

# MAJORITY VOTING LEGISLATION AND CEO INCENTIVE COMPENSATION

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## ABSTRACT

Following the staggered adoption of majority voting legislation (MVL), which enhances shareholder influence in director elections, I find a significant decrease in CEO incentive compensation. This effect is particularly pronounced in firms with weaker ex-ante governance, including those with low board independence, no female directors, and higher levels of shareholder opposition to directors. This policy change is also associated with a notable decrease in directors holding multiple board seats, a decline in co-opted board members, and diminished CEO power. Further analysis reveals that the reduction in incentive compensation following MVL adoption has not led to significant changes in firm policies, volatility, or profitability, which reinforces the view that strong board monitoring and CEO incentive pay can serve as substitutes in aligning managerial actions with shareholder interests.

**Keywords:** Corporate Governance, CEO Compensation, Board of Directors, Majority Voting

**JEL Classifications:** G30, G34, G38, M12

# 1 Introduction

Executive compensation has long been one of the most convoluted and fiercely debated areas in finance. Given executives' pivotal role in shaping corporate strategy and making consequential investment decisions, they have a profound impact on firm performance and shareholder value. As such, aligning executives' incentives with shareholder interests is paramount to effective corporate governance. However, the dramatic rise in executive compensation over recent decades has drawn public scrutiny and skepticism.<sup>1</sup> Many critics contend that the substantial financial rewards granted to CEOs and other top executives are often misaligned with shareholder value, fueling concerns over the efficacy of current governance structures in reining in excessive managerial power. In response to these concerns, recent legislative reforms have aimed to strengthen shareholder influence over board composition and enhance directors' accountability. Among the most significant of these reforms is the adoption of majority voting legislation (MVL), which provides shareholders with greater control in director elections.

In this paper, I investigate a crucial aspect of the evolving corporate governance landscape: the impact of MVL on CEO incentive compensation. The theoretical impact of MVL on CEO incentive compensation remains ambiguous due to competing perspectives. On the one hand, majority voting legislation empowers shareholders by enhancing their influence over board composition (Falcone, 2007), with directors playing a critical role in determining executive compensation (Fama and Jensen, 1983). Increased shareholder accountability could drive directors to increase their oversight of CEOs, potentially reducing the reliance on incentive-based compensation. Prior literature suggests that boards formulate monitoring and incentive mechanisms with respect to a firm's economic environment to motivate optimal managerial behavior (Jensen and Meckling, 1976; Core and Guay, 2002). The board's role as a primary monitoring mechanism is widely recognized (Fama, 1980; Fama and Jensen,

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<sup>1</sup>For example, Average CEO pay reached a record high of \$23.7 million (Barron's, 2024), with CEOs earning nearly 200 times the median worker's salary last year (MarketWatch, 2024).

1983), and prior research indicates that strong corporate governance and incentives often serve as substitutes in aligning managerial behavior with shareholder interests (e.g., Beatty and Zajac, 1995; Mehran, 1995; Rediker and Seth, 1995). Thus, improved board oversight could curtail the need for strong financial incentives, such as the sensitivity of CEO wealth to firm performance, as direct monitoring tackles agency problems more effectively (Dicks, 2012).

Conversely, increased shareholder empowerment could lead to greater CEO incentive compensation, as board monitoring and incentive mechanisms might also function as complements. Classical agency theory posits that equity-based compensation is an effective method for aligning the interests of managers with those of shareholders (Jensen and Meckling, 1976). Tying CEO compensation to firm performance through instruments like restricted stock and stock options (e.g., Haugen and Senbet, 1981; Lewellen, Loderer, and Martin, 1987; Abowd, 1990) incentivize managers to act in the best interests of shareholders. With the adoption of majority voting legislation, directors face increased pressure to ensure that CEO interests are tightly aligned with shareholder value creation. This could lead to greater use of equity incentive compensation, encouraging CEOs to prioritize shareholder value maximization.

I exploit a quasi-natural experiment using the staggered adoption of U.S. state-level MVL. Under majority voting in corporate board elections, a nominee must receive more than 50% of the votes cast to be elected or re-elected. This contrasts with plurality voting, where the nominee with the highest vote count wins, regardless of withheld votes. Majority voting makes shareholder voting more influential in the election process, as it grants shareholders veto power over management's candidates and holds directors more accountable to shareholders. Between 2006 and 2013, ten U.S. states, along with the District of Columbia, enacted legislation that facilitated the adoption of majority voting standards. Although states adopt MVL for various reasons, it is unlikely these intentions are related to managerial incentive compensation. To support this, I estimate Weibull hazard models and find no systematic association between the timing of MVL adoption and factors such as state economic condi-

tions, population size, unemployment rate, corporate tax rates, political leanings, and other state-level incorporation legislation. Thus, the staggered adoption of MVL across different states provides a unique and exogenous setting for studying the stronger shareholder rights on CEO incentive compensation.

To measure CEO incentive compensation, I follow prior literature (Core and Guay, 2002; Coles, Daniel, and Naveen, 2006) and calculate both the compensation delta and vega of the CEO’s equity portfolio. Since current equity grants are more sensitive to changes (Hayes, Lemmon, and Qiu, 2012; Gormley, Matsa, and Milbourn, 2013), I focus solely on newly granted equity incentives. Given that the distribution of delta and vega compensation is typically skewed (e.g., Frydman and Jenter, 2010; Bakke, Feng, Mahmudi, and Zhu, 2022; Chang, Dambra, Schonberger, and Suk, 2023), I calculate delta using 1 plus the CEO’s dollar change in wealth for a 1% increase in the firm’s stock price. Similarly, I calculate vega as the natural logarithm of 1 plus the CEO’s dollar change in wealth for a 0.01 increase in the annualized standard deviation of the firm’s stock returns.

I examine the effect of MVL on CEO incentive compensation using a difference-in-differences (DiD) research design. To address recent concerns regarding potential biases in two-way fixed effects (TWFE) staggered DiD settings due to treatment effect heterogeneity, I employ a “stacked” DiD methodology (Gormley and Matsa, 2011; Cengiz, Dube, Lindner, and Zipperer, 2019). In this study, I create distinct cohorts of treated and control observations within a six-year window surrounding the treatment year, comprising three years before and three years after the adoption of MVL. These cohorts are then “stacked” to form a panel dataset that aligns all observations relative to the timing of the legislative event. This approach mitigates biases related to treatment effect heterogeneity and enables precise estimation of the causal impact of MVL on CEO incentive compensation. The sample period spans from 2003 to 2016, allowing me to capture the three-year period preceding the initial wave of majority voting legislation and the three-year period following the final adoption. My analysis incorporates various combinations of fixed effects to account for different di-

mensions of unobserved heterogeneity, and I conduct these analyses both with and without the inclusion of firm-level and CEO-level control variables.

The results reveal that, compared to firms not incorporated in states adopting majority voting legislation, CEO delta decreases significantly following the implementation of MVL. When only firm and year fixed effects are included, CEO delta decreases by 24.9% after adopting MVL. This reduction slightly moderates to 23% when firm- and CEO-level characteristics are included as controls. Firms incorporated in states that adopt MVL also experience a decrease in CEO vega relative to firms in non-MVL states. This effect is similarly notable, with reductions in CEO vega ranging from 13.9% to 17.9%. Timing tests exhibit no significant differences in the CEO delta and vega between firms incorporated in states adopting MVL and those in non-adopting states in the years prior to MVL adoption, which supports the parallel trends assumption of the DiD methodology. The results are also similar when I address potential biases inherent in staggered DiD treatment effects employing alternative estimators from [Borusyak, Jaravel, and Spiess \(2024\)](#), [Wooldridge \(2021\)](#), and [Sun and Abraham \(2021\)](#). To ensure that the findings are not disproportionately driven by firms incorporated in Delaware, I conduct a robustness check by excluding Delaware-based firms from the sample. The findings still hold. My results are also robust when estimating the effect of MVL on CEO incentive compensation after weighting the regressions by the inverse probability of being incorporated in a state that adopts MVL.

The empirical results demonstrate that CEO incentive compensation decreases significantly following the adoption of MVL. This finding aligns with prior research (e.g., [Beatty and Zajac, 1995](#); [Mehran, 1995](#); [Rediker and Seth, 1995](#)), which suggests that board monitoring and CEO incentives often act as substitutes in aligning managerial behavior with shareholder interests. This effect should be particularly pronounced in firms characterized by ex-ante suboptimal board monitoring. In such firms, where management was not sufficiently held accountable, high levels of incentive compensation were essential for aligning CEO actions with shareholder interests. I thus examine cross-sectional variations in the de-

crease of CEO incentive compensation along three primary dimensions: the degree of board independence, the presence of female directors, and the level of shareholder support for board members.

First, I find that boards with lower levels of independence ex-ante exhibit a stronger response to the adoption of MVL. In firms with low preexisting board independence, management was typically subject to limited oversight, leading to a greater reliance on incentive pay to ensure alignment ([Chhaochharia and Grinstein, 2009](#); [Chung and John, 2017](#)). The adoption of MVL substantially strengthens the monitoring incentives of boards with lower levels of independence. Therefore, the need for substantial CEO incentive compensation in the form of high delta and vega is notably reduced. Conversely, firms with ex-ante high board independence experience a less pronounced change because these boards already maintained robust monitoring practices. As a result, the corresponding adjustment in CEO incentive structures is comparatively smaller in these cases.

Second, I find that firms with boards lacking female directors exhibit a larger response to the adoption of MVL. The absence of female representation weakens the board's ex-ante ability to effectively hold management accountable ([Huse and Grethe Solberg, 2006](#); [Adams and Ferreira, 2009](#); [Terjesen, Sealy, and Singh, 2009](#); [Adams, De Haan, Terjesen, and Van Ees, 2015](#)). Consequently, firms with no female board members often are over-reliant on high CEO incentive compensation to compensate for weaker oversight mechanisms. The adoption of MVL increases the governance capability of these all-male boards by exercising more effective oversight, which diminishes the need for excessive CEO incentive pay.

To further investigate how ex-ante governance conditions shape the MVL effect, I examine firms based on shareholder support for directors during prior elections. Specifically, I calculate the proportion of board members who received less than majority support in shareholder voting. Low shareholder support signals heightened dissatisfaction with board effectiveness and indicates potential legitimacy concerns. I find that MVL has a significantly stronger on

CEO delta and vega in firms where a greater share of directors failed to receive majority support.

Given that majority voting in corporate board elections requires a nominee to receive more than 50% of the votes cast to be elected or re-elected, which gives shareholders greater influence in the election process, I next investigate whether the adoption of MVL shapes board composition. The busyness hypothesis ([Ferris, Jagannathan, and Pritchard, 2003](#)) posits that directors who serve on multiple boards may struggle to oversee management due to their divided commitments. My findings reveal that the adoption of MVL is associated with a substantial reduction in the percentage of board members holding multiple directorships. Specifically, following the implementation of MVL, the proportion of busy board members decreases by an average of 7.6% to 10.5%. Also, I explore the effect of MVL adoption on the proportion of co-opted directors. Co-opted directors are often perceived as less independent and more aligned with the CEO. Following [Coles, Daniel, and Naveen \(2014\)](#), I classify co-opted directors as those who joined the board after the CEO assumed office. The results align with my expectation that MVL enhances the quality of board members. Specifically, I observe a 5.0% to 6.3% reduction in the percentage of co-opted directors after MVL adoption. I also examine the potential restraining effect of MVL adoption on CEO power.

I use three proxies for CEO power. The first is CEO duality, defined as an indicator variable set to one if the CEO also holds the position of board chair and zero otherwise. The results show that the proportion of CEOs serving as both CEO and board chair declines by an economically significant 7.7%-8.8% following the adoption of MVL. In addition, I find consistent evidence of reductions in two alternative measures of CEO power: CEO tenure, measured as the natural logarithm of one plus the number of years the CEO has been in office, and the CEO Pay Slice (CPS), which captures the share of total top-executive compensation allocated to the CEO ([Bebchuk, Cremers, and Peyer, 2011](#)). Both tenure and CPS also decline significantly post-MVL adoption.

My findings indicate that MVL adoption signals a broader shift toward more effective governance, where enhanced board oversight reduces reliance on high CEO incentive compensation. To further delve into this dynamic, I conduct a formal analysis investigating the association between CEO incentive changes and firm policy adjustments, volatility, and profitability, following [Hayes et al. \(2012\)](#). The results reveal little evidence that the reduction in CEO delta and vega following MVL adoption has led to notable changes in firm policies, volatility, or profitability. These findings reinforce the view that robust board monitoring and CEO incentive compensation can act as substitutes in aligning managerial actions with shareholder interests.

My final analysis focuses on the impact of MVL on other aspects of CEO compensation. Specifically, I find that MVL is associated with a 6.7% reduction in CEO total compensation. Additionally, there is a significant shift in the types of performance metrics utilized in CEO compensation structures following MVL implementation. In particular, there is an increased emphasis on earnings, EBITDA, and sales as performance metrics, while the reliance on ratio based metrics, such as ROE, ROA, and ROIC, decreases.

My paper contributes to at least two strands of literature. First, I add a new dimension to the executive compensation literature by showing the shift from plurality to majority voting, which makes it more challenging for directors to retain their positions, enhances their accountability. This strengthened accountability plays a significant role in shaping CEO compensation structures. Numerous studies underscore the importance of aligning CEO wealth, particularly through stock option incentives, with shareholder interests (e.g., [Smith and Stulz, 1985](#); [Smith Jr and Watts, 1992](#); [Baber, Janakiraman, and Kang, 1996](#)). Recent studies suggest various factors influence CEO incentive compensation, including firm tail risk ([Gormley et al., 2013](#); [De Angelis, Grullon, and Michenaud, 2017](#)), regulatory pressures ([Hayes et al., 2012](#); [Chang et al., 2023](#)), and labor-related aspects ([Huang, Jiang, Lie, and Que, 2017](#); [Ellul, Wang, and Zhang, 2024](#)). I extend this literature by examining how in-



creased director accountability, stemming from voting standard reforms, shapes the level of pay incentives provided to managers.

Second, from a broader perspective, I contribute to the literature on majority voting legislation in director elections, with a focus on addressing agency problems. Prior studies provide mixed evidence on the effects of adopting a majority voting standard. [Ertimur, Ferri, and David \(2015\)](#) find that shareholder proposals advocating majority voting in director elections generate positive market reactions, with adoption leading to greater board responsiveness to shareholder demands. In contrast, [Cai, Garner, and Walkling \(2013\)](#) find that firms adopting majority voting experience insignificant stock returns. They characterize majority voting as a “paper tiger”, reporting no significant changes in director elections, firm performance, or shareholder wealth. [Hsu, Lü, Wu, and Xuan \(2024\)](#) show that adopting majority voting makes directors insecure about their positions, dampening corporate innovation output. In this study, I focus on the effects of MVL through the perspective of CEO incentive compensation. My findings contribute to the ongoing debate on the efficacy of majority voting legislation by demonstrating its benefits in enhancing director accountability, which appears to substitute for previously high levels of incentive-based CEO compensation.

The remainder of the paper is organized as follows. Section [2](#) introduces the institutional background of majority voting legislation in the U.S.. Section [3](#) details variable construction, sample selection, and identification strategy. Section [4](#) presents the results. And Section [5](#) concludes.

## **2 Institutional Background on Majority Voting Legislation**

In the United States, the board of directors plays a critical role in corporate governance, functioning as an oversight entity on behalf of shareholders. Directors, elected by shareholders, are instrumental in ensuring accountability and maintaining the board’s monitoring

and advisory responsibilities. However, shareholders have historically struggled to meaningfully influence director elections. One of the prominent reasons for this lack of meaningful shareholder voice in director elections is the prevalence of plurality voting ([Sjostrom Jr and Kim, 2007](#)). Under plurality voting, a candidate can be elected with as few as one vote in uncontested elections, which many argue undermines the significance of shareholder’s voice in the electoral process. Moreover, shareholders often lack the ability to actively vote against a director, as they can only choose to “withhold” their votes. Numerous institutional investors and shareholder activists have criticized the plurality voting standard for its inability to hold directors accountable for their performance, thus diminishing the overall effectiveness of corporate governance.

In addition to plurality voting, another significant standard is majority voting. The majority vote mandates that a candidate for directorship must secure a majority, specifically more than 50% of the votes cast, rather than merely achieving a plurality, to gain a position on the board. The rationale underlying majority voting is quite clear: it renders shareholder voting significant in the electoral process. In particular, it endows shareholders with veto power over management’s candidates. For instance, if shareholders are dissatisfied with a specific director, they have the ability to voice their discontent by voting against that director’s re-election. This mechanism empowers shareholders, ensuring their voices matter in the board’s composition ([Falcone, 2007](#)).

Beginning in 2004, shareholder activists initiated the submission of nonbinding shareholder proposals under Rule 14a-8, advocating for adopting a majority voting standard between firms ([Ertimur et al., 2015](#)). However, these shareholder proposals are inherently nonbinding, meaning that even if they pass, management retains the discretion to implement them at their own will. In response to these limitations, the Delaware General Corporation Law (DGCL) was enacted in 2006 to promote the adoption of a majority voting standard in director elections. The amendments prohibit the board of directors from repealing or amending shareholder-adopted bylaw amendments that mandate majority voting in direc-

tor elections, thus rendering shareholder proposals related to director elections binding. In the same year, 2006, amendments were also made to the Model Business Corporation Act (MBCA), enabling corporations to alter the default rule of plurality voting for electing directors. Specifically, the newly introduced Section 10.22 states that if a nominee receives more “against” votes than “for” votes, it may serve only for a maximum of 90 days unless replaced by the board ([American Bar Association, 2024](#)).

From 2006 to 2013, ten states and Washington D.C., where the MBCA serves as the foundation for state corporation laws, enacted new majority voting legislation. [Table 1](#) summarizes the states, enactment years, and the state corporate law sections that enact the majority voting legislative change. The adoption of majority voting legislation in these states marks a significant shift towards augmented shareholder empowerment. By requiring that director candidates secure a majority of votes to win an election or re-election, these laws make it more challenging for directors to retain their positions, ensuring directors are more accountable to the majority of shareholders and better align board composition with shareholder preferences.

### 3 Data and Empirical Methodology

This section provides a detailed overview of my main sample as well as the identification strategy employed throughout the analysis.

#### 3.1 Measuring CEO incentive compensation

In order to capture CEO incentive compensation, I draw on previous literature ([Core and Guay, 2002](#); [Coles et al., 2006](#)) and calculate both the compensation delta and vega of the CEO’s equity portfolio, using the [Black and Scholes \(1973\)](#) option valuation model, adjusted for dividend payouts by [Merton \(1973\)](#). Specifically, delta represents the dollar change in the value of a CEO’s option portfolio for each 1% change in the firm’s stock price, while vega

represents the dollar change in the portfolio value for each 0.01 increase in the annualized standard deviation of firm stock returns. Utilizing delta and vega compensation offers a more precise gauge of CEO incentive structures compared to conventional measures, such as the number or value of options or stocks held (Core and Guay, 2002; Coles et al., 2006), as these measures capture the sensitivity of a CEO’s wealth to both stock price and volatility.

Given that current equity grants within annual compensation packages are more susceptible to change, I concentrate on newly granted equity incentives by calculating delta and vega compensation, which are derived from the CEO’s option grants in the current fiscal year (Hayes et al., 2012; Gormley et al., 2013). In line with prior literature showing that delta and vega compensation distributions are skewed (e.g., Frydman and Jenter, 2010; Bakke et al., 2022; Chang et al., 2023), I transform delta and vega by taking the natural logarithm of one plus delta and vega, expressed as  $\text{Ln}(\text{Delta})$  and  $\text{Ln}(\text{Vega})$ .<sup>2</sup>

### 3.2 Sample selection

I construct my base sample using the Standard and Poor’s (S&P’s) ExecuComp database from 2003 to 2016. This dataset allows me to obtain compensation and CEO characteristics. I select 2003 as the starting year to capture the three-year period preceding the initial wave of majority voting legislation adoption by the states of Delaware, California, and Florida, and I end the sample in 2016, which marks three years after the final adoption of majority voting legislation by the state of New Hampshire. Financial statement data is obtained from Compustat, while stock return and price information are obtained from the Center for Research in Security Prices (CRSP) files. Because majority voting legislation is tied to a firm’s state of incorporation, I identify each firm’s historical state of incorporation using two files from the CRSP/Compustat Merged databases (COMPHIST and CST\_HIST).

The resulting sample comprises 36,568 firm-year observations, representing 1,673 distinct firms. It is important to note that the number of firm-year observations may vary across

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<sup>2</sup>Results remain robust when replacing  $\text{Ln}(\text{Delta})$  and  $\text{Ln}(\text{Vega})$  with the raw *Delta* and *Vega* measures.

different analyses, depending on the specific controls and model specifications used. Appendix A offers detailed definitions of the variables used in the study. I winsorize continuous variables at their 1st and 99th percentiles and express dollar values in 2022 dollars. [Table 2](#) reports summary statistics of the complete sample. For instance, the mean values of  $\text{Ln}(\text{Delta})$  and  $\text{Ln}(\text{Vega})$  are 2.955 and 1.839, respectively, for the period between 2003 and 2016. The mean value of  $\text{Ln}(\text{Total Pay})$  is 8.287. In terms of compensation structure, the cash component ( $\%Cash$ ), consisting of salary and bonuses, accounts for 37.2% of total CEO compensation, while the stock component ( $\%Stock$ ) represents about 42.9%.

### 3.3 Identification strategy

My identification strategy leverages the staggered passage of state laws that adopt majority voting legislation within a difference-in-differences (DiD) framework using a two-way fixed effects (TWFE) model. The traditional TWFE regression model with staggered treatment adoption is specified as follows:

$$y_{it} = \tau MV L_{it} + \theta X_{it-1} + \alpha_i + \beta_t + \varepsilon_{it}, \quad (1)$$

where  $y_{it}$  represents the CEO incentive compensation at firm  $i$  in year  $t$  or an alternative outcome variable of interest. The variable  $MV L_{it}$  is an indicator that equals one if a firm is incorporated in a state that has adopted majority voting legislation by year  $t$ , and zero otherwise.  $X_{it-1}$  captures lagged firm- and CEO-level control variables, which are further defined in this section and Appendix A. Firm fixed effects are denoted by  $\alpha_i$ , and year fixed effects by  $\beta_t$ . To account for serial correlation in standard errors within firms over time and across firms in the same state, I cluster standard errors at the state of incorporation level.

Recent econometric advances highlight concerns regarding the traditional TWFE model in staggered DiD settings (e.g., [Goodman-Bacon, 2021](#); [Sun and Abraham, 2021](#); [Baker, Larcker, and Wang, 2022](#); [Borusyak et al., 2024](#)). Specifically, these studies show that the average treatment effect on the treated (ATT) estimated from TWFE DiD regressions are

a variance-weighted average of many “2×2” DiD estimators, derived from comparisons between treated and control groups in a pre- and post-treatment window. However, in such cases, some “2×2” DiD estimators are derived by comparing newly treated observations with those already treated. This creates “forbidden comparisons,” in which earlier-treated groups, whose treatment effects may continue to evolve over time (dynamic treatment effects), are inappropriately used as controls. Such comparisons introduce bias into the DiD estimates, potentially leading to incorrect inferences, including estimates with the opposite sign of the true ATT.

To address these concerns, I adopt a “stacked” DiD approach (Gormley and Matsa, 2011; Cengiz et al., 2019). The intuition behind this approach involves forming distinct cohorts based on each treatment event year, encompassing a fixed time window both before and after the event. These cohorts are then stacked to form a panel that aligns all observations relative to the timing of the event. Stacked DiD effectively simulates a scenario where events occur contemporaneously (Baker et al., 2022), avoiding the use of previously treated units as comparison groups and addressing potential issues from staggered DiD settings, particularly in the presence of heterogeneous treatment effects (Cengiz et al., 2019).

For each year in which a state adopts the MVL, as listed in Table 1, the state enters the treatment group following the year of adoption, while states that have never adopted or have not yet adopted the MVL in that year serve as the control group. I construct event cohorts of treated and control observations within a 6-year window surrounding the treatment year, comprising 3 years before and 3 years after the adoption. These cohort event-years are then pooled to assemble the full cohort-based sample. The first cohort corresponds to Delaware, California, and Florida’s adoption of the MVL in 2006, encompassing the years 2003 through 2009. The final cohort is for New Hampshire’s adoption in 2013, covering 2010 through 2016.

The baseline specification is as follows, for firm  $i$ , incorporated in state  $j$ , in year  $t$ , and belonging to event cohort  $g$ :

$$y_{ijtg} = \tau treat_{ij} \times post_t + \alpha_{ig} + \beta_{tg} + \varepsilon_{ijtg}, \quad (2)$$

where the coefficient on  $treat_{ij} \times post_{ij}$  provides the estimate of the ATT, enabling an examination of how the adoption of the MVL impacts firms that are subject to the law in the years following its implementation. To prevent over-weighting repeated years in the fixed effects estimation, firm-event fixed effects are included, denoted by  $\alpha_{ig}$ , and year-event fixed effects are included, denoted by  $\beta_{tg}$ . These fixed effects account for both time-invariant firm characteristics and year-specific factors across event cohorts.

As with any DiD analysis, the central identification assumption underlying this approach is that firms incorporated in states that have not implemented majority voting legislation provide valid counterfactuals for firms incorporated in states that have implemented such legislation. Table 3 examines the degree to which firms incorporated in states that have adopted majority voting legislation differ from those incorporated in states that have not across several key dimensions. In particular, I examine covariate balance in the year preceding MVL adoption (i.e.,  $t-1$ ) across various firm- and CEO-level characteristics. Ideally, MVL would be randomly assigned, ensuring that firms incorporated in states adopting majority voting are indistinguishable in those characteristics from those in states where it has not been adopted.

Overall, firms incorporated in states that have implemented majority voting legislation exhibit some differences compared to those in states that have not. Specifically, four out of eight key characteristics show statistically significant disparities. Firms in states that have adopted majority voting legislation tend to have higher Tobin’s Q, greater stock returns, and hold more cash. This is not entirely unexpected, given that a considerable number of firms tend to incorporate in certain states. My approach to addressing these concerns is twofold: First, in addition to presenting the baseline specification results, I present results with the inclusion of these control variables across various tests. The minimal impact of these controls on the outcomes suggests that differences in these characteristics are unlikely to significantly affect the validity of my findings. Second, in Section A1, I implement inverse probability

weighting (IPW) using observable characteristics to generate the weights. My results remain robust when applying regressions based on inverse probability weighting.

Another assumption underlying my identification strategy is that the timing of the adoption of majority voting legislation is exogenous to my outcome variable, namely CEO incentive compensation. In other words, a state’s decision to adopt MVL should not be affected by the delta and vega compensation for CEOs in firms incorporated within that state. To ensure the validity of this assumption, I estimate Weibull hazard models, where a “failure event” is defined as the year a state adopts majority voting legislation. All independent variables are lagged by one year, and the sample period is consistent with my main sample, spanning from 2003 to 2016. Once a state adopts MVL, it is excluded from the sample. CEO incentive compensation is aggregated at the state level by calculating the mean across all firms incorporated in that state. I control for several state-level characteristics, including GDP growth, per capita GDP growth, population, unemployment rate, corporate tax rates, presidential voting results, and other state-level corporate legislation changes.

Table 4 presents the results from the Weibull hazard models. The coefficients of  $AvgLn(\Delta)$  and  $AvgLn(Vega)$  in columns 1 and 4 are statistically insignificant. In columns 2 and 5, I control for a range of state-level economic, demographic, and political characteristics. In columns 3 and 6, I further account for other incorporation state-level legislation, including business combination laws (BC), fair price laws (FP), control share acquisition laws (CSA), directors’ duties laws (DD), corporate opportunity waiver laws (COW), and universal demand laws (UD). Across all specifications, the coefficients for  $AvgLn(\Delta)$  and  $AvgLn(Vega)$  remain statistically insignificant. These results suggest that the adoption of MVL in a given state is unlikely to be influenced by preexisting CEO delta and vega compensation in that state. Overall, these findings support the assumption that state-level MVL adoption is largely exogenous to CEO incentive compensation in incorporated firms.



## 4 Results

This section first presents the baseline and robustness analyses, exploring the relation between majority voting legislation and CEO delta and vega. Next, I examine potential channels that could explain the main findings by analyzing the heterogeneity in the effect of MVL on CEO delta and vega. Following this, I investigate the impact of MVL on the composition and behavior of boards of directors to understand further the mechanisms driving the findings. Finally, I explore the impact of MVL on other forms of CEO compensation.

### 4.1 MVL and CEO incentive compensation

Table 5 presents the results of how majority voting legislation (MVL) affects CEO delta, using the stacked DiD. Column 1 shows the baseline model, based on Equation (2), which only includes firm-event fixed effects to control for time-invariant firm-specific characteristics and year-event fixed effects to capture any temporal trends in CEO compensation. The negative coefficients of the DiD estimator suggest that, compared to firms incorporated in states without majority voting legislation, those in states adopting MVL experience a decrease in CEO delta. Specifically, MVL is associated with a 24.9% reduction in CEO delta ( $t$ -stat = -4.96).<sup>3</sup> In column 2, I add controls for various lagged firm-level and CEO characteristics, following compensation literature. These controls include  $\ln(Assets)$ , *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. This reduces the effect of MVL slightly, with a decrease in CEO delta by 23.0% ( $t$ -stat = -4.33). In column 3, I switch from firm fixed effects to CEO fixed effects to account for unobservable, time-invariant traits specific to the CEO. In column 4, I add industry-year fixed effects to control for industry-wide shocks that affect all firms within a given year, ensuring that the observed impact on CEO delta is measured relative to the industry average. The results continue to hold across these specifications. In

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<sup>3</sup>The economic significance of the MVL's effect on the CEO delta is calculated as  $(e^{-0.281} - 1) \times \left( \frac{1 + \text{mean raw delta}}{\text{mean raw delta}} \right)$ .

column 5, given that many firms are incorporated in Delaware, which adopted MVL in the year 2006, I exclude Delaware-incorporated firms to ensure that my findings are not driven by the influence of a single state. The coefficient of the DiD estimator remains negative, alleviating concerns that the effect of MVL on the CEO delta is specific to Delaware.

To make a causal inference that MVL reduces CEO delta using the stacked DiD, or any other DiD methodology, the parallel trends assumption must hold. This means there should be no pre-existing differences in the trends of CEO delta between firms incorporated in states that adopt majority voting legislation and those that do not before the adoption. I test this assumption by plotting the DiD coefficients for three years before and after the adoption of MVL. Figure 2 presents the timing of changes in CEO delta relative to the states' MVL adoption. The plotted results are derived from models that either exclude or include firm- and CEO-level controls, as well as from samples excluding Delaware-incorporated firms. Across these three specifications, the pre-treatment periods exhibit no significant differences in CEO delta between firms incorporated in states that adopt MVL and those incorporated in states that do not, indicating that they would have followed similar trends in the absence of MVL. This evidence supports the validity of the parallel trends assumption.

Next, I look at the impact of MVL on CEO vega. Similarly, column 1 of Table 6 shows the baseline model without controls. Columns 2 through 4 sequentially introduce firm-specific and CEO-specific controls, followed by a shift from firm fixed effects to CEO fixed effects, and finally, the inclusion of industry-year fixed effects to account for common shocks affecting firms within the same industry over time. Across all these specifications, the DiD estimator consistently exhibits a negative coefficient, indicating that firms incorporated in states adopting MVL experience a decline in CEO vega compared to those in non-MVL states. These results are also economically meaningful, as MVL is associated with a 13.9% to 17.9% reduction in CEO vega. Column 5 excludes Delaware-incorporated firms, confirming that the findings are not driven by the impact of Delaware alone. Figure 3 shows that there are no pre-existing disparities in the trends of CEO vega between firms incorporated in states that

adopt majority voting legislation and those that do not prior to its adoption. These results hold both with and without controls and when Delaware-incorporated firms are included, reinforcing the validity of the parallel trends assumption.

## 4.2 Robustness: MVL and CEO incentive compensation

I test the robustness of my main finding that MVL reduces CEO incentive compensation in two ways, with the results reported in the online appendix. First, I assess the effect of MVL on CEO delta and vega using inverse probability weighting (IPW). In a randomized controlled trial, there should be no differences in characteristics between the characteristics of the treatment and control groups. However, as shown Table 3, some differences exist between firms incorporated in states that have adopted MVL and those that have not. To investigate the extent to which these differences might affect my findings, I estimate the effect of MVL on CEO incentive compensation after weighting the regressions by the inverse of the probability of being incorporated in a treatment state, as shown in Table A1. This methodology ensures that the distribution of covariates is orthogonal to treatment status (Austin, 2011). In other words, the covariate distributions among treated and untreated groups become more comparable. To do this, I first estimate the probability weights based on the likelihood that a firm is incorporated in a state that adopts MVL, using the same firm- and CEO-level covariates as in the main specification. These weights are then applied to all observations for each firm. In unreported results, I find no statistically significant differences in firm- and CEO-level characteristics between treatment and control groups after applying those weights. The coefficients on the DiD estimator in Table A1 remain negative and statistically significant at the 1% level.

As mentioned in Section 3.3, recent econometric advancements have raised concerns about the traditional TWFE model in staggered DiD settings (e.g., Goodman-Bacon, 2021; Sun and Abraham, 2021; Baker et al., 2022; Borusyak et al., 2024). In the baseline model specification, I address these concerns by implementing a “stacked” DiD approach (Gormley and Matsa,

2011; Cengiz et al., 2019). To further address issues related to treatment effect heterogeneity, I employ three alternative estimators in Table A2: Borusyak et al. (2024), Wooldridge (2021), and Sun and Abraham (2021). Across all three estimators, the results consistently show that CEO delta and vega decrease following the adoption of MVL. In Table A3, I exclude Delaware-incorporated firms to ensure that my findings are not disproportionately driven by a single state. The negative results remain robust.

## 4.3 Channel analysis

### 4.3.1 Heterogeneity: MVL and CEO incentive compensation

The empirical results show that CEO incentive compensation decreases after an increase in shareholder empowerment, proxied by the adoption of changes in majority vote legislation. These results align with prior literature, which indicates that board monitoring and CEO incentive pay often act as substitutes in aligning managerial behavior with shareholder interests (e.g., Beatty and Zajac, 1995; Mehran, 1995; Rediker and Seth, 1995). The adoption of MVL could reflect a broader shift toward more effective governance structures, where enhanced board monitoring reduces the necessity of using excessive CEO incentive compensation, particularly in terms of the sensitivity of CEO wealth to stock price (delta) and stock volatility (vega). To explore the underlying mechanisms behind, I examine three key sources of cross-sectional heterogeneity: board independence, gender diversity, and director voting outcomes. Each of these firm-level governance dimensions captures variation in the ex-ante strength or weakness of board oversight. Specifically, I hypothesize that the negative effect of MVL on CEO incentive compensation will be more pronounced in firms with weaker governance along these dimensions, where the introduction of MVL strengthens board accountability more significantly.

First, I consider the role of board independence. In firms with low board independence, management is typically not held sufficiently accountable, leading to a greater reliance on

incentives to align the interests of CEOs and shareholders (Chhaochharia and Grinstein, 2009; Chung and John, 2017). When MVL are implemented, they strengthen the board’s monitoring ability, reducing the need for large equity-based incentives. Columns 1 and 3 of Table 7 investigate the effect of MVL on CEO incentive compensation, conditional on the level of board independence. Specifically, I retrieve board-related data from BoardEx, which provides detailed information on director characteristics and board composition. I calculate the percentage of independent directors for each firm in the year  $t-1$  and classify firms as having low board independence if their percentage of independent directors falls below the sample median. Then I construct a triple interaction term between this indicator *LowIndep* and the  $Treat \times Post$  term to capture the differential effect of MVL on CEO incentive compensation for firms with lower board independence. The results reveal a significantly more negative impact of MVL on both CEO delta and vega compensation for firms with lower board independence, suggesting that the reduction in incentive compensation is more pronounced in firms with ex-ante lower board independence.

Next, I look at the presence of female directors as another dimension of board governance. Prior literature suggests that gender-diverse boards engage in more informed deliberations and exhibit better communication compared to all-male boards (Huse and Grethe Solberg, 2006; Adams and Ferreira, 2009; Terjesen et al., 2009; Adams et al., 2015), which ultimately improves the overall effectiveness of board monitoring. More specifically, Adams and Ferreira (2009) find that women are less likely to have attendance issues compared to their male counterparts, and female directors are more likely to hold CEOs accountable for poor stock price performance. This increased accountability leads the authors to describe female directors as “tougher monitors.” Therefore, I expect the negative association between MVL and CEO incentive compensation to be more pronounced in firms without female directors on the board. Columns 2 and 4 of Table 7 present the results. The triple interaction term  $Treat \times Post \times NoFemale$  reveals a more pronounced negative impact of MVL on both the delta and the vega of the CEO in firms with all-male boards. This result underscores the critical

role of gender diversity in board effectiveness. The absence of female directors weakens the board’s capacity to hold management accountable. Consequently, these firms may rely more heavily on higher incentive compensation to compensate for the lack of strong oversight.

To further investigate how pre-existing governance quality shapes the effect of MVL, I examine shareholder support for directors during board elections. Director voting outcomes provide a clear signal of board legitimacy and shareholder satisfaction. When directors receive low vote support, it reflects heightened shareholder concerns and weaker board credibility, potentially increasing the governance effect of MVL. To test this, I obtain data on director vote outcomes from the Voting Analytics database, merged with BoardEx using CUSIP and director name matching following [Bhattacharai, Serfling, and Woidtke \(2023\)](#). For each director, I compute the vote support as the number of shares voted for the director, divided by the total number of shares voted for, against, and abstained. Then, for each firm-year observation, I calculate the proportion of directors who failed to receive a majority of shareholder support, specifically those receiving less than 50 percent of the votes cast in year  $t-1$ . Firms with a percentage above the sample median are classified as having low support.

Columns 1 and 3 of Table 8 present the results. The coefficient on the triple interaction term  $Treat \times Post \times LowSupport(50\%)$  reveals a significantly stronger negative effect of MVL on both CEO delta and vega in firms where a higher proportion of directors fail to secure majority shareholder support. Columns 2 and 4 recalculate the *LowSupport* classification using a higher threshold of 75% vote support. The results remain negative and statistically significant, though slightly smaller in magnitude, indicating that while the effect persists across varying degrees of shareholder dissatisfaction, it is most pronounced when directors fail to achieve a simple majority. Taken together, these cross-sectional heterogeneity tests provide compelling evidence that the reduction in CEO incentive compensation following the adoption of MVL is significantly more pronounced in firms with weaker internal governance structures.

### 4.3.2 MVL and board busyness

Under majority voting in corporate board elections, a nominee must receive more than 50% of the votes cast to be elected or re-elected, giving shareholders greater influence in the election process. While my main results and cross-sectional analyses suggest that CEO pay incentives and board monitoring function as substitutes, I next explore whether majority voting legislation contributes to better board elections through two outcome-based tests. First, I examine how MVL affect directors with multiple board appointments. According to the busyness hypothesis ([Ferris et al., 2003](#)), directors who serve on multiple boards become critically overextended that they cannot adequately monitor management, as their attention is divided. Numerous empirical studies have shown that multiple directorships can negatively impact firm performance (e.g., [Fich and Shivdasani, 2006](#); [Ahn, Jiraporn, and Kim, 2010](#); [Falato, Kadyrzhanova, and Lel, 2014](#); [Brown, Dai, and Zur, 2019](#)).

To test this, I first classify busy directors as those holding two or more concurrent directorships within a year and calculate the percentage of board members within each firm who meet these criteria. I then apply the stacked DiD methodology to estimate the effect of MVL on the percentage of busy board members. Columns 1 and 2 of Table 9 report the result, both without and with controls, respectively. There is a statistically significant decrease in the percentage of board members who hold multiple directorships after the adoption of MVL. In column 1, without controls, MVL is associated with an average 10.5% ( $t\text{-stat} = 2.96$ ) decrease in the percentage of busy board members relative to the mean. After adding controls in column 2, this effect decreases slightly to 7.6% ( $t\text{-stat} = 2.10$ ) but remains statistically significant. These findings suggest that MVL reduce the prevalence of directors with multiple board commitments, potentially leading to improved board oversight.

### 4.3.3 MVL and co-opted board

My second approach for examining whether the negative effect of MVL on CEO incentive compensation stems from increased board monitoring focuses on how MVL adoption affects

the proportion of co-opted directors (those appointed after a CEO takes office). These tests aim to provide further evidence that majority voting legislation contributes to improved board elections. CEOs often exert significant influence over the selection of board members, leading to a board composition that favors their own interests (Shivdasani and Yermack, 1999). Co-opted directors may exhibit a level of loyalty to the CEO, which could compromise their ability to monitor management and make independent decisions impartially. Prior literature highlights that the presence of such directors may reduce the overall effectiveness of board monitoring quality (e.g., Coles et al., 2014; Chintrakarn, Jiraporn, Sakr, and Lee, 2016; Lim, Do, and Vu, 2020; Zaman, Atawnah, Baghdadi, and Liu, 2021).

First, following Coles et al. (2014), I classify co-opted directors as those who joined the board after the CEO assumed office. Co-opted board data are obtained from Lalitha Naveen’s website. Coles et al. (2014) utilize the RiskMetrics database to calculate co-option measures from 1996 to 2022. My primary measure of co-opted directors is the proportion of board members in a given year classified as co-opted. My main measure *%Co-opted Directors* is defined as the ratio of co-opted directors to the total number of directors on the board. Table 10 presents my findings using the stacked DiD methodology, with columns 1 and 2 showing results without and with controls, respectively. The results align with the expectation that MVL brings more independent directors to boards. Specifically, the adoption of MVL is associated with a decrease in the percentage of co-opted directors. In column 1, without controls, estimates show that co-opted directors decrease by 5.0% ( $t\text{-stat} = -1.73$ ) following MVL adoption. Adding controls in column 2 strengthens this effect, with co-opted directors decreasing by 6.3% ( $t\text{-stat} = -2.24$ ) after MVL adoption.

The second measure, *%TWCo-opted Directors*, is a tenure-weighted co-option variable calculated as the sum of the tenure of co-opted directors divided by the total tenure of all directors. *%TWCo-opted Directors* capture the growing impact of co-opted directors on board decisions over time, as longer tenure among these directors may have a stronger impact on board decisions. Columns 3 and 4 of Table 10 present the results. The estimates indicate



that tenure-weighted co-opted directors decrease by 11.0% ( $t$ -stat = -2.69) without controls and by 12.1% ( $t$ -stat = -3.16) with controls, respectively.

## 4.4 MVL and CEO power

Given the findings that MVL is associated with improved board elections, potentially enhancing the overall effectiveness of the board, I next consider whether MVL adoption has a corresponding restraining effect on CEO power. While CEOs are expected to hold legitimate authority over major firm decisions, the extent of their power can vary widely. Prior literature shows that excessive CEO power leads to investments in projects that prioritize managerial self-interests over shareholder value, resulting in non-value-maximizing decisions that harm firm performance (e.g., [Adams, Almeida, and Ferreira, 2005](#); [Bebchuk et al., 2011](#); [Veprauskaitė and Adams, 2013](#); [Zaman et al., 2021](#)).

I use three proxies to gauge the degree of CEO power. The first is CEO duality, an indicator variable set to one if the CEO holds the board chair position and zero otherwise. Holding both titles signals increased power, as a CEO who is also the chairperson may more effectively direct the board’s focus ([Bebchuk and Fried, 2003](#)) and play a significant role in guiding the nominating committee’s recommendations for board appointments. Therefore, I expect that CEOs who serve as both CEO and chairman of the board will have greater power within the firm. Columns 1 and 2 of Table 11 present the results using the stacked DiD methodology, showing results without and with controls, respectively. In column 1, without controls, the estimates show that the incidence of CEOs also serving as board chair decreases by 7.7% ( $t$ -stat = -3.88) following MVL adoption. After adding controls in column 2, this effect becomes slightly stronger, with CEO duality decreasing by 8.8% ( $t$ -stat = -4.21).

The second proxy of CEO power is the length of CEO tenure, calculated as the natural logarithm of the number of years the CEO has been in office. [Finkelstein and Hambrick \(1989\)](#) suggest that CEO power builds over time, so longer tenure is associated with greater power accumulation. Column 3 of Table 11 shows a negative association between MVL adoption

and CEO tenure, though this result is not statistically significant. In column 4, after adding controls, the association becomes negative and statistically significant, with CEO tenure decreasing by 2.4% ( $t\text{-stat} = -1.89$ ) following MVL adoption.

The third measure of CEO power I examine is the CEO Pay Slice (CPS), which captures the share of total compensation allocated to the CEO relative to the aggregate pay of the top executive team (Bebchuk et al., 2011). CPS serves as a proxy for the CEO’s relative influence within the top management team, reflecting how much of total executive compensation is concentrated in the CEO’s hands. Columns 5 and 6 of Table 11 present the results. In column 5, which excludes control variables, the estimates show that CPS declines by approximately 2.3% ( $t\text{-stat} = -2.16$ ) following the adoption of MVL. When firm- and CEO-level controls are added in column 6, the magnitude of the effect slightly attenuates, but the negative association remains.

## 4.5 CEO incentive changes and firm policy changes around MVL

My earlier findings indicate that firms incorporated in states adopting MVL experience a decline in CEO delta and vega relative to those in non-MVL states. This suggests that MVL adoption signals a broader shift toward more effective governance, where strengthened board monitoring reduces the need for high CEO incentive compensation. These results imply that board monitoring and CEO incentive pay could act as substitutes in aligning managerial behavior with shareholder interests.

To test this implication formally, I examine the association between changes in CEO incentive compensation and changes in firm policies, volatility, and profitability in Table 12. Following Hayes et al. (2012), I calculate the average levels of the firm’s policy variables, volatility, profitability, and CEO incentive compensation measures for each firm in the periods before and after MVL adoption. I then take the within-firm difference for each variable and regress these changes in firm policies and risk on changes in CEO incentive compensation measures. This method allows me to examine the cross-sectional association between

changes in firm policies, volatility, and compensation structure surrounding the adoption of MVL while accounting for other factors that may have influenced firm policies and volatility. In addition, I include changes in profitability, measured using ROA and sales, to assess real economic consequences. Specifically, I expect little evidence of systematic policy, risk, or performance changes following reductions in CEO incentives, as improved board monitoring should serve as an effective substitute.

Panel A presents the results for the changes in CEO delta compensation. The evidence strongly supports the substitution interpretation. Reductions in delta are not associated with significant changes in firm policies related to R&D expenses, capital expenditures, or cash holdings. Although column 3 shows a negative association between changes in delta and changes in leverage, the economic impact is minimal. Moreover, columns 5-7 suggest that reductions in delta are not associated with significant changes in stock volatility or, more importantly, profitability.

Panel B focuses on the CEO vega compensation, which prior literature identifies as a key driver of managerial risk-taking (Coles et al., 2006; Chava and Purnanandam, 2010). If vega plays an active role in shaping firm risk choices, reductions in vega should be accompanied by clear and consistent declines in risky policies and volatility. The results do not support this prediction. Changes in vega are not significantly related to changes in capital expenditures and leverage. More importantly, I find statistically significant negative associations between changes in vega and changes in both R&D spending and stock return volatility. Rather than showing systematic risk reduction following lower vega, these results indicate that firms reducing vega do not respond by materially adjusting risky investment behavior or overall risk exposure. The only result directionally consistent with the risk-taking hypothesis is the negative relationship between vega and cash holdings. However, this effect is economically trivial. For instance, a one standard deviation increase in the change in vega is associated with a 0.00184 decrease in cash holdings, and the coefficient is statistically significant at only the 10% level.

Overall, the evidence is consistent across delta and vega. Despite large and statistically significant reductions in CEO incentive compensation following MVL adoption, core firm policies, risk measures remain relatively stable, while profitability remains unchanged. This lack of real effects strongly supports view that increased board monitoring following MVL adoption is a substitute for high CEO incentive compensation.

## 4.6 MVL and other CEO compensation

In this section, I extend my analysis to examine other forms of CEO compensation. An important and unresolved question is whether the implementation of MVL also affects other types of compensation provided to CEOs. Addressing this question is essential for building a comprehensive understanding of how executive compensation structures evolve in the wake of such legislative changes. First, I look at total compensation as well as the specific levels of each component of CEO pay, including base salary, bonuses, restricted stock awards, and stock option grants. In addition, I examine the composition of cash versus equity compensation, focusing on the percentage of cash compensation and equity-based compensation within the total pay package. Beyond these, I also consider portfolio delta and portfolio vega, which reflect the sensitivity of the total CEO's equity portfolio to changes in stock price and stock price volatility, respectively. The regression results are presented in [Table 13](#).

In column 1, I investigate the impact of changes in MVL on CEO total pay. The dependent variable  $Ln(Total Pay)$  is the natural logarithm of one plus the dollar value of CEO total pay, which includes salary, bonuses, the value of restricted stock grants, the value of option grants, long-term incentive payouts, and other types of compensation. It reflects the estimated value of total compensation awarded to the CEO during that year, though not necessarily realized. The result indicates that the estimated coefficient are negative and statistically significant. Specifically, MVL is associated with a reduction of 6.7% in CEO total compensation pay ( $t$ -stat = -3.05).

In columns 2 to 5, the dependent variables are the natural logarithm transformations of one plus the dollar values of salary, bonuses, stock grants, and option grants, respectively. The results indicate that MVL do not have a significant impact on these individual elements of compensation. In columns 6 and 7, I examine cash-based compensation and equity-based compensation. Specifically, *%Cash* is defined as the sum of salary and bonuses divided by total pay, while *%Equity* is defined as the sum of the value of restricted stock grants and option grants, also divided by total pay. The results show that MVL is associated with an increase in cash-based compensation and a corresponding decrease in equity-based compensation. These results are statistically significant at the 10% and 1% levels, respectively. Next, I examine the CEO portfolio delta and portfolio vega. *Portfolio delta* represents the total deltas of all outstanding equity grants plus the deltas of equity grants awarded during the current fiscal year. *Portfolio vega* represents the total vegas of all outstanding equity grants plus those awarded in the current year. The results, shown in columns 8 and 9, indicate MVL adoption is associated with a decrease in portfolio delta, albeit with statistical significance at the 10% level, while no significant effect is observed for portfolio vega.

#### 4.6.1 MVL and CEO performance goals

In my final analysis, I examine CEO compensation goals. Starting in 2006, the Securities and Exchange Commission (SEC) mandated the disclosure of performance goals used in executive compensation contracts. I obtain data from the Incentive Lab database, which provides detailed information on CEO performance goals for each firm. These goals are typically tied to key financial metrics, such as earnings, sales, profitability ratios, and other targets, along with their corresponding thresholds, targets, and maximums. Specifically, I focus on performance metrics, including earnings, EBITDA, sales, return on equity (ROE), return on assets (ROA), and return on invested capital (ROIC).

I expect boards to respond by re-optimizing not only the intensity and level of CEO incentives, but also the criteria used to evaluate managerial performance. In particular, en-

hanced shareholder oversight should encourage boards to rely more on transparent, absolute performance measures such as earnings, EBITDA, and sales, while reducing the use of ratio based metrics like ROE, ROA, and ROIC that are more sensitive to accounting choices, capital structure, and managerial discretion (e.g., [Bartov, 1993](#); [Hribar, Jenkins, and Johnson, 2006](#); [Stubben, 2010](#)).

The results are presented in [Table 14](#). The dependent variable for each column is set to 1 if the CEO’s compensation structure includes the specific performance goal for that year and 0 otherwise. The findings indicate a statistically significant shift in the types of performance goals adopted following the implementation of MVL. Specifically, there is a notable increase in the use of earnings, EBITDA, and sales as performance goals, accompanied by a decrease in the reliance on ratio based metrics such as ROE, ROA, and ROIC. For instance, MVL adoption is associated with an average 22.6% increase in the likelihood of incorporating sales goals into CEO compensation structures ( $t\text{-stat} = 4.37$ ). Conversely, the adoption of MVL corresponded to a 31.4% decrease in the use of ROA as a performance goal ( $t\text{-stat} = 4.46$ ).

## 5 Conclusion

In this paper, I investigate the relationship between majority voting legislation (MVL) and CEO incentive compensation. By leveraging the staggered implementation of state laws mandating majority voting in corporate director elections and employing a stacked DiD research design to address treatment effect heterogeneity, I find that CEO incentive compensation, specifically delta and vega, declines significantly after MVL adoption. This effect is particularly pronounced in firms with boards that exhibit low independence, lack female representation, and face higher levels of shareholder opposition in director elections. I propose that this reduction in CEO incentives is driven by improvements in board accountability and election quality following MVL adoption. The results indicate that MVL reduces the presence of directors with multiple board commitments and lowers the proportion of co-opted direc-

tors, bringing higher-quality, more independent directors onto boards. Additionally, CEO power decreases post-MVL, as evidenced by reductions in CEO duality, tenure, and pay slice. Further analysis reveals that firm policies, stock volatility, and profitability remain stable despite substantial shifts in CEO incentive structures. This finding reinforces the view that increased board oversight under MVL is an effective substitute for high CEO incentive compensation in aligning managerial actions with shareholder interests.

Overall, my study highlights the role of MVL in promoting effective governance by strengthening board oversight and reducing reliance on excessive CEO incentives. By showing that robust board monitoring can substitute for high incentive pay, this research lays a foundation for future reforms to better align managerial actions with shareholder interests in a balanced way, offering valuable insights for policymakers, researchers, and firms.

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## Appendix A. Variable Definitions

This table provides variable definitions. Variables not included here are defined in the corresponding table captions. Compustat and CRSP variables are listed in italics when appropriate.

Variable	Definition
%Busy Board	The percentage of board members holding two or more concurrent directorships within a given year.
%Democrat	The fraction of voters that vote for a Democrat during presidential elections.
%Co-opted Directors	The number of co-opted directors divided by the total number of board members within a given year, following Coles et al. (2014).
%LowSupport	An indicator variable equal to 1 if the fraction of directors receiving less than a specified shareholder support threshold (50% or 75%) is above the sample median in period $t-1$ , and 0 otherwise.
%TWCo-opted Directors	The total tenure of co-opted directors divided by the combined tenure of all board directors within a given year, following Coles et al. (2014).
$\Delta$ GDP	One year percent change in state-level gross domestic product.
$\Delta$ GDP/Capita	One year percent change in per capita state-level gross domestic product.
BLEV	Book value of debt scaled by book value of assets $[(dltt+dlc)/at]$ .
CapEx	Capital expenditures ( <i>capx</i> ) scaled by lagged property, plant, and equipment ( <i>ppent</i> ).
Cash	Cash and short-term investments ( <i>che</i> ) scaled by book value of assets ( <i>at</i> ).
CEO Age	The natural logarithm of CEO age.
CEO Duality	An indicator variable set to one if the CEO holds the board chair position and zero otherwise.
CEO Pay Slice	The CEO's total compensation divided by the aggregate compensation of the top executive team.
Ln(Assets)	The natural logarithm of a firm's total assets ( <i>at</i> ) (in millions and 2022 dollars).
Ln(Delta)	The natural logarithm of 1 plus CEO's dollar change in wealth for a 1% increase in the firm's stock price following Core and Guay (2002), and is calculated solely from the CEO's equity grants awarded in the current fiscal year.
Ln(Population)	The natural logarithm of State-level population. $[(dltt+dlc)/at]$ .
Ln(Tenure)	The natural logarithm of number of years a person spends in the CEO position.
Ln(Vega)	The natural logarithm of 1 plus CEO's dollar change in wealth for a 0.01 increase in the annualized standard deviation of firm's stock returns following Core and Guay (2002), and is calculated solely from the CEO's equity grants awarded in the current fiscal year.
LowIndep	An indicator variable equal to 1 if a firm's board independence is below the sample median in period $t-1$ , and 0 otherwise.
NoFemale	An indicator variable equal to 1 if the firm has no female directors in year $t-1$ , and 0 otherwise.
Post	An indicator variable that equals one for years following the adoption of majority voting legislation, and 0 for years prior.

R&D	Research and development expenses scaled by sales ( $xrd/sale$ ). $xrd$ is set to zero when missing.
ROA	Income before extraordinary items ( $ib$ scaled by book value of assets ( $at$ )).
Stock Ret.	The annualized return of a firm's daily stock returns over its fiscal year.
Stock Vol.	The annualized volatility of a firm's daily stock returns over its fiscal year.
TaxRate	State-level highest marginal corporate tax rate.
Tobins's Q	Market value of assets scaled by book value of assets $[(at-ceq+prcc\_f \times csho)/(at)]$ .
Treat	An indicator variable that equals one if a firm is incorporated in a state with majority voting legislation, and 0 otherwise.
Ln(Total Pay)	CEO total annual total compensation (Salary + Bonus + Other Annual + Restricted Stock Grants + LTIP Payouts + All Other + Value of Option Grants) ( $tdc1$ ).
UnempRate	State-level fraction of workers that are unemployed.

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Figure 1: States Implementing the Majority Voting Legislation (MVL)

This figure plots the states that implemented Majority Voting Legislation (MVL) between 2006 and 2013.

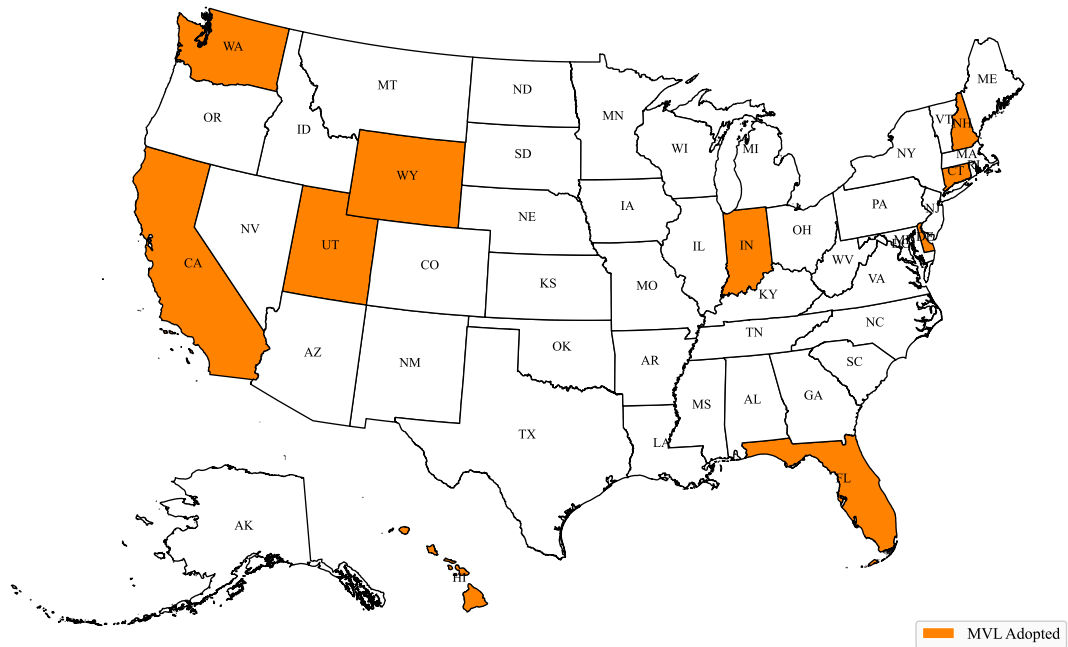


Figure 2: MVL and CEO Delta

This figure plots results from the stacked difference-in-differences examining the effect of MVL on CEO vega over the period 2003 to 2016.  $\ln(\Delta)$  is the natural logarithm of 1 plus CEO's dollar change in wealth for a 1% increase in the firm's stock price following [Core and Guay \(2002\)](#), and is calculated solely from the CEO's equity grants awarded in the current fiscal year. Control variables include  $\ln(\text{Assets})$ , *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. 95% confidence intervals based on standard errors clustered by state are reported.

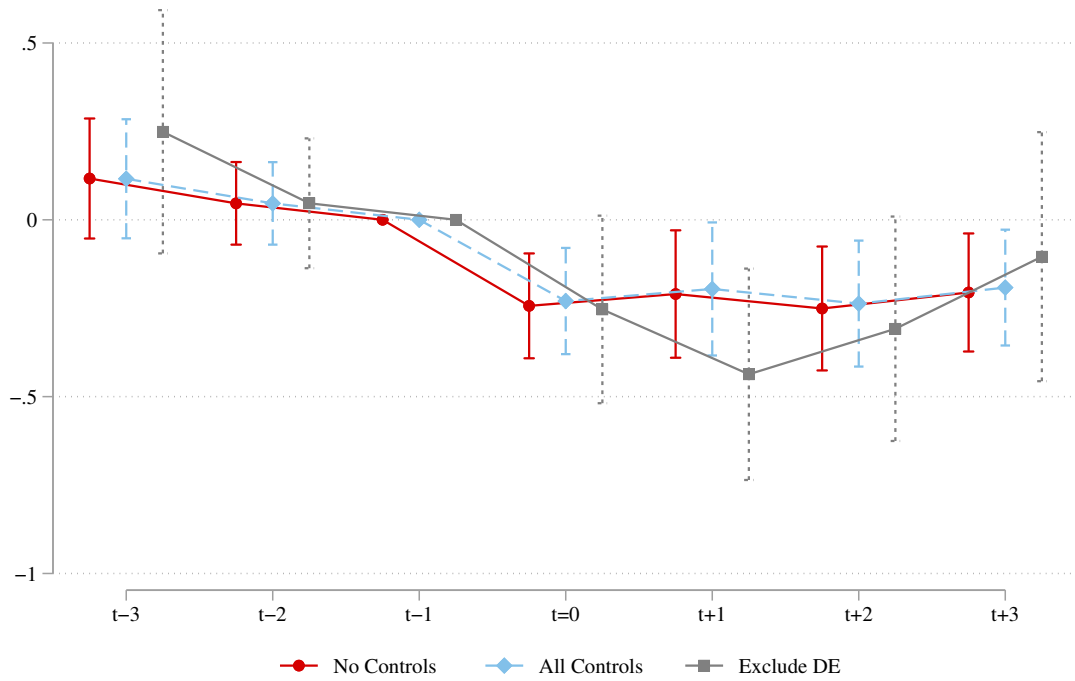


Figure 3: MVL and CEO Vega

This figure plots results from the stacked difference-in-differences examining the effect of MVL on CEO vega over the period 2003 to 2016.  $\ln(Vega)$  is the natural logarithm of 1 plus CEO's dollar change in wealth for a 0.01 increase in the annualized standard deviation of firm's stock returns following [Core and Guay \(2002\)](#), and is calculated solely from the CEO's equity grants awarded in the current fiscal year. Control variables include  $\ln(Assets)$ , *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. 95% confidence intervals based on standard errors clustered by state are reported.

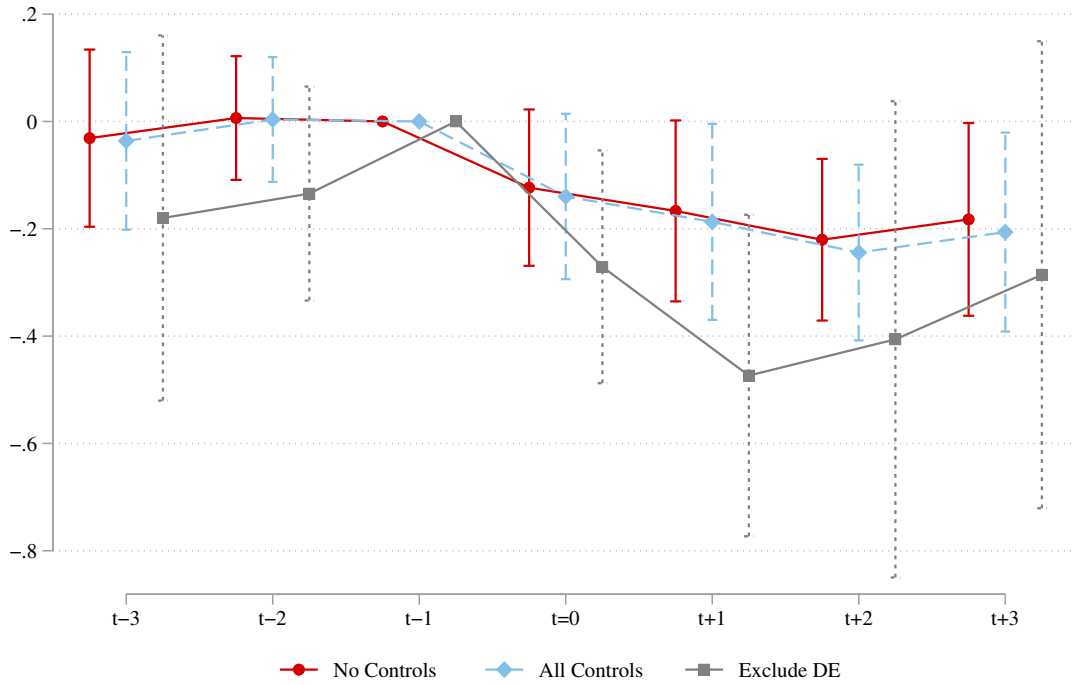




Table 1: Majority-Voting Legislation Dates

This table lists when and which states pass MVL, along with the corresponding sections of their corporate laws. Dates are from [Cuñat et al. \(2019\)](#)

State	State Abbreviation	Year	Sections
Delaware	DE	2006	<i>S.B.</i> 1207
California	CA	2006	§8.1.216
Florida	FL	2006	§36.607.728
Washington	WA	2007	§23B.10.205
Utah	UT	2008	§16-10a-1023
Hawaii	HI	2009	§23.414.302
Indiana	IN	2010	§23.1.39
Wyoming	WY	2010	§17-16-1022
Connecticut	CT	2011	§33.601.809
District of Columbia	DC	2012	§29.308.22
New Hampshire	NH	2013	§27.293A.10

Table 2: Summary Statistics

This table reports summary statistics for the variables used in our main analyses over the period 2003 to 2016. There are 36,568 firm-year observations. All continuous variables are winsorized at their 1st and 99th percentiles and dollar values are expressed in 2022 dollars. Appendix A provides variable definitions.

	Mean	SD	P25	P50	P75
Delta	56.635	91.981	5.487	23.784	66.169
Vega	35.453	74.206	0.000	2.839	35.063
Ln(Delta)	2.955	1.697	1.870	3.210	4.207
Ln(Vega)	1.839	1.968	0.000	1.345	3.585
Ln(Total Pay)	8.287	1.014	7.593	8.313	9.013
Ln(Salary)	6.462	0.861	6.241	6.567	6.868
Ln(Bonus)	1.956	2.954	0.000	0.000	5.158
Ln(Stock)	5.028	3.334	0.000	6.451	7.601
Ln(Option)	3.784	3.457	0.000	5.108	6.956
%Cash	0.372	0.261	0.170	0.289	0.517
%Equity	0.429	0.266	0.239	0.446	0.616
Ln(CEO Age)	4.033	0.118	3.951	4.043	4.111
Ln(CEO Tenure)	1.802	0.751	1.246	1.782	2.299
Ln(Assets)	8.078	1.657	6.940	7.991	9.143
Tobin's Q	1.744	0.985	1.119	1.405	1.939
BLEV	0.240	0.190	0.086	0.211	0.355
Cash	0.118	0.142	0.024	0.061	0.158
ROA	0.040	0.068	0.011	0.036	0.076
Stock Ret.	0.137	0.240	-0.002	0.114	0.240

Table 3: Covariate Balance

This table reports results from tests examining covariate balance between firms incorporated in states that have adopted MVL and firms incorporated in states that have not, in the year before MVL adoption. Treatment firms are defined as those incorporated in states that will adopt MVL in year  $t$ . The control firms sample comprises firms incorporated in states that never- or have not-yet adopt MVL in the year before a adoption event occurs. There are 952 observations in the treatment sample and 4,593 observations in the control sample. All variables are defined in Appendix A.  $t$ -statistics for a test of the differences in means are calculated from standard errors clustered by incorporation state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Treatment Group	Control Group	Difference	$t$ -statistic
Ln(Assets)	8.007	8.067	-0.057	-0.058
Tobin's Q	2.051	1.677	0.374	6.82***
BLEV	0.204	0.248	-0.044	-1.61
Cash	0.174	0.107	0.067	5.86***
ROA	0.042	0.039	0.003	0.82
Stock Ret.	0.264	0.109	0.155	19.04***
Ln(Tenure)	1.741	1.810	-0.069	-2.49**
Ln(CEO Age)	4.025	4.033	-0.008	-1.61

Table 4: Timing of MVL

This table reports results from Weibull hazard models where a failure event is defined as the year when a state adopt MVL. The sample period is from 2003 to 2016, and states are dropped from the sample after adopting MVL. Lagged control variables are measured in year  $t-1$ .  $AvgLn(Delta)$  is the average CEO  $Ln(Delta)$  in a state in a given year, and  $AvgLn(Vega)$  is the average CEO  $Ln(Vega)$  in a state in a given year. All variables are defined in Appendix A.  $t$ -statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Majority-voting Legislation					
	(1)	(2)	(3)	(4)	(5)	(6)
AvgLn(Delta)	0.023 (0.10)	0.088 (0.26)	0.458 (1.41)			
AvgLn(Vega)				-0.011 (-0.06)	0.008 (0.03)	0.211 (0.70)
%ΔGDP		47.565 (1.36)	40.956 (0.99)		48.484 (1.40)	43.247 (1.06)
%ΔGDP/Capita		-46.906 (-1.15)	-40.661 (-0.88)		-47.508 (-1.16)	-42.487 (-0.90)
Ln(Population)		-0.221 (-0.38)	-0.118 (-0.19)		-0.187 (-0.32)	-0.050 (-0.08)
UnempRate		-0.098 (-0.42)	-0.046 (-0.19)		-0.098 (-0.41)	-0.046 (-0.18)
TaxRate		-0.070 (-0.48)	-0.215 (-0.94)		-0.069 (-0.47)	-0.192 (-0.84)
%Democrat		2.412 (1.16)	2.055 (1.00)		2.498 (1.13)	2.066 (0.99)
BC			-0.452 (-0.53)			-0.287 (-0.29)
FP			-0.435 (-0.38)			-0.522 (-0.42)
CSA			-0.006 (-0.01)			0.170 (0.22)
DD			-1.394 (-1.42)			-1.274 (-1.17)
COW			-0.238 (-0.16)			-0.144 (-0.09)
UD			1.392 (1.58)			1.254 (1.56)
Obs	588	588	588	588	588	588

Table 5: MVL and CEO Delta

This table reports results from the stacked difference-in-differences examining the effect of MVL on CEO delta over the period 2003 to 2016. The dependent variable  $\text{Ln}(\text{Delta})$  is the natural logarithm of 1 plus CEO's dollar change in wealth for a 1% increase in the firm's stock price following [Core and Guay \(2002\)](#), and is calculated solely from the CEO's equity grants awarded in the current fiscal year. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*. Control variables include  $\text{Ln}(\text{Assets})$ , *Tobin's Q*, *BLEV*, *Cash*, *ROA*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Ln(Delta)				
	(1)	(2)	(3)	(4)	(5)
Treat $\times$ Post	-0.281*** (-4.96)	-0.256*** (-4.33)	-0.243*** (-3.83)	-0.272*** (-4.19)	-0.359** (-2.01)
Ln(Assets)		-0.047*** (-4.74)	-0.025** (-2.32)	-0.037** (-2.49)	-0.051*** (-4.76)
Tobin's Q		-0.097*** (-2.81)	-0.125*** (-3.46)	-0.122** (-2.31)	-0.061** (-2.33)
BLEV		-0.030 (-0.26)	0.029 (0.36)	0.018 (0.11)	-0.131 (-1.53)
Cash		-0.261* (-1.95)	-0.393*** (-2.60)	-0.202 (-1.17)	-0.185 (-1.16)
ROA		1.232*** (3.83)	1.361*** (4.47)	1.458*** (3.98)	0.975*** (3.06)
Stock Ret.		0.173** (2.20)	0.168** (2.29)	0.161* (1.79)	0.128 (1.47)
Ln(Tenure)		-0.091*** (-4.52)	-0.099*** (-4.21)	-0.086*** (-2.84)	-0.098*** (-4.27)
Ln(CEO Age)		0.155 (1.14)	-0.124 (-0.90)	-0.033 (-0.28)	0.048 (0.35)
Excluding DE					✓
Firm $\times$ Event FE	✓	✓		✓	✓
Year $\times$ Event FE	✓	✓	✓		✓
CEO $\times$ Event FE			✓		
SIC3 $\times$ Year $\times$ Event FE				✓	
Obs	36,568	36,568	35,314	32,242	31,096
Adj R <sup>2</sup>	0.608	0.610	0.648	0.609	0.640

Table 6: MVL and CEO Vega

This table reports results from the stacked difference-in-differences examining the effect of MVL on CEO vega over the period 2003 to 2016. The dependent variable  $\text{Ln}(\text{Vega})$  is the natural logarithm of 1 plus CEO's dollar change in wealth for a 0.01 increase in the annualized standard deviation of firm's stock returns following [Core and Guay \(2002\)](#), and is calculated solely from the CEO's equity grants awarded in the current fiscal year. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*. Control variables include  $\text{Ln}(\text{Assets})$ , *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Ln(Vega)				
	(1)	(2)	(3)	(4)	(5)
Treat×Post	-0.162*** (-2.92)	-0.171*** (-2.90)	-0.145** (-2.49)	-0.191** (-2.31)	-0.246* (-1.76)
Ln(Assets)		-0.081*** (-5.65)	-0.062*** (-5.20)	-0.068*** (-3.74)	-0.088*** (-5.76)
Tobin's Q		-0.032 (-0.87)	-0.043 (-1.10)	-0.100** (-2.24)	0.006 (0.22)
BLEV		-0.266* (-1.75)	-0.203* (-1.90)	-0.248 (-0.87)	-0.405*** (-3.58)
Cash		-0.248* (-1.65)	-0.380** (-2.08)	-0.088 (-0.49)	-0.170 (-0.93)
ROA		1.127*** (3.20)	1.211*** (3.53)	1.459*** (3.57)	0.917** (2.33)
Stock Ret.		0.320*** (3.83)	0.395*** (5.49)	0.347*** (3.64)	0.262*** (3.02)
Ln(Tenure)		-0.014 (-0.61)	-0.034 (-1.40)	0.011 (0.41)	-0.008 (-0.29)
Ln(CEO Age)		-0.139 (-0.65)	-0.366** (-2.19)	-0.381** (-2.06)	-0.349** (-2.05)
Excluding DE					✓
Firm×Event FE	✓	✓		✓	✓
Year×Event FE	✓	✓	✓		✓
CEO×Event FE			✓		
SIC3×Year×Event FE				✓	
Obs	36,568	36,568	35,314	32,242	31,096
Adj R <sup>2</sup>	0.627	0.630	0.676	0.624	0.651

Table 7: MVL and CEO Incentives: Board Composition Heterogeneity

This table reports results from the stacked difference-in-differences examining the effect of MVL on CEO delta and vega over the period 2003 to 2016 based on ex-ante board independence and diversity. In columns 1-2, the dependent variable is  $\ln(\Delta)$ , calculated as the natural logarithm of 1 plus the CEO's dollar change in wealth for a 1% increase in the firm's stock price following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. In columns 3-4, the dependent variable is  $\ln(\text{Vega})$ , calculated the natural logarithm of 1 plus CEO's dollar change in wealth for a 0.01 increase in the annualized standard deviation of firm's stock returns following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*. In columns 1 and 3, *LowIndep* is an indicator variable equal to 1 if a firm's board independence is below the sample median in period  $t-1$ , and 0 otherwise. In columns 2 and 4, *NoFemale* is an indicator variable equal to 1 if the firm has no female director in year  $t-1$ , and 0 otherwise. Control variables include  $\ln(\text{Assets})$ , *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Ln(Delta)		Ln(Vega)	
	(1)	(2)	(3)	(4)
Treat $\times$ Post	-0.134** (-2.20)	-0.145** (-2.20)	-0.000 (-0.00)	-0.031 (-0.33)
Treat $\times$ Post $\times$ LowIndep	-0.195*** (-6.42)		-0.279*** (-5.12)	
Treat $\times$ Post $\times$ NoFemale		-0.171*** (-4.36)		-0.221** (-2.48)
Controls	✓	✓	✓	✓
Firm $\times$ Event FE	✓	✓	✓	✓
Year $\times$ Event FE	✓	✓	✓	✓
Obs	35,887	35,887	35,909	35,909
Adj R <sup>2</sup>	0.610	0.610	0.631	0.631

Table 8: MVL and CEO Incentives: Voting Outcome Heterogeneity

This table reports results from the stacked difference-in-differences examining the effect of MVL on CEO delta and vega over the period 2003 to 2016 based on ex-ante director voting outcomes. In columns 1-2, the dependent variable is  $\ln(\Delta)$ , calculated as the natural logarithm of 1 plus the CEO's dollar change in wealth for a 1% increase in the firm's stock price following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. In columns 3-4, the dependent variable is  $\ln(\text{Vega})$ , calculated the natural logarithm of 1 plus CEO's dollar change in wealth for a 0.01 increase in the annualized standard deviation of firm's stock returns following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*. In columns 1 and 3, *LowSupport(50%)* is an indicator variable equal to 1 if the fraction of directors receiving less than 50% support is above the sample median in period  $t-1$ , and 0 otherwise. In columns 2 and 4, *LowSupport(75%)* is an indicator variable equal to 1 if the fraction of directors receiving less than 75% support is above the sample median in period  $t-1$ , and 0 otherwise. Control variables include  $\ln(\text{Assets})$ , *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Ln(Delta)		Ln(Vega)	
	(1)	(2)	(3)	(4)
Treat×Post	-0.259*** (-3.65)	-0.247*** (-3.52)	-0.202*** (-2.89)	-0.175*** (-2.64)
Treat×Post×LowSupport(50%)	-0.720*** (-3.28)		-1.022*** (-3.99)	
Treat×Post×LowSupport(75%)		-0.152* (-1.74)		-0.302*** (-3.44)
Controls	✓	✓	✓	✓
Firm×Event FE	✓	✓	✓	✓
Year×Event FE	✓	✓	✓	✓
Obs	27,402	27,402	27,407	27,407
Adj R <sup>2</sup>	0.613	0.613	0.638	0.638



Table 9: MVL and Board Busyness

This table reports results from the stacked difference-in-differences examining the effect of MVL on board busyness over the period 2003 to 2016. The dependent variable *% Busy Board* is the percentage of board members holding two or more concurrent directorships within a given year. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*. Control variables include *Ln(Assets)*, *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	% Busy Board	
	(1)	(2)
Treat×Post	-0.011*** (-2.96)	-0.008** (-2.10)
Controls		✓
Firm×Event FE	✓	✓
Year×Event FE	✓	✓
Obs	35,704	35,704
Adj R <sup>2</sup>	0.513	0.513

Table 10: MVL and Co-Opted Directors

This table reports results from the stacked difference-in-differences examining the effect of MVL on co-opted directors over the period 2003 to 2016. For columns 1-2, the dependent variable *%Co-opted Directors* is calculated as the number of co-opted directors divided by the total number of board members within a given year, following Coles et al. (2014). For columns 3-4, the dependent variable *%TW Co-opted Directors* is calculated as the total tenure of co-opted directors divided by the combined tenure of all board directors within a given year, following Coles et al. (2014). The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*. Control variables include  $\ln(\text{Assets})$ , *Tobin's Q*, *BLEV*, *Cash*, *ROA*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	%Co-opted Directors		%TW Co-opted Directors	
	(1)	(2)	(3)	(4)
Treat×Post	-0.023* (-1.73)	-0.029** (-2.24)	-0.031*** (-2.69)	-0.034*** (-3.16)
Controls		✓		✓
Firm×Event FE	✓	✓	✓	✓
Year×Event FE	✓	✓	✓	✓
Obs	24,399	24,399	24,399	24,399
Adj R <sup>2</sup>	0.613	0.631	0.714	0.725

Table 11: MVL and CEO Power

This table reports results from the stacked difference-in-differences examining the effect of MVL on CEO Power over the period 2003 to 2016. For columns 1-2, the dependent variable *CEO Duality* is an indicator variable set to one if the CEO holds the board chair position and zero otherwise. For columns 3-4, the dependent variable *CEO Tenure* is calculated as the natural logarithm of the number of years the CEO has been in office. For columns 5-6, the dependent variable *CEO Pay Slice* is calculated as the CEO's total compensation divided by the aggregate compensation of the top executive team. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*. Control variables include  $\ln(Assets)$ , *Tobin's Q*, *BLEV*, *Cash*, *ROA*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	CEO Duality		CEO Tenure		CEO Pay Slice	
	(1)	(2)	(3)	(4)	(5)	(6)
Treat $\times$ Post	-0.041*** (-3.88)	-0.047*** (-4.21)	-0.026 (-1.01)	-0.044* (-1.89)	-0.009** (-2.16)	-0.007* (-1.72)
Controls		✓		✓		✓
Firm $\times$ Event FE	✓	✓	✓	✓	✓	✓
Year $\times$ Event FE	✓	✓	✓	✓	✓	✓
Obs	35,276	35,276	35,276	35,276	35,276	35,276
Adj R <sup>2</sup>	0.672	0.680	0.481	0.511	0.418	0.419

Table 12: CEO Incentive Changes and Firm Policy Changes

This table reports results from cross-sectional regressions examining changes in investment and financing policies, firm risk, and profitability around MVL changes. I calculate the average of each variable for in the periods before and after MVL adoption and use the difference in the regression following [Hayes et al. \(2012\)](#) approach. The dependent variables in these regressions are *R&D Change*, *CapEx Change*, *BLEV Change*, *Cash Change*, *Stock Vol. Change*, *ROA Change*. Control variables include changes in *Ln(Assets)*, *Tobin's Q*, *BLEV*, *Cash*, *ROA*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

<i>Panel A: Delta</i>							
	R&D Change	CapEX Change	Leverage Change	Cash Change	Volatility Change	Sales Change	ROA Change
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Delta Change	0.000006 (0.80)	0.000033 (0.84)	-0.000069*** (-3.11)	-0.000018 (-0.82)	0.000010 (0.18)	0.000058 (1.34)	0.000005 (0.33)
Controls	✓	✓	✓	✓	✓	✓	✓
Obs	5,008	5,008	5,008	5,008	5,008	5,008	5,008
Adj R <sup>2</sup>	0.041	0.106	0.113	0.077	0.168	0.171	0.173
<i>Panel B: Vega</i>							
Vega Change	-0.000015** (-2.03)	0.000020 (0.52)	-0.000014 (-0.58)	-0.000040* (-1.84)	-0.000152** (-2.53)	0.000053 (1.17)	0.000019 (1.27)
Controls	✓	✓	✓	✓	✓	✓	✓
Obs	5,008	5,008	5,008	5,008	5,008	5,008	5,008
Adj R <sup>2</sup>	0.042	0.106	0.112	0.077	0.169	0.171	0.173

Table 13: MVL and CEO Other Compensation

This table reports results from the stacked difference-in-differences examining the effect of MVL on CEO other compensation over the period 2003 to 2016. In column 1, the dependent variable *Total Pay* is the natural logarithm of 1 plus total compensation. In column 2, the dependent variable *Salary* is the natural logarithm of 1 plus salary. In column 3, the dependent variable *Bonus* is the natural logarithm of 1 plus bonus. In column 4, the dependent variable *Stock* is the natural logarithm of 1 plus stock awards. In column 5, the dependent variable *option* is the natural logarithm of 1 plus option awards. In column 6, the dependent variable *%Cash* represents the percentage of cash-based compensation, which is calculated as the sum of salary and bonus, scaled by total compensation. In column 7, the dependent variable *%Equity* represents the equity-based compensation, calculated as the sum of stock awards, option awards, restricted stock grants, and option grants, scaled by total compensation. In column 8, the dependent variable *Portfolio Delta* is the natural logarithm of 1 plus the CEO's dollar change in wealth for a 1% increase in the firm's stock price, calculated based on the CEO's total equity portfolio (including both current and past equity grants). *Portfolio Vega* is the natural logarithm of 1 plus the CEO's dollar change in wealth for a 0.01 increase in the annualized standard deviation of the firm's stock returns, calculated based on the sensitivity of the CEO's total equity portfolio. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*. Control variables include *Ln(Assets)*, *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Ln(Total Pay)	Ln(Salary)	Ln(Bonus)	Ln(Stock)	Ln(Option)	%Cash	%Equity	Portfolio Delta	Portfolio Vega
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treat×Post	-0.069*** (-3.05)	0.025 (1.23)	-0.100 (-0.72)	-0.102 (-0.82)	-0.162 (-1.42)	0.016* (1.69)	-0.034*** (-3.36)	-0.093* (-1.68)	0.005 (0.10)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm×Event FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year×Event FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Obs	36,417	36,417	36,417	36,417	36,417	36,417	36,417	36,417	36,417
Adj R <sup>2</sup>	0.796	0.786	0.566	0.588	0.608	0.597	0.436	0.675	0.780

Table 14: MVL and CEO Compensation Goals

This table reports results from the stacked difference-in-differences examining the effect of MVL on CEO Compensation goals over the period 2006 to 2016. In column 1, the dependent variable *Earnings* is an indicator variable that equals 1 if the CEO's compensation structure includes earnings as a compensation goal for that year, and 0 otherwise. In column 2, the dependent variable *Sales* is an indicator variable that equals 1 if the CEO's compensation structure includes sales as a compensation goal for that year, and 0 otherwise. In column 3, the dependent variable *OperatingIncome* is an indicator variable that equals 1 if the CEO's compensation structure includes operating income as a compensation goal for that year, and 0 otherwise. In column 4, the dependent variable *ROE* is an indicator variable that equals 1 if the CEO's compensation structure includes ROE as a compensation goal for that year, and 0 otherwise. In column 5, the dependent variable *ROA* is an indicator variable that equals 1 if the CEO's compensation structure includes ROA as a compensation goal for that year, and 0 otherwise. In column 6, the dependent variable *ROIC* is an indicator variable that equals 1 if the CEO's compensation structure includes ROIC as a compensation goal for that year, and 0 otherwise. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*. Control variables include *Ln(Assets)*, *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Earnings	EBITDA	Sales	ROE	ROA	ROIC
	(1)	(2)	(3)	(4)	(5)	(6)
Treat×Post	0.059** (2.00)	0.029* (1.93)	0.072*** (4.37)	-0.094*** (-2.80)	-0.014*** (-3.54)	-0.048*** (-3.39)
Controls	✓	✓	✓	✓	✓	✓
Firm×Event FE	✓	✓	✓	✓	✓	✓
Year×Event FE	✓	✓	✓	✓	✓	✓
Obs	13,741	13,741	13,741	13,741	13,741	13,741
Adj R <sup>2</sup>	0.652	0.695	0.723	0.653	0.533	0.723

# MAJORITY VOTING LEGISLATION AND CEO INCENTIVE COMPENSATION

## ONLINE APPENDIX

Table A1: MVL and CEO Delta and Vega: Inverse Probability Weighting

This table reports results from the stacked difference-in-differences examining the effect of MVL on CEO delta and vega, using inverse probability weighting, over the period 2003 to 2016. In columns 1 and 2, the dependent variable is  $\text{Ln}(\text{Delta})$ , calculated as the natural logarithm of 1 plus CEO's dollar change in wealth for a 1% increase in the firm's stock price following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. In columns 3 and 4, the dependent variable is  $\text{Ln}(\text{Vega})$ , calculated as the natural logarithm of 1 plus CEO's dollar change in wealth for a 0.01 increase in the annualized standard deviation of firm's stock returns following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*, with regressions weighted by the inverse probability of a firm being incorporated in a treatment state. The weight is obtained through a logit regression predicting the likelihood of majority-voting legislation adoption. Treatment firms are defined as those incorporated in states that adopt MVL in year  $t$ , while control firms consist of those in states that never adopted or had not yet adopted MVL by the year preceding an adoption event. The stacked difference-in-differences estimator is captured by the interaction between *Treat* and *Post*, with regressions weighted by the inverse probability of a firm being incorporated in a treatment state. The weight is obtained through a logit regression predicting the likelihood of majority-voting legislation adoption. Treatment firms are defined as those incorporated in states that adopt MVL in year  $t$ , while control firms consist of those in states that never adopted or had not yet adopted MVL by the year preceding an adoption event. The determinants include all firm- and CEO-level variables that were previously used as controls. Control variables include  $\text{Ln}(\text{Assets})$ , *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A.  $t$ -statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Ln(Delta)		Ln(Vega)	
	(1)	(2)	(3)	(4)
Treat $\times$ Post	-0.321*** (-4.01)	-0.306*** (-5.01)	-0.189*** (-2.60)	-0.234*** (-3.13)
Controls		✓		✓
Firm $\times$ Event FE	✓	✓	✓	✓
Year $\times$ Event FE	✓	✓	✓	✓
Obs	36,568	36,568	36,568	36,568
Adj R <sup>2</sup>	0.628	0.634	0.690	0.695



Table A2: Alternative DiD Methods

This table reports results examining the effect of MVL on CEO delta and vega over the period 2003 to 2016. In columns 1-3, the dependent variable is  $\ln(\Delta)$ , calculated as the natural logarithm of 1 plus CEO's dollar change in wealth for a 1% increase in the firm's stock price following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. In columns 4-6, the dependent variable is  $\ln(\text{Vega})$ , calculated as the natural logarithm of 1 plus CEO's dollar change in wealth for a 0.01 increase in the annualized standard deviation of firm's stock returns following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. Columns 1 and 4, 2 and 5, and 3 and 6 present results from DiD estimates of the impact of MVL on CEO delta and vega, using methodologies from [Borusyak et al. \(2024\)](#), [Wooldridge \(2021\)](#), and [Sun and Abraham \(2021\)](#), respectively. Control variables include  $\ln(\text{Assets})$ , *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Ln(Delta)			Ln(Vega)		
	(1)	(2)	(3)	(4)	(5)	(6)
ATT BJS	-0.259*** (-6.21)			-0.165*** (-2.72)		
ATT Wooldridge		-0.253*** (-5.83)			-0.173** (-2.51)	
ATT SA			-0.294*** (-4.68)			-0.244*** (-3.54)
Controls	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Obs	20,657	25,407	25,407	20,657	25,407	25,407

Table A3: Alternative DiD Methods: Excluding DE

This table reports results examining the effect of MVL on CEO delta and vega over the period 2003 to 2016 excluding state of Delaware. In columns 1-3, the dependent variable is  $\ln(\Delta)$ , calculated as the natural logarithm of 1 plus CEO's dollar change in wealth for a 1% increase in the firm's stock price following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. In columns 4-6, the dependent variable  $\ln(Vega)$ , calculated as the natural logarithm of 1 plus CEO's dollar change in wealth for a 0.01 increase in the annualized standard deviation of firm's stock returns following [Core and Guay \(2002\)](#), and calculated solely from the CEO's equity grants awarded in the current fiscal year. Columns 1 and 4, 2 and 5, and 3 and 6 present results from DiD estimates of the impact of MVL on CEO delta and vega, using methodologies from [Borusyak et al. \(2024\)](#), [Wooldridge \(2021\)](#), and [Sun and Abraham \(2021\)](#), respectively. Control variables include  $\ln(Assets)$ , *Tobin's Q*, *BLEV*, *ROA*, *Cash*, *Stock Ret.*, *Tenure*, *CEO Age*. All variables are defined in Appendix A. *t*-statistics in parentheses are calculated from standard errors clustered by state. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Ln(Delta)			Ln(Vega)		
	(1)	(2)	(3)	(4)	(5)	(6)
ATT BJS	-0.199*** (-3.22)			-0.192*** (-2.67)		
ATT Wooldridge		-0.202*** (-5.65)			-0.190*** (-3.07)	
ATT SA			-0.197*** (-3.16)			-0.271** (-2.57)
Excluding DE	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Obs	10,073	10,302	10,302	10,073	10,302	10,302