		(2.62)		(2.15)		(2.02)
Return on assets		-0.137***		-0.140***		-0.113***
		(-7.53)		(-7.13)		(-3.70)
log(Total Assets)		0.005***		0.007***		-0.000
		(3.46)		(4.03)		(-0.02)
Market-to-book		-0.001		-0.000		-0.000
		(-0.61)		(-0.30)		(-0.10)
Leverage		-0.015		-0.013		-0.002
		(-1.68)		(-1.28)		(-0.09)
R&D/Total assets		-0.070*		-0.082**		-0.096
		(-1.97)		(-2.09)		(-0.85)
Capex/Total assets		-0.001		0.002		-0.049
		(-0.05)		(0.09)		(-1.05)
Institution ownership		-0.029***		-0.031***		-0.068***
		(-2.96)		(-2.82)		(-2.76)
CEO tenure		-0.000***		-0.000***		0.002***
		(-3.47)		(-3.61)		(3.84)
Salary/Total compensation		0.012		0.014*		0.022**
		(1.57)		(1.87)		(2.46)
Bonus/Total compensation		-0.045***		-0.045***		-0.047*
		(-3.00)		(-2.83)		(-2.00)
I(CEO equity>5%)		-0.008		-0.007		-0.005
		(-1.10)		(-0.74)		(-0.22)
Industry FE	No	No	Yes	Yes	No	No
Firm FE	No	No	No	No	Yes	Yes
Year FE	No	No	Yes	Yes	Yes	Yes
Obs	7,535	7,535	7,535	7,535	7,535	7,535
Adj. R2	0.01	0.03	0.01	0.04	0.05	0.08

Table 4. Ninth Circuit Court of Appeals Ruling and CEO turnover-performance sensitivity: parallel trends

This table presents tests of the parallel trends assumption for the effect of the Ninth Circuit court ruling on forced CEO dismissals. The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. The dependent variable in all models is a dummy variable equal to one if the firm experiences a forced CEO turnover in the year t. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). *Ninth circuit ($t \pm x$)* is a dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and the year is $t \pm x$, where t is 1999, the year of the Ninth Circuit court ruling. All other variable definitions appear in Table A1. All models are estimated via OLS. t-statistics (clustered at the state level) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

	Forced CEO turnover	
	(1)	(2)
Stock return	-0.015***	-0.013***
	(-4.40)	(-3.52)
Ninth circuit $(t-3)$	-0.043**	-0.040**
	(-2.21)	(-2.08)
Ninth circuit $(t-2)$	0.010	0.008
	(0.40)	(0.31)
Ninth circuit $(t-1)$	-0.019	-0.028*
	(-1.19)	(-1.65)
Ninth circuit $(t+1)$	-0.015	-0.007
	(-0.76)	(-0.39)
Ninth circuit $(t+2)$	-0.010	-0.011
	(-0.46)	(-0.56)
Ninth circuit $(t+3)$	0.026	0.024
	(1.06)	(1.02)
Ninth circuit $(t+4)$	-0.062***	-0.065***
	(-3.05)	(-3.27)
Ninth circuit $(t-3)$*Stock return	0.075	0.067
	(0.69)	(0.63)
Ninth circuit $(t-2)$*Stock return	-0.248	-0.219
	(-1.10)	(-1.00)
Ninth circuit $(t-1)$*Stock return	0.054	0.102
	(0.45)	(0.84)
Ninth circuit $(t+1)$*Stock return	-0.044	-0.032
	(-0.68)	(-0.52)
Ninth circuit $(t+2)$*Stock return	0.034	0.051
	(0.57)	(0.87)
Ninth circuit $(t+3)$*Stock return	0.186***	0.214***
	(3.01)	(3.45)
Ninth circuit $(t+4)$*Stock return	0.102***	0.101***
	(3.08)	(3.15)
Control variables	No	Yes
Firm FE	Yes	Yes
Year FE	Yes	Yes
Obs	7,373	7,373
Adj. R2	0.04	0.06

Table 5. Ninth Circuit Court of Appeals Ruling and CEO turnover-performance sensitivity: propensity score matching

This table presents tests of the effect of the Ninth Circuit court ruling on forced CEO dismissals using a propensity score matching approach. The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. Propensity scores are estimated in the year before the court ruling by regressing *Ninth circuit* on *industry return*, *return on assets*, *log(total assets)*, *market-to-book*, *leverage*, *R&D/total assets*, *capex/total assets*, *institutional ownership*, *CEO tenure, salary/total assets*, *bonus/total assets*, and *I(CEO equity>5%)*. Treated firms are then matched to one control firm using the estimated propensity scores via nearest neighbour matching with replacement. Matched firms are required to be from the same 2-digit SIC industry. Panel A reports post-match means and differences between the treated and control samples. Panel B reports results from OLS regressions where the dependent variable is forced CEO dismissal using the sample of matched firms. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). *Ninth circuit* is a dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and *Post* is a dummy variable equal to one if the year is 2000-2003. All other variable definitions appear in Table A1. *t*-statistics (clustered at the state level) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Panel A: Post-match sample differences

	Control	**Treated**	**Diff.**	*t*	***p*-value**
Industry return	0.280	0.273	-0.008	-0.608	0.543
Return on assets	0.041	-0.011	-0.053	-8.955	0.000
log(Total assets)	6.631	6.619	-0.011	-0.205	0.838
Market-to-book	2.505	2.442	-0.064	-0.973	0.331
Leverage	0.199	0.179	-0.020	-3.139	0.002
R&D/Total assets	0.040	0.082	0.041	13.415	0.000
Capex/Total assets	0.081	0.075	-0.005	-2.022	0.043
Institutional ownership	0.606	0.597	-0.009	-1.144	0.253
CEO tenure	7.293	7.129	-0.165	-0.590	0.555
Salary/Total compensation	0.323	0.321	-0.002	-0.232	0.817
Bonus/Total compensation	0.162	0.157	-0.005	-0.755	0.450
I(CEO equity>5%)	0.005	0.001	-0.004	-1.790	0.074

Panel B: Matched sample regressions

	Forced CEO turnover					
	(1)	(2)	(3)	(4)	(5)	(6)
Ninth Circuit	0.013	0.010	0.013	0.010		
	(1.59)	(1.11)	(1.29)	(1.02)		
Post	0.012	0.012				
	(1.45)	(1.51)				
Ninth Circuit*Post	-0.013	-0.016	-0.014	-0.017	-0.019	-0.018
	(-1.40)	(-1.50)	(-1.44)	(-1.51)	(-1.32)	(-1.19)
Stock return	-0.013***	-0.010**	-0.013**	-0.012***	-0.003	-0.002
	(-2.77)	(-2.37)	(-2.67)	(-2.78)	(-0.39)	(-0.24)
Ninth Circuit*Stock return	-0.013**	-0.009	-0.013*	-0.009	-0.019**	-0.021**
	(-2.06)	(-1.60)	(-1.96)	(-1.31)	(-2.34)	(-2.42)
Post*Stock return	-0.008	-0.012	-0.006	-0.008	-0.024	-0.027*
	(-0.77)	(-1.16)	(-0.58)	(-0.73)	(-1.61)	(-1.74)
Ninth Circuit*Post*Stock return	0.032***	0.032***	0.033***	0.033***	0.051***	0.053***
	(2.92)	(3.00)	(2.89)	(2.99)	(3.24)	(3.36)
Control variables	No	Yes	No	Yes	No	Yes
Industry FE	No	No	Yes	Yes	No	No
Firm FE	No	No	No	No	Yes	Yes
Year FE	No	No	Yes	Yes	Yes	Yes
Obs	2,951	2,951	2,951	2,951	2,951	2,951
Adj. R2	0.00	0.03	0.01	0.04	0.11	0.14

Table 6. Ninth Circuit Court of Appeals Ruling and CEO turnover-performance sensitivity: CEO specific performance

This table presents the effect of the Ninth Circuit Court of Appeals ruling on the sensitivity of forced CEO dismissals to CEO performance. The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. The dependent variable in all models is a dummy variable equal to one if the firm experiences a forced CEO turnover in the year t. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). *Ninth circuit* is a dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and *Post* is a dummy variable equal to one if the year is 2000-2003. Excess return is the firm's stock return minus the average stock return of firms in the same two-digit SIC industry, excluding the focal firm. All other variable definitions appear in Table A1. t-statistics (clustered at the state level) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

	Forced CEO turnover					
	(1)	(2)	(3)	(4)	(5)	(6)
Ninth Circuit	0.009	0.008	0.009	0.008		
	(1.42)	(1.18)	(1.43)	(1.31)		
Post	0.010***	0.007**				
	(3.00)	(2.13)				
Ninth Circuit*Post	-0.004	-0.004	-0.004	-0.006	0.006	0.007
	(-0.44)	(-0.52)	(-0.52)	(-0.65)	(0.54)	(0.59)
Excess return	-0.013***	-0.007*	-0.013***	-0.007*	-0.009*	-0.005
	(-3.55)	(-1.90)	(-3.35)	(-1.80)	(-1.80)	(-1.04)
Ninth Circuit*Excess return	-0.014	-0.012	-0.014	-0.011	-0.016	-0.015
	(-1.50)	(-1.24)	(-1.40)	(-1.12)	(-1.42)	(-1.37)
Post*Excess return	-0.007	-0.009	-0.008	-0.009	-0.010	-0.010
	(-1.09)	(-1.45)	(-1.28)	(-1.50)	(-1.40)	(-1.43)
Ninth Circuit*Post*Excess return	0.026*	0.025*	0.025*	0.025*	0.029*	0.029*
	(1.72)	(1.70)	(1.68)	(1.68)	(1.78)	(1.83)
Return on assets		-0.136***		-0.139***		-0.111***
		(-4.92)		(-4.86)		(-2.88)
log(Total Assets)		0.005***		0.007***		-0.000
		(3.06)		(3.75)		(-0.04)
Market-to-book		-0.001		-0.000		0.000
		(-0.45)		(-0.23)		(0.00)
Leverage		-0.015		-0.012		-0.001
		(-1.29)		(-1.03)		(-0.05)
R&D/Total assets		-0.071**		-0.084**		-0.097
		(-2.07)		(-2.16)		(-0.99)
Capex/Total assets		-0.002		0.002		-0.049
		(-0.07)		(0.05)		(-0.90)
Institution ownership		-0.030***		-0.031***		-0.069***
		(-2.98)		(-3.05)		(-3.07)
CEO tenure		-0.000***		-0.000***		0.002***
		(-2.63)		(-2.83)		(4.17)
Salary/Total compensation		0.012		0.014		0.021
		(1.25)		(1.49)		(1.53)
Bonus/Total compensation		-0.045***		-0.045***		-0.047***
		(-4.39)		(-4.04)		(-2.93)
I(CEO equity>5%)		-0.009		-0.008		-0.006
		(-1.60)		(-0.87)		(-0.26)
Industry FE	No	No	Yes	Yes	No	No
Firm FE	No	No	No	No	Yes	Yes
Year FE	No	No	Yes	Yes	Yes	Yes
Obs	7,535	7,535	7,535	7,535	7,535	7,535
Adj. R2	0.01	0.03	0.01	0.03	0.05	0.07

Table 7. Ninth Circuit Court of Appeals Ruling and CEO turnover-performance sensitivity: cross-sectional tests

This table presents tests of cross-sectional variation in the effect of the Ninth Circuit Court of Appeals ruling on forced CEO dismissals. Panel A presents results by levels institutional ownership and Panel B presents results by changes in institutional ownership around the Ninth Circuit Court Ruling. The high (low) inst. own sample is firms with above (below) sample median institutional ownership. The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. The dependent variable in all models is a dummy variable equal to one if the firm experiences a forced CEO turnover in the year t. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). *Ninth circuit* is a dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and the year is 2000-2003. All other variable definitions appear in Table A1. t-statistics (clustered at the state level) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Panel A: Institutional ownership

	Forced CEO turnover			
	Low IO	High IO	Low IO	High IO
	(1)	(2)	(3)	(4)
Ninth circuit	0.019*	-0.025***	-0.005	0.268**
	(1.84)	(-3.26)	(-0.06)	(2.42)
Stock return	-0.016***	-0.003	-0.012***	-0.007
	(-4.40)	(-0.33)	(-3.95)	(-0.81)
Ninth circuit*Stock return	0.019***	0.002	0.016*	0.010
	(3.45)	(0.27)	(1.69)	(1.06)
Controls	No	No	Yes	Yes
Ninth circuit*controls	No	No	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Obs	5,944	1,870	5,944	1,870
Adj. R^2	0.05	0.02	0.07	0.05

Panel B: Changes in ownership structure

	Forced CEO turnover			
	$\Delta IO \leq 0$	$\Delta IO > 0$	$\Delta IO \leq 0$	$\Delta IO > 0$
	(1)	(2)	(3)	(4)
Ninth circuit	0.013	0.007	0.116	0.030
	(1.00)	(0.72)	(1.28)	(0.74)
Stock return	-0.015**	-0.013***	-0.009	-0.014**
	(-2.23)	(-2.71)	(-1.60)	(-2.37)
Ninth circuit*Stock return	0.016**	0.009	0.022**	-0.005
	(2.24)	(1.60)	(2.42)	(-0.62)
Controls	No	No	Yes	Yes
Ninth circuit*controls	No	No	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Obs	4,119	4,033	4,119	4,033
Adj. R^2	0.05	0.02	0.07	0.05

Table 8. Ninth Circuit Court of Appeals Ruling and director monitoring quality
This table presents the effect of the Ninth Circuit Court of Appeals ruling on director meeting attendance (Panel A) and the number of board positions held by directors (Panel B). The sample is all firms that are in both the CRSP-Compustat merged database and the ISS Governance database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. Tests in Panel A are at the firm-year level. The dependent variable in all models in Panel A is the fraction of directors on the board who attend less than 75% of meetings. Tests in Panel B are at the director-year level. The dependent variable in Panel B is the natural log of the number of board positions held (column 1) and the number of board positions held (column 2). *Ninth circuit* is a dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and *Post* is a dummy variable equal to one if the year is 2000-2003. All other variable definitions appear in Table A1. *t*-statistics (clustered at the state level) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Panel A: Director meeting attendance

	Fraction Attend<75%		Fraction Attend<75% (Audit)	
	(1)	(2)	(3)	(4)
Ninth circuit*Post	0.018***	0.016***	0.024***	0.024***
	(3.74)	(2.95)	(4.30)	(4.10)
log(Total Assets)		0.002		0.001
		(0.53)		(0.27)
Market-to-book		-0.000		-0.002
		(-0.28)		(-1.02)
Leverage		-0.002		-0.021
		(-0.12)		(-1.22)
R&D/Total assets		-0.031		-0.028
		(-1.05)		(-0.46)
Capex/Total assets		-0.040*		-0.059
		(-1.72)		(-1.45)
Institution ownership		0.006		-0.026
		(0.62)		(-1.46)
CEO tenure		0.000		0.000
		(1.28)		(1.38)
Log(Board size)		0.029***		0.028**
		(3.86)		(2.08)
Board independence		0.013		0.008
		(1.06)		(0.51)
I(CEO chair)		0.004		-0.001
		(1.41)		(-0.26)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Obs	4,175	4,175	4,175	4,175
Adj. R^2	0.22	0.23	0.13	0.13

Panel B: Number of board positions held

	Log(N boards)	N boards
	(1)	(2)
Ninth circuit*Post	0.375***	0.383***
	(5.58)	(10.28)
Model	OLS	Poisson
Director FE	Yes	Yes
Year FE	Yes	Yes
Obs	22,928	22,928
Adj. R^2	0.73	

Table 9. Ninth Circuit Court of Appeals Ruling and CEO turnover-performance sensitivity: robustness tests

This table presents robustness tests of the effect of the Ninth Circuit Court of Appeals ruling on forced CEO dismissals. The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. The dependent variable in all models is a dummy variable equal to one if the firm experiences a forced CEO turnover in the year t. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). *Ninth circuit* is a dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and the year is 2000-2003. All other variable definitions appear in Table A1. t-statistics (clustered at the state level) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Panel A: Nonlinear models

	Forced CEO turnover			
	(1)	(2)	(3)	(4)
Ninth Circuit	0.357	0.383	0.353	0.316
	(1.16)	(0.97)	(1.20)	(0.90)
Ninth Circuit*Post	-0.182	-0.165	-0.103	-0.004
	(-0.57)	(-0.46)	(-0.33)	(-0.01)
Stock return	-1.436***	-0.765*	-1.437***	-0.794*
	(-2.70)	(-1.68)	(-2.81)	(-1.91)
Ninth Circuit*Stock return	-0.795	-0.677	-0.784	-0.573
	(-1.15)	(-1.01)	(-1.22)	(-0.90)
Post*Stock return	0.170	0.129	0.184	0.209
	(0.26)	(0.25)	(0.29)	(0.44)
Ninth Circuit*Post*Stock return	2.005**	1.448**	1.943**	1.274*
	(2.43)	(1.97)	(2.45)	(1.81)
Control variables	No	Yes	No	Yes
Model	Logit	Logit	Cox Hazard	Cox Hazard
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Obs	6,441	6,419	7,500	7,500
Pseudo R^2	0.07	0.15	n/a	n/a

Panel B: Excluding technology firms

	Forced CEO turnover			
	All tech firms		High-tech firms	
	(1)	(2)	(3)	(4)
Ninth Circuit*Post	-0.006	-0.003	-0.003	-0.001
	(-0.46)	(-0.20)	(-0.23)	(-0.09)
Stock return	-0.014**	-0.012*	-0.010*	-0.009
	(-2.20)	(-1.95)	(-1.70)	(-1.62)
Ninth Circuit*Stock return	-0.011	-0.009	-0.012	-0.010
	(-1.44)	(-1.21)	(-1.56)	(-1.27)
Post*Stock return	-0.000	-0.001	-0.005	-0.005
	(-0.01)	(-0.08)	(-0.54)	(-0.61)
Ninth Circuit*Post*Stock return	0.029***	0.029***	0.033***	0.032***
	(3.06)	(3.07)	(3.68)	(3.49)
Control variables	No	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Obs	6,373	6,373	6,931	6,931
Adj. R2	0.04	0.05	0.05	0.06

Table 9. Ninth Circuit Court of Appeals Ruling and CEO turnover-performance sensitivity: robustness tests (continued)

Panel C: Industry and state dynamics

	Forced CEO turnover					
	(1)	(2)	(3)	(4)	(5)	(6)
Ninth Circuit*Post	0.004	0.006				
	(0.46)	(0.60)				
Stock return	-0.011*	-0.007	-0.009*	-0.007	-0.009	-0.005
	(-1.86)	(-1.22)	(-1.71)	(-1.23)	(-1.49)	(-0.77)
Ninth Circuit*Stock return	-0.012	-0.009	-0.013**	-0.012*	-0.014*	-0.012*
	(-1.59)	(-1.24)	(-2.15)	(-1.95)	(-2.01)	(-1.73)
Post*Stock return	-0.009	-0.008	-0.009	-0.010	-0.013	-0.013
	(-0.87)	(-0.85)	(-1.00)	(-1.15)	(-1.21)	(-1.28)
Ninth Circuit*Post*Stock return	0.034***	0.032***	0.038***	0.039***	0.042***	0.041***
	(3.22)	(3.11)	(3.99)	(4.05)	(3.75)	(3.77)
Control variables	No	Yes	No	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry×year FE	Yes	Yes	No	No	Yes	Yes
State×year FE	No	No	Yes	Yes	Yes	Yes
Obs	7,535	7,535	7,535	7,535	7,535	7,535
Adj. R2	0.05	0.07	0.03	0.05	0.03	0.05

Panel D: Bordering states

	Forced CEO turnover	
	(1)	(2)
Ninth Circuit*Post	-0.050	-0.019
	(-0.91)	(-0.32)
Stock return	0.004	-0.003
	(0.14)	(-0.08)
Ninth Circuit*Stock return	-0.140	-0.140
	(-1.72)	(-1.58)
Post*Stock return	-0.040	-0.063
	(-1.47)	(-1.29)
Ninth Circuit*Post*Stock return	0.188*	0.201*
	(2.45)	(2.38)
Control variables	No	Yes
Firm FE	Yes	Yes
Year FE	Yes	Yes
Obs	163	163
Adj. R2	-0.02	0.02

Table A1. Description of Variables used in this Study

Variable	Definition and source
Ninth circuit	A dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and the year is 2000-2003, and 0 otherwise.
Forced CEO turnover	A dummy variable equal to one if the firm experiences a forced CEO dismissal and 0 otherwise. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021)
CEO turnover	A dummy variable equal to one if the firm experiences a CEO turnover for any reason and 0 otherwise. CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021)
Stock return	The firm's annual stock return (from Compustat: $(\text{prcc\_f}_t/\text{prcc\_f}_{t-1}) - 1$).
Industry return	The mean annual stock return of all firm's in the same 2-digit SIC industry excluding the focal firm (from Compustat).
Excess return	The firm's stock return minus the mean stock return of firms in the same two-digit SIC code industry excluding the focal firm.
Return on assets	The firm's EBIT divided by total assets (from Compustat: ni/at).
Total assets	The total book value of the firm's assets in millions (from Compustat: at).
Market-to-book	The ratio of the market value of the firm's equity to the book value of the firm's equity (from Compustat: ((prcc_f*chso)+lt-txditc)/at).
Leverage	The total book value of the firm's debt divided by the book value of the firm's assets (From Compustat: (dltt+dlc)/at).
R&D/Total assets	The firm's annual research and development expenditure divided by the firm's total assets (from Compustat: xrd/at).
Capex/Total assets	The firm's capital expenditures divided by the firm's total assets from (Compustat: capx/at).
Institutional ownership	The percentage of the firm's ordinary shares that are owned by institutional investors (from Thomson Reuters 13f filings database).
CEO tenure	The number of years the current CEO has been CEO (from Execucomp).
Salary/Total compensation	The CEO's annual salary divided by the CEO's total salary (from Execucomp: salary/tdc1).
Bonus/Total compensation	The CEO's annual bonus divided by the CEO's total salary (from Execucomp: bonus/tdc1).
I(CEO equity>5%)	A dummy variable equal to one if the market value of the CEO's equity holding is 5% or more of the market value of the firm's equity (from Execucomp).
UD law	A dummy variable equal to one if the state of the firm's headquarters has adopted a UD law by the year t.
Accounting restatement	A dummy variable equal to one if the firm experiences an accounting restatement (from Brian P. Miller's website).
Fraction Attend<75%	The fraction of directors who attend less than 75% of meetings (from ISS).
Fraction Attend<75% (Audit)	The fraction of directors on the Audit Committee who attend less than 75% of meetings (from ISS).
N Boards	The number of boards sat on (director level).

Variable	Definition and source
Log(N Boards)	The natural log of N Boards.

Table A2. Ninth Circuit Court of Appeals Ruling and CEO turnover-performance sensitivity: placebo tests

This table presents the effect of the Ninth Circuit Court of Appeals ruling on forced CEO dismissals. The sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1996-2003, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. The dependent variable in all models is a dummy variable equal to one if the firm experiences a forced CEO turnover in the year t. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). *Ninth circuit* is a dummy variable equal to one if the firm's headquarters are in Arkansas, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, or Washington and the year is 2000-2003. All other variable definitions appear in Table A1. t-statistics (clustered at the state level) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

	Treated circuit									
	1st	2nd	3rd	4th	5th	6th	7th	8th	10th	11th
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Treated*Post	-0.015***	-0.008	0.002	-0.010	-0.003	0.010	0.023	0.009	-0.007	-0.006
	(-3.13)	(-0.70)	(0.12)	(-0.73)	(-0.50)	(1.57)	(1.35)	(1.23)	(-0.43)	(-0.40)
Stock return	-0.008*	-0.011*	-0.012**	-0.011**	-0.012**	-0.012**	-0.012**	-0.011**	-0.011**	-0.012**
	(-1.89)	(-2.01)	(-2.38)	(-2.28)	(-2.59)	(-2.43)	(-2.67)	(-2.30)	(-2.41)	(-2.59)
Treated*Stock return	-0.032***	-0.006	0.006	-0.002	0.010**	0.009	0.023***	0.004	0.015	0.017
	(-4.23)	(-0.90)	(0.72)	(-0.17)	(2.58)	(0.69)	(5.71)	(0.38)	(1.55)	(1.36)
Post*Stock return	-0.001	0.002	0.005	0.001	0.002	0.005	0.002	0.004	0.002	0.004
	(-0.10)	(0.20)	(0.61)	(0.17)	(0.19)	(0.65)	(0.29)	(0.58)	(0.26)	(0.58)
Treated*Post*Stock return	0.034***	0.004	-0.029*	0.014	0.002	-0.039***	-0.008	-0.053**	0.002	-0.036
	(3.80)	(0.35)	(-1.68)	(0.81)	(0.33)	(-4.52)	(-0.63)	(-2.58)	(0.08)	(-1.12)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs	7,535	7,535	7,535	7,535	7,535	7,535	7,535	7,535	7,535	7,535
Adj. R2	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07

Table A3. Universal demand laws and CEO turnover-performance sensitivity
This table presents the effect of the adoption of universal demand laws on forced CEO dismissals. The initial sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1992-2010, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. For each year that a UD law is adopted, a cohort of control and treated firms is created spanning 4 years before and after the law adoption. Each cohort is then stacked into one data-set. *UD law* is a dummy variable equal to one if the state of the firm's headquarters has adopted a UD law by the year t. The dependent variable in all models is a dummy variable equal to one if the firm experiences a forced CEO turnover in the year t. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). All other variable definitions appear in Table A1. All models are estimated by OLS. t-statistics (clustered at the state level) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

	Forced CEO turnover	
	(1)	(2)
UD law	-0.007*	-0.004
	(-1.90)	(-1.01)
Stock return	-0.026***	-0.019***
	(-8.32)	(-6.38)
UD law*Stock return	0.010**	0.011**
	(2.28)	(2.18)
Industry return		0.003
		(0.69)
Return on assets		-0.122***
		(-6.45)
log(Total Assets)		-0.011**
		(-2.42)
Market-to-book		-0.004**
		(-2.40)
Leverage		0.008
		(0.51)
R&D/Total assets		-0.027
		(-0.90)
Capex/Total assets		0.035
		(0.62)
Institutional ownership		-0.050***
		(-3.54)
CEO tenure		0.002***
		(5.67)
Salary/Total compensation		0.017*
		(1.87)
Bonus/Total compensation		-0.034**
		(-2.15)
I(CEO equity>5%)		-0.015
		(-0.88)
Firm*cohort FE	Yes	Yes
Year FE	Yes	Yes
Obs	63,734	61,403
Adj. R2	0.06	0.08

Table A4. Litigation risk and CEO turnover-performance sensitivity

This table presents the effect of litigation risk forced CEO dismissals. The initial sample is all firms that are in both the CRSP-Compustat merged database and the Execucomp database over the period 1993-2020, excluding utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) firms. The dependent variable in all models is a dummy variable equal to one if the firm experiences a forced CEO turnover in the year t. Forced CEO dismissals are collected from the CEO dismissal database (Gentry et al., 2021). I(lawsuit$_{t+1}$) is a dummy variable equal to one if there is a lawsuit filed against the firm in the year $t+1$ and 0 otherwise. Lawsuit data is collected from the Federal Judicial Center. All other variable definitions appear in Table A1. All models are estimated by OLS. t-statistics (clustered by firm and year) are reported in parentheses below coefficients. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

	Forced CEO turnover	
	(1)	(2)
I(lawsuit$_{t+1}$)	0.006**	0.033
	(2.16)	(1.42)
Stock return	-0.013***	-0.007***
	(-5.53)	(-3.28)
I(lawsuit$_{t+1}$)*Stock return	-0.010***	-0.012***
	(-3.27)	(-3.75)
Industry return		0.002
		(0.57)
Return on assets		-0.130***
		(-5.90)
log(Total assets)		-0.002
		(-0.94)
Market-to-book		-0.005***
		(-4.14)
Leverage		0.014
		(1.26)
R&D/Total assets		-0.029
		(-0.71)
Capex/Total assets		0.028
		(1.23)
Institutional Ownership		-0.019**
		(-2.76)
CEO tenure		0.001***
		(4.59)
Salary/Total compensation		-0.000
		(-0.05)
Bonus/Total compensation		-0.030***
		(-3.62)
I(CEO equity>5%		-0.019***
		(-5.74)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Obs	31,984	31,984
Adj. R2	0.04	0.06