Three Essays in Corporate Governance, Accounting and Law

by

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Contents

0.1 Summary

This dissertation contains three essays related to the areas of corporate governance, accounting and law. Chapter 1 sets out to investigate the intersection of corporate governance and accounting, where we inspect the impact of a corporate governance institution (independent directors) on a measure of accounting quality (real earnings management). Moreover, Chapter 2 links with the previous chapter in that I inspect the impact of independent directors and their legal incentives on the decision whether to payout (dividends or repurchases) or to reinvest. Finally, Chapter 3 connects with the prior two in that it inspects how inside board members impact corporate performance and we derive some policy implications for regulators about inside director participation in outside boards.

In the first Chapter titled *"Who is Keeping an Eye on Real Earnings Management? Focused versus Distracted Directors"* (joint work with Beatriz García Osma and Cristina Grande-Herrera), we study the effect of independent directors on real earnings management. We focus on real earnings management because the literature has argued that since the adoption of the Sarbanes-Oxley Act in the early 2000's in the United States, managers have switched from managing accruals to managing firms' operations to obfuscate the earnings signal [113]. We also focus on independent directors as the corporate governance mechanism that might be on the lookout for this type of earnings management because other classical governance institutions might not be on the lookout (auditors) or even generate the incentives to engage in real earnings management (see for instance, [71, 24, 25]). This relationship has been explored in the past, but results suggested that there was not a causal impact of increasing board independence on the use of earnings management [33, 8]. We predict that not all independent directors have the same incentives to curtail the managing of operations with the objective of increasing the bottom line. This comes from prior research that suggests that independent directors possess individual incentives to exert their monitoring roles. The prediction is while some independent directors will have the incen-

tives to monitor the manager, others will not have clear motivations to engage in such costly monitoring activities [90]. We reconcile prior lack of results with the fact that the average impact of independent directors on real earnings management might be two opposing impacts of directors with and without incentives to monitor. Results suggests that only independent directors with incentives to monitor managers are linked to lower levels of real earnings management. This reconciles prior studies in the literature that finds a lack of impact between board independence and earnings management.

In the second Chapter titled *"Boards of Directors' Legal Incentives and Corporate Outcomes"*, I study the impact of a regulatory shock in the US that lessens boards of directors' fiduciary duties towards shareholders. In this paper I try to assess the impact of legal incentives on the decision whether to payout out or keep the cash in the firm. I use agency theory to predict that an increase in boards' legal incentives will result in payout and investment levels that suit better shareholders' interests. On the other hand, a decrease of legal incentives will results in a payout and investment level that suits board members but possibly not shareholders. As a quasi-exogenous source of variation I make use of the adoption of a set of staggered US state laws that allow boards of directors to divert from shareholder value maximization. These set of laws are called Non-Shareholder Constituencies Acts, and their adoption would protect boards of directors from further shareholder scrutiny via derivative or class action lawsuits. Results indicate that a reduction in boards' legal incentives makes boards adjust their firm's payout and investment policy to maximize their own utility versus that of shareholders.

Finally, Chapter 3 comes from a work-in-progress project provisionally titled *"CEO Overboard! Corporate Performance Consequences of CEO Participation in Other Boards"* (joint work with Faiza Majid). We test whether focal

firms whose CEOs sit on multiple boards can suffer decreases in performance due to transient attention-grabbing events in

firms where CEOs sit as independent directors. We exploit extreme returns (positive and

negative), extreme earnings and extreme volatility in firms where CEOs sit as independent directors and find that such distraction leads to an average decrease of approximately 1% of focal firms' ROA, Q, market returns and ROE. This effect is stronger for focal firms that are geographically more distant to firms where CEOs sit as independent directors, which suggests that distraction is costlier in such situations. Additionally, we show that distraction is greater for CEOs that sit on the audit committee or chair a major sub-committee. Finally, we show that these distraction events also lead to lower CEO compensation and higher forced turnover. This paper contributes to the current debate on whether or not shareholders should ban managers from holding board seats in other firms.

Chapter 1

Who is Keeping an Eye on Real Earnings Management? Focused vs. Dispersed Directors

1.1 Introduction

What firm decisions should independent directors monitor? We study whether all independent directors are equally adept at monitoring and limiting real earnings management. Real earnings management refers to operating, investment, and financing decisions taken to affect bottom line earnings. They usually imply sub-optimal actions like myopic investment or inefficient assets sales [13, 25] that negatively impact firm value and performance [63, 19]. Despite these high costs, real earnings management is on the rise, as managers react to the regulatory crackdown on accrual-based earnings management by shifting to costly real actions [39, 11, 31].[1]

[1] Recent regulations such as the Sarbanes-Oxley Act of 2002, and rules promulgated by the Securities and Exchange Commission (SEC) and New York Stock Exchange (NYSE) that mandate independence in boards and audit committees have focused on limiting accounting-based earnings management to secure financial reporting quality.

Intuitively, independent directors may appear able to limit real earnings management, as they have incentives to stand up to management to protect the interests of investors [44, 68], and are able to detect and reduce accrual-based earnings management, ameliorating firms' information environments [79, 95].

However, recent research questions this straightforward answer. [8] do not find that exogenous increases in board independence lower accrual-based earnings management, while [33] show greater board independence only curbs earnings management in firms that operate in rich information environments.[2] This suggests that directors' effectiveness hinges critically on the ease of monitoring, casting doubts over their impact, as it is inherently difficult to monitor real actions aimed at obfuscating the earnings signal [101, 63]. This is because these actions are well within the discretion of management, and curtailing them requires not only independence, but also high competence and effort on the side of directors, who should possess: (1) business knowledge to identify sub-optimal decision-making; and (2) accounting practical understanding to endeavor to reverse-engineer and interpret the accounting outcomes of those decisions. Independent directors may not excel at both, as directors appointed to monitor the accounting process may not be able to identify sub-optimal business decisions; and vice versa for directors appointed primarily to advice management, who may struggle to uncover the accounting motivation underpinning a given transaction. Recent research suggests these limitations exist, and questions if directors are able to both monitor and advice management [48]. Further, independent directors may not even consider curbing real actions as part of their duties, given the recent regulatory emphasis on the monitoring of pure accounting decisions.

Against this backdrop, we argue that differences in monitoring incentives across

[2]Existing research usually defines effective board monitoring as board independence, measured simply by the ratio of independent directors to board size [e.g., 15, 78, 79, 4].

independent directors are important to explain board of directors' ability to constraint real earnings management. Specifically, we predict that not every independent director has the same individual incentives to apply effort in monitoring. We expect that independent directors concentrate their efforts in monitoring and discouraging real earnings management actions in those firms where the net benefits of monitoring are greater.

To develop our predictions, we build on the recent literature that suggests monitors possess limited time and attention and must rationally allocate their effort [5], challenging the view that all independent directors behave as efficient and diligent monitors [see for instance 110, 107, 89, 90, 91]. In fact, the results in [90] indicate that the same director may behave differently in different boards and suggest that independent directors with multiple directorships exert greater effort in the boards of larger firms, because these directorships provide them with relatively larger prestige and visibility.

Board monitoring over real earnings management is relevant not only because of the growth of these practices in recent years and their economic impact, but also because it links directly with directors' human capital and present and future benefits. Adverse events that destroy shareholder value lead to labor market penalties and lower the likelihood of acquiring new and retaining old directorships [49, 50]. Indeed, whilst directors are unlikely to suffer from non-fraudulent low accounting quality, as measured by low predictability, comparability, or readability, real earnings management has business consequences that directly affect firm value, and thus, directors' monitoring prestige and the perception of their skills.

Hence, we predict that real earnings management activities are not detected and prevented unless monitoring effort is high. To test this prediction, we split independent directors into those with high incentives to monitor (focused directors, hence-

forth), and those with low incentives (dispersed directors). Then, we classify each firm-director pair depending on the 'relative importance' of the firm for the director. Relative importance of firm i for a director j refers to the relative ranking of firm i among all the directorships in the portfolio of director j, based on market value.[3] Thus, the same person (i.e., with the same skills and knowledge) may be classified as 'dispersed' in one firm and as 'focused' in another.[4] Director-level data is then aggregated at the firm level to create board-level measures. This is consistent with the work of [90] and ensures the plausible exogenous nature of the measures, which are independent to a single firm's choices, and to a single director's characteristics, as the allocation of relative importance by independent directors with multiple directorships is driven by changes in the market value of other firms in their portfolio.[5] Moreover, we identify firms that change relative importance (from focused to dispersed, or vice versa) by the changes in the market value of other firm(s) in the portfolio of the director, and control for the fact that those firms in which we focus do not change their market value substantially.

Using a large sample of US firms for the period 1987 to 2016, we show that firms with a higher percentage of focused directors experiment a reduction of real earnings management. Similar results are obtained when we focus on their presence in the audit committee or in the chair position of a major committee. In our analyses, we control for the presence of independent directors with low incentives to exert effort and monitor, i.e., dispersed directors. We make no predictions for their behavior, but our evidence suggests that these directors are, on average, worse monitors than

[3] In unreported results, we use total assets and sales as alternative proxies of a directorship visibility and obtain virtually the same results.

[4] It is critical to observe that focused directors are for a given directorship, whilst they are concurrently classified as dispersed (i.e., those with lower incentives to exert effort and monitor the financial reporting process) in other directorships. This focus also shifts through time, as changes in the relative importance of directorships occur.

[5] See Appendix 1 for a detailed real-life example.

their counterparts. Overall, our main results indicate that individual incentives are important determinants of independent directors monitoring efforts. We also control for board characteristics, real earnings management determinants, and firm controls such as size, operating performance, and market-to-book, as well as for accruals-based earnings management, as increased monitoring over one type of earnings management may create incentives to manage earnings using alternative instruments [38, 113].

To appease endogeneity concerns, we create and validate alternative measures of focused directors based on the percentage market value of each directorship and obtain consistent results. We further study different settings in which these measures should behave accordingly. First, we create alternative measures considering shocks to directorship rankings. A director is identified as changing from dispersed to focused (and vice versa) when one of their other directorships experiments a change in market value. We obtain the same results using this plausibly more exogenous measure. Secondly, our main results also remain unchanged when we control for firm complexity, albeit focused directors' impact wanes in more complex environments. These tests are of interest, as they identify settings where focused directors may need to exert greater effort, or where their independence may be particularly threatened, as firm complexity affects outside directors' monitoring [44]. A further concern is that these measures are based on the relative size of a directorship, and larger firms are likely to have more focused directors as they can draw from a larger pool of talent when hiring [80]. To tackle this issue, we split our sample into market value quartiles and re-run our main regressions. Our main result remains almost across all subsamples and are not allocated to the largest firms. We also exploit the deaths of focused (dispersed) directors to gauge the impact of a departure from the board unrelated to firm choices. We find that focused directors' deaths are linked to increases in real earnings management. Moreover, we repeat our main analyses on a

firm-year-director level panel with director times year fixed effects to fully account for unobservable differences among directors. Finally, regarding concerns when using residual-based measures as dependent variables [see 32, for a detailed discussion], we include the first-stage factors from estimating real earnings management as controls in our main analyses to find that our results weaken but remain significant at sensible levels.

Consistent with the beneficial consequences of focused directors, we find that they are associated with better firm's information environment, as measured by greater future analyst following and trading volume, and lower future analysts' forecast error and dispersion, and volatility. This is consistent with evidence provided by [102], who show that focused directors improve firms' price informativeness and transparency. We also find that firms with more focused directors present a lower presence of restated earnings, thus successfully avoiding the labor market penalties of restatements [103]. More specifically, firms with more focused directors show a lower presence of restatements that lead to understatements of past earnings.

The issue of what corporate governance mechanisms may be effective in lowering real earnings management is relatively unexplored.[6] We contribute to this area and to the recent work that questions the effectiveness of board independence in lowering earnings management [e.g., 8, 33]. In doing so, we reconcile it with the extant prior research showing beneficial effects of independent directors. Our results indicate that merely increasing the number of independent directors may not yield clear effects, as independent directors possess different individual incentives to monitor. To the best of our knowledge, we are the first to analyze the relationship between board independence and earnings management considering individual directors' incentives to monitor. Thus, we also contribute to prior studies on the influence of individual

[6] There is evidence of internal governance mechanisms that influence real activities manipulation such as key subordinate executives' horizon within the firm and their influence compared to that of the CEO [35].

incentives [e.g., 90, 73]. An advantage of focusing on the monitoring over real earnings management, where both accounting and business knowledge play a key role, is that we also contribute to the literature on busy directors. This literature suggests that such directors may be too busy to properly monitor managers [e.g., 40, 52], and thus, the financial reporting system. It also suggests that busy directors are likely to be more talented and capable, and that they may compensate their monitoring deficits by being expert advisors with superior business knowledge [e.g., 54]. Our evidence is consistent with these busy directors being highly able in those firms where they exert greater effort, but also, with being below-par in firms that provide them with limited prestige. This is important evidence that reconciles some of the conflicting evidence in the prior literature on busy directors.

The rest of the paper is organized as follows: section 2 reviews the literature and presents our hypothesis. Section 3 describes the method and the sample. Section 4 presents the results. Section 5 and 6 show robustness checks and additional analyses and section 7 concludes.

1.2 Literature review and hypothesis development

Independent directors are assessed by labor markets. When they are perceived as experts, they can accrue economic benefits [5]. For example, diligent tough monitors are more likely to obtain future directorships because it affects the value of their human capital [49, 50]. This suggests that all independent directors possess incentives to monitor managerial actions. However, recent research questions this view, indicating directors carefully consider the costs and benefits of monitoring. [85] argue that if governance is strong and firms' boards are willing to protect shareholders' interests, directors behave in a shareholder-friendly manner. In contrast, if firms' boards are led by managers who want to maintain their power, directors may become manager-

friendly. This would suggest that monitoring effort, visibility and prestige may not always be rewarded by labor markets, thereby inducing heterogeneity in monitoring across independent directors.

1.2.1 Independent directors' incentives to monitor

Board independence is necessary but not sufficient to guarantee efficient monitoring. Efficient monitoring requires knowledge and effort, to detect and deter sub-optimal decision-making. Greater effort leads to better outcomes, but effort is not limitless, and thus, it requires rational allocation [97, 47].[7] Directors with multiple directorships face the problem of deciding in which directorships to spend their limited time and attention. [90] suggest an effort allocation rule and argue that individual directors' effort is associated with board visibility. The most visible and prestigious firms are the largest ones [50], and therefore, [90] predict and provide evidence that independent directors exert greater effort in larger firms, where they can extract greater net benefits from monitoring, as those are the firms where directors can build (or permanently damage) their prestige as monitors. Other studies that acknowledge that not all independent directors may have identical incentives to monitor include [73], who show that directors who have greater career concerns are more likely to dissent in their individual voting patterns with top management, aligning themselves with shareholders.

In contrast to this literature, the main body of research showing that independent directors influence board decisions [e.g., 108, 27] does not question whether all independent directors possess identical incentives to monitor and rather focuses on the

[7] The work of [47] shows that market participants indeed perceive directors' effort and attention to be limited. They use sudden deaths of directors as an exogenous shock to another directors' workload. They find a negative market reaction for firms whose directors serve also in other boards that experience a sudden death. Sudden deaths increase the workload in that firm, detracting from the effort directors can exert in their other appointments.

differences in incentives between outside and inside directors. This means that the literature on the impact of independent directors' individual incentives on accounting quality is limited, and the existing evidence is mixed [see for instance 107, 89].[8]

Building on the previously discussed work, we expect that independent directors have heterogeneous monitoring incentives, and that their monitoring efforts need not be identical across all of their directorships. Indeed, boards may be composed of focused independent directors with high incentives to monitor (focused directors), but also, by the same consideration, by independent directors who are currently directing their attention to other directorships (dispersed directors). If that is the case, and the presence of focused directors decreases, managers likely experience an increase in the scope to engage in self-interested strategies that may damage firm value, which may go without questioning in board meetings.

1.2.2 Independent directors and earnings management

Managers engage in both real and accrual-based earnings management [63, 100, 81]. This is justified by the importance of earnings for capital markets as a key summary measure of performance [43], and creates a particular focus of independent boards of directors and audit committees in reducing earnings management by carefully monitoring managerial decision-making [e.g., 78, 79].

Independent directors have incentives to curtail earnings management, because monitoring failures likely lead to future earnings restatements or accounting fraud, with direct consequences for directors [15, 103]. However, recent studies analyzing exogenous changes in board independence, where causal links can be established, fail to find evidence that boards with more independent directors lower earnings management. These studies analyze the exogenous changes mandated by the NYSE and

[8] [107] studies ownership incentives of audit committee members and finds a negative link between these incentives and earnings management, while [89] provide opposite experimental evidence.

the NASDAQ that require majority independent boards. In particular, [8] use this shock to analyze the effect of board independence on the firm information environment. Their results show that an increase of independent directors generates more corporate transparency; but they fail to find evidence of a reduction in accruals-based earnings management. [33] use the same shock and similarly find that, overall, firms do not experience significant decreases in earnings management. [33] show that these reductions are concentrated in treated firms with low information acquisition costs (where monitoring is easier). This is consistent with the idea that monitoring effort plays a significant role on the effectiveness of independent directors.

This prior work focuses almost exclusively on accrual-based earnings management, which is fundamentally different from real earnings management in terms of visibility, risk of detection [113, 81] and economic consequences for the firm. Accruals-based earnings management serves to misrepresent performance but it does not implicate altering operations, and is likely detected with the help of other corporate governance mechanisms such as auditors, who are on the look-out for accounting breaches or unjustified flexing of GAAP. In contrast, real earnings management implies deviations from normal operations, and involves operating, financing, and investment decisions that may subsequently lower firm performance and value [63, 19]. No legal benchmarks exist to assess and identify real earnings management practices, making them more difficult to monitor and oppose. Real earnings management may be highly visible if it involves decisions such as shaving off research and development expenses [25], selling assets [13], or changing customer credit policies [100]. However, all these decisions are well within managerial discretion, and constraining them requires not only expert knowledge of the business to detect these decisions are suboptimal, but also, expert knowledge of the financial reporting system, to endeavor to reverse-engineer their accounting consequences, and to correctly interpret and link

such decision-making to earnings motives.

This focus on independent directors is merited as it is not clear how other monitoring mechanism, if any at all, is on the lookout of real earnings management. Prior studies highlight how short-term pressure generates the incentives for managers to focus on the short-run, possibly sacrificing the generation of long-term growth [104]. An example of such studies would be how institutional investors with a short-term outlook on a firm's prospects is associated with R&D cuts to offset earnings downturns [25]. This is supported by further evidence on the negative impact of takeover protections on the use of real earnings management, more specifically [114] shows how staggered boards is associated to lower levels of real earnings management. Additionally, other monitoring mechanisms, such as auditors, are not on overseeing or reviewing operational, financial or investments decisions that underlie beneath real earnings management strategies In fact, as audit quality increases, firms appear to engage more often in share buybacks with the purpose to support earnings per share, which otherwise would have not met analysts' expectations [24]. Finally, [71] show that when analyst following exogenously decreases, managers response is to switch from less visible strategies dealing with cutting discretionary expenses towards using accrual-based strategies. As focused directors are worried about constructing and maintaining a prestige as diligent monitors, we expect that they will increase their monitoring effort in harder-to-monitor actions that directly link to potential decreases in firm value. Focused directors would not want to relinquish their most prestigious directorships and, prestige and visibility directly links with firm value. Therefore, we expect that boards with more focused directors will detect and constrain real earnings management which would negatively affect firm value, and thus, their prestige.

This leads us to the following hypothesis:

Hypothesis 1. *Ceteris paribus, firms with a larger percentage of focused directors on their boards engage less in real earnings management activities.*

Under our differential monitoring hypothesis, if accrual-based earnings management reduces firm value, focused directors would also be expected to curtail it. However, the link with firm value (and thus, with the prestige and visibility of directors) is not as straightforward as with real earnings management [67, 105, 22]. In addition, a growing literature shows that accruals-based and real earnings management decisions may act as substitutes and also, that they are taken sequentially, with real choices preceding accruals decisions [113]. The evidence in [38] indicates that governance provisions aimed at strengthening the monitoring over the financial reporting system may increase real earnings management, while the results in [39], [11], [113] and [109] confirm that managers choose among earnings management instruments depending on their expected net costs. Against this backdrop, we make no prediction on the effect of focused directors over the level of accrual-based earnings management.

1.3 Research Method

1.3.1 Measurement of individual incentives

We create proxies for focused and dispersed directors following [90]. First, we rank independent directors' board seats by market value. A directorship is focused (dispersed) for a given director-year, if it represents more (less) than 10% (90%) of the minimum (maximum) market capitalization in their portfolio of directorships.[9] On average (median), independent directors sit on 1.75 (1) boards. This prevents the

[9]For these calculations, market value is calculated as closing share price at the firm fiscal year times the number of shares outstanding, source: Compustat. Additionally, we use other measures of firm visibility or size (namely total assets and sales) and come to the same conclusions.

possibility of creating measures based on percentiles.[10] Then, we create the percentage of directorships (combination of director-year-firm observations) classified as focused or dispersed, over the total number of directors (both outside and inside directors) in the board, aggregating incentives at the board level. These percentages indicate the share of focused (Focused_Pct) and dispersed directors (Dispersed_Pct).[11] For robustness, we create additional measures, such as indicator variables that equal one when there is at least one focused director (Focused_Dummy) or dispersed (Dispersed_Dummy); zero otherwise. We construct these measures also at the audit committee level, as its duty is to oversee the financial reporting process as well as for chairpeople whose importance is greater within the board of directors.

These measures capture, for every board, the number of independent directors with incentives to monitor managers. As these directors hold multiple directorships, all of them (focused and dispersed) potentially signal greater director talent [91]. However, a benefit of the procedure is that the same director that is classified as focused in one firm is classified as dispersed in the board of another firm that same year, but, importantly, this director is equally 'busy', and has the same innate talent, skills, competence, expertise, financial and business knowledge, board connections, access to networks, etc., in all their board seats.[12] Thus, our identification strategy permits focusing on understanding how the differential effort applied in each board may differently influence monitoring, as other director-specific features, such as talent, are identical between the high and low rank seats of each individual director.[13]

[10] To check the robustness of the measures, we re-run our main analysis with non-parametric classifications (minimum and maximum market values) of independent directors' individual incentives.

[11] Variable definitions are in Appendix 2.

[12] A related paper that takes the alternative approach of looking at how individual directors influence accounting quality (and not how individual directors may behave differently in different boards) is the work of [36] who study how earnings management spreads between firms via shared directors. They find evidence of greater earnings management when a firm shares a common director with a firm that manages earnings.

[13] We use as a robustness check a firm-year-director panel and director times year fixed effects to further diminish concerns over the influence of individual characteristics of directors. This analysis can be found in Table 1.10.

We present an anonymized real example to illustrate the exogeneity of the constructs with respect to individual firms' choices in Appendix 1.[14] Director Jane Doe is an independent director who holds multiple directorships at Firm A Inc., Firm B Inc., and Firm C Inc. in the period 1999-2003.[15] Jane is an independent director in all these firms. We argue that she will not allocate her effort evenly across all her seats. Using market value as a proxy for effort, we rank her directorships. The years 2002 and 2003 exemplify how individual incentives measures are largely exogenous. Jane sits only in Firm A Inc., and Firm B Inc., whose market values suffer a reversal from 2002 to 2003. Firm A Inc. (Firm B Inc.) is classified in Jane's portfolio as a focused (dispersed) directorship in 2002, but as a low (high) rank directorship in 2003. It is fair to assume that Firm A Inc., and Firm B Inc. cannot precisely control their market values, to be classified as a high rank directorship in the portfolio of some or all their independent directors. Also, it is not likely that firms can control whether Jane gets offered additional board seats, which can alter her ranking.

At the board level, independent directors are aggregated according to their classification and averaged by the total number of directors within the board. These percentages represent the share of independent directors likely to classify a board-year observation as focused (dispersed) within their directorship portfolios. We are confident that a single firm is not able to control its rank within each of its individual independent directors' board-seat portfolios.

1.3.2 Alternative measures of director allocation of effort

Our initial classification, as exemplified in our Jane Doe example in Appendix 1, could lead to misclassification of directors' allocation of effort, which could bias our estimations. This is because directorships that are at the same time 10% larger than

[14] Accompanying figures are presented in Appendix 1.
[15] Ms. Doe does not hold a directorship in Firm C Inc. from 2002 onwards.

the minimum market value and 90% smaller than the maximum market value are classified as both focused and dispersed. To ensure this phenomenon does not affect our results we proceed as follows.

First, [90] provide alternative measures using the minimum and maximum market values to proxy for relative importance and show very similar results to their baseline measures. We replicate our main analyses using those measures (Most_Focused_Pct and Most_Dispersed_Pct) and find the same results. Second, we calculate alternative measures of directors' allocation of effort to further ensure that neither double counting nor the choice of thresholds drive our results. These alternative measures are based on the percentage that a single directorship's market value represents over the market value of all the directorships in which an independent director participates in a year. We assign a high allocation of effort to those directorships that represent more than 50% (Focused_Pct_50), 70% (Focused_Pct_70) or 90% (Focused_Pct_90) of the total annual market value of all directorships in which a director participates. To account for dispersed directors, we also create measures for low allocation of effort if the directorship represents less than 50% (Dispersed_Pct_50), 30% (Dispersed_Pct_30), and 10% (Dispersed_Pct_10) of the total market value of all directorships in which a director participates in a year.[16]

These three measures capture different circumstances of directors with multiple directorships. Although unlikely, the Focused_Pct_50 (Dispersed_Pct_50) measure might misclassify firms in which directors are actually indifferent in allocating effort between firms. This may happen, for example, with a director with two very similar directorships, one that represents 51% and another that represents 49%. It is not obvious that the independent director would differently allocate effort between them. Focused_Pct_70 (Dispersed_Pct_30) and Focused_Pct_90 (Dis-

[16]These measures are validated at the director level following Masulis and Mobbs' (2014) analyses but are left unreported.

persed_Pct_10) may better capture instances where directors can be considered as focused or dispersed. These variables show lower variation than those in [90] given that they rely on the market value share rather the relative market value position of a firm.

1.3.3 Measurement of real earnings management

We measure real earnings management following [100]. [100] identifies as real earnings management actions 1) the acceleration of sales through price discounts which gives rises to abnormally positive levels of cash flows from operations (CFO), 2) the decrease in discretionary operating expenses ($DISEXP$) to increase earnings, and 3) the decrease in cost of goods sold ($COGS$) by over producing, to lower average cost of production, and thus, increase unitary profits when recording sales. We first estimate the normal level of cash flow from operations using the following model for each industry-year pair (using 2-digic SIC and requiring at least 15 observations per pair):

$$CFO_t/TA_{t-1} = \alpha_0 + \alpha_1(1/TA_{t-1}) + \beta_1(Sales_t/TA_{t-1}) + \beta_2(\Delta Sales_t/TA_{t-1}) + \varepsilon_t \qquad (1.1)$$

where all variables are defined in Appendix 2. The residuals from equation (1) are our measure of abnormal operating cash flow (AB_CFO). Next, we obtain the abnormal levels (AB_DISEXP) of discretionary operating expenses, using the following specification per industry-year:

$$DISEXP_t/TA_{t-1} = \alpha_0 + \alpha_1(1/TA_{t-1}) + \beta_1(Sales_{t-1}/TA_{t-1}) + \varepsilon_t \qquad (1.2)$$

where $DISEXP$ is the sum of advertising, research and development, and selling and general administrative expenses and the other variables are defined in Appendix

2. Finally, we estimate abnormal production costs (AB_PROD) using the following specification per industry-year:

$$PROD_t/TA_{t-1} = \alpha_0 + \alpha_1(1/TA_{t-1}) + \beta_1(Sales_t/TA_{t-1}) + \beta_2(\Delta Sales_t/TA_{t-1}) + \beta_2(\Delta Sales_{t-1}/TA_{t-1}) + \varepsilon_t \tag{1.3}$$

Where, $PROD$ is the sum of COGS and change in inventory, and all other variables are defined in Appendix 2.

We analyze real earnings management for a particular firm-year, as the aggregation of the residuals from the corresponding industry-year regression in equations (1) , (2) and (3). In particular, we construct our real earnings management proxy (REM) as:

$$REM_{it} = AB\_PROD_{it} - AB\_DISEXP_{it} - AB\_CFO_{it} \tag{1.4}$$

The REM measure is decreasing in abnormal discretionary expenses and abnormal cash flow, which harmonizes the direction of managerial strategies to achieve artificially higher earnings. In unreported results, we follow [113] and construct an alternative proxy for real earnings management. According to [113] and [100], certain managerial strategies directed at increasing earnings have opposite impacts on the level of operating cash flows. For example, price discounts and overproduction drive down cash flows, while cutting advertising expenses increases them. As alternative measures we use the individual components of the measure of real earnings management (AB_PROD, AB_DISEXP, and AB_CFO).

1.3.4 Sample and descriptive statistics

Our sample is composed of firms in the cross-section of Compustat, CRSP and BoardEx. We use BoardEx for data on independent directors, Compustat and CRSP

for firm accounting and market information, 13F Thomson Reuters for data on institutional ownership, I/B/E/S for analyst data, and AuditAnalytics for data on restatements. We exclude firms in the financial (US SIC 6000-6999) and utilities (US SIC 4900-4999) sectors. This results in a final sample of 38,407 firm-year observations for the period 1987 to 2016, albeit sample sizes vary for some of our tests.

Table 1.1 Panel A shows descriptive statistics at the independent director level. The average independent director in our sample holds 1.75 board seats within the BoardEx universe, with around 60% of independent directors having only one directorship. On average, they remain in the firm 6.1 years as independent directors and are approximately 61 years old. The average independent director participates in 1.48 major committees (auditing, nominating, and compensation). The committee in which more independent directors participate is the audit committee (56%), next the compensation committee (51%), and finally the nominating committee (42%). Finally, independent directors are on average the chairperson of a board sub-committee 42% of the time. Table 1.1 Panel B shows the summary statistics for independent directors with multiple directorships. On average, they hold 4 seats approximately, with one of those seats being classified as focused and another as dispersed.

Table 1.1 Panel C, shows the firm-level summary statistics. independent directors represent around 63% of all directors. We can see that an average firm has 13% (14%) of directors that are independent, hold at least two board seats, and consider that firm as focused (dispersed). These figures are consistent with previous research [90, 91, 102]. Given that an average board consists of 6.5 directors, this means boards have 0.85 focused directors, and 0.91 dispersed directors, as well as 2.5 independent directors who hold no further seats.

Table 1.2 contains the correlation matrix. The variables that measure focused directors are negatively and significantly correlated with REM and its components.[17]

[17] These correlations and their statistical significance remains qualitatively and quantitatively similar for

Interestingly, while focused directors are positively and significantly correlated with the percentage of independent directors on the board ($corr = 0.37,\ pval < 0.01$), dispersed directors present an even larger correlation ($corr = 0.39,\ pval < 0.01$). This suggests that traditional measures of board independence may not capture monitoring effort, potentially explaining the absence of a significant relationship between board independence and accounting quality found in recent studies [e.g., 33].

1.4 Main Results

To test H1, we estimate the following equation:

$$REM_{it} = \alpha + \pi_i + \theta_t + \beta' Incentive\_Measures + \lambda' Controls + \nu_{it} \tag{1.5}$$

where Incentive Measures is a vector of our measures of directors' incentives to monitor. Controls is a vector of incentive and corporate governance measures, as well as firm level controls that influence REM, derived from prior literature. In particular, we control for board busyness, board size, the percentage of independent directors, average director tenure, average director age, percentage of financial experts within the board of directors, CEO duality, abnormal accruals manipulation (constructed following Roychowdhury, 2006), institutional ownership, market share, Altman's Z, taxes, firm size, growth opportunities, operational performance, and a measure of pre-managed earnings.[18] To the extent that focused directors lower real earnings management, we expect the coefficient β that relates to focused directors to be negative and statistically significant. All estimations are the result of fixed effects estimation and clustering standard errors at both firm- and year-levels following [96].

our alternative measures of real earnings management.

[18] For variable definitions please go to Appendix 1.2.

Table 1.3 shows the results from our main analyses. Panel A shows the impact of focused directors on REM and its components while Panel B shows the impact of alternative measures of focused directors. Panel A shows the results of regressing REM (columns (1) and (2)) and its components (columns (3), (4), (5) and (6)). Odd columns use the percetage measures of focused and dispersed directors, whereas even columns use the indicator variables. The coefficient of the relationship between focused directors and REM is negative and statistically significant at the 1% significance level. Focused directors are also linked to larger levels of abnormal discretionary expenses (only the indicator variable is significant), lower levels of abnormal production costs, and larger levels of abnormal cash flows. These indicate that focused directors are linked to lower levels or real earnings manipulation. Among the different controls it is interesting to point out that the coefficient of board independence (Ind_Dir_Pct) is not statistically significant, which connects to prior evidence on the lack of impact from independent directors on earnings management [8, 33].

The economic significance of these findings is as follows. For a 1% increase in the percentage of independent directors at the board level that hold multiple directorships and consider this firm of relatively high importance, REM decreases by 0.090, which represents around a 19% of the REM's standard deviation. Moreover, firms with at least one focused directors, also show lower levels of REM compared to firms without focused directors. Table 1.3 Panel B repeats the main analysis in Panel A, but using as variables the non-parametrical measures using the maximum and minimum market values. Panel B shows the same patterns of Panel A and help to confirm our hypothesis. The coefficients for dispersed directors in both panels are positive and statistically significantly linked to REM. This indicates that they are associated with larger levels of real activities manipulation. This is additional evidence that

not all independent directors have the same impact on monitoring and therefore, in reducing real earnings management. It is striking to notice how directors who have the same fiduciary duties towards shareholders may behave differently in different boards.

1.5 Robustness Checks

1.5.1 Alternative measures of focused and dispersed directors

As we previously discussed, we create alternative incentive measures based on the market value weight of single directorships within independent directors' portfolios. Table 1.4 shows the results of our main analyses using these alternative measures. We use as a dependent variable the composite measure of REM (Equation 4), but in unreported results we test for their impact on the individual items and come to find very similar conclusions. Again, odd columns show the results of using the percentage variables, whereas even columns show the results from using the indicator variables. It is interesting to notice that as we move from Focused_Pct_50 (column (1)) to Focused_Pct_70 (column (3)) and then to Focused_Pct_90 (column (5)), one can appreciate that the impact of focused directors increases in magnitude. This is consistent with how the variables are constructed. We expect that the incentives to monitor increase as a firm represents a larger share within the directors' portfolio of board seats. This phenomenon (increasing impact) is also found for dispersed directors. This is because the measures with more extreme thresholds seem to capture clearer differences in the allocation of effort of independent directors with multiple directorships.

The conclusions from the alternative measures are the same as those obtained with the baseline analyses reported in Table 1.3. This further supports our hypothesis,

showing a different impact of independent directors on firms' real activities manipulation. It also contributes to the literature a novel measure to identify monitoring incentives of independent directors equivalent to that of [90].

1.5.2 Audit committee and chair position

Board members of the audit committee are charged with the duty of overseeing the financial reporting process of firms [79]. They are at the appropriate position to detect and curtail earnings mangement, as they are also required by recent regulation to disclose whether audit committee members possess the necessary accounting knowledge that would allow them to detect flexing of the GAAP. On the other hand, real earnings management would entail the manipulation of operational activites that would require not only accounting knowledge but also industry and business knowledge. Focused independent directors that participate as members of the audit committee would have the incentive to monitor the financial reporting process and more specifically to monitor real activities manipulation. Nonehteless, they might not possess the sufficient industry and business knowledge to detect non-optimal business decisions. This is why we do not predict whether the impact of focused directors will be larger if they are members of the audit committee. We use a similar reasoning with the position of chairperson of the possible committees available at the board.

Table 1.5 shows the results of the impact of focused directors on the composite measure of real earnings management. Columns (1) and (2) show the impact of focused directors at the audit committee level, whereas columns (3) and (4) show the impact of focused directors at the chair position. Again, odd columns show the percentage measures, while even columns show the results from using indicator variables. The impact of focused audit committee members and focused chairpeople

are larger but still very similar to that of the baseline specification from Table 1.3. It is interesting to notice that for dispersed audit committee members and dispersed chairpeople their impact on real earnings management is around 50% larger than that of the baseline specification from Table 1.3.

1.5.3 Exogenous changes to directors' classifications

As we are not able to directly observe independent director allocation of monitoring effort, we estimate it through a proxy that captures directors' preferences towards an allocation of effort that maximizes their utility. Utility is greater when the firm has greater market value, but arguably, it could also be director compensation, stock ownership or legal incentives that drive the allocation of monitoring effort. These measures are largely exogenous to a single firm's choices, as individual director's allocation of monitoring effort is independent from firm choices. Indeed, for endogeneity to bias our results a firm would have to (1) knowingly notice that size (measured as market value) induces independent directors to allocate more or less effort, (2) be observant of the rest of boards in which their independent directors participate and their market values, (3) control its market value to position within its independent directors' rankings of directorships, and (4) be able to do it throughout time and control new directorships in which its directors participate. This is possibly highly unlikely.

These measures are also independent of individual characteristics of independent directors. Time-variant and invariant traits such as gender, nationality, financial expertise, ability, ethics or age, do not influence firm outcomes through these measures since they are constructed based on the market value of the different directorships in which the same director participates. In fact, focused and dispersed directors are the same directors, behaving heterogeneously in different firms. However, we cannot

entirely exclude that unobserved factors might bias our estimates and conclusions, but to further ease concerns about unobserved heterogeneity, we rely on the intuition in [90] and at the director-year level, we identify directorships that change from dispersed to focused (focused to dispersed), given a 5% drop (increase) in market value of another firm in their portfolio, the market value of that given firm does not increase (decrease) more than 10% and no new directorships are added or dropped.[19] We then count by firm-year the number of directors that meet the previous conditions and create indicator variables that take the value 1 whenever there is at least one director in a given firm-year that has reclassified their ranking accordingly (Dispersed_to_Focused and Focused_to_Dispersed).

Using these plausibly more exogenous measures of directors' relative effort distribution, we replicate our baseline analyses.[20] The results are reported in Table 1.6, where we find that firms with at least one director that reclassified its ranking from dispersed to focused present lower levels of real activities manipulation compared to firms that have no such director. Second, we find that firms with at least one director that reclassified its ranking from focused to dispersed present larger levels of real activities manipulation compared to firms that have no such director. This evidence is in line with our previous results and strengthens our claim that independent directors' incentives have a statistical significant influence on the level of real activities manipulation through their allocation of effort. Nonetheless, this conclusion should not be freely extrapolated to other instances. This is because only those directors that are aware of the change in their rankings and rationally change their

[19] [90] use this definition to create treatment directors, and then apply a diff-in-diff strategy at the firm level. In unreported results we follow Masulis and Mobbs strategy, but we obtain non-significant results in our main analysis of REM, except for when we use the Institutional Shareholder Services (formerly RiskMetrics) dataset, in which case our results are robust to this strategy. [90] only identify directorships that change from dispersed to focused, whereas we look at the two different effects (from dispersed to focused, but also from focused to dispersed).

[20] Variable descriptions are available in Appendix 2.

allocation of effort will be carrying the impact on real earnings management. This is a similar issue with treatment compliance and the local average treatment effect [7]. In fact, the impact is also smaller in magnitude and less statistically significant when compared to the baseline specification in Table 1.3.

1.5.4 Focused directors and firm complexity

In this subsection, we turn to analyze the impact of focused directors in subsamples of firms whose operations might be more difficult to monitor. We use firm size, age and the number of business segments [44] to classify firms as possessing complex enviroments (above or equal the industry-year median value) or less complex ones (below the industry-year median values). We perform this test because monitoring can be more difficult in more complex environments [48]). This could affect the willingness of the average independent director of exerting an 'extra' effort to monitorthe financial reporting process and more specifically real earnings mangement. We expect not only that focused directors would make that extra effort but we also expect that the size of their impact might be lessened by the increased complexity.

Table 1.7 provides the results obtained for different levels of firm complexity. Odd columns represent less complex environments, whereas even columns indicate an above median level of firm complexity. Columns (1) and (2) measure firm complexity as firm size (total asset value), columns (3) and (4) use firm age and columns (5) and (6) use the number of business segments. The impact of focused directors is found throughout all levels of firm complexity, but their impact in waned in more complex environments as one would expect. Furthermore, the impact of dispersed directors is only found in more complex environments, which is of great interest, given that dispersed directors do not necessarily possess the incentive to support or incentivize misbehavior, i.e., they do not need to be coopted by the CEO. Dispersed directors

might be simply not exerting enough effort, which is detrimental to their monitoring of real earnings management when firms are more complex.

1.5.5 The market value effect

It is likely that large firms look only for independent directors who are good monitors, as they are exposed to greater exposure and scrutiny. Larger firms are likely to draw from a larger pool of talent when hiring independent directors [80]. To ensure that firm size effects do not confound our main results, we divide our sample in four different portfolios according to market value and re-run our baseline specification. Furthermore, we regress our composite measure of real earnings management on market value and obtain the residuals from this estimation, which we later use as a dependent variable.

Table 1.8 shows the relationship between focused and dispersed directors and real earnings management considering the impact of market value. Columns (1), (2), (3) and (4) show the results for the different subsamples that correspond to the quartiles from the distribution of market value. Focused directors significantly reduce real earnings management activities in almost all subsamples of market value except for very large firms. The pattern is the same to that of Table 1.7 if we used market value as a measure of complexity. The impact of focused directors wanes as firms become larger in terms of market value. This also ensures that the impact of focused directors is not driven by firms with large market values. To further appease concerns of the impact from market value on focused directors, we present in Table 1.8 column (5) the results of our baseline regression from Table 1.3 with the residual from a regression of real earnings management on market value as the new dependent variable. This residual is orthogonal to market value and the impact of focused directors remain very similar in size and statistical significance.

1.5.6 The impact of focused directors' departures

In this subsection, we study the impact of focused directors' departures on real earnings management. We use as a proxy for director departure from the board the actual passing of directors. This setting allows us to inspect whether there is any difference in the passing of a focused director vs. the passing of a dispersed director with respect to real earnings management and the monitoring of the financial reporting process. The death of directors and executives has been exploited as a shock to the workload a director faces and the distraction it creates for their other directorships [47]. We exploit the different impact that a focused director passing would bring with respect to a dispersed one. Thus, we assume that when a focused director exits the board for reasons unrelated to their performance or any other unobservable firm choices (death is a likely unrelated scenario), this will lead to an increase in real earnings management.

Table 1.9 shows the results of focused directors deaths and focused chair deaths on the composite measure of real earnings management. We also present evidence of focused directors and chairs deaths for relatively more complex firm environments where the workload is usually larger. Columns (1) to (4) show the impact of focused directors' death on real earnings management, where columns (2) to (4) represent sub-sets of more complex firms. The impact of focused directors deaths is positive and statistically significant (except for column (3) in which it is marginally significant). This implies that the departure of a focused director for reasons unrelated to their performance or unobservable firm characteristics is linked to larger levels of real earnings management. On the other hand, dispersed directors' departures are not significantly linked to lower levels of real earnings management, except for the subsamples of larger firms with more number of business segments. We replicate the same analysis for focused chairpeople and come to find similar results (columns (5)

to (6)).

1.5.7 Director-level characteristics

In this subsection, we directly tackle the issue of individual director unobservable characteristics such as ability. Our procedure takes advantage of a firm-year-director level sample and director times year fixed effects. We run our baseline estimations from Table 1.3, augmenting the sample and saturating the estimation by using director times year fixed effects. The impact of focused directors is very similar to that of the baseline specification, except for the abnormal discretionary component where now the impact is statistically significant at sensible levels. The conclusion from this test is that individual director unobservable characteristics do not drive our results, in fact they might have attenuated a few of our main results.

1.5.8 Real earnings management and first-stage controls

Using a residual as a dependent variable is a very common practice in the earnings management literature [see for instance 43]. Although a very common practice, it entails certain risks. Among those risks [32] identify biased coefficients and standard errors that can lead to incorrect inferences. The authors show that there is attenuation bias when the variable of interest (in our case focused directors) is correlated with any of the regressors used in the first stage of the procedure (Equations 1, 2 and 3). The worst scenario is when the variable of interest and other covariates included as controls are correlated with the first stage regressors, in that case the estimated coefficients and t-statistics can be attenuated, inflated or even biased. As this problem might bias our interpretation of the results we follow the advice from [32], and include the first stage controls in our baseline specification from Table 1.3.

Table 1.11 shows the results of including the first-stage regressors from Equations

1, 2 and 3 in our main specifications from Table 1.3. Main results remain but are waned both in magnitude and statistical significance, which leads us to conclude that the risks posed by [32] might be present in similar studies.

1.6 Additional Analyses

1.6.1 Focused directors and firms' information environment

Prior literature on independent directors indicates that high information acquisition costs often hinder the monitoring and advising roles of directors [69, 1, 44]. This research stream argues that board independence matters when there are low information acquisition costs and when outside directors do not suffer from this asymmetry of information vis-à-vis inside directors [44]. The information environment is generally assumed to be exogenously given, and thus board independence adapts accordingly. On the other hand, another stream of the literature [see for instance 8], argues that board independence influences the information environment of a firm, i.e., that independent directors can lower the information acquisition costs or managers can lower information asymmetries to attract independent directors.

Our setting allows us to examine how focused directors might shape the information environment. We study in Table 1.12 the impact of focused directors on analyst-based measures (analyst following, forecast error, and analyst dispersion), and market measures (Bid-Ask spread, volatility, and trading volume) following Duchin et al. (2010). We also use their aggregate index of information acquisition costs. Table 1.12 shows the estimations of the lead values of analyst following (column (1)), analyst dispersion (column (2)), forecast error (column (3)), information acquisition cost index (column (4)), volatility (column (5)), Bid-Ask spread (column (6)), and trading volume (column (7)). We use the lead values since effective changes to the

information environment may take longer than the impact of focused directors on real earnings management.[21] Results show that focused directors decrease information asymmetries one period ahead, except for the Bid-Ask spread where the effect is not significant. This evidence is consistent with recent causal evidence provided by [8], where an exogenous increase in board independence leads to a more transparent information environment. There is also more recent evidence provided by [102] who show that focused directors lead to a more transparent information environment.

1.6.2 Focused directors and financial reporting restatements

A priori, one would argue that earnings restatements arise solely as an outcome of accounting irregularities. This can be true, but in fact, there is evidence that prior an accounting restatement firms appear to engage in both accrual-based and real earnings management [46]. Also, independent directors can suffer harsh labor market penalties caused by earnings restatements [103]. As one of the lasts analyses, we examine the impact of focused directors on earnings restatements. Our main hypothesis focuses on the monitoring real activities versus accrual-based earnings management, precisely because the latter does not directly link to penalties in terms of market value. Focused directors work harder and are less willing to relinquish the directorships they deem more important. Because financial restatements penalize independent directors and specially audit committee members, focused directors are expected to be especially motivated to reduce the probability of incurring in activities that lead to a restatement.

Table 1.13 shows the impact of focused directors on the likelihood of financial restatements. There is a consistently negative effect of focused directors on all types of restatements and the likelihood of a SEC investigation taking place. The negative impact is statistically significant for all types of restatements (column (1)), for

[21] The impact of focused directors on current levels of information environment remain very similar.

accounting restatements (column (2)), and for restatements that decrease previously reported figures (column (5)). On the other hand, dispersed directors seem to lead to restatements that are linked to fraud cases (column (3)).

1.6.3 Real earnings management and future outcomes

Finally, in this subsection we analyze the impact of focused directors on future outcomes linked to real earnings management strategies. We focus our anlyses on uncollectible receivables, inventory management, patent activity and quality and performance. For instance, if a manager wants to pursue a strategy that could yield a larger earnings figure they could sell on credit to clients that are not as likely to pay them in the future. This example shows how managers may sacrifice future outcomes (like high bad debt expense, accumulated inventory, lower innovation and performance) for a bump in earnings in the present year. We argued and presented evidence in favor of focused directors being linked to lower levels of real earnings management. Focused directors would prefer not to suffer the future consequences of pursuing different strategies of real earnings management. We test the following idea that if focused directors are present, they will curtail real earnings management and this would lead to improved outcomes related to real earnings management strategies.

Table 1.14 Panel A and Panel B shows evidence that supports the idea that the presence of focused directors lead to improved outcomes related to real earnings management strategies. In Panel A, we show a test of means among two subsamples. The first subsample (column (1)) is composed of firms that possess at least one focused director and none dispersed directors, and the second subsample (column (2)) is composed of firms that possess at least one dispersed director and none focused directors. Columns (3) and (4) present the t-statistic and p-value of the difference between columns (1) and (2). The results from Table 1.14 Panel A show that when

compared to firms in the second subsample, those firms that possess at least one focused director and none dispersed directors show, on average, fewer days in inventory, more patents and citations, larger Tobin's Q, return on equity and assets, both three and five years ahead respectively. Moreover, Table 1.14 Panel B shows that focused directors lead to future decreases in bad debts, days in inventory and to increases in the number of patents.

1.7 Conclusions

We provide large-sample evidence of how individual incentives of independent directors to be efficient monitors influence their ability to improve financial reporting quality. Our main results show that focused directors (those with the incentives to be efficient monitors) significantly reduce real earnings manipulation. We obtain the same findings for the audit committee members. We distinguish between focused and dispersed directors following [90]. As robustness checks, we create and validate alternative proxies for focused and dispersed directors. We also show that large firms do not drive our main results. To deal with additional endogeneity concerns, we account for shocks to firm value that force dispersed directors to be focused and vice versa. In additional results, we show that focused directors significantly ameliorate firm information environment and reduce the probability of the firm engaging in earnings restatements. Additionally, we find that focused directors significantly reduce the level of real earnings management along the distribution of overall firm complexity and are less likely to engage in accounting restatements.

Our analyses contribute to the existing literature showing that within-board heterogeneity among independent director's individual incentives affects monitoring effectiveness. We argue that within every board of directors there could be both focused and dispersed independent directors. These two types of directors possess different

incentives to apply effort and monitor firms' reporting process, which is likely to affect firms' accounting quality. Our work empirically shows that focused directors reduce firms' real earnings manipulation. These findings contribute to the literature analyzing board independence and accounting quality by categorizing independent directors by their incentives to monitor.

Appendixes

Appendix 1.1: Measurement of individual incentives: Real life case for a single independent director.

Year	**Company**	**Market Value ($M)**	**Minimum MkV ($M)**	**Maximum MkV ($M)**	**Focused Directorship**	**Dispersed Directorship**
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1999	Firm A Inc.	6,947	722	8,002	1	1
1999	Firm B Inc.	8,002	722	8,002	1	0
1999	Firm C Inc.	722	722	8,002	0	1
2000	Firm A Inc.	13,870	206	13,870	1	0
2000	Firm B Inc.	7,073	206	13,870	1	1
2000	Firm C Inc.	206	206	13,870	0	1
2001	Firm A Inc.	12,254	337	12,254	1	0
2001	Firm B Inc.	8,958	337	12,254	1	1
2001	Firm C Inc.	337	337	12,254	0	1
2002	Firm A Inc.	10,809	9,374	10,809	1	0
2002	Firm B Inc.	9,374	9,374	10,809	0	1
2003	Firm A Inc.	10,677	10,677	12,456	0	1
2003	Firm B Inc.	12,456	10,677	12,456	1	0

We present an anonymized real example to illustrate the plausible exogenous nature of the constructs with respect to individual firms' choices. Director Jane Doe is an independent director who holds multiple directorships at Firm A, Firm B, and Firm C for the period 1999-2003. Jane is an independent director in all these firms. We argue that she will not allocate her effort evenly across all her seats. Using market value as a proxy for effort, we rank her directorships into the maximum and minimum value across their portfolio (columns (3), (4) and (5)). The years 2002 and 2003 exemplify how individual incentives measures are largely exogenous to the individual choices of Firm A and Firm B. Jane sits only in Firm A, and Firm B, whose market values suffer a reversal from 2002 to 2003. Firm A Inc. (Firm B) is classified in Jane's portfolio as a focused (dispersed) directorship in 2002, but as a dispersed (focused) directorship in 2003. It is fair to assume that Firm A, and Firm B cannot precisely control their market values, to be classified as a focused directorship in the portfolio of some or all their independent directors. Also, it is not likely that firms can control whether Jane gets offered additional board seats, which can alter her ranking.

Appendix 2. Definition of Variables.

Variables	Definition	Database
AB_CFO	Abnormal cash flow from operations calculated following Roychowdhury (2006).	COMPUSTAT.
AB_DEXP	Abnormal discretionary expenses calculated following Roychowdhury (2006).	COMPUSTAT.
AB_PROD	Abnormal production costs calculated following Roychowdhury (2006).	COMPUSTAT.
REM	Equal to AB_PROD– AB_DEXP – AB_CFO.	COMPUSTAT.
AB_ACC	Residual of the abnormal accruals estimation following Roychowdhury (2006).	COMPUSTAT.
	Focused Director Proxies	
Focused_Directorship	Calculated for independent directors with multiple directorships. It is an indicator variable that equals 1 if the directorship is 10% larger than the director's smallest directorship measured by the market capitalization of the firm.	BoardEx.
Focused_Pct	Calculated for the independent directors. It is the percentage of independent directors with high incentives to monitor calculated as the ratio between the number of independent directors with multiple directorships that perceive a given board as a Focused_Directorship, and the number of board members.	BoardEx.
Focused_Audit_Pct	Calculated for the audit committee. It is the percentage of independent directors with high incentives to monitor calculated as the ratio between the number of independent directors with multiple directorships that perceive a given audit committee as a Focused_Directorship and the total number directors within the audit committee.	BoardEx.
Focused_Chairperson_Pct	Calculated for chairpeople. It is the percentage of chairpeople with high incentives to monitor calculated as the ratio between the number of independent chairpeople with multiple directorships that perceive a given board as a Focused_Directorship and the total number of independent directors.	BoardEx.
Most_Focused_Directorship	Calculated for independent directors. It is an indicator variable that equals 1 if the directorship is the largest in terms of market capitalization within the director's portfolio of directorships.	BoardEx.

Most_Focused_Pct	Calculated for the independent directors. It is the percentage of independent directors with high incentives to monitor calculated as the ratio between the number of independent directors with multiple directorships that perceive a given board as Most_Focused_Directorsip, and board size.	BoardEx.
Focused_Dummy	Calculated for independent directors. It is an indicator variable that equals 1 when Focused_Pct is larger than 0%.	BoardEx.
Focused_Audit_Dummy	Calculated for the audit committee. It is an indicator variable that equals 1 when Focused_Audit_Pct is larger than 0%.	BoardEx.
Focused_Chairperson_Dummy	Calculated for the chairpeople. It is an indicator variable that equals 1 when Focused_Chairperson_Pct is larger than 0%.	BoardEx.
Most_Focused_Dummy	Calculated for independent directors. It is an indicator variable that equals 1 when Most_Focused_Pct is larger than 0%.	BoardEx.

Dispersed Director Proxies

Dispersed_Directorship	Calculated for independent directors with multiple directorships. It is an indicator variable that equals 1 if the directorship is 10% smaller than the director's largest directorship measured by the market capitalization of the firm.	BoardEx.
Dispersed_Pct	Calculated for the independent directors. It is the percentage of independent directors with low incentives to monitor calculated as the ratio between the number of independent directors with multiple directorships that perceive a given board as a Dispersed_Directorship, and the number of board members.	BoardEx.
Dispersed_Audit_Pct	Calculated for the audit committee. It is the percentage of independent directors with low incentives to monitor calculated as the ratio between the number of independent directors with multiple directorships that perceive a given audit committee as a Dispersed_Directorship and the total number directors within the audit committee.	BoardEx.
Dispersed_Chairperson_Pct	Calculated for chairpeople. It is the percentage of chairpeople with low incentives to monitor calculated as the ratio between the number of independent chairpeople with multiple directorships that perceive a given board as a Dispersed_Directorship and the total number of independent directors.	BoardEx.

Most_Dispersed_Directorship	Calculated for independent directors. It is an indicator variable that equals 1 if the directorship is the smallest in terms of market capitalization within the director's portfolio of directorships.	BoardEx.
Most_Dispersed_Pct	Calculated for the independent directors. It is the percentage of independent directors with low incentives to monitor calculated as the ratio between the number of independent directors with multiple directorships that perceive a given board as Most_Dispersed_Directorsip, and board size.	BoardEx.
Dispersed_Dummy	Calculated for independent directors. It is an indicator variable that equals 1 when Dispersed_Pct is larger than 0%.	BoardEx.
Dispersed_Audit_Dummy	Calculated for the audit committee. It is an indicator variable that equals 1 when Dispersed_Audit_Pct is larger than 0%.	BoardEx.
Dispersed_Chairperson_Dummy	Calculated for the chairpeople. It is an indicator variable that equals 1 when Dispersed_Chairperson_Pct is larger than 0%.	BoardEx.
Most_Dispersed_Dummy	Calculated for independent directors. It is an indicator variable that equals 1 when Most_Dispersed_Pct is larger than 0%.	BoardEx.
Double_Count	Dummy variable that takes the value 1 whenever a directorship is ranked by an independent director with multiple directorships as Dispersed_Directorship and Focused_Directorship.	BoardEx.
Number_of_Board_Seats	Number of directorships an independent director holds per year within the BoardEx universe.	BoardEx.
Num_of_Committees	Number of committees an independent director holds per year within the BoardEx universe.	BoardEx.
Audit_Committee	Dummy variable that takes the value 1 whenever an independent director seats in the audit committee.	BoardEx.
Nominating_Committee	Dummy variable that takes the value 1 whenever an independent director seats in the nominating committee.	BoardEx.
Compensation_Committee	Dummy variable that takes the value 1 whenever an independent director seats in the compensation committee.	BoardEx.
Major_Committee	Dummy variable that takes the value 1 whenever an independent director seats in the audit, compensation or nominating committee.	BoardEx.
Chairperson	Dummy variable that takes the value 1 whenever an independent director holds the position of chairperson in any given committee.	BoardEx.

Sole_Directorship	Dummy variable that takes the value 1 whenever a director possesses a single directorship in a given year.	BoardEx.
Sole_Dir_Pct	Percentage of independent directors that possess only one directorship in a given year.	BoardEx.
Independent_Pct	Percentage of independent directors.	BoardEx.
Board_Size	Number of board members for a given year.	BoardEx.
Busy_Director	Dummy variable that takes the value 1 when an independent director participates in more than three boards within BoardEx.	BoardEx.
Busy_Board	It is an indicator variable that equals 1 if the percentage of independent busy directors is higher than 50%. Busy directors are those working in 3 or more directorships within the BoardEx database.	BoardEx.
Age	Director age.	BoardEx.
Avg_Age	Board average of independent directors' age.	BoardEx.
Tenure	Number of years a director has been serving in the board.	BoardEx.
Avg_Tenure	Average number of years independent directors have been serving on the board.	BoardEx.
Num_Seats	Yearly number of board seats within the BoardEx database in which a director participates.	BoardEx.
CEO_Duality	Indicator that takes the value 1 whenever the CEO of a firm is also the Chairperson of the Board of Directors in a given year.	BoardEx.
Fin_Exp	A dummy variable that takes the value one whenever an independent director primary employment is an executive position at another firm.	BoardEx.
Pct_Fin_Exp	Percentage of independent directors that are executives at their primary employments.	BoardEx.
MTB	Market-to-book ratio.	COMPUSTAT.
ROA	Return on Assets calculated as income before extraordinary items divided by total assets.	COMPUSTAT.
Firm_size	Firm' size calculated as the natural logarithm of total assets.	COMPUSTAT.
Leverage	Total debt divided by total assets.	COMPUSTAT.
Market_Share	Company's sales divided by total sales in the industry using the 3-digits SIC code.	COMPUSTAT.
Z_Score	Altman's Z defined as in [113].	COMPUSTAT.
IO	Institutional ownership. Percentage of institutional ownership.	TR 13F.
Taxes	Annual taxes paid over total assets.	COMPUSTAT.
Size	Natural logarithm of total assets.	COMPUSTAT.
MTB	Market to book ratio.	COMPUSTAT.

Earn	Measure of pre-managed earnings following [113]. It equals income before extraordinary items minus abnormal accruals minus production costs and plus discretionary expenses, divided by total assets.	COMPUSTAT.
Bid_Ask_Spread	Annual measure that captures the difference between Bid and Ask, weighted by the average Bid and Ask.	CRSP.
Volatility	Annual measure that captures the standard deviation of a firm's monthly returns.	CRSP.
Analyst_Following	Residual from a regression of the natural logarithm of the number of analysts following a firm on the natural logarithm of total assets.	I\B\E\S.
Forecast_Error	The absolute value of the difference between the actual and forecasted EPS deflated by the beginning fiscal price of that year. Multiplied by 1,000.	COMPUSTAT, and I\B\E\S.
Analyst_Dispersion	Standard deviation from the absolute value of the difference between the median analyst consensus and the actual EPS. Multiplied by 1,000.	I\B\E\S.
Information_Cost_Index	Variable that captures the information acquisition cost that face outside directors. It is based on the inverse of Analyst_Following, and Analyst_Dispersion and Forecast_Error, and constructed following Duchin et al., 2010, i.e. the deciles of each variables are added together and scale it to range from zero (low) to one (high).	From [44]. COMPUSTAT, and I\B\E\S.
Market_Value	The natural logarithm of market capitalization.	COMPUSTAT.
Number_of_Segments	Number of business segments.	COMPUSTAT.
Firm_Age	Number of years a firm has appeared in CRSP.	CRSP.
Volume	Natural logarithm of the average volume of operations of a firm stock.	CRSP.
Restatement	Dummy variable that indicates a firm is discloses a financial statement restatement.	AuditAnalytics.
Accounting_Restatement	Dummy variable that indicates that the restatement identified accounting rule application failures.	AuditAnalytics.
Fraud_Restatement	Dummy variable that indicates that the restatement identified financial fraud, irregularities and misrepresentations.	AuditAnalytics.
Clerical_Error	Dummy variable that indicates that the restatement identified material accounting and clerical application errors.	AuditAnalytics.
Adverse_Restatement	Dummy variable that indicates whether the net effect to the financial statements (income statement, balance sheet or cash flows) was positive.	AuditAnalytics.

Improve_Restatement	Dummy variable that indicates whether the net effect to the financial statements (income statement, balance sheet or cash flows) was negative.	AuditAnalytics.
SEC_Restatement	Dummy variable that indicates the restatement disclosure identified SEC investigation of the registrant.	AuditAnalytics.
TA	Firm's total assets.	COMPUSTAT.
SALES	Firm's net sales.	COMPUSTAT.
Bad_Debt	Estimated value of bad debt over total sales.	COMPUSTAT.
Days_Inv	Average number of days a firm takes to turn its inventory into sales.	COMPUSTAT.
Patents	Number of patents.	NBER.
Citations	Number of citations.	NBER.
Q	Tobin's Q approximation calculated as total assets minus book value of equity plus market value of equity over total assets.	COMPUSTAT.
ROE	Return on equity, calculated as income before extraordinary items over book value of equity.	COMPUSTAT.

Alternative Focused Director Proxies

Focused_Directorship_50	Dummy variable that takes the value 1 whenever a given directorship represents more than 50% of the total market value of all directorships hold by independent directors with multiple directorships.	BoardEx.
Focused_Directorship_70	Dummy variable that takes the value 1 whenever a given directorship represents more than 70% of the total market value of all directorships hold by independent directors with multiple directorships.	BoardEx.
Focused_Directorship_90	Dummy variable that takes the value 1 whenever a given directorship represents more than 90% of the total market value of all directorships hold by independent directors with multiple directorships.	BoardEx.
Dispersed_to_Focused_Directorship	Firm-level indicator that takes the value 1 whenever at least one directorship changes from Dispersed_Directorship to Focused_Directorship due to a drop (of at least 5%) in the market value of other firm(s) in the portfolio of their directors in a given year, and the present firm does not experience an increase in market value larger than 10%.	BoardEx.

Dispersed_to_Focused_Dummy	Firm-level indicator variable that takes the value 1 whenever at least for one director this board seat changes from Dispersed_Directorship to Focused_Directorship due to a drop (of at least 5%) in the market value of other firm(s) in the portfolio of that director in a given year, and the present firm does not experience an increase in market value larger than 10%.	BoardEx.
Focused_Death	Dummy variable that takes the value 1 whenever at least one focused director dies in a given year.	BoardEx.
Focused_Chair_Death	Dummy variable that takes the value 1 whenever at least one focused chairperson dies in a given year.	BoardEx.

Alternative Dispersed Director Proxies

Dispersed_Directorship_50	Dummy variable that takes the value 1 whenever a given directorship represents less than 50% of the total market value of all directorships hold by independent directors with multiple directorships.	BoardEx.
Dispersed_Directorship_70	Dummy variable that takes the value 1 whenever a given directorship represents less than 30% of the total market value of all directorships hold by independent directors with multiple directorships.	BoardEx.
Dispersed_Directorship_90	Dummy variable that takes the value 1 whenever a given directorship represents less than 10% of the total market value of all directorships hold by independent directors with multiple directorships.	BoardEx.
Focused_to_Dispersed_Directorship	Firm-level indicator that takes the value 1 whenever at least one directorship changes from Focused_Directorship to Dispersed_Directorship due to an increase (of at least 5%) in the market value of other firm(s) in the portfolio of their directors in a given year, and the present firm does not experience a drop in market value larger than 10%.	BoardEx.
Focused_to_Dispersed_Dummy	Firm-level indicator variable that takes the value 1 whenever at least for one director this board seat changes from Focused_Directorship to Dispersed_Directorship due to an increase (of at least 5%) in the market value of other firm(s) in the portfolio of that director in a given year, and the present firm does not experience a decrease in market value larger than 10%.	BoardEx.
Dispersed_Death	Dummy variable that takes the value 1 whenever at least one dispersed director dies in a given year.	BoardEx.

Dispersed_Chair_Death	Dummy variable that takes the value 1 whenever at least one dispersed chairperson dies in a given year.	BoardEx.

Table 1.1: **Panel A.** Independent Director Level Summary Statistics

Variable Name	Number of Observations	Mean	S.D.	P_{25}	P_{50}	P_{75}
Age	269,702	61.34	9.47	55	62	68
Tenure	270,270	6.61	5.92	2	5	9
Number_of_Board_Seats	270,270	1.75	1.53	1	1	2
Sole_Directorship	270,270	0.6	0.49	0	1	1
Num_of_Committees	134,198	1.92	0.86	1	2	2
Audit_Committee	134,198	0.56	0.5	0	1	1
Nominating_Committee	134,198	0.42	0.49	0	0	1
Compensation_Committee	134,198	0.51	0.5	0	1	1
Major_Committee	134,198	1.48	0.79	1	1	2
Chairperson	134,198	0.42	0.49	0	0	1

Table 1.1: **Panel B.** independent directors with Multiple Directorships Level Summary Statistics.

Variable Name	Number of Observations	Mean	S.D.	P_{25}	P_{50}	P_{75}
Number_of_board_seats	110,193	3.83	6.61	2	2	3
Focused_Directorship	110,193	0.58	0.49	0	1	1
Dispersed_Directorship	110,193	0.56	0.5	0	1	1
Double_Count	110,193	0.18	0.38	0	0	0

Table 1.1: **Continued. Panel C.** Firm-level Summary Statistics.

Variable Name	Number of Observations	Mean	S.D.	P_{25}	P_{50}	P_{75}
REM	38,437	-0.02	0.48	-0.26	0.00	0.24
AB_CFO	38,437	0.08	0.17	-0.01	0.07	0.17
AB_PROD	38,437	-0.04	0.23	-0.16	-0.03	0.08
AB_DISEXP	38,437	-0.10	0.29	-0.27	-0.09	0.04
Sole_Dir_Pct	38,437	0.38	0.23	0.20	0.39	0.56
Focused_Pct	38,437	0.13	0.17	0.00	0.00	0.22
Focused_Dummy	38,437	0.50	0.50	0.00	0.00	1.00
Most_Focused_Pct	38,437	0.10	0.15	0.00	0.00	0.17
Most_Focused_Dummy	38,437	0.43	0.50	0.00	0.00	1.00
Dispersed_Pct	38,437	0.14	0.16	0.00	0.11	0.23
Dispersed_Dummy	38,437	0.55	0.50	0.00	1.00	1.00
Most_Dispersed_Pct	38,437	0.11	0.14	0.00	0.00	0.17
Most_Dispersed_Dummy	38,437	0.47	0.50	0.00	0.00	1.00
Focused_Pct_50	38,437	0.10	0.14	0.00	0.00	0.17
Focused_Dummy_50	38,437	0.42	0.49	0.00	0.00	1.00
Focused_Pct_70	38,437	0.06	0.11	0.00	0.00	0.11
Focused_Dummy_70	38,437	0.31	0.46	0.00	0.00	1.00
Focused_Pct_90	38,437	0.03	0.07	0.00	0.00	0.00
Focused_Dummy_90	38,437	0.16	0.37	0.00	0.00	0.00
Dispersed_Pct_50	38,437	0.15	0.17	0.00	0.13	0.25
Dispersed_Dummy_50	38,437	0.57	0.50	0.00	1.00	1.00
Dispersed_Pct_30	38,437	0.11	0.14	0.00	0.00	0.18
Dispersed_Dummy_30	38,437	0.48	0.50	0.00	0.00	1.00
Dispersed_Pct_10	38,437	0.05	0.10	0.00	0.00	0.10
Dispersed_Dummy_10	38,437	0.27	0.45	0.00	0.00	1.00
Independent_Dir_Pct	38,437	0.63	0.25	0.50	0.67	0.83
CEO_Duality	38,437	0.47	0.50	0.00	0.00	1.00
ln_Board_Size	38,437	1.86	0.45	1.61	1.95	2.20
Busy_Board	38,437	0.01	0.07	0.00	0.00	0.00
Avg_Tenure	38,437	7.01	3.59	4.44	6.36	8.83
Financial_Exp_Pct	38,437	0.36	0.19	0.22	0.33	0.50
Avg_Age	38,437	59.90	5.86	56.67	60.43	63.67
Market_Share	38,437	0.05	0.10	0.00	0.01	0.04
Z_Score	38,437	4.99	6.87	2.26	3.58	5.76
IO	38,437	0.54	0.29	0.30	0.58	0.78
Taxes	38,437	0.02	0.04	0.00	0.02	0.04
ROA	38,437	0.00	0.21	0.00	0.05	0.09
Size	38,437	5.90	1.93	4.51	5.82	7.21
MTB	38,437	2.99	4.03	1.27	2.09	3.57
Earn	38,437	-0.44	0.71	-0.74	-0.32	0.02
AB_ACC	38,437	0.04	0.17	-0.02	0.04	0.10

Table 1.1 shows descriptive statistics for the main variables used in the study. Panel A shows summary statistics at the independent director level, Panel B shows summary statistics at the multiple directorships level, and Panel C shows summary statistics at the firm level. All variables are defined in Appendix 1.2.

Table 1.2: Correlation Table.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
(1) REM	1																								
(2) AB_CFO	-0.340	1																							
	(0.000)																								
(3) AB_PROD	0.912	-0.409	1																						
	(0.000)	(0.000)																							
(4) AB_DISEXP	-0.716	-0.330	-0.473	1																					
	(0.000)	(0.000)	(0.000)																						
(5) Sole_Dir_Pct	0.026	-0.002	0.026	-0.022	1																				
	(0.000)	(0.699)	(0.000)	(0.000)																					
(6) Focused_Pct	-0.072	0.209	-0.095	0.073	-0.294	1																			
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)																				
(7) Focused_Dummy	-0.064	0.188	-0.080	0.063	0.205	0.784	1																		
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)																			
(8) Dispersed_Pct	0.022	-0.034	0.022	0.001	-0.245	0.205	0.238	1																	
	(0.000)	(0.000)	(0.000)	(0.797)	(0.000)	(0.000)	(0.000)																		
(9) Dispersed_Dummy	0.015	0.002	0.012	-0.014	-0.146	0.254	0.306	0.779	1																
	(0.005)	(0.637)	(0.016)	(0.005)	(0.000)	(0.000)	(0.000)	(0.000)																	
(10) Market_Share	0.032	-0.053	0.041	0.009	-0.132	0.230	0.213	0.058	0.104	1															
	(0.000)	(0.000)	(0.000)	(0.081)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)																
(11) Z_Score	-0.145	0.245	-0.142	-0.017	0.008	0.036	0.036	-0.104	-0.097	-0.075	1														
	(0.000)	(0.000)	(0.000)	(0.001)	(0.108)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)															
(12) IO	-0.071	0.223	-0.088	-0.079	0.024	0.425	0.473	0.209	0.266	0.206	0.045	1													
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)														
(13) Taxes	-0.164	0.284	-0.215	-0.062	-0.026	0.123	0.105	-0.095	-0.065	0.047	0.207	0.138	1												
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)													
(14) ROA	-0.157	0.372	-0.205	-0.123	0.003	0.111	0.112	-0.072	-0.031	0.123	0.237	0.214	0.286	1											
	(0.000)	(0.000)	(0.000)	(0.000)	(0.505)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)												
(15) Size	0.012	0.209	-0.028	-0.161	-0.148	0.551	0.526	0.127	0.219	0.454	-0.081	0.633	0.167	0.293	1										
	(0.017)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)											
(16) MTB	-0.169	0.131	-0.137	0.093	-0.036	0.156	0.128	-0.029	-0.005	0.021	0.275	0.085	0.110	-0.008	0.044	1									
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.296)	(0.000)	(0.000)	(0.000)	(0.000)	(0.115)	(0.000)										
(17) Earn	-0.583	0.362	-0.626	0.262	0.008	0.113	0.010	0.014	0.012	-0.156	0.130	0.099	0.172	0.094	-0.014	0.153	1								
	(0.000)	(0.000)	(0.000)	(0.000)	(0.105)	(0.000)	(0.000)	(0.007)	(0.023)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.007)	(0.000)									
(18) AB_ACC	0.117	0.033	-0.006	-0.213	0.061	0.038	0.033	0.012	0.011	-0.040	0.088	0.028	0.015	0.303	0.014	0.005	0.091	1							
	(0.000)	(0.000)	(0.216)	(0.000)	(0.000)	(0.000)	(0.000)	(0.017)	(0.035)	(0.000)	(0.000)	(0.000)	(0.004)	(0.000)	(0.008)	(0.330)	(0.000)								
(19) Independent_Dir_Pct	-0.006	0.100	-0.018	-0.062	0.605	0.375	0.356	0.391	0.405	0.037	-0.024	0.383	-0.005	0.025	0.252	0.047	0.082	0.082	1						
	(0.270)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.332)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)							
(20) CEO_Duality	0.004	0.038	-0.012	-0.036	-0.027	0.056	0.047	-0.034	-0.010	0.087	0.013	0.042	0.051	0.072	0.118	0.007	-0.025	0.009	-0.019	1					
	(0.466)	(0.000)	(0.024)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.049)	(0.000)	(0.014)	(0.000)	(0.000)	(0.000)	(0.000)	(0.177)	(0.000)	(0.064)	(0.000)						
(21) ln_Board_Size	-0.005	0.112	-0.020	-0.071	0.121	0.347	0.437	0.219	0.368	0.246	-0.042	0.410	0.060	0.107	0.538	0.073	0.007	0.043	0.432	0.132	1				
	(0.307)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.152)	(0.000)	(0.000)	(0.000)					
(22) Busy_Board	0.013	-0.013	0.008	-0.004	-0.104	0.044	0.006	0.041	-0.002	0.012	-0.010	-0.014	-0.009	-0.037	-0.005	-0.006	-0.004	-0.018	-0.066	-0.014	-0.092	1			
	(0.011)	(0.007)	(0.099)	(0.464)	(0.000)	(0.000)	(0.259)	(0.000)	(0.697)	(0.021)	(0.046)	(0.007)	(0.069)	(0.000)	(0.345)	(0.206)	(0.485)	(0.000)	(0.000)	(0.007)	(0.000)				
(23) Avg_Tenure	0.017	0.018	-0.002	-0.040	0.069	-0.074	-0.079	-0.100	-0.097	0.026	0.042	-0.100	0.069	0.139	-0.016	-0.059	-0.035	0.040	-0.039	0.091	-0.012	-0.015	1		
	(0.001)	(0.001)	(0.673)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.022)	(0.003)			
(24) Financial_Exp_Pct	-0.014	0.042	-0.023	-0.018	-0.308	0.176	0.118	0.131	0.093	0.049	-0.003	0.079	0.006	0.001	0.117	0.039	0.043	-0.012	-0.108	0.072	-0.046	0.006	-0.111	1	
	(0.007)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.616)	(0.000)	(0.243)	(0.904)	(0.000)	(0.000)	(0.000)	(0.019)	(0.000)	(0.000)	(0.000)	(0.237)	(0.000)		
(25) Avg_Age	0.070	0.038	0.038	-0.106	0.174	0.129	0.136	0.140	0.159	0.059	-0.033	0.149	0.023	0.079	0.199	-0.056	-0.036	0.072	0.308	0.013	0.272	0.010	0.344	-0.070	1
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.014)	(0.000)	(0.056)	(0.000)	(0.000)	

Table 1.2 shows the Pearson correlations coefficients and their p-value in parentheses. All variables are defined in Appendix 1.2.

Table 1.3: **Panel A.** Real Earnings Management and Focused vs. Dispersed Directors.

	$\mathbf{REM}_t$		$\mathbf{AB\_DISEXP}_t$		$\mathbf{AB\_PROD}_t$		$\mathbf{AB\_CFO}_t$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Focused\_Pct_t$	-0.090***		0.012		-0.028***		0.055***	
	(-4.910)		(0.941)		(-2.960)		(5.576)	
$Dispersed\_Pct_t$	0.068***		-0.032**		0.008		-0.027***	
	(3.470)		(-2.267)		(0.792)		(-2.980)	
$Focused\_Dummy_t$		-0.035***		0.014***		-0.008**		0.015***
		(-6.359)		(3.627)		(-2.670)		(6.292)
$Dispersed\_Dummy_t$		0.018***		-0.004		0.006**		-0.006**
		(3.543)		(-1.172)		(2.353)		(-2.743)
$Sole\_Dir\_Pct_t$	-0.036*	-0.039**	0.012	0.027**	-0.018**	-0.011	0.010	0.005
	(-1.998)	(-2.493)	(0.935)	(2.321)	(-2.084)	(-1.348)	(1.163)	(0.749)
$Ind\_Dir\_Pct_{t-1}$	0.006	0.007	0.002	-0.011	0.004	-0.003	-0.004	0.001
	(0.328)	(0.382)	(0.123)	(-0.730)	(0.457)	(-0.281)	(-0.527)	(0.073)
$CEO\_Duality_{t-1}$	0.005	0.005	-0.011***	-0.011***	0.000	0.000	0.006**	0.006**
	(1.038)	(1.010)	(-2.857)	(-2.810)	(0.050)	(0.056)	(2.634)	(2.620)
$ln(Board\_Size)_{t-1}$	-0.029***	-0.026**	0.028***	0.027***	-0.005	-0.005	-0.004	-0.006
	(-2.782)	(-2.534)	(3.537)	(3.454)	(-1.134)	(-1.044)	(-1.003)	(-1.404)
$Busy\_Board_{t-1}$	0.020	0.018	-0.004	-0.005	0.011	0.010	-0.003	-0.001
	(0.504)	(0.450)	(-0.172)	(-0.197)	(0.579)	(0.514)	(-0.236)	(-0.094)
Avg_Tenure_{t-1}	-0.002**	-0.002**	0.002**	0.002**	-0.001	-0.001	-0.000	-0.000
	(-2.070)	(-2.125)	(2.446)	(2.519)	(-1.321)	(-1.321)	(-0.078)	(-0.062)
$Financial\_Exp\_Pct_{t-1}$	-0.021	-0.022	0.011	0.010	-0.012	-0.013	-0.003	-0.002
	(-0.994)	(-1.049)	(0.800)	(0.719)	(-1.323)	(-1.441)	(-0.405)	(-0.271)
Avg_Age_{t-1}	-0.003***	-0.002***	0.002***	0.002***	-0.001*	-0.001	-0.000	-0.000
	(-3.087)	(-2.929)	(3.603)	(3.559)	(-1.724)	(-1.643)	(-0.552)	(-0.764)
$Market\_Share_{t-1}$	-0.056	-0.060	0.247***	0.251***	0.033	0.033	-0.156***	-0.154***
	(-0.635)	(-0.684)	(4.859)	(4.896)	(0.767)	(0.762)	(-5.113)	(-5.073)
Z_Score_{t-1}	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.001**	0.001**
	(-0.094)	(-0.123)	(-0.661)	(-0.645)	(1.259)	(1.272)	(2.205)	(2.256)
$Inst\_Own_{t-1}$	-0.069***	-0.064***	0.030**	0.028*	-0.017*	-0.016*	0.025***	0.023***
	(-3.730)	(-3.469)	(2.145)	(1.973)	(-1.933)	(-1.833)	(3.303)	(2.996)
$Taxes_{t-1}$	-0.682***	-0.686***	-0.166***	-0.166***	-0.437***	-0.437***	0.401***	0.405***
	(-7.919)	(-8.035)	(-4.812)	(-4.828)	(-10.877)	(-10.855)	(8.709)	(8.808)
ROA_{t-1}	0.050	0.049	-0.252***	-0.252***	-0.007	-0.007	0.182***	0.182***
	(1.281)	(1.271)	(-13.050)	(-13.024)	(-0.351)	(-0.350)	(9.166)	(9.210)
$Size_{t-1}$	0.116***	0.115***	-0.120***	-0.120***	0.016***	0.015***	0.017***	0.018***
	(11.246)	(11.265)	(-17.795)	(-18.018)	(3.673)	(3.653)	(4.327)	(4.532)
MTB_{t-1}	-0.006***	-0.006***	0.004***	0.004***	-0.001***	-0.001***	0.000	0.000
	(-6.240)	(-6.285)	(7.097)	(7.108)	(-3.143)	(-3.178)	(0.952)	(1.096)
$Earn_{t-1}$	-0.342***	-0.341***	0.149***	0.149***	-0.154***	-0.154***	0.037***	0.037***
	(-16.756)	(-16.824)	(14.345)	(14.324)	(-14.735)	(-14.747)	(6.214)	(6.193)
AB_ACC_t	0.205***	0.205***	-0.130***	-0.131***	-0.032**	-0.032**	-0.107***	-0.107***
	(5.244)	(5.263)	(-8.720)	(-8.743)	(-2.331)	(-2.335)	(-4.058)	(-4.053)
Observations	38,407	38,407	38,407	38,407	38,407	38,407	38,407	38,407
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.170	0.170	0.196	0.196	0.127	0.127	0.125	0.124

Table 1.3 Panel A shows the impact of focused directors on the different measures of real activities manipulation. Odd columns show the results using the percentage measures of focused and dispersed directors, while even columns show the results of the same analysis but using the indicator variables for focused and dispersed directors. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.3: **Continued. Panel B.** Real Earnings Management and Most Focused vs. Most Dispersed Directors.

	$\mathbf{REM}_t$		$\mathbf{AB\_DISEXP}_t$		$\mathbf{AB\_PROD}_t$		$\mathbf{AB\_CFO}_t$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Most\_Focused\_Pct_t$	-0.076***		0.010		-0.023**		0.042***	
	(-3.444)		(0.683)		(-2.057)		(4.355)	
$Most\_Dispersed\_Pct_t$	0.084***		-0.034**		0.016		-0.038***	
	(4.011)		(-2.607)		(1.508)		(-4.248)	
$Most\_Focused\_Dummy_t$		-0.022***		0.012***		-0.004		0.007***
		(-4.226)		(3.464)		(-1.514)		(3.630)
$Most\_Dispersed\_Dummy_t$		0.020***		-0.003		0.006***		-0.011***
		(4.467)		(-0.996)		(2.994)		(-4.820)
$Sole\_Dir\_Pct_t$	-0.024	-0.027	0.011	0.027**	-0.012	-0.007	0.000	-0.005
	(-1.156)	(-1.633)	(0.936)	(2.386)	(-1.111)	(-0.844)	(0.053)	(-0.592)
$Ind\_Dir\_Pct_{t-1}$	-0.004	-0.003	0.002	-0.011	-0.001	-0.006	0.004	0.009
	(-0.220)	(-0.133)	(0.123)	(-0.735)	(-0.145)	(-0.592)	(0.608)	(1.233)
$CEO\_Duality_{t-1}$	0.005	0.005	-0.011***	-0.011***	0.000	0.000	0.006**	0.006**
	(1.061)	(0.985)	(-2.846)	(-2.794)	(0.073)	(0.044)	(2.583)	(2.645)
$ln(Board\_Size)_{t-1}$	-0.028***	-0.027**	0.028***	0.027***	-0.005	-0.005	-0.005	-0.005
	(-2.773)	(-2.610)	(3.549)	(3.392)	(-1.116)	(-1.148)	(-1.054)	(-1.060)
$Busy\_Board_{t-1}$	0.019	0.017	-0.005	-0.004	0.010	0.010	-0.002	-0.001
	(0.479)	(0.429)	(-0.223)	(-0.170)	(0.523)	(0.511)	(-0.131)	(-0.077)
Avg_Tenure_{t-1}	-0.002**	-0.002**	0.002**	0.002**	-0.001	-0.001	-0.000	-0.000
	(-2.066)	(-2.083)	(2.452)	(2.512)	(-1.307)	(-1.295)	(-0.116)	(-0.154)
$Financial\_Exp\_Pct_{t-1}$	-0.022	-0.023	0.011	0.010	-0.013	-0.014	-0.002	-0.002
	(-1.060)	(-1.106)	(0.778)	(0.741)	(-1.408)	(-1.467)	(-0.271)	(-0.179)
Avg_Age_{t-1}	-0.003***	-0.003***	0.002***	0.002***	-0.001*	-0.001	-0.000	-0.000
	(-3.069)	(-2.947)	(3.598)	(3.575)	(-1.717)	(-1.647)	(-0.586)	(-0.748)
$Market\_Share_{t-1}$	-0.054	-0.057	0.248***	0.249***	0.034	0.034	-0.157***	-0.156***
	(-0.619)	(-0.653)	(4.859)	(4.874)	(0.786)	(0.774)	(-5.171)	(-5.158)
$Z-Score_{t-1}$	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.001**	0.001**
	(-0.086)	(-0.110)	(-0.652)	(-0.653)	(1.275)	(1.268)	(2.190)	(2.239)
$Inst\_Own_{t-1}$	-0.069***	-0.066***	0.030**	0.028*	-0.017*	-0.017*	0.025***	0.024***
	(-3.732)	(-3.596)	(2.125)	(2.016)	(-1.953)	(-1.902)	(3.351)	(3.241)
$Taxes_{t-1}$	-0.682***	-0.687***	-0.166***	-0.166***	-0.436***	-0.437***	0.401***	0.405***
	(-7.902)	(-7.975)	(-4.809)	(-4.825)	(-10.847)	(-10.811)	(8.704)	(8.770)
ROA_{t-1}	0.050	0.049	-0.252***	-0.252***	-0.007	-0.007	0.182***	0.182***
	(1.283)	(1.257)	(-13.043)	(-13.008)	(-0.349)	(-0.355)	(9.164)	(9.217)
$Size_{t-1}$	0.116***	0.115***	-0.120***	-0.120***	0.016***	0.015***	0.017***	0.018***
	(11.279)	(11.207)	(-17.789)	(-17.988)	(3.686)	(3.619)	(4.378)	(4.565)
MTB_{t-1}	-0.006***	-0.006***	0.004***	0.004***	-0.001***	-0.001***	0.000	0.000
	(-6.241)	(-6.298)	(7.106)	(7.102)	(-3.126)	(-3.177)	(0.964)	(1.090)
$Earn_{t-1}$	-0.342***	-0.341***	0.149***	0.149***	-0.154***	-0.154***	0.037***	0.037***
	(-16.750)	(-16.795)	(14.331)	(14.353)	(-14.727)	(-14.731)	(6.213)	(6.184)
AB_ACC_t	0.204***	0.205***	-0.131***	-0.131***	-0.032**	-0.032**	-0.107***	-0.107***
	(5.227)	(5.232)	(-8.725)	(-8.747)	(-2.341)	(-2.335)	(-4.038)	(-4.035)
Observations	38,407	38,407	38,407	38,407	38,407	38,407	38,407	38,407
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.170	0.170	0.196	0.196	0.127	0.127	0.124	0.123

Table 1.3 Panel B shows the impact of alternative measures of most focused directors on the different measures of real activities manipulation. Odd columns show the results using the percentage measures of focused and dispersed directors, while even columns show the results of the same analysis but using the indicator variables for focused and dispersed directors. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.4: Real Earnings Management and Focused vs. Dispersed Directors: Alternative Measures.

	$\mathbf{REM}_t$					
	(1)	(2)	(3)	(4)	(5)	(6)
$Focused\_Pct\_50_t$	-0.079***					
	(-3.211)					
$Dispersed\_Pct\_50_t$	0.050**					
	(2.160)					
$Focused\_Dummy\_50_t$		-0.022***				
		(-4.465)				
$Dispersed\_Dummy\_50_t$		0.012**				
		(2.275)				
$Focused\_Pct\_70_t$			-0.084***			
			(-3.187)			
$Dispersed\_Pct\_30_t$			0.095***			
			(4.514)			
$Focused\_Dummy\_70_t$				-0.018***		
				(-3.325)		
$Dispersed\_Dummy\_30_t$				0.023***		
				(4.818)		
$Focused\_Pct\_90_t$					-0.107***	
					(-2.837)	
$Dispersed\_Pct\_10_t$					0.144***	
					(5.186)	
$Focused\_Dummy\_90_t$						-0.017**
						(-2.753)
$Dispersed\_Dummy\_10_t$						0.031***
						(5.550)
$Sole\_Dir\_Pct_t$	-0.031	-0.035**	-0.015	-0.022	-0.016	-0.019
	(-1.498)	(-2.240)	(-0.838)	(-1.317)	(-0.909)	(-1.110)
Observations	38,407	38,407	38,407	38,407	38,407	38,407
Board Controls?	Yes	Yes	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.170	0.169	0.170	0.169	0.170	0.170

Table 1.4 shows the impact of alternative measures of focused directors on the aggregated measure of real activities manipulation. Odd columns show the results using the percentage measures of focused and dispersed directors, while even columns show the results of the same analysis but using the indicator variables for focused and dispersed directors. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.5: Real Earnings Management and Focused vs. Dispersed Directors: Audit Committee and Chairpersons.

	$\mathbf{REM}_t$			
	(1)	(2)	(3)	(4)
$Focused\_Audit\_Pct_t$	-0.091***			
	(-4.155)			
$Dispersed\_Audit\_Pct_t$	0.102***			
	(3.630)			
$Focused\_Audit\_Dummy_t$		-0.016***		
		(-3.638)		
$Dispersed\_Audit\_Dummy_t$		0.017***		
		(3.525)		
$Focused\_Chairperson\_Pct_t$			-0.093**	
			(-2.811)	
$Dispersed\_Chairperson\_Pct_t$			0.100***	
			(2.883)	
$Focused\_Chairperson\_Dummy_t$				-0.017***
				(-3.246)
$Dispersed\_Chairperson\_Dummy_t$				0.018***
				(3.453)
$Sole\_Dir\_Pct_t$	-0.024	-0.026	-0.026*	-0.027*
	(-1.382)	(-1.538)	(-1.788)	(-1.815)
Observations	24,922	24,922	24,922	24,922
Board Controls?	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes
Adj. R2	0.138	0.137	0.137	0.137

Table 1.5 shows the impact of focused audit committee members (columns (1) and (2)) and chairpersons (columns (3) and (4)) on the aggregated measure of real activities manipulation. Odd columns show the results using the percentage measures of focused and dispersed directors, while even columns show the results of the same analysis but using indicator variables. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.6: Real Earnings Management and Focused vs. Dispersed Directors: Evidence from plausibly Exogenous changes in the Rankings.

	$\mathbf{REM}_t$	$\mathbf{AB\_DISEXP}_t$	$\mathbf{AB\_PROD}_t$	$\mathbf{AB\_CFO}_t$
	(1)	(2)	(3)	(4)
$Dispersed\_to\_Focused_t$	-0.016***	0.001	-0.005*	0.010***
	(-3.272)	(0.342)	(-2.003)	(4.250)
$Focused\_to\_Dispersed_t$	0.019***	-0.006*	0.003*	-0.010***
	(4.388)	(-1.711)	(1.700)	(-2.955)
$Sole\_Dir\_Pct_t$	-0.038**	0.026**	-0.013	-0.001
	(-2.306)	(2.212)	(-1.547)	(-0.126)
Observations	35,016	35,016	35,016	35,016
Board Controls?	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes
Adj. R2	0.170	0.194	0.130	0.121

Table 1.6 shows the impact of plausible exogenous changes in the rankings of individual directors on the measures of real activities manipulation. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.7: Real Earnings Management and Focused vs. Dispersed Directors: the Impact of Complexity.

	$\mathbf{REM}_t$					
	(1)	(2)	(3)	(4)	(5)	(6)
$Focused\_Pct_t$	-0.153***	-0.051**	-0.102***	-0.080***	-0.124***	-0.029*
	(-4.950)	(-2.209)	(-3.648)	(-2.797)	(-4.305)	(-1.976)
$Dispersed\_Pct_t$	0.030	0.076***	0.042	0.108***	0.038	0.116***
	(0.979)	(3.064)	(1.429)	(3.380)	(1.258)	(3.306)
$Sole\_Dir\_Pct_t$	-0.014	-0.029	-0.010	-0.056**	0.004	-0.038
	(-0.427)	(-1.199)	(-0.288)	(-2.418)	(0.144)	(-1.388)
Observations	15,238	15,131	15,187	15,295	10,566	10,730
Measure of Complexity	Firm Size		Firm Age		No Segments	
Above Median?	No	Yes	No	Yes	No	Yes
Board Controls?	Yes	Yes	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.150	0.252	0.138	0.214	0.180	0.170

Table 1.7 shows the impact of focused directors on the measure of real activities manipulation for different subsamples of firm complexity. Odd columns indicate subsamples where firms are less complex than the median of a given industry and year, whereas even columns indicate subsamples where firms are more complex than the median of a given industry and year. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.8: Real Earnings Management and Focused vs. Dispersed Directors: Market Size Effect.

	$\mathbf{REM}_t$				$\mathbf{REM\_Res}_t$
	(1)	(2)	(3)	(4)	(5)
Focused_Pct	-0.167**	-0.106***	-0.067*	-0.019	-0.079***
	(-2.735)	(-2.837)	(-1.913)	(-0.758)	(-4.231)
Dispersed_Pct	-0.020	-0.009	0.063*	0.083**	0.057***
	(-0.421)	(-0.202)	(1.993)	(2.469)	(2.848)
Sole_Dir_Pct	0.013	-0.058	-0.020	-0.011	-0.039**
	(0.334)	(-1.464)	(-0.715)	(-0.384)	(-2.202)
Observations	9,055	8,918	9,500	9,831	38,407
Market Size Quartile	1	2	3	4	All
Board Controls?	Yes	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.109	0.169	0.162	0.319	0.172

Table 1.8 shows the impact of focused directors on the measure of real activities manipulation for different subsamples of market value. Column (5) uses as a dependent variable the residuals from a regression of the aggregated measure of real earnings management on market value. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.9: Real Earnings Management and Focused vs. Dispersed Directors: Evidence from Directors' Deaths.

	$\mathbf{REM}_t$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Focused\_Death_t$	0.054*	0.186*	0.073	0.195***				
	(1.754)	(2.026)	(1.650)	(4.861)				
$Dispersed\_Death_t$	0.032	-0.160**	0.091	-0.227***				
	(0.437)	(-2.285)	(0.722)	(-6.481)				
$Focused\_Dummy_t$	-0.031***	-0.018*	-0.023**	-0.017				
	(-4.822)	(-1.993)	(-2.727)	(-1.623)				
$Dispersed\_Dummy_t$	0.030***	0.030***	0.023***	0.015*				
	(5.460)	(4.755)	(3.444)	(1.829)				
$Focused\_Chair\_Death_t$					0.007	0.032**	0.071	0.251***
					(1.656)	(2.053)	(1.027)	(7.632)
$Dispersed\_Chair\_Death_t$					0.065	-0.048	-0.083	0.001
					(0.104)	(-0.626)	(-1.122)	(0.123)
$Focused\_Chair\_Dummy_t$					-0.017***	-0.010	-0.015**	-0.010
					(-3.344)	(-1.479)	(-2.331)	(-1.130)
$Dispersed\_Chair\_Dummy_t$					0.018***	0.013**	0.017**	0.014
					(3.743)	(2.196)	(2.845)	(1.667)
$Sole\_Dir\_Pct_t$	-0.022	-0.021	-0.027	-0.022	-0.022	-0.031	-0.029	-0.020
	(-1.385)	(-1.085)	(-1.365)	(-0.934)	(-1.356)	(-1.675)	(-1.536)	(-0.926)
Observations	21,511	10,893	10,935	7,726	21,511	10,893	10,935	7,726
Measure of Complexity	None	Size	Age	No of Seg	None	Size	Age	No of Seg
Board Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.159	0.199	0.174	0.150	0.156	0.196	0.173	0.149

Table 1.9 shows the impact of the death of focused directors on the measure of real activities manipulation. Columns (1) to (4) show the impact of the death of a focused director, whereas columns (5) to (8) show the impact of the death of a focused chairperson. Columns (2), (3), (4), (6), (7) and (8) contain sub samples of firms that are potentially more complex (above median values) using the same measures of complexity from Table 1.7. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.10: Real Earnings Management and Focused vs. Dispersed Directors: Evidence from Director Level Analysis.

	$\mathbf{REM}_t$		$\mathbf{AB\_DISEXP}_t$		$\mathbf{AB\_PROD}_t$		$\mathbf{AB\_CFO}_t$	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
$Focused\_Pct_t$	-0.084***		0.027**		-0.017*		0.042***	
	(-4.320)		(2.343)		(-1.870)		(4.394)	
$Dispersed\_Pct_t$	0.111***		-0.051***		0.020*		-0.044***	
	(5.496)		(-3.929)		(1.850)		(-5.113)	
$Focused\_Dummy_t$		-0.033***		0.009**		-0.006**		0.019***
		(-5.234)		(2.437)		(-2.225)		(5.438)
$Dispersed\_Dummy_t$		0.034***		-0.014***		0.010***		-0.010***
		(7.076)		(-4.421)		(3.211)		(-3.878)
$Sole\_Dir\_Pct_t$	-0.007	-0.010	0.008	0.013	0.006	0.008	0.013	0.015*
	(-0.381)	(-0.690)	(0.628)	(1.170)	(0.661)	(1.000)	(1.362)	(2.038)
Observations	62,628	62,628	62,628	62,628	62,628	62,628	62,628	62,628
Board Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Director x Year FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.188	0.186	0.229	0.228	0.126	0.126	0.111	0.109

Table 1.10 shows the impact of the death of focused directors on the measure of real activities manipulation. Columns (1) to (4) show the impact of the death of a focused director, whereas columns (5) to (8) show the impact of the death of a focused chairperson. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.11: Real Earnings Management and Focused vs. Dispersed Directors: Including First Stage Controls.

	$\mathbf{REM}_t$		$\mathbf{AB\_DISEXP}_t$		$\mathbf{AB\_PROD}_t$		$\mathbf{AB\_CFO}_t$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Focused\_Pct_t$	-0.053***		0.011		-0.020**		0.047***	
	(-2.976)		(0.834)		(-2.186)		(4.664)	
$Dispersed\_Pct_t$	0.037*		-0.029**		0.009		-0.018**	
	(1.980)		(-2.157)		(1.080)		(-2.134)	
$Focused\_Dummy_t$		-0.020***		0.012***		-0.005		0.012***
		(-3.401)		(3.301)		(-1.625)		(4.830)
$Dispersed\_Dummy_t$		0.014**		-0.003		0.007***		-0.005**
		(2.546)		(-0.971)		(2.938)		(-2.182)
$Sole\_Dir\_Pct_t$	-0.031*	-0.029**	0.012	0.026**	-0.012	-0.006	0.011	0.005
	(-1.919)	(-2.169)	(0.996)	(2.394)	(-1.602)	(-0.759)	(1.219)	(0.648)
Observations	36,384	36,384	36,384	36,384	36,384	36,384	38,242	38,242
First Stage Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Board Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.286	0.286	0.230	0.230	0.178	0.178	0.149	0.148

Table 1.11 shows the impact of focused directors on the measures of real activities manipulation after controlling for their first stage controls. Columns (1) and (2) include all controls from Equations 1.1, 1.2 and 1.3. Columns (3) and (4) include all controls from Equation 1.2. Columns (5) and (6) include all controls from Equation 1.3. Finally, columns (7) and (8) include all controls from Equation 1.1. Odd columns show the results using the percentage measures of focused and dispersed directors, while even columns show the results of the same analysis but using the indicator variables for focused and dispersed directors. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.12: Information Environment Quality and Focused vs. Dispersed Directors.

	Analyst Following$_{t+1}$ (1)	**Analyst Dispersion**$_{t+1}$ (2)	**Forecast Error**$_{t+1}$ (3)	**Information Cost Index**$_{t+1}$ (4)	**Volatility**$_{t+1}$ (5)	**Bid Ask Spread**$_{t+1}$ (6)	**Volume**$_{t+1}$ (7)
$Focused\_Pct_t$	2.329***	-0.160***	-0.443**	-0.049***	-0.024***	-0.073	0.529***
	(4.493)	(-3.262)	(-2.749)	(-4.229)	(-2.895)	(-0.953)	(6.792)
$Dispersed\_Pct_t$	-3.002***	0.009	-0.072	0.027*	0.012	0.001	-0.408***
	(-5.845)	(0.160)	(-0.378)	(2.027)	(1.497)	(0.022)	(-5.753)
$Sole\_Dir\_Pct_t$	0.005	-0.091	-0.615***	-0.029**	-0.016***	0.121**	-0.018
	(0.011)	(-1.234)	(-3.077)	(-2.612)	(-2.940)	(2.101)	(-0.267)
Observations	24,648	23,104	24,641	23,099	24,644	24,644	24,644
Board Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.139	0.012	0.010	0.035	0.029	0.002	0.106

Table 1.12 shows the impact of focused directors on different measures of firms' information environment. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.13: Accounting Restatements and Focused vs. Dispersed Directors.

	Restatement$_t$	**Accounting Restatement**$_t$	**Fraud Restatement**$_t$	**Clerical Error**$_t$	**Adverse Restatement**$_t$	**Improve Restatement**$_t$	**SEC Restatement**$_t$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$Focused\_Pct_t$	-0.097***	-0.092***	-0.002	-0.005	-0.088***	-0.016	-0.004
	(-3.680)	(-3.547)	(-0.462)	(-1.145)	(-3.393)	(-1.388)	(-0.459)
$Dispersed\_Pct_t$	-0.011	-0.018	0.009**	0.002	-0.004	-0.003	-0.010
	(-0.394)	(-0.637)	(2.129)	(0.647)	(-0.155)	(-0.298)	(-1.139)
$Sole\_Dir\_Pct_t$	-0.023	-0.030	0.001	0.012**	-0.013	-0.017*	-0.001
	(-1.001)	(-1.278)	(0.371)	(2.646)	(-0.563)	(-1.742)	(-0.065)
Observations	37,201	37,201	37,201	37,201	37,201	37,201	37,201
Board Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.040	0.040	0.011	0.011	0.036	0.020	0.023

Table 1.13 shows the impact of focused directors on different types of restatements. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 1.14: **Panel A.** Real Earnings Management Future Outcomes for Focused vs. Dispersed: Difference in Means.

Variables	Average Values Focused_Dummy=1 Dispersed_Dummy=0 (1)	 Focused_Dummy=0 Dispersed_Dummy=1 (2)	t-stat (3)	p value (4)
Bad_Debt_3yr	6.797	6.844	-0.173	0.862
Bad_Debt_5yr	6.631	6.704	-0.275	0.783
Days_Inv_3yr	46.394	50.989	-7.001	0.000
Days_Inv_5yr	46.326	50.446	-6.113	0.000
Patents_3yr	3.069	2.156	13.048	0.000
Patents_5yr	3.323	2.442	10.746	0.000
Citations_3yr	3.950	3.091	7.612	0.000
Citations_5yr	4.371	3.527	6.858	0.000
Q_3yr	2.146	1.741	10.488	0.000
Q_5yr	2.035	1.752	7.263	0.000
ROE_3yr	0.082	-0.019	7.824	0.000
ROE_5yr	0.078	0.014	5.534	0.000
ROA_3yr	0.029	-0.034	13.898	0.000
ROA_5yr	0.034	-0.015	12.095	0.000

Table 1.14 Panel A shows the average of real earnings management outcomes and test for their difference in two subsamples. The first subsample (column (1)) contains firms with at least one focused director and none dispersed directors, whereas the second subsample (column (2)) contains firms with at least one dispersed director and none focused directors. Column (3) shows the t-statistics from the difference of means between columns (1) and (2). Finally, column (4) shows the p-value of said difference. All variables are defined in Appendix 1.2.

Table 1.14: **Panel B.** Real Earnings Management Future Outcomes for Focused vs. Dispersed: Regression Evidence.

	Bad Debt$_{t+1}$ (1)	**Days Inv**$_{t+1}$ (2)	**ln(1+Patents)**$_{t+1}$ (3)	**ln(1+Citations)**$_{t+1}$ (4)
$Focused\_Dummy_t$	-0.526*	-3.930**	0.099**	0.106
	(-1.886)	(-2.335)	(2.172)	(1.374)
$Dispersed\_Dummy_t$	-0.884	-17.352	-0.074**	-0.091*
	(-1.143)	(-1.195)	(-2.509)	(-1.889)
$Sole\_Dir\_Pct_t$	-0.237	-39.295	0.106	0.280
	(-0.359)	(-1.285)	(0.981)	(1.341)
Observations	27,685	29,811	6,730	6,730
Board Controls?	Yes	Yes	Yes	Yes
REM Controls?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year Dummies?	Yes	Yes	Yes	Yes
Adj. R2	0.001	0.002	0.068	0.022

Table 1.14 Panel B shows the impact of focused directors on different real earnings management outcomes. Robust standard errors (T-stats in parentheses) are clustered at the firm and year levels. Board and real earnings management controls are the same as in Table 1.3, but are not presented due to space. All variables are defined in Appendix 1.2. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Chapter 2

Boards of Directors' Legal Incentives and Firm Outcomes

2.1 Introduction

In this paper, I investigate the impact of change in the legal incentives of boards of directors on firms' payout and investment policies. I exploit the adoption of a set of United States laws known as Non-Shareholder Constituencies Acts (NSHCAs, hereafter) as a source of plausible exogenous variation in the legal incentives of boards of directors.[1] These laws allow boards of directors to deviate from their fiduciary duties to shareholders in favor of other non-shareholder constituencies, i.e., creditors, employees, customers, and the community.[2] I exploit this plausible source of exogenous variation to test a direct and measurable channel through which the legal incentives of the board affect corporate outcomes in the US legal setting. The estimates suggest that firms with positive payouts incorporated in a state that adopts an NSHCA exhibit an average net payout yield that is 10.8% smaller after the passage of the

[1] These laws are also known as Director Duties [75], Stakeholder Laws, Non-Monetary Factor Provisions [12] or Expanded Constituency Laws [28].

[2] For example, Ohio's act states that in the event of a change in control, i.e., a takeover, the board of directors can reject an offer based on the increased utility of non-shareholder stakeholders that could occur if the offer was rejected. NSHCAs can also be applied to operational decisions [12].

law.

Boards of directors are in charge of overseeing the structural and operational decisions of firms [2]. According to US corporate law, boards of directors hold fiduciary duties towards the shareholders of the corporation. These fiduciary duties are the duty of loyalty and duty of care. On the one hand, the duty of loyalty states that directors should run a firm's operations in the interest of the shareholders instead of their own. On the other hand, the duty of care indicates that directors need to pay careful attention in their decision making process, i.e., directors must try to make good decisions [20]. Unfortunately, boards of directors possess a different utility function from shareholders. Shareholders are the diversified residual claimants of corporations, whereas board members could have undiversified and fixed claims on the corporation. Given this conflict of interests, the effectiveness of boards of directors critically relies on their incentives to uphold their fiduciary duties [16]. These incentives include remuneration, reputation and legal incentives, which have received vast attention in the corporate governance literature. First, remuneration incentives should align the interests of the board with those of the shareholders but are limited and controversial.[3] Additionally, reputation incentives can work against shareholders' interests provided that board members might wish to create *manager-friendly* reputations if their future career outcomes depend on the managers' decision [86]. Finally, legal incentives indicate that boards of directors are expected to uphold their fiduciary duties given that their decisions could be subjected to judicial review by courts ([83], [23]).

[3]Boards members receive heterogenous remuneration incentives, i.e., managerial compensation based on a fixed salary, short-term bonuses and equity awards, whereas outside directors receive a combination of fixed fees and variable remuneration in the form of shares or derivatives of shares. [111] shows not only that remuneration incentives can be strong for outside directors but also that these incentives are controversial as boards set their own pay.

In this paper, I focus on the legal incentives of boards of directors for two reasons. First, evidence regarding the legal incentives of boards of directors in the US setting is scarce [see for instance 64] probably because the disclosure of directors' and officers' insurance information (commonly known as D&O insurance) is not compulsory. For instance, in China and Canada, the reporting of D&O insurance premiums and coverage is mandated by the regulator, which spurred an increased number of published papers regarding the legal incentives of boards ([34], [88], [87], [112]). The caveat is that the institutional and legal settings in China might endanger the external validity of their results, but this concern is lower in studies conducted using Canadian data. Furthermore, even if D&O insurance information was available in the US, the fact that its contract is a firm choice adds to the difficulty of identifying the causal impact of lessened legal incentives. Even Canadian studies suffer from the lack of plausible exogenous variation in D&O insurance. Second, compared to the possible heterogeneous impact of remuneration and reputation incentives on different board members, legal incentives should affect all board members the same. To circumvent both issues, I exploit the staggered adoption of NSHCAs in the US. These laws state that boards of directors may consider making their decisions in the interests of stakeholders other than shareholders, which can imply a deviation from their role as shareholders' fiduciaries. The adoption of NSHCAs can act as plausible exogenous variation in the level of the legal incentives of boards as their decisions could be shielded from judicial review.

The results show that the passage of an NSHCA leads to lower dividends, repurchases, and total and net payout yields. Specifically, on average, adopting an NSHCA leads to a 15.5% lower total payout yield (15.1% of the net payout of capital issues) in a sample of firms with positive payout levels. Thus, NSHCAs likely have a

statistically significant impact on boards' decision-making processes. These results show that NSHCAs have a positive impact on non-CAPEX and net investment, while increasing the presence of focused M&As (less suspect of being the outcome of managerial empire building). I also document the positive impact of NSHCAs on Q and negative impact on firm risk. These findings are consistent with the prediction that boards of directors will pursue more investment and less payout levels when allowed by lessened legal incentives. This option is preferred by stakeholders due to the profile of their payoffs. Finally, I show that NSHCAs have a positive impact on firms' social and environmental performance, which is a testament to the increased utility of stakeholders other than shareholders.

Additionally, I discuss the case of firms in settings that are subjected to high levels of shareholder litigation. The impacts of NSHCAs on shareholder remuneration and investment seem to suggest that firms subjected to high levels of litigation risk benefit more from the decreased judicial review of their decisions. Thus, I examine the impact of NSHCAs on a subset of firms that belong to industries with high levels of litigation [77]. These results show that the impact of NSHCAs on firms in settings that are prone to litigation is greater than that on firms in other settings in which the ex-ante litigation risk is not as high. Furthermore, I test whether NSHCAs have a larger impact on payout and investment levels in settings in which shareholders might have short-term investment horizons. In these settings, the conflict among shareholders, corporate officers and directors can be more acute as insiders usually possess longer investment horizons. As expected, NSHCAs have a stronger effect on investment in settings in which firms possess relatively low levels of ownership by long-term institutions as defined by [26]. Additionally, I inspect the impact of NSHCAs on firms with different levels of governance to assess whether this shift in

payout and investment could respond to the increased leeway of the corporate executives that could be using the NSHCAs to extract rents from shareholders. These results suggest that the impact of the adoption of an NSHCA does not differ between firms with high and firms with low governance levels. However, compared to firms with high governance not subjected to an NSHCA, firms with high governance that are subjected to the statutes show lower levels of total payout and increased levels of investment, which could suggest that it is not a governance issue that drives the impact of NSHCAs on payout and investment levels. Finally, I show that the adoption of an NSHCA leads to significantly lower (higher) levels of payout (investment) in firms that possess high growth opportunities compared to those in firms that are subjected to the statutes but do not have as many positive NPV projects to invest in.

The impact of NSHCAs on payout policy is robust in a set of checks that test the quality of the empirical setting and the strength of the shock. Following advice from [9], I examine the treatment dynamics of NSHCAs on payout policy. Using binary variables that capture the impact of NSHCAs at specific moments in time, I show that there is no impact in the years immediately prior to the adoption of an NSHCA, which strengthens the case of a causal impact.[4] The effect starts occurring only 3 years after adoption and onwards. The key assumption in a difference-in-differences setting is that without the shock, the treated observations would have evolved exactly as those in the control group, i.e., the groups would exhibit parallel trends. To increase confidence that the control group is comparable to the treatment group, I proceed to eliminate all observations that are never treated from the sample. Then, I exploit [14]'s definition of statute strength in the case of NSHCAs to inspect

[4]Please, see Figure 2.

the impact of strong NSHCAs against the adoption of a weak NSHCA. The results suggest that the states that possess a strong NSHCA are carrying the weight of the impact of NSHCAs on payout and investment. Finally, I test the main analyses using a sample of firms matched in terms of industry, headquarter state, firm size, leverage, profitability, market-to-book, sales growth and cash to total assets. The negative (positive) impact of NSHCAs on payout (investment) levels holds in this matched samples of firms.

This study contributes to the literature on the effects of boards of directors' legal incentives on payout and investment policies by identifying a clear and direct channel through which shareholders are affected. Specifically, I attempt to identify the effects of change in litigation risk on the managerial decision-making process that negatively affects payout policy and increases investment. This study provides evidence supporting the negative impact of possible excessive payouts to shareholders that could be used to improve firm value through new investment opportunities.

In section 2, I analyze the theoretical background of legal incentives and payout and investment policies and derive a testable prediction. Section 3 reviews NSHCAs and argues that NSHCAs measure variation in boards of directors' legal incentives. Section 4 presents the data and methodology, Section 5 presents and discusses the main results, Section 6 presents additional analyses, and Section 7 reports the robustness checks. Section 8 concludes the paper.

2.2 Theoretical Background and Main Prediction

Payout policy is irrelevant in a perfect capital market setting without any frictions. In contrast, a firm's investment policy is important (Modigliani and Miller, 1961).

However, consistently throughout time, dividends and repurchases have represented a large share of firms' net earnings. In fact, without considering share issues, firms in the S&P 500 index paid approximately $6.4 trillion (approximately 93% of the firms' net income) during the period 2005-2014 [59].[5] These figures are the result of boards of directors' choices, which interact with several other policies, such as corporate investment. There are alternative explanations for such popularity of dividends and repurchases, such that their serving as a signal of future cash flows [18], the cost of capital [66], their ability to mitigate agency problems [65, 45, 72], etc.

Boards of directors react to their incentives when they set both the payout level and the investment level of their firm [106]. By nature, boards of directors' utility is aligned with that of other non-shareholder constituencies because the average director possesses a payoff function similar to that of a non-shareholder constituency. For instance, the human capital or directors and employees is mostly tied to the firm, whereas shareholders can diversify their claims more effectively at a lower cost. In the context of payout and investment policy decisions, boards of directors face a clear trade-off between reimbursing shareholders and reinvesting cash flow into the firm. Boards of directors possess incentives that align their utility with that of shareholders. For instance, boards of directors could possess share-based compensation that could induce them to make decisions that maximize shareholder value. Moreover, directors face career concerns that could act as reputation incentives to make shareholder-friendly decisions that benefit the shareholder value because directors can feel that their human capital is threatened by shareholders. Alternatively, the objective of this paper is to evaluate whether legal incentives are a source of motivation for boards of

[5] Fried and Wang show that these figures do not induce firms to stop investing as suggested and that equity and debt issues supply enough capital to increase investment and innovation.

directors to set a payout and investment policy that suits shareholders.

Prior evidence of the impact of legal incentives relies on both information asymmetries that exist between shareholders and managers and the potential moral hazard generated by Directors' and Officers' (D&O) insurance for corporate officers and outside directors. [30] analyze a sample with detailed proprietary information about the amount of D&O insurance contracted at the time of those firms' initial public offering. The authors found that the post-IPO performance is negatively linked to the level of D&O insurance, indicating that insiders possess information about long-run firm performance. Insiders act on their information by acquiring a larger level of D&O insurance, which the authors argue protects them against increased shareholder litigation. Alternatively, D&O insurance can generate moral hazard by shielding directors and officers from future potential litigation associated with their behavior. For instance, [88] show that high levels of D&O insurance are associated with worse acquisition outcomes, such as higher acquisition premiums and lower synergies. Moreover, creditors react negatively to high levels of D&O insurance as they perceive such insurance as a potential signal of increased credit risk [87]. Finally, [34] provide evidence that D&O insurance is positively associated with shareholders' required return. The authors explain that there can be two main channels through which legal incentives (proxied by D&O insurance levels) could affect the cost of equity. First, legal incentives effectively capture the disciplining effect of shareholder litigation, and by decreasing such incentives through high levels of D&O insurance, directors and officers are effectively shielded from such litigation. Second, a decrease in legal liability stemming from D&O insurance can lead corporate directors and officers to take more risks.

In a standard setting, there is a cost for not distributing the earnings back to

shareholders, i.e., litigation-related costs enable shareholders to enforce their desired level of dividends and investment to maximize their utility. A classical judiciary example of this is the case of *Dodge v. Ford Motor Company*[6]. At the beginning of 1917, the Ford Motor Company possessed over $ 59 million in free cash flow, which Henry Ford (Ford Motor Company's president) wanted to use to re-invest into the firm. Henry Ford wanted to decrease the dividends to Ford Motor Company's shareholders, acquire new fixed assets and increase the employees' salaries with the objective to dramatically increase the production of their Model T car. Henry Ford believed that this strategy could increase the long-term performance of the firm, but minority shareholders (including the *Dodge* brothers) disagreed. The Michigan Supreme Court held the opinion and ruled against Henry Ford's plans, stating that it was his duty to maximize shareholder profit. Given this information, my prediction is that change in boards of directors' legal incentives could lead to changes in the levels of payout and investment. More specifically, I expect that an increase (reduction) in legal incentives could lead to higher (lower) levels of payout and lower (higher) levels of investment because managers and corporate directors who are shielded from shareholder litigation could deviate from maximizing shareholder value towards maximizing their own utility. The latter is consistent with lower levels of payout and overinvestment.

[6] *Dodge v. Ford Motor Company* 204 Mich. 459, 170 N.W. 668 (Mich. 1919)

2.3 Non-Shareholder Constituencies Acts

2.3.1 Non-Shareholder Constituencies Acts as Variation in Boards of Directors' Legal Incentives

NSHCAs are a set of laws enacted in the US from the early 1980s until the 2000s. These acts aim to expand the fiduciary duties of corporate directors to a broader set of stakeholders, i.e., non-shareholder stakeholders. Their aim is to provide a legal basis for justifying decisions that do not maximize shareholder value. These acts have been cited in over 800 court cases from 1983 to 2013 [62]. For instance, Pennsylvania's NSHCA general rule of board of directors' exercise of power states the following:

> "In discharging the duties of their respective positions, the board of directors, committees of the board and individual directors of a business corporation may, in considering the best interests of the corporation, consider to the extent they deem appropriate: (1) The effects of any action upon any or all groups affected by such action, including shareholders, employees, suppliers, customers and creditors of the corporation, and upon communities in which offices or other establishments of the corporation are located. (2) The short-term and long-term interests of the corporation, including benefits that may accrue to the corporation from its long-term plans and the possibility that these interests may be best served by the continued independence of the corporation..." (15 PA. CONS. STAT. §1715-16 (Supp. 1991)[7])

[7] Available at: `http://www.legis.state.pa.us/cfdocs/legis/LI/consCheck.cfm?txtType=HTM&ttl=15&div=0&chpt=17`

As in the case of Pennsylvania's NSHCA, many of these laws intend not only to deter takeovers but also to include stakeholders' interests in operational decisions to redistribute gains among the firm's various constituencies [12]. Boards of directors may decide to favor both operational and structural decisions that benefit stakeholders' interests over those of the shareholders. Alternatively, some NSHCAs allow boards to either benefit stakeholders and/or consider the long-term interests of companies, including the possibility that these long-term interests may be best served by the continued independence of the board of directors from shareholders [12]. Furthermore, these statutes are permissive in that they indicate that directors may attend to stakeholder interests in lieu of shareholder interests.[8] This reinforces the fact that NSHCAs might have no impact on corporate policy or specifically, payout and investment policy.

NSHCAs are usually identified as anti-takeover laws. Anti-takeover legislation emerged in the United States of America in the late 1960s after the adoption of the Williams Act. In 1968, the Williams Act amended the SEC Act of 1934 to require an increased level of disclosure in tender offers with the objective to protect target shareholders. At the state level, various states adopted extensions of the Williams Act to regulate the spread of mergers and acquisitions. These first-generation anti-takeover laws were declared unconstitutional by a US Supreme Court decision in *Edgar v. MITE Corp* in 1982, where an Illinois anti-takeover act was declared unconstitutional under the Supremacy and Commerce clauses of the Federal Constitution. The previous ruling indicated that the jurisdiction of the Illinois anti-takeover act could not be extended to out-of-state incorporated firms since this imposes excessive bur-

[8] Only the state of Connecticut mandates that directors within their duty of care must evaluate the impact of structural decisions on all firm stakeholders [12].

dens in terms of securities and corporate control of inter-state commerce.

Within four years of the Supreme Court ruling, 21 US states adopted new anti-takeover laws that do not violate the Federal Constitution, i.e., laws that only apply to firms incorporated in those states. In addition to NSHCAs, these second-generation anti-takeover laws were *Business Combination*[9], *Fair Price*[10], *Control Share Acquisition*[11], and *Poison Pill*[12] laws. These laws were declared constitutional in a US Supreme Court decision *CTS Corp. v. Dynamics Corp. of America* in 1987. In this decision, Indiana's *Control Share Acquisition* act was deemed constitutional on the grounds that the act applied only to shareholders of the state of Illinois and not other shareholders.

Although NSHCAs are considered anti-takeover legislation, [94] states that the theoretical foundations of NSHCAs can be traced to stakeholder theory and the original corporate social responsibility debate. Furthermore, [75] and [29] argue that none of the second-stage anti-takeover laws seem to be effective mechanisms deterring takeovers. The authors of the first study argue and show that most previous studies using *Business Combinations* laws as negative shocks to governance failed to account for first-generation anti-takeover legislation and that institutional and political characteristics drive most of the results in prior studies. The second study defines *Poison Pill* laws more explicitly and shows that poison pills are the most

[9]Most Business Combination laws impose a moratorium of five years since the initial acquired status of influential shareholders (typically over 10%) for a broad range of transactions in addition to mergers.

[10]Most Fair Price laws prohibit business transactions between firms and influential shareholders, i.e., usually shareholders with over 10% of shares unless one of two conditions is met. The acquirer either needs to pay a very high price to minority shareholders or acquire the approval of a supermajority of shareholders (not including the acquirer's stock).

[11]Almost all Control Share Acquisition acts state that shares acquired in a share acquisition with the purpose of taking control will receive no voting rights unless the shareholders approve. Consequent to shareholders' approval, the acquires' shares could receive voting rights. However, the acquirers must attempt to convince non-interested shareholders to gain a foothold in the target firm.

[12]Poison Pill laws offer the right to set up poison pill defenses for firms under the coverage of the statute.

effective takeover deterrents.

2.3.2 Political Economy of Non-Shareholder Constituencies Acts

One concern is that NSHCAs were introduced by a coalition of parties interested in takeovers, making it more difficult to argue for the exogenous nature of such legislation with respect to individual firms. [98] argues that the anti-takeover statutes were not adopted because of coalition pressure. [14] also argues that the statutes were adopted in many cases to protect a local firm amidst a battle for corporate control. Managers of such corporations thought it better to champion anti-takeover legislation than amend their corporate charters perhaps because these statutes granted them greater flexibility than that shareholders would have approved [14]. This is more important in the context of NSHCAs as it could be in non-shareholder constituencies' interests to actively engage in the adoption of such statutes. Nonetheless, stakeholders do not seem to have actively participated in the adoption of NSHCAs [37]. [74] and [61] provide further evidence regarding the characteristics of second-stage anti-takeover legislation lobbying. These authors show that individual firms rather than groups of firms were key players in facilitating anti-takeover statutes in the US. For instance, Pennsylvania's NSHCA was lobbied for by *Armstrong World Industries* in response to a tender offer by known "greenmailers" [70] and not by a group of firms seeking lower shareholder compensation for my purposes.

2.3.3 Prior Evidence of the Impact of Non-Shareholder Constituencies Acts

The first study to investigate the impact of NSHCAs was conducted by [99], who evaluates the shareholder value impact of the adoption of NSHCAs using an event

study methodology. Roberta Romano's conclusions are that NSHCAs have no apparent effect on shareholder value, which she attributes to their likely lack of impact on takeover rather than the lack of a clear date to identify such an impact.[13] Consistent with [99], [3] inspects the impact of the *Poison Pill* statutes and NSHCAs on the likelihood of receiving a takeover bid. He finds that Poison Pill statutes lead to decreases (increases) in the probability of receiving a bid (implementing a poison pill). However, the author finds no significant (negative) impact on the probability of receiving a bid (implementing a poison pill). Alternatively, [62] studies the impact of NSHCAs on the investment behavior of high fiduciary duty institutional investors. The authors argue that high fiduciary duty institutional investors in any organization should respond to a change in fiduciary duties toward shareholders. These authors fail to find a statistically significant impact of NSHCAs on high fiduciary duty institutional investors' investing behavior.

In contrast to previous studies, [10] finds that NSHCAs increase firm value and innovation, albeit only in settings with strong corporate governance. The author examines the interaction between the impact of NSHCAs and *Business Combination* laws and finds that only states that adopted an NSHCA and not a *Business Combination* law show an increase in innovation and firm value. This finding suggests that managers in firms with weaker governance exploit NSHCAs to entrench themselves and extract private rents from both shareholders and stakeholders. Consistent with [10], [58] provide further evidence regarding the impact of NSHCAs on innovation. These authors show that the adoption of an NSHCA leads to increases in the number of patents and patent citations. This effect is driven by greater experimentation and

[13] The author seeks to identify the impact of NSHCAs using both the adoption and newspaper dates to no avail. Her conclusion is consistent with that of [75] and [29], who contend that firms have the proper takeover-deterrence mechanisms in the form of poison pills.

enhanced employee productivity.

Furthermore, [60] show that NSHCAs lead to a decrease in the cost of debt financing. The authors cite the adoption of an NSHCA as the mechanism of the reduction in firm risk, which is consistent with the alignment of boards' interests with those of non-shareholder constituencies. Additionally, in the context of banks, [84] show that banks incorporated in states that adopted an NSHCA are less risky, lend to safer borrowers, and fared better during the recent financial crisis. Furthermore, [93] study the impact of corporate social responsibility on firm value when managers are monitored by long-term shareholders. The authors measure corporate social responsibility using NSHCAs and define long-term shareholders as institutional investors with a three-year horizon turnover smaller than 35%. The study shows that corporate social responsibility has a positive impact on shareholder value only when long-term shareholders monitor managers. Other papers that measure (or instrument) corporate social responsibility using NSHCAs include [56] and [57]; the former shows that corporate social responsibility increases the probability of obtaining procurement contracts, and the latter indicates that corporate social contracting leads to increases in firm value among other outcomes.

2.4 Data and Methodology

2.4.1 Data

The main data analyzed in this paper were derived from Compustat, which is provided by Standard and Poor's. I use Compustat data to calculate the payout measures and define the staggered treatment effects of NSHCAs. Regarding NSHCAs, I employ the 2017 state of incorporation information provided by Compustat. This

information was reported in the year 2017 and may have changed at some time in the past. Nonetheless, anecdotal evidence shows that state reincorporations are rare [99]. This approach is similar to the approaches used in most studies employing state-level legislation in the US as a quasi-exogenous shock [see, for instance, 17]. The sample comprises all publicly quoted US-incorporated firms from 1982 to 2017. The sampling begins in 1982 because open-market share repurchases in the US were not common until 1982 perhaps because of legal restrictions [6]. After the adoption of Rule 10b-18 in 1982 (also known as the safe harbor rule), firms could be confident that SEC prosecution would not follow certain forms of share repurchases.

2.4.2 Methodology

I examine the impact of NSHCAs on payout policy using a difference-in-differences framework. I estimate the following baseline equation:

$$Y_{it} = \alpha NSHCA_{jt} + \beta SSL_{jt} + \kappa X_{it-1} + \pi_i + \rho_t + \varepsilon_{it} \tag{2.1}$$

where Y_{it} is the dependent variable of firm i in year t, $NSHCA_{jt}$ is an indicator that assumes a value of one whenever a state j adopts an NSHCA, SSL_{jt} is a set of indicators that assume a value of one whenever a state j adopts a second-stage antitakeover law, such as a *Business Combination, Fair Price, Control Share Acquisition* or *Poison Pill* law, X_{it-1} is a set of lagged firm-level standard controls, such as firm size, leverage, cash holdings, book-to-market, operating profitability and sales growth, π_i represents firm fixed effects, and ρ_t represents time t fixed effects. Finally, my focus is on the sign and statistical significance of α, which is the estimate of the plausible causal impact of NSHCAs.

Studies using difference-in-differences usually explain the setting using an example similar to the following. If one wishes to calculate the impact of the adoption of Massachusetts' NSHCA in 1989 on the level of payout in firms incorporated in Massachusetts, we need to subtract the average payout in Massachusetts prior to the passage of the law from that after the law's adoption, which is the end of the process if we are certain that no other event occurred in 1989 that affected firms' payout policy. This setting is unlikely to occur, and thus, we need to define a proper control group. We could select firms incorporated in Maine as a suitable control group because these firms might have been affected by similar economic shocks in 1989. After selecting a suitable control group, e.g., Maine, we proceed to repeat the first step (calculate the average payout of Maine firms after and before 1989); then, we subtract Maine's difference from Massachusetts' difference to obtain the difference-in-difference estimate of the effect of the adoption of Massachusetts' NSHCA on firms' payout policy. Using panel data regression techniques accounts for the fact that NSHCAs are staggered over time, i.e., that observations bound to be treated in the future belong to the control group until that time. These techniques increase confidence in the suitability of the control group as a close approximation of the treatment group. In a robustness check, equation (1) is estimated when the sample is defined as firms incorporated in states that eventually pass an NSHCA (Table 2.9 Panel A).

There are several concerns related to the use of a difference-in-differences methodology. The main requirements that should be met to ensure the plausibility of the causal estimation of the impact of a shock include an as-if-random assignment to the treatment, the parallel trends assumption, covariate balance, and the only through condition [9]. The standard assumption in a difference-in-differences setting is that

the assignment to the treatment should be as good as random, i.e., that firms cannot self-select into either the treatment or control group. One concern is that regulation does not occur in a vacuum, i.e., regulators do not appear to randomly adopt laws. In the NSHCA setting, one could argue that groups of firms or stakeholders seeking a change in the legal landscape that would favor them combined to promote the adoption of NSHCAs. However, this situation is unlikely as [98] and [75] argue that lobbying for anti-takeover legislation has been performed by single actors (firms). In fact, [75] reproduces a list of firms that lobbied for the passage of an NSHCA, and I proceed to verify that none of the firms that lobbied for an NSHCA are a part of my sample.

The second concern is that there are no pretreatment parallel trends in the outcome variable for the treated and control units, which could indicate that there are differences that could explain why some states adopt an NSHCA while others do not. The availability of panel data allows me to test for pretreatment parallel trends by using the leads-and-lags model [9] and visually represent the pretreatment trends of the treatment and control groups. In Figure 2, I show the coefficients of the leads and lags estimation of the impact of NSHCAs on firms' payout policy in the treatment and control groups from three years prior to the adoption of an NSHCA to three years after adoption. It appears that there are similar trends in the net payouts before the adoption of an NSHCA. Finally, one additional step is to generate placebo shocks before and after the treatment. In Figure 4, I show the distribution of the test statistics from 10,000 replications of the main equation of payout policy with randomly generated NSHCAs. The conclusion drawn based on the placebo test is that the t-statistic obtained in the main regression of the impact of NSHCAs on the net payout yield is sufficiently large to consider that it was randomly generated.

The third concern is that there could be pretreatment differences in the level of a set of covariates that could suggest unobservable differences between the treatment and control groups. As shown in Table 2.2, I present the pretreatment differences in Firm Size, Leverage, MTB, Sales Growth, ROA, and Cash to Assets. I calculate the t-stats of the pretreatment differences between the never-treated units and eventually-treated units. In the first three columns, I show the pretreatment sample one year before the adoption of an NSHCA in an unmatched sample of firms (the main sample), and in the last three columns, I present the pretreatment sample one year before the adoption of an NSHCA with a propensity score obtained by matching the sample of firms. There is covariate balance in all covariates, except for ROA, where the never-treated units seem to have lower return on asset ratios than the eventually-treated units in the unmatched sample of firms, which might not be a concern for several reasons. First, because of the staggering of NSHCAs, firms in the eventually-treated group are both control and treatment units at different time points. Second, I visually test for the treatment dynamics of NSHCAs on the different sets of covariates. In Figure 3, I show that the treatment and control groups show similar trends before and after the adoption of an NSHCA. This finding reinforces the notion that there are no differences in the growth of the covariates prior to the adoption of an NSHCA that could affect the likelihood of a state receiving the treatment. Finally, based on a robustness check, I show that the main effect of NSHCAs on payout policy is retained after removing all observations that are never treated from the control group.[14] Removing these never-treated observations suggests that the control group comprises observations that will eventually be treated, thus rein-

[14]The pretreatment covariate balance tests do not include firms incorporated in Delaware, which would belong to the never-treated group because these firms are abnormally larger and present more growth opportunities CITEP DAINES.

forcing the notion that the treatment and control groups are similar in unobservable characteristics that could bias the difference-in-differences estimate. Nevertheless, I proceed to create a sample of matched firms based on their propensity of eventually receiving the treatment. Table 2.2 Columns (4), (5) and (6) show that after balancing the sample of unmatched firms, there are no pretreatment covariate differences between the never-treated and eventually-treated units. Further evidence presented in Table 2.9 Panel C shows that the main results are retain after using the matched sample. The final concern is the only through condition of the impact of NSHCAs on payout policy. This condition states that there could be contemporaneous laws that might drive the results. In the setting of NSHCAs, other anti-takeover laws, such as the following laws, are contemporaneous: *Business Combination, Fair Price, Control Share Acquisition* and *Poison Pill* laws. To account for these contemporaneous laws, I proceed to control for these laws in all analyses performed. In the unreported tests, I retain only states that eventually adopted an NSHCA in a year other than that during which any other major second-stage anti-takeover law was adopted or that only possess one NSHCA and find that the main results are consistent.

2.5 Results

2.5.1 Descriptive Statistics

Table 2.1 presents the descriptive statistics of the main variables (for a description, see Appendix A) used in the analyses. The number of observations changes with the sample size used in the analysis in which a variable was used, and all continuous variables are winsorized at the 1% and 99% level to reduce the impact of extreme outliers. On average, a given firm exhibits a dividend yield of 2.5%, a repurchase

yield of 2.8%, a total payout yield of 5.2%, and a net payout yield of 4.6%. Most of these figures are similar to those reported by [21]. The average firm has a log total asset value of 6.42, a debt-to-equity ratio of 1.01, a market-to-book of 2.37, a sales growth of 4.4%, and operating profitability of 3.7%, and the firm's cash represents 8% of its total assets. Furthermore, in Table 2.2, I report the pretreatment averages of the firm size, leverage, market-to-book, sales growth, profitability, and cash to total assets of firms incorporated in states that never adopt an NSHCA and those that eventually adopt an NSHCA. Table 2.2 presents the same information one year before the adoption of an NSHCA in an unmatched sample and a propensity score matched sample. In the first three columns of Table 2.2, I present evidence regarding the unmatched sample and show that the never-treated firms are larger and have a lower book-to-market ratio than those that eventually receive the treatment. This finding might pose a serious problem if these pretreatment differences account for the propensity to adopt an NSHCA. However, given the staggered nature of NSHCAs, this finding does not pose such a serious threat to the difference-in-differences estimate as the control group consists of firms that are never treated and those that will eventually receive the treatment, i.e., a firm's state of incorporation eventually adopts an NSHCA. Further evidence eases the concern regarding the differences in the pretreatment covariates as Figure 3 reports the average values of the covariates (firm size, leverage, profitability, market-to-book, sales growth and cash to assets) in the eventually-treated and never-treated groups before and after the treatment. No apparent differences in the trends are apparent between the treatment and control groups. Finally, I test the pretreatment covariate balance in a sample of eventually-treated firms that were matched to the never-treated sample. I proceed to match firms based on their propensity to receive the treatment, i.e., the propensity to even-

tually adopt an NSHCA. I match the firms based on industry, firm size, leverage, profitability, book-to-market, sales growth and cash to total assets. In Table 2.2, the last three columns (Columns (4), (5) and (6)) show that after the matching procedure, there are no pretreatment covariate differences between the eventually-treated and never-treated observations.[15]

2.5.2 Impact of NSHCAs on Payout Policy

There are two arguments suggesting that NSHCAs should have no impact on payout policy. The first argument is advanced by [12] as follows: NSHCAs are mere codifications of prior state and federal laws and should not modify firms' behavior. The second argument is that even if NSHCAs modify firm behavior, this impact is likely attenuated by the voluntary directives in most state statutes. This first alternative is supported by [98], who finds no significant impact on share prices following the announcement or adoption of NSHCAs. Further evidence supporting the no-effect alternative is provided by [3] and [62] as follows: the first study finds no impact of NSHCAs on takeover behavior, and the second finds, again, finds no impact of NSHCAs on the investment behavior of institutional investors. I find statistically significant evidence that does not support this first alternative and, thus, supports the alternative that NSHCAs have a statistically significant impact on firm behavior and outcomes.

In Table 2.3, I show the relevance of these arguments by evaluating the impact of NSHCAs on firms' dividend, repurchase, total payout and net payout yields. Table 2.3 shows the analysis of the impact of NSHCAs on payout policy in a sample of

[15]Further robustness checks (Table 2.9 Panel C) show the main regression analyses using the matched sample. The main results are consistent in the propensity score-matched sample.

firms with positive payout levels.[16] I measure payout in yields to avoid size issues and consider both compensation mechanisms (cash dividends and repurchases) to account for their possible complementarity and the payout measure net of equity issues as suggested by [21] and [6]. The coefficient of interest in Table 2.3 is *NSHCA*, which is an indicator variable that assumes a value of one if an NSHCA was adopted in the state of incorporation of a given firm. All regressions reported in Table 2.3 include firm fixed effects and year fixed effects. In this and all subsequent tables, I allow for clustering of the error term at the state of incorporation level to account for the presence of autocorrelation of the dependent variable at the state of incorporation level, and all controls are lagged to overcome the issue of poor controls.

The results reported in Table 2.3 contradict the previous no-effect argument and support the main prediction that a decrease in legal incentives due to the adoption of an NSHCA shields corporate directors and managers from shareholder litigation and related costs. Therefore, such protection against potential shareholder litigation and control separate board members' interests from those of shareholders. Table 2.3 shows that NSHCAs have a consistently statistically significant negative impact on dividend (Column (1)), repurchase (only in the estimation without controls in the unreported results), total payout (Column (3)) and net payout (Column (4)) yields. The point estimate of the impact of NSHCAs on the net payout yield represents a 10.8% (Table 2.3 Column (4)) negative difference in the net payout in the treatment group compared with that in the control group. This impact represents nearly more than two one standard deviations of the average net payout yield from the firms in the sample.[17] All lagged controls shown in Table 2.3 behave as expected with respect

[16] In the unreported results, I use a sample of firms with non-negative payout levels and arrive at the same conclusion drawn using the sample of firms with positive payout levels.

[17] The difference between a sample of firms with positive and non-negative payout levels can be acute. In

to payout policy[18] as larger firms, firms with low leverage, mature firms (small sales growth and market-to-book ratios), profitable firms and firms with higher liquidity are more likely to distribute more to shareholders.

2.5.3 Impact of NSHCAs on Investment Policy

I evaluate the impact of NSHCAs on *CAPEX*, *R&D*, *Acquisitions*, *Total Investment* and *Net Investment* in Table 2.4, Columns (1), (2), (3), (4) and (5). These results indicate that NSHCAs lead to high levels of CAPEX, R&D and Acquisitions, although only the results of CAPEX are statistically significant. Considering all previous forms of investment combined, I observe that the adoption of an NSHCA leads to statistically significant higher levels of total investment. The results also indicate that NSHCAs lead to higher levels of investment, including net of sale assets. These results are at least partially consistent with those provided by [10] and [58], whereas [10] shows that NSHCAs lead to increases in value in states that only adopt an NSHCA; however, his results are found in a general sample without conditioning NSHCAs on states that do not adopt a *Business Combination* law. As [58] present evidence regarding the impact of NSHCAs on innovation outputs (patents and patent citations), I present evidence regarding the positive impact of NSHCAs (although not statistically significant) on R&D.[19]

Evidence regarding the impact of NSHCAs on payout policy and investment policy seems to support my main prediction that a decrease in the legal incentives of

the unreported results, the coefficient of NSHCAs in firms with non-negative payout levels are smaller in economic terms as observations with zero levels of payout are included.

[18] Except for ROA and leverage in the dividend yield regression, more profitable and less levered firms appear to be associated with lower levels of dividend yield.

[19] In the unreported results, I explore the impact of NSHCAs on changes in R&D expenditures and find that the impact of NSHCAs is statistically significant and positive.

boards of directors leads to decreases in shareholder remuneration and increases in investment. The issue becomes whether this trade-off represents a decrease in the value of shareholders' claims. I inspect this issue in further analyses in which I check whether these results differ in sub-samples of firms that possess a different ex-ante litigation risk, type of shareholder according to their investment horizon, level of governance (proxied by the right to adopt a poison pill) and growth opportunities.

2.6 Additional Analyses

2.6.1 Non-Shareholder Constituencies Acts and Litigation Risk

In this subsection, I test the impact of NSHCAs on payout and investment in a cross-section of firms in settings prone to high litigation risk. The results shown in Tables 2.3 and 2.4 suggest that there might be a trade-off between distributing rents to shareholders and investment. I test whether the impact of NSHCAs is larger in settings in which firms might be subjected to high litigation risk and, therefore, present levels of payout and investment that suit shareholders. I follow [77] in defining industries that have a high ex-ante probability of litigation. These industries include the biotechnological industry, which is defined as having SIC codes 2833-2836 or 8731-8734; the computer industry, which is defined as having SIC codes 3570-3577 or 7370-7374; the electronics industry, which is defined as having SIC codes 3600-3674; and the retail industry, which is defined as having SIC codes 5200-5961. I expect that NSHCAs decrease litigation risk in these industries and, therefore, present lower (higher) levels of payout (investment).

In Table 2.5, I inspect the impact of NSHCAs in subsamples of firms with different levels of litigation risk. I examine the interaction between an indicator

of firms subjected to NSHCAs and another indicator of firms not subjected to NSHCAs (*Non_NSHCA*) with two indicators of litigation risk (*High_Lit_Risk* and *Low_Lit_Risk*). Then, I compare the following four groups: NSHCA × High_Lit_Risk, NSHCA × Low_Lit_Risk, Non_NSHCA × High_Lit_Risk and Non_NSHCA × Low_Lit_Risk. By not including one of these groups in the regression, I am comparing the relative levels of payout and investment among the three groups against the one omitted from the regression. Table 2.5 Panel A shows the results of regressing three interactions while removing NSHCA × Low_Lit_Risk from of the regression. I show the coefficients of the group NSHCA × High_Lit_Risk to compare the difference among firms subjected to NSHCAs with different levels of litigation risk. Compared to firms with a low litigation risk that are subjected to NSHCAs, those with a high litigation risk that are subjected to NSHCAs show lower levels of payout and higher levels of investment. In contrast, in Table 2.5 Panel B, I remove the group of firms that are not subjected to NSHCAs and possess a high level of litigation risk from the regression. In this case, compared to firms that have a high level of litigation risk but are not subjected to NSHCAs, those subject to NSHCAs show lower levels of net payout and larger levels of investment. The conclusion drawn from analyzing the impact of NSHCAs on payout and investment policy in firms subjected to different levels of litigation risk is that firms subjected to a high litigation risk decrease (increase) their payout (investment) levels beyond those of firms with lower levels of litigation risk. This finding is consistent with the expectation that NSHCAs shield corporate officers and directors from a judicial review of their choices. This evidence further supports the main prediction that a change in the legal incentives of directors could be used by insiders to change corporate outcomes, such as payout and investment levels.

2.6.2 Non-Shareholder Constituencies Acts and the Investment Horizon of Institutional Investors

In this subsection, I test the impact of NSHCAs on payout and investment in a cross-section of firms that possess an above the median level of ownership by institutional investors with a long-term outlook on the firm. Again, the results in Tables 2.3 and 2.4 suggest that there might be a trade-off between distributing rents to shareholders and investment, and given that the optimal level of payout and investment could differ between shareholders and corporate directors, a relaxation in the incentives (in this case, legal incentives) could lead to a new level of payout and investment. However, there are differences in the desired level of payout and investment between shareholders with different investment horizons. Long-term oriented shareholders are willing to forgo current reimbursements for future long-term growth, whereas short-term-oriented shareholders may prefer a quick reimbursement [106]. I test whether the impact of NSHCAs is greater in settings in which firms might be subjected to long-term institutional investors, who might be willing to forgo current cash flows for future growth. I follow [26] in defining long-term institutional investors as institutions with low diversification and turnover (dedicated investors) and those with highly diversified portfolios and a low turnover (quasi-indexers).

In Table 2.6, I inspect the impact of NSHCAs in subsamples of firms with different levels of long-term institutional investors. I examine the interaction between an indicator of firms subjected to NSHCAs and another indicator of firms that are not subjected to NSHCAs (Non_NSHCA) with two indicators of a large (small) presence of long-term oriented shareholders ($High\_LT\_Shareholders$ and $Low\_LT\_Shareholders$). Then, I compare the following four groups: NSHCA $\times$

High_LT_Shareholders, NSHCA × Low_LT_Shareholders, Non_NSHCA × High_LT_Shareholders and Non_NSHCA × Low_LT_Shareholders. By not including one of these groups in the regression, I compare the relative levels of payout and investment among the three groups against the group removed from the regression. Table 2.6 Panel A shows the results of regressing three interactions without NSHCA × High_LT_Shareholders. I show the coefficients of the group of NSHCA × Low_LT_Shareholders to compare the difference among firms subjected to NSHCAs with different levels of pressure to select a level of payout and investment that deviates more from the desired level of corporate directors. Compared to firms with high long-term shareholders that are subjected to NSHCAs, those with low levels of long-term shareholders that are subjected to NSHCAs show lower levels of payout. There are no differences in the investment levels. However, in Table 2.6 Panel B, I remove the group of firms that are not subjected to NSHCAs and possess a low level of long-term institutional shareholders from the regression. In this case, compared to firms with a low level of long-term shareholder ownership that are not subjected to NSHCAs, those subjected to NSHCAs show lower levels of payout. The conclusion drawn from analyzing the impact of NSHCAs on payout and investment policy in firms subjected to different levels of long-term investor ownership is that firms subjected to low levels of ownership by long-term institutional investors decrease their payout levels more than firms with high levels of ownership by long-term institutional investors. This finding is consistent with the expectation that NSHCAs have a stronger impact in the absence of shareholders that may desire a payout level closer to that of corporate officers and directors. This evidence further supports the main prediction that a change in the legal incentives of directors could be used by insiders to change corporate outcomes, such as payout levels, in the absence of shareholders with a desired level of payout

close to that of the board of directors.

2.6.3 Non-Shareholder Constituencies Acts and Corporate Governance

In this subsection, I test the impact of NSHCAs on payout and investment in a cross-section of firms that possess different levels of governance. My expectation is that the adoption of an NSHCA does not have the same impact or a lower impact in firms with a high level of corporate governance. I test whether the impact of NSHCAs is smaller in settings in which firms might be subjected to high corporate governance that could make boards set a payout and investment level similar to the levels that would be chosen by shareholders through their formal control rights. I follow [75] in defining high corporate governance as firms that are incorporated in states that have not adopted or will never adopt a Poison Pill statute, i.e., firms that do not have the right to adopt a poison pill or do not possess a "shadow pill" [41].

In Table 2.7, I inspect the impact of NSHCAs in subsamples of firms with different levels of governance. I examine the interaction between an indicator of firms subjected to NSHCAs and another indicator of firms not subjected to NSHCAs (Non_NSHCA) with two indicators of a high (low) level of governance ($High\_Governance$ and $Low\_Governance$). Then, I compare the following four groups: NSHCA $\times$ High_Governance, NSHCA $\times$ Low_Governance, Non_NSHCA $\times$ High_Governance and Non_NSHCA $\times$ Low_Governance. By not including one of these groups in the regression, I compare the relative levels of payout and investment among the three groups against the one removed from the regression. Table 2.7 Panel A shows the results of regressing three interactions without NSHCA $\times$ Low_Governance. I show the coefficients of the group of NSHCA $\times$ High_Governance to compare the difference among the firms subjected to NSHCAs with different levels of pressure to

select a level of payout and investment that would deviate more from the desired level of corporate directors due to a difference in corporate governance. Compared to firms with low governance that are subjected to NSHCAs, those with high levels of governance that are subjected to NSHCAs do not show statistically significant differences in both payout and investment levels. However, in Table 2.7 Panel B, I remove the group of firms that are not subjected to NSHCAs and possess a high level of corporate governance from the regression. In this case, compared to firms with a high level of corporate governance that not subjected to NSHCAs, those subjected to NSHCAs show lower levels of total payout and larger levels of total investment. The conclusion drawn from analyzing the impact of NSHCAs on payout and investment policy in firms subjected to different levels of governance is that firms subjected to different levels of governance do not show different levels of payout or investment, but only in those firms that have a high level of governance, there is some marginal evidence suggesting that the adoption of an NSHCA leads to lower levels of total payout and investment.

2.6.4 Non-Shareholder Constituencies Acts and Growth Opportunities

In this subsection, I test the impact of NSHCAs on payout and investment in a cross-section of firms that possess an above the median level of growth opportunities, representing available positive NPV projects in which the firm could invest. Once again, the results in Tables 2.3 and 2.4 suggest that there might be a trade-off between distributing rents to shareholders and investment. Given that the optimal level of payout and investment differ based on whether firms have positive NPV available, I inspect whether some firms (high growth firms) could benefit from the increased leeway procured by NSHCAs and increase their investment levels while decreasing

payouts to shareholders. There could be differences in the desired level of payout and investment between shareholders and corporate officers and directors even if we hold the growth of the firm constant at a high level. For instance, if these investments take a long time to produce returns and shareholders have a shorter outlook on the firm, investment may be forgone. I test whether the impact of NSHCAs is larger in settings in which firms might have more positive NPV projects available and might be willing to forgo current cash flows for future growth. I define growth opportunities using the market-to-book ratio of equity to proxy firms whose market value captures the current value of their investment, which is larger in growing firms than the historical cost of such investments (captured by the book value).

In Table 2.8, I inspect the impact of NSHCAs in subsamples of firms with different levels of growth opportunities. I examine the interaction between an indicator of firms subjected to NSHCAs and another indicator of firms not subjected to NSHCAs (*Non_NSHCA*) with two indicators of a large (small) presence of growth opportunities (*High_Growth* and *Low_Growth*). Then, I compare the following four groups: NSHCA × High_Growth, NSHCA × Low_Growth, Non_NSHCA × High_Growth and Non_NSHCA × Low_Growth. By not including one of these groups in the regression, I compare the relative levels of payout and investment among the three groups against the one group removed from the regression. Table 2.8 Panel A shows the results of regressing three interactions without NSHCA × Low_Growth in the regression. I show the coefficients of the group NSHCA × High_Growth to compare the difference among firms subjected to NSHCAs with different levels of growth opportunities. Compared to firms with low growth opportunities that are subjected to NSHCAs, those with high levels of growth opportunities that are subjected to NSHCAs show lower levels of payout and larger levels of investment. In contrast, in

Table 2.8 Panel B, I remove the group of firms that are not subjected to NSHCAs and possess a high level of growth opportunities from the regression. In this case, compared to firms with a high level of growth opportunities that are not subjected to NSHCAs, those subjected to NSHCAs show lower levels of payout and increased levels of investment. The conclusion drawn from analyzing the impact of NSHCAs on payout and investment policy in firms subjected to different levels of growth opportunities is that firms that have many positive NPV projects available decrease their payout levels and increase their investment levels more than firms with fewer positive NPV projects. This finding is consistent with the expectation that NSHCAs have a stronger impact in the presence of several NPV-positive projects that require financing. This finding suggests that these firms (growing firms subjected to NSHCAs) take advantage of the decreased litigation risk to direct cash from shareholders to new investments possibly due to the lower cost of this internal source of capital compared to external sources. This evidence further supports the main prediction that a change in the legal incentives of directors could be used by insiders to change corporate outcomes, such as payout levels, in the presence of growth opportunities.

2.7 Robustness Checks

In Table 2.9 Panels A, B, C and D, I present evidence assessing the robustness of the main results of the paper. Panel A presents evidence from an alternative control group comprising only observations that are eventually treated. This new sample is obtained by eliminating firms that are incorporated in a state that never adopts an NSHCA. By removing these firms from the sample, the remaining control firms eventually will be subjected to an NSHCA, which eases concerns that the unobserved

differences between the treatment and control groups determine both the adoption of an NSHCA and the levels of payout and investment. Under this stricter sample, the control group comprises firms that will eventually receive the treatment and be subjected to the same unobserved characteristics. The results shown in Table 2.9 Panel A suggest that the unobserved differences between the firms that are never subjected to an NSHCA and those that are eventually subjected to an NSHCA do not account for the full effect of NSHCAs on payout and investment policies. Alternatively, Panel B exploits the definition of statue strength proposed by [14]. In her paper, the author assigns an intensity to NSHCAs that ranges from weak to strong depending on the level of protection that these statutes confer to corporate boards against judicial review of their decisions. I exploit these intensity definitions and explore the heterogeneous impact of the adoption of an NSHCA of different intensity or strength. The results shown in Panel B reveal that firms incorporated in a state that adopts a strong NSHCA show lover levels of total payout and increased levels of investment compared to firms incorporated in states that adopt a weak NSHCA. These results are consistent with the decrease in litigation risk, which is expected to be higher with stronger statutes.

Moreover, Panel C shows the results obtained from applying propensity score matching to the sample of treated firms immediately before the year of the adoption of a given NSHCA. Table 2.2 shows that in an unmatched sample of firms the year before the adoption of an NSHCA, the treatment and control groups differ in the level of ROA. If the firms differ in the level of ROA, there is a possibility that the treatment and control groups also differ in more covariates, including unobservable covariates. Therefore, I match the treatment firms the year before the adoption of an NSHCA with firms from never-treated states a year before the adoption of an NSHCA on their

propensity to receive the treatment, i.e., adopt an NSHCA. I use the propensity score of the controls used in the main analyses as determinants and introduce industry and headquarter controls. Table 2.2 also shows that after balancing, there are no observable differences between the never-treated units and eventually-treated units. However, to ease concerns regarding the use of an unmatched sample of firms in the main analyses of the paper, I proceed to perform the main tests again using this matched sample of firms. Table 2.9 Panel C shows the results of the main analyses using the matched sample, and the conclusion drawn is that even with such a reduced sample, there seems to be marginal evidence that the adoption of an NSHCA leads to lower levels of payout and increased levels of investment. Finally, I exploit different fixed effect structures to explore the robustness of the main results of the paper. Table 2.9 Panel D shows the results of the impact of NSHCAs on net payout and net investment in estimated equations that include either year times headquarter fixed effects, year times industry fixed effects or both simultaneously. The interpretation of the coefficient of NSHCA shown in Table 2.9 Panel D Column (1) is the following: compared to firms that are not subjected to an NSHCA and have a headquarter in the same state in a given year, firms that are subjected to an NSHCA show a 10.3% decrease in the net payout yield. This interpretation applies the same reasoning in the remaining columns in Table 2.9 Panel D.

2.8 Conclusion

This paper aimed to investigate the impact of boards of directors' legal incentives on firms' payout and investment policies. I use the adoption of a set of staggered laws in the US to measure the decrease in boards' legal incentives. These laws are Non-

Shareholder Constituencies Acts (NSHCAs) that state that boards of directors can make decisions that harm shareholders for the benefit of stakeholders, i.e., employees, creditors, customers, and the community. I investigate the impact of NSHCAs on payout policy and find that the adoption of NSHCAs leads to lower levels of payout yield. Nonetheless, the undistributed rents from shareholders are rather reinvested in the firm. NSHCAs lead to increases in CAPEX and total and net investment. The impact on payout and investment seems to be larger in settings in which firms are subjected to high litigation risk, higher levels of short-term investor ownership and more investment opportunities. These results are consistent even after using alternative control groups that are possibly less tainted by sources of endogeneity and different fixed effect structures.

Appendix A: Description of Variables

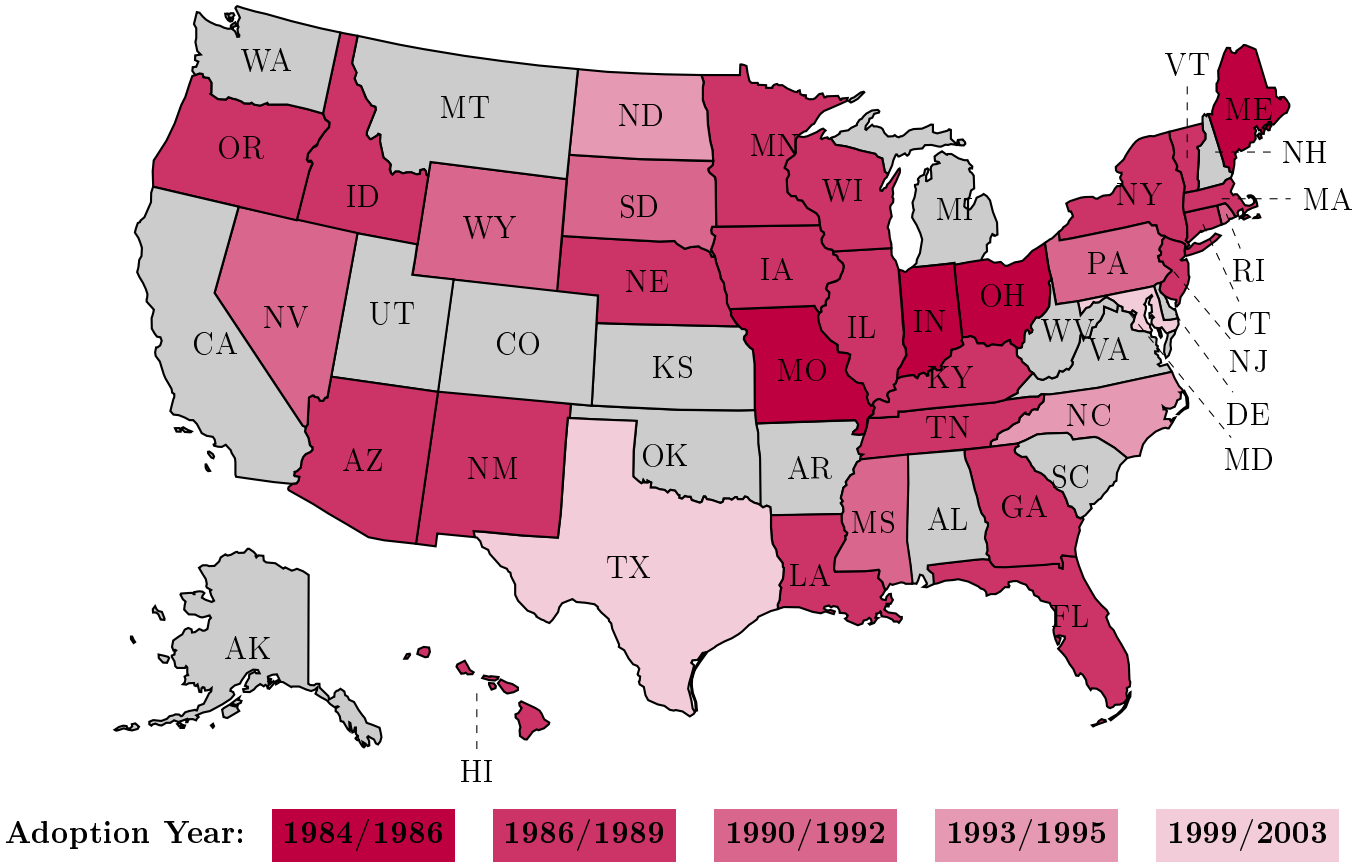
Variable	Description	Source
	Dependent Variables	
Div	DVC/(PRCC_F*CSHO)	Capital IQ Compustat
Rep	PRSTKC/(PRCC_F*CSHO)	Capital IQ Compustat
Total Payout	(DVC+PRSTKC)/(PRCC_F*CSHO)	Capital IQ Compustat
Net Payout	(DVC+PRSTKC-SSTK)/(PRCC_F*CSHO)	Capital IQ Compustat
CAPEX	CAPX/AT	Capital IQ Compustat
R&D	XRD/SALE	Capital IQ Compustat
Acquisitions	AQC/SALE	Capital IQ Compustat
Total Investment	(AQC + XRD + CAPX)/SALE	Capital IQ Compustat
Net Investment	(AQC + XRD + CAPX - SPPIV)/SALE	Capital IQ Compustat
	Explanatory Variables and Controls	
NSHCA	Dummy variable assume the value of one if a firm is incorporated in a state that has adopted a Non-Shareholder Constituency Act by time t. Source: [75, 28]	Capital IQ Compustat
Non_NSHCA	Dummy variable assume the value of one if a firm is not under the influence of a Non-Shareholder Constituency Act. Source: [75, 28]	Capital IQ Compustat
Firm Size	ln(AT)	Capital IQ Compustat
Leverage	(DLC+DLTT)/CEQ	Capital IQ Compustat
MTB	CEQ/(PRCC_F*CSHO)	Capital IQ Compustat
Sales Growth	(SALE-L.SALE)/L.SALE	Capital IQ Compustat
ROA	IB/AT	Capital IQ Compustat
Cash to Assets	CH/AT	Capital IQ Compustat
	Interaction Variables	

High_Lit_Risk	is defined as a dummy variable that assumes the value of one if a firm *belongs* to any of the following industries: SIC codes (2833-2836), (8731-8734), (3570-3577), (7370-7374), (3600-3674), or (5200-5961); otherwise, its value is 0.	Capital IQ Compustat, [77]
Low_Lit_Risk	is defined as a dummy variable that assumes the value of one if a firm *does not belong* to any of the following industries: SIC codes (2833-2836), (8731-8734), (3570-3577), (7370-7374), (3600-3674), or (5200-5961); otherwise, its value is 0.	Capital IQ Compustat, [77]
High_LT_Shareholders	is defined as a dummy variable that assumes the value of one if a firm possesses a level of ownership by long-term institutional investors *above* the industry and year median. Long-term institutional investors are defined as dedicated and quasi-indexer investors by [26]	TR 13 F
Low_LT_Shareholders	is defined as a dummy variable that assumes the value one if a firm possesses a level of ownership by long-term institutional investors *below* the industry and year median. Long-term institutional investors are defined as dedicated and quasi-indexer investors by [26]	TR 13 F
High_Governance	is defined as a dummy variable that assumes the value of one if a firm *possesses* a right to introduce a poison pill due to the adoption of a Poison Pill Statute following [75].	Capital IQ Compustat
Low_Governance	is defined as a dummy variable that assumes the value one if a firm *does not possess* the right to introduce a poison pill due to the adoption of a Poison Pill Statute following [75].	Capital IQ Compustat

High_Growth	is defined as a dummy variable that assumes the value of one if a firm shows a level of MTB *above* that of the industry and year median.	Capital IQ Compustat
Low_Growth	is defined as a dummy variable that assumes the value of one if a firm shows a level of MTB *below* that of the industry and year median.	Capital IQ Compustat

Appendix B: Adoption of Non-Shareholder Constituencies Acts.

Figure 1: States Adopting Non-Shareholder Constituencies Acts.



State (Year of Adoption)
Arizona (1987)
Connecticut (1988)
Florida (1989)
Georgia (1989)
Hawaii (1989)
Idaho (1988)
Illinois (1988)
Indiana (1986)
Iowa (1989)
Kentucky (1988)
Louisiana (1988)
Maine (1985)
Maryland (1999)
Massachusetts (1989)
Minnesota (1987)
Mississippi (1990)
Missouri (1986)
Nebraska (1988)[20]
Nevada (1991)
New Jersey (1989)
New Mexico (1987)
New York (1987)
North Carolina (1993)
North Dakota (1993)
Ohio (1984)
Oregon (1989)
Pennsylvania (1990)
Rhode Island (1990)
South Dakota (1990)
Tennessee (1988)
Texas (2003)
Vermont (1988)
Wisconsin (1987)
Wyoming (1990)

Source: Karpoff and Wittry (2015) and annotated state codes.

[20]Nebraska adopted an NSHCA in 1988, repealed it in 1995, and readopted it in 2007.

Figure 2: Leads and Lags Model of the Impact of NSHCAs on Payout Policy.

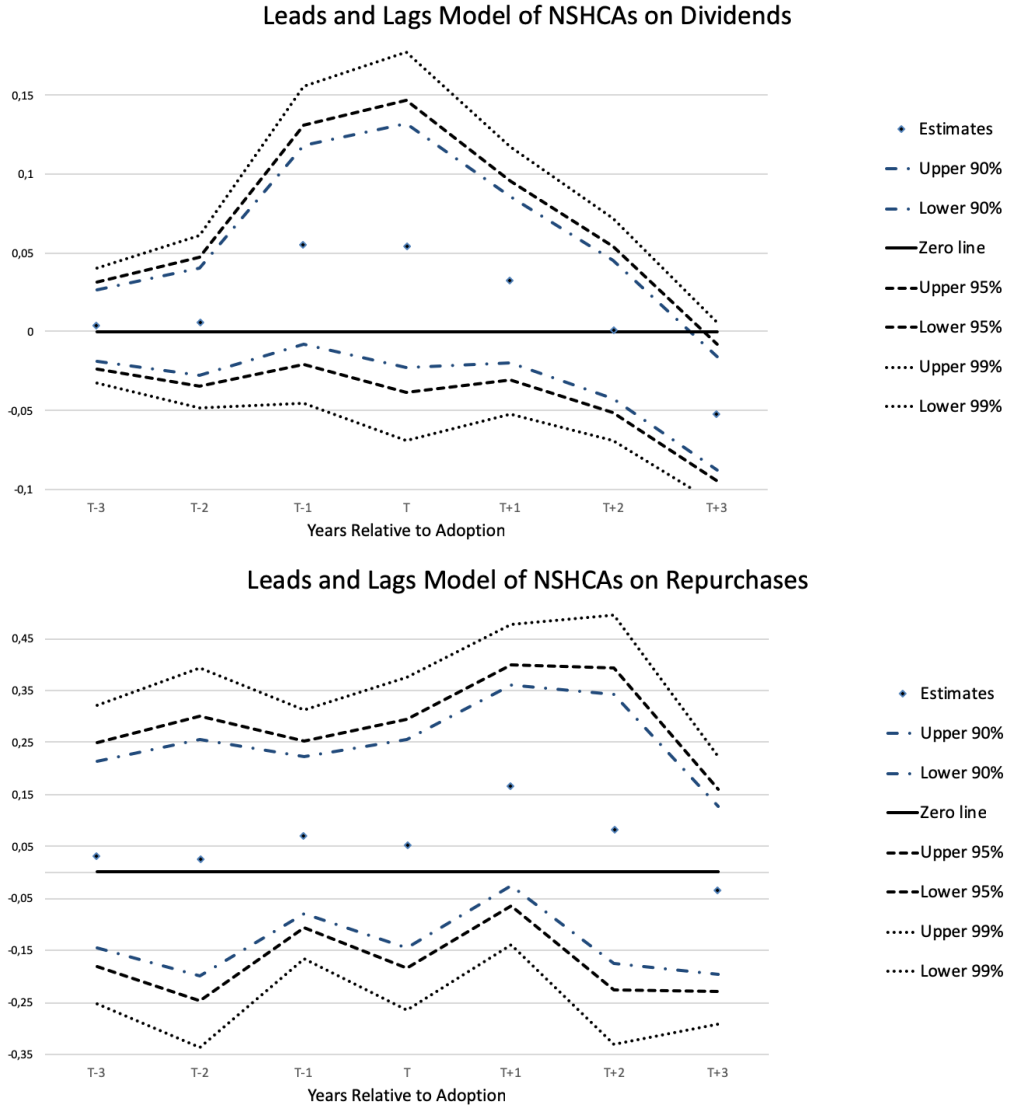
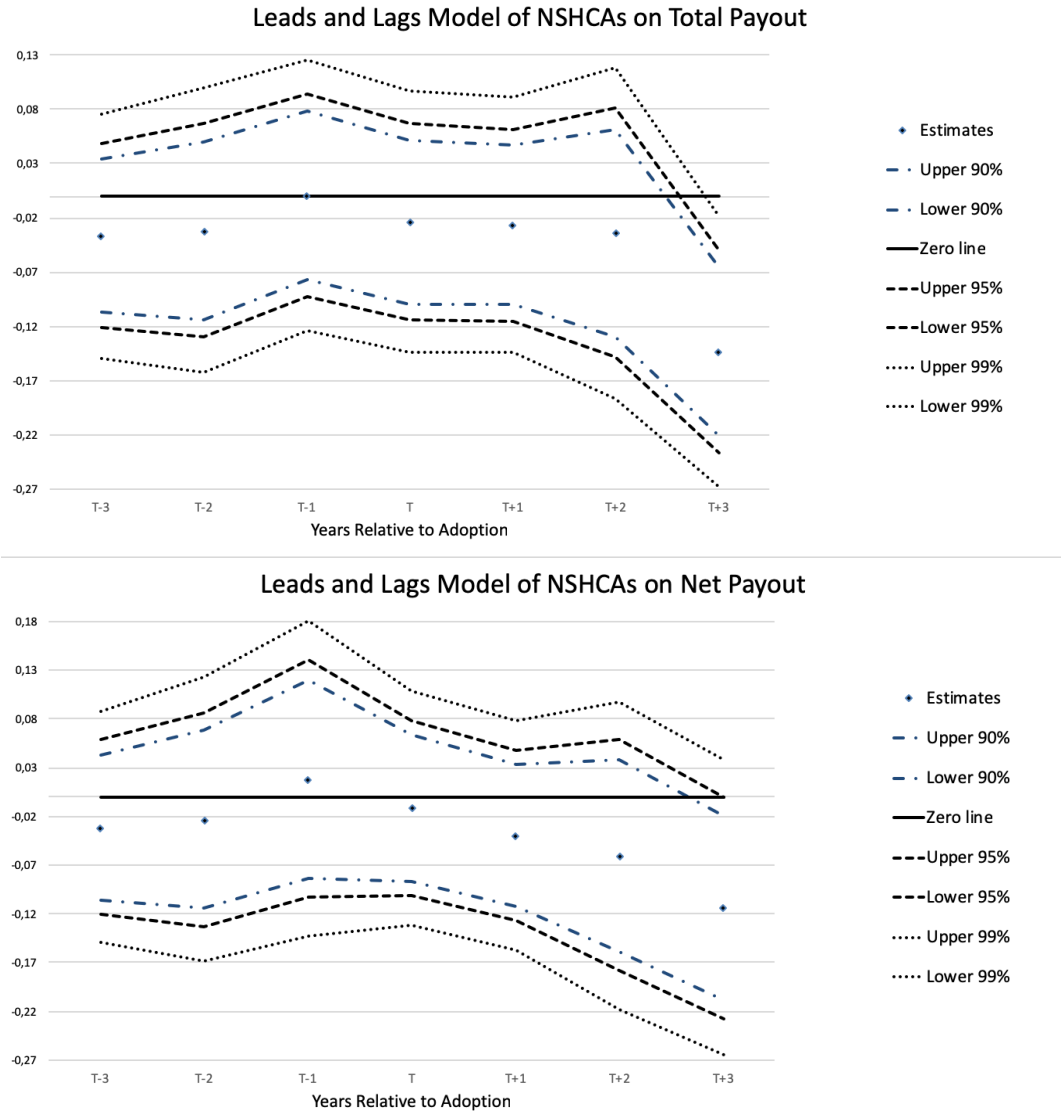


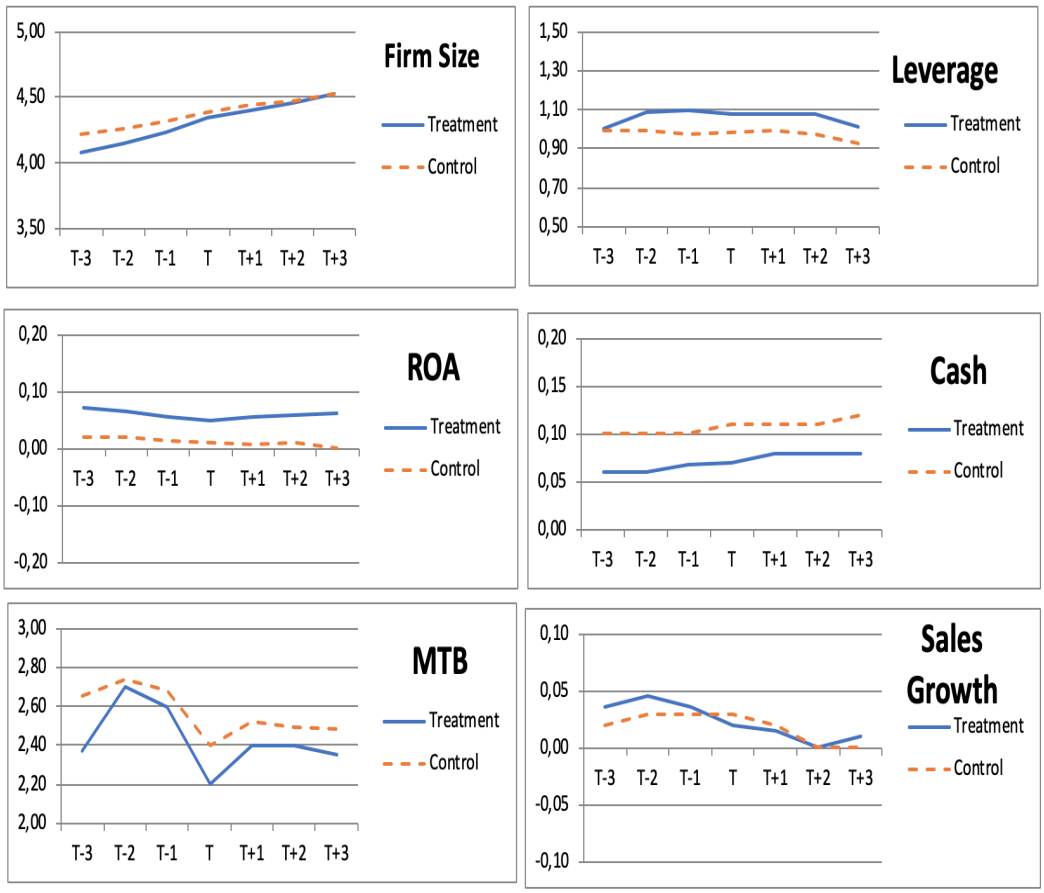
Figure 2 continued:



All variable definitions are presented in Appendix A. This set of figures shows the estimates of NSHCAs in the three, two and one years prior to the adoption of an NSHCA, the year of the adoption of an NSHCA, and three years after having adopted an NSHCA on the dividend, repurchase, total payout and net payout yields in firms with positive levels of payout.

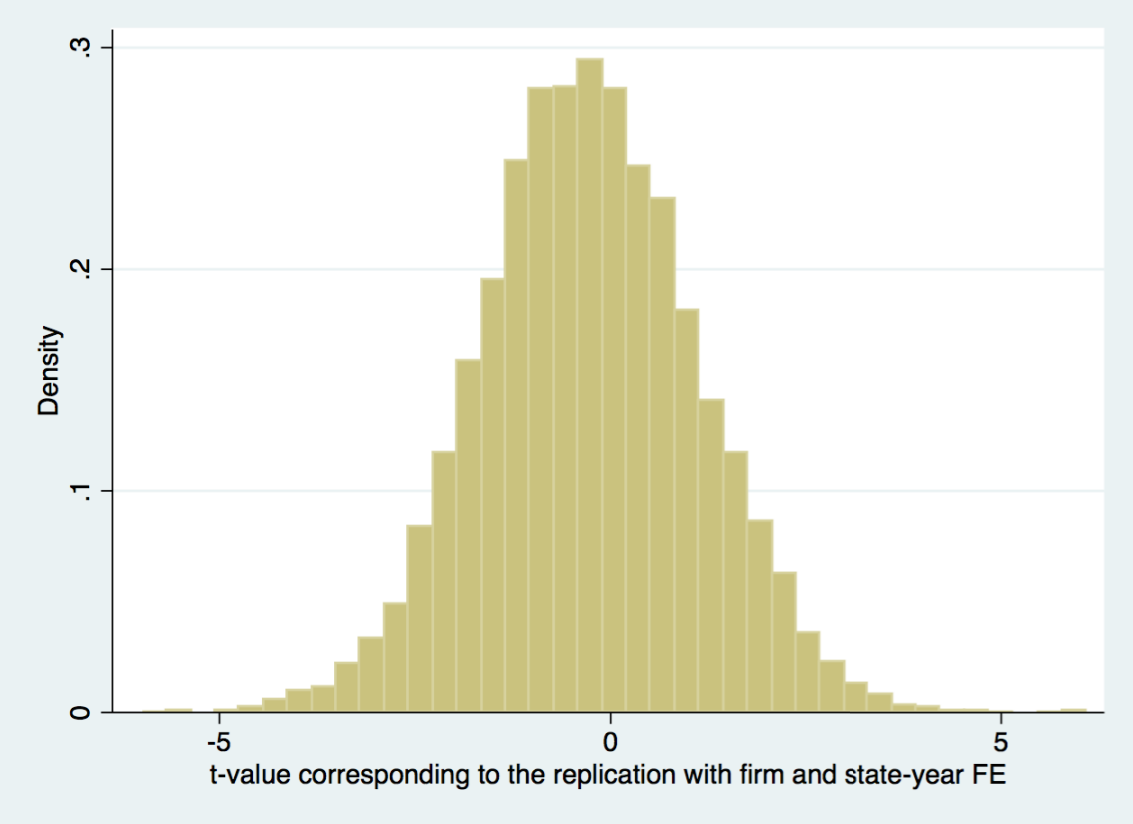
Figure 3: Evolution of the Controls in the Treatment and Control Groups.

Graphs.png



All variable definitions are presented in Appendix A. This figure shows the average values of Firm Size, Leverage, MTB, Sales Growth, ROA, and Cash to Assets in the treatment and control groups in the three, two and one years prior to the adoption of an NSHCA, the year of the adoption of an NSHCA, and three years after having adopted an NSHCA.

Figure 4: Placebo Shocks to the Impact of Non-Shareholder Constituencies Acts on Payout Policy.



This figure shows the distribution of the t-statistics of α based on the following regression:

$$ln(Net\ Payout)_{it} = \alpha NSHCA_{jt} + \beta SSL_{jt} + \kappa X_{it} + \pi_i + \rho_t + \varepsilon_{it}$$

where NSHCA is randomly generated 10,000 times.

Table 2.1: Summary Statistics.

	Number of Observations	Mean	S.D.	Quartiles Q1	Q2	Q3
Div	76138	0.025	0.030	0.000	0.018	0.034
Rep	67792	0.028	0.047	0.000	0.008	0.034
Total Payout	76328	0.052	0.058	0.018	0.034	0.063
Net Payout	76328	0.046	0.053	0.014	0.030	0.057
Firm Size	76328	6.423	2.150	4.966	6.456	7.905
ROA	76328	0.037	0.084	0.010	0.037	0.076
MTB	76328	2.365	4.445	1.077	1.627	2.633
Leverage	76328	1.011	2.388	0.116	0.526	1.189
Sales Growth	76328	0.044	0.302	-0.010	0.064	0.143
Cash to Assets to Assets	76328	0.080	0.116	0.013	0.035	0.096
CAPEX	162841	0.122	0.397	0.013	0.033	0.077
Acquisitions	156895	0.028	0.103	0.000	0.000	0.002
R&D	85072	0.629	3.355	0.001	0.033	0.137
Investment	162808	0.425	1.768	0.025	0.077	0.204
Net Investment	162841	0.418	1.755	0.024	0.074	0.199

Table 1 shows the descriptive statistics of the main sample used in the analyses. The number of observations of the control variables (Firm Size, ROA, MTB, Leverage, Sales Growth and Cash to Assets to Assets) vary according to the test described in each table. In Table 2.1, I show the number of observations used in the main analysis shown in Table 3. All variable definitions are presented in Appendix A.

Table 2.2: Pre-treatment Covariate Balance.

	Unmatched Sample			Matched Sample		
	Never Treated (1)	Eventually Treated (2)	t-stat (3)	Never Treated (4)	Eventually Treated (5)	t-stat (6)
Firm Size	5.415	5.429	-0.244	5.314	5.241	1.119
Leverage	1.077	1.107	-0.557	1.006	1.032	-0.460
MTB	1.768	1.828	-0.864	1.740	1.743	-0.052
Sales Growth	0.045	0.042	0.313	0.061	0.052	1.129
ROA	0.032	0.043	-5.243	0.040	0.045	-0.904
Cash to Assets	0.055	0.049	0.400	0.055	0.053	1.044
Observations	2648	3989		2382	2352	

All variable definitions are presented in Appendix A. This table shows the covariate balance between the never-treated observations and eventually-treated observations before the passage of the NSHCAs. Table 2.2 shows the average values of Firm Size, Leverage, MTB, Sales Growth, ROA, and Cash to Assets in the sample used in the main analysis. The first three columns include information obtained one year before the adoption of an NSHCA in the unmatched sample, whereas the last three columns contain information obtained one year before the adoption of an NSHCA in a matched sample of firms. I used a propensity score matching procedure with the nearest neighbor and no replacement using all control variables plus industry and headquarters state dummies. The state of Delaware (incorporation code 10 in Compustat) is not included in the previous tests, although including firms incorporated in this state only changes the significance of the t-test in the unmatched sample since Delaware firms are larger and more profitable on average [42].

Table 2.3: Impact of Non-Shareholder Constituencies Acts on Payout Policy

	(1) ln(Div)	(2) ln(Rep)	(3) ln(Total P.)	(4) ln(Net P.)
NSHCA	-0.076**	-0.078	-0.141***	-0.108**
	(-2.164)	(-0.844)	(-2.964)	(-2.280)
ROA_{t-1}	-0.388***	0.839***	0.943***	1.026***
	(-5.044)	(14.018)	(19.630)	(15.811)
Firm $Size_{t-1}$	0.071***	0.277***	0.246***	0.194***
	(4.865)	(10.955)	(9.958)	(6.864)
$Leverage_{t-1}$	0.031***	-0.006	0.005	-0.000
	(4.442)	(-1.323)	(1.338)	(-0.033)
Cash to $Assets_{t-1}$	0.210**	0.655***	0.568***	0.680***
	(2.228)	(8.612)	(11.631)	(9.062)
Sales $Growth_{t-1}$	-0.150***	-0.194***	-0.221***	-0.214***
	(-6.312)	(-10.037)	(-12.692)	(-8.268)
MTB_{t-1}	-0.020***	-0.005**	-0.012***	-0.010***
	(-7.294)	(-2.268)	(-4.188)	(-2.713)
Observations	64,045	58,253	91,782	76,328
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

This table presents evidence supporting the effect of Non-Shareholder Constituencies Acts on payout policy. Table 2.3 presents the results of the sub-sample of firms with a positive level of payout. For the variable descriptions, please see Appendix A. Standard errors are clustered at the state of incorporation level. *, **, and *** represent statistical significance at the 10%, 5% and 1% levels, respectively.

Table 2.4: Effect of Non-Shareholder Constituencies Acts on Investment Policy

	(1) CAPEX	(2) R&D	(3) Acquisitions	(4) Total Inv.	(5) Net Inv.
NSHCA	0.019**	0.053	0.002	0.091***	0.089***
	(2.469)	(0.990)	(0.932)	(3.291)	(3.260)
ROA_{t-1}	0.039***	-0.426***	0.021***	-0.224***	-0.206***
	(3.299)	(-5.724)	(6.456)	(-5.677)	(-5.890)
Firm $Size_{t-1}$	0.007**	0.080***	-0.002***	0.024**	0.030***
	(2.182)	(3.395)	(-7.070)	(2.542)	(3.297)
$Leverage_{t-1}$	-0.002***	-0.000	-0.001***	-0.005*	-0.005*
	(-4.709)	(-0.005)	(-9.581)	(-1.768)	(-1.784)
Cash to $Assets_{t-1}$	0.208***	0.982***	0.063***	0.878***	0.894***
	(10.538)	(9.086)	(15.827)	(11.259)	(11.679)
Sales $Growth_{t-1}$	-0.037***	-0.525***	-0.001	-0.250***	-0.245***
	(-8.440)	(-8.248)	(-1.277)	(-9.472)	(-9.318)
MTB_{t-1}	0.002***	0.003**	0.001***	0.006***	0.006***
	(5.152)	(2.415)	(13.291)	(3.813)	(3.849)
Observations	162,841	84,811	158,296	162,801	162,841
2nd Stage Laws?	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes	Yes

Table 2.4 presents evidence supporting the effect of Non-Shareholder Constituencies Acts on investment policy. The constant is not reported. For the variable definitions, please see Appendix A. Standard errors are clustered at the state of incorporation level. *, **, and *** represent statistical significance at the 10%, 5% and 1% levels, respectively.

Table 2.5: Effect of Non-Shareholder Constituencies Acts on Corporate Outcomes in Firms with Different Litigation Risk Levels

Panel A Comparison group: NSHCA × Low_Lit_Risk	(1) ln(Total P.)	(2) ln(Net P.)	(3) Total Inv.	(4) Net Inv.
NSHCA × High_Lit_Risk	**-0.246*** (-5.389)**	**-0.113** (-2.142)**	**0.282*** (4.385)**	**0.287*** (4.439)**
Observations	94,418	78,735	164,868	164,906
Controls?	Yes	Yes	Yes	Yes
Other Interactions?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Panel B Comparison group: Non_NSHCA × High_Lit_Risk	(1) ln(Total P.)	(2) ln(Net P.)	(3) Total Inv.	(4) Net Inv.
NSHCA × High_Lit_Risk	**-0.022 (-0.405)**	**-0.114* (-1.713)**	**0.284*** (5.455)**	**0.278*** (5.413)**
Observations	94,418	78,735	164,868	164,906
Controls?	Yes	Yes	Yes	Yes
Other Interactions?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Table 2.5 presents evidence supporting the effect of Non-Shareholder Constituencies Acts on corporate outcomes in firms with different litigation risk levels. Litigation risk is proxied by industries that are subjected to higher levels of litigation following [77]. For the variable definitions, please see Appendix A. Standard errors are clustered at the state of incorporation level. *, **, and *** represent statistical significance at the 10%, 5% and 1% levels, respectively.

Table 2.6: Effect of Non-Shareholder Constituencies Acts on Corporate Outcomes in Firms with Different Investor Bases

Panel A	(1)	(2)	(3)	(4)
Comparison group:	ln(Total P.)	ln(Net P.)	Total Inv.	Net Inv.
NSHCA × High_LT_Shareholders				
NSHCA × Low_LT_Shareholders	**-0.102*** **	**-0.100*** **	**0.010**	**0.011**
	(-2.649)	**(-2.815)**	**(0.583)**	**(0.625)**
Observations	55,066	46,053	87,192	87,192
Controls?	Yes	Yes	Yes	Yes
Other Interactions?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Panel B	(1)	(2)	(3)	(4)
Comparison group:	ln(Total P.)	ln(Net P.)	Total Inv.	Net Inv.
Non_NSHCA × Low_LT_Shareholders				
NSHCA × Low_LT_Shareholders	**-0.142** **	**-0.113***	**0.024**	**0.023**
	(-2.313)	**(-1.808)**	**(0.745)**	**(0.722)**
Observations	55,066	46,053	87,192	87,192
Controls?	Yes	Yes	Yes	Yes
Other Interactions?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Table 2.6 presents evidence supporting the effect of Non-Shareholder Constituencies Acts on corporate outcomes with institutional investors with different investment horizons. The investment horizon of institutional investors follows [26]. For the variable definitions, please see Appendix A. Standard errors are clustered at the state of incorporation level. *, **, and *** represent statistical significance at the 10%, 5% and 1% levels, respectively.

Table 2.7: Effect of Non-Shareholder Constituencies Acts on Corporate Outcomes in Firms with Different Levels of Governance

Panel A Comparison group: NSHCA × Low_Governance	(1) ln(Total P.)	(2) ln(Net P.)	(3) Total Inv.	(4) Net Inv.
NSHCA × High_Governance	**0.007**	**0.025**	**0.045**	**0.044**
	(0.175)	**(0.515)**	**(0.911)**	**(0.896)**
Observations	91,782	76,328	162,801	162,841
Controls?	Yes	Yes	Yes	Yes
Other Interactions?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Panel B Comparison group: Non_NSHCA × High_Governance	(1) ln(Total P.)	(2) ln(Net P.)	(3) Total Inv.	(4) Net Inv.
NSHCA × High_Governance	**-0.129****	**-0.077**	**0.070***	**0,069**
	(-2.464)	**(-1.443)**	**(1.658)**	**(1.637)**
Observations	91,782	76,328	162,801	162,841
Controls?	Yes	Yes	Yes	Yes
Other Interactions?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Table 2.7 presents evidence from the robustness checks of the effect of Non-Shareholder Constituencies Acts on corporate outcomes in firms with high or low levels of corporate governance. The proxy for corporate governance is the adoption of a Poison Pill statute because strong evidence suggests that such statutes are effective anti-takeover mechanisms [75]. For the variable definitions, please see Appendix A. Standard errors are clustered at the state of incorporation level. *, **, and *** represent statistical significance at the 10%, 5% and 1% levels, respectively.

Table 2.8: Effect of Non-Shareholder Constituencies Acts on Corporate Outcomes in Firms with Different Levels of Growth Opportunities

Panel A Comparison group: NSHCA × Low_Growth	(1) ln(Total P.)	(2) ln(Net P.)	(3) Total Inv.	(4) Net Inv.
NSHCA × High_Growth	**-0.178*** (-11.261)**	**-0.195*** (-9.438)**	**0.069*** (3.401)**	**0.071*** (3.335)**
Observations	91,782	76,328	162,801	162,841
Controls?	Yes	Yes	Yes	Yes
Other Interactions?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Panel B Comparison group: Non_NSHCA × High_Growth	(1) ln(Total P.)	(2) ln(Net P.)	(3) Total Inv.	(4) Net Inv.
NSHCA × High_Growth	**-0.311*** (-6.374)**	**-0.282*** (-5.544)**	**0.182*** (5.446)**	**0.182*** (5.356)**
Observations	91,782	76,328	162,801	162,841
Controls?	Yes	Yes	Yes	Yes
Other Interactions?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Table 2.8 presents evidence from the robustness checks of the effect of Non-Shareholder Constituencies Acts on corporate outcomes in firms with high or low levels of growth opportunities. The proxy for growth opportunities is the MTB. For the variable definitions, please see Appendix A. Standard errors are clustered at the state of incorporation level. *, **, and *** represent statistical significance at the 10%, 5% and 1% levels, respectively.

Table 2.9: Effect of Non-Shareholder Constituencies Acts on Corporate Outcomes: Robustness Checks

Panel A Eventually Treated Firms	(1) ln(Total P.)	(2) ln(Net P.)	(3) Total Inv.	(4) Net Inv.
NSHCA	-0.120***	-0.092**	0.065**	0.063**
	(-2.671)	(-2.031)	(2.342)	(2.262)
Observations	38,333	32,709	58,655	58,680
Controls?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Panel B Shock Strength	(1) ln(Total P.)	(2) ln(Net P.)	(3) Total Inv.	(4) Net Inv.
NSHCA*Strong	-0.166***	-0.102	0.070**	0.068**
	(-2.619)	(-1.562)	(2.277)	(2.247)
NSHCA*Medium	-0.033	-0.034	0.022	0.020
	(-0.567)	(-0.550)	(0.658)	(0.609)
Observations	38,333	32,709	58,655	58,680
Controls?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Table 2.9 continued

Panel C Propensity Score Matched Sample	(1) ln(Total P.)	(2) ln(Net P.)	(3) Total Inv.	(4) Net Inv.
NSHCA	-0.115*	-0.125*	0.038*	0.039*
	(-1.787)	(-1.887)	(1.879)	(1.914)
Observations	16,686	15,113	18,684	18,684
Controls?	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes

Panel D	(1)	(2)	(3)	(4)	(5)	(6)
Different FE Structures	ln(Net Payout)			Net Investment		
NSHCA	-0.103**	-0.083**	-0.094**	0.074**	0.089***	0.077**
	(-2.242)	(-2.022)	(-2.460)	(2.310)	(3.444)	(2.329)
Observations	75,755	76,206	75,629	160,146	162,761	160,055
Controls?	Yes	Yes	Yes	Yes	Yes	Yes
2nd Stage Laws?	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes
Year×Headquarter FE?	Yes	No	Yes	Yes	No	Yes
Year×Industry FE?	No	Yes	Yes	No	Yes	Yes

Table 2.9 shows the results of several robustness checks of the impact of Non-Shareholder Constituencies Acts on corporate outcomes. Panel A shows the impact of Non-Shareholder Constituencies Acts on corporate outcomes in a sub-sample of firms that eventually receive the treatment, i.e., firms incorporated in states that eventually adopt an NSHCA. Panel B shows the different impacts of Non-Shareholder Constituencies Acts on corporate outcomes in states in which the NSHCA had a strong influence against states in which it had a weak influence. Panel C shows the impact of Non-Shareholder Constituencies Acts on corporate outcomes in a sub-sample of firms matched based on pretreatment covariates the year before the adoption of an NSHCA, i.e., firms matched across Firm Size, ROA, MTB, Leverage, Sales Growth, Cash to Assets, industry and headquarter state. The sub-sample of matched firms in Panel C does not include firms incorporated in Delaware since these firms are larger and have different investment opportunities than the remaining firms incorporated in other states [42]. Finally, Panel D shows the impact of Non-Shareholder Constituencies Acts on corporate outcomes based on estimations including a different array of fixed effects structures. For the variable definitions, please see Appendix A. Standard errors are clustered at the state of incorporation level. *, **, and *** represent statistical significance at the 10%, 5% and 1% levels, respectively.

Chapter 3

CEO Overboard! Corporate Performance Consequences of CEO Participation in Other Boards

3.1 Introduction

Don't go "overboard"! In their recent policy papers, two of the largest U.S. proxy advisors strongly recommend against directors who sit on too many boards. Glass Lewis, for instance, terming it as "overboarding", said they would only recommend directors who serve on no more than five boards, instead of six. The limit is much more stringent for CEOs serving on boards which just got updated from three to two seats. BlackRock, the world's largest asset manager, cast 168 votes against directors this year owing to overboarding concerns [82]. These policy updates by proxy advisors are reflective of the rising concern that the directors may be stretching themselves too thin due to directorships becoming more time consuming. In the U.S., the number of hours devoted to the duties pertaining to directorship has increased by

18% over the previous decade. Indeed, recent research had highlighted the negative consequences of directors being too busy or distracted.

Most of the prior research has exclusively focused on the distraction of directors and how it affects the firms on whose board they sit [51, 53, 55, 92]. In contrast to the literature, in this paper we focus on the how the CEOs sit as directors on boards of other firms impacts the profitability of the focal employing firm. If CEOs are distracted due to their responsibilities as directors in other firms, the employing firms could be affected significantly.

We follow the intuition from [76] to measure CEO distraction. For each CEO, we first measure a shock as a variable that takes on a non-zero value if one of the firm in CEO's portfolio as independent director (not including the focal firm) receives an extreme positive or negative returns. We then weight this variable with the weight of each of these firm in the CEO's independent director portfolio (including the CEO's focal firm) and with how unimportant the CEO's focal firm is important to them. Thus, we give more weight to instances where the shocked directorship is relatively larger or focal firm is relatively smaller as such attention-grabbing event will have a greater impact. This measure of CEO distraction, by definition is orthogonal to the focal firm characteristics and actions of the CEO undertaken at their focal firm.

We then use a difference-in-difference strategy to estimate the impact of CEO distraction on the firm profitability. In all our specification, we include the firm and year fixed effects to rely on the within firm variation to estimate the impact of CEO distraction. Additionally, we control for whether the CEO sits on in another board and the market value of the firms in which CEO sits as an independent director. This implies that we are comparing changes in firm performance among firms that have a distracted CEO with changes among firms that do not have a distracted CEO while controlling for whether the CEO sits in another board as an independent director.

We find that the CEO's focal firm is significantly negatively affected when the

CEOs are distracted. We find that a one standard deviation increase in the CEO distraction results in a 0.023 lower return-on-asset for the focal firm compared to firms with a non-distracted CEO. The effect is economically sizable as the effect is comparable to the effect generated by having a one standard deviation increase in the proportion of busy directors sitting on the board. These results suggest that the attention-grabbing events at the other firms in which CEO sits as an independent director have an impact on the performance of the CEO's focal firm. The effect is transient in nature and lasts for up to two years after the year in which CEO became distracted.

We present heterogeneity tests that inform us when are CEOs more distracted. First, we distinguish between extreme positive and negative returns to analyze which shocks lead to a greater impact on the CEO's focal firm. We find that both the extreme positive and negative returns have a significant negative impact on the CEO's focal firm. In addition, we find that the impact is stronger if the CEO serves as a chair of the audit, compensation, and nominating committees in the other firm, with being chair of the audit committee resulting in the strongest negative impact on the CEO's focal firm. Finally, we find that the CEOs focal firm suffers more if the extreme returns occur at the firm which is geographically further away from the CEO's focal firm.

The results are robust to different ways of measuring distraction, and firm performance. In the baseline specification, we define shock as a dummy variable taking value of one if the firm on which CEO sits as an independent director receives an extreme return defined as top or bottom 15% of the returns. We show that the results are similar if instead we define shock equal to one for top or bottom 10%, 5%, and 1% of the returns. In the baseline specification, we concentrate on the firm's return-on-asset to measure firm performance. We show that the focal firm of the CEO under-performs other firms if we measure performance using annual market

returns, Tobin's Q, and return-on-equity.

Finally, we shed light on how CEO distraction impacts the CEO's outcomes. We find that the CEO distraction does not impact the salary and bonus received by the CEO. However, it impacts the total compensation received by the CEO. In addition, a higher CEO distraction results in a higher likelihood of forced CEO turnover.

This paper contributes to the vast body of literature on the importance of the CEOs. Several papers have shown that CEOs matter for the firm, and we contribute by showing that when CEOs are temporarily distracted by their outside directorships at other firms, their focal firm suffers a drop in performance. We also contribute to the limited attention literature in behavioral finance by showing that CEOs have limited attention and the distribution of this attention can alter corporate outcomes such as performance. Finally, we contribute to the literature on the executive and board of directors distraction [90, 92], where we show that CEOs acting as directors in other firms allocate their effort accordingly whenever they are affected by an attention shock in one of their outside directorships.

The remaining paper is organized as follows: Section 2 introduces the data and sample used in the study as well as the description of the main measures of CEO distraction. Section 3 explores the empirical setting and our main specification while Section 4 presents our main results. Section 6 discusses alternative analyses and robustness checks. Finally, Section 7 concludes.

3.2 Data and Sample

The focus of this paper is on CEOs that hold outside directorships at other boards. These individuals are presumably allocating most of their time and effort on the firm where they hold their CEO title. This is consistent with the strong monetary and reputational incentives CEOs possess. Nonetheless, we focus on attention-grabbing events that happen at other firms where CEOs participate as outside members and

we argue that these shocks generate enough distraction for the CEO that the performance of the focal firm worsens.

Data on CEOs and directors is obtained from BoardEx, a database that gathers biographical information about board members around the globe. BoardEx analysts gathers individuals' full history regarding employment, their education and other activities such as memberships, not-for-profit activities. BoardEx obtains its information from the United States from different sources such as the Securities and Exchange Commission (SEC), companies press releases, corporate websites, the NASDAQ and the NYSE. The database covers not only publicly traded firms, which represent around 70% of BoardEx but also privately held firms and other type of institutions such as universities and foundations. BoardEx allows to track how individuals are connected across organizations, which is key in our study as we focus on CEOs that are connected with other boards through their role as independent board members. BoardEx starts tracking individuals from 1999, increasing the scope of their data through to nowadays.

We also obtain market prices from CRSP, and financial accounting data and ZIP codes from Compustat. In additional analyses we make use of executive compensation data from Execucomp and use the United States Census Bureau 2018 Gazetteer Files for the translation of ZIP codes to geographical coordinates.[1]

We proceed as follows to match the different databases: first, we obtain information about directors' employment within BoardEx using their employment history to identify CEOs. Also, we identify in the same file whether CEOs hold the role of independent director in another firm simultaneously to that of CEO. Second, we merge the information on directors and board level controls obtained from BoardEx with the attention-grabbing shocks and controls from CRSP and Compustat. Throughout the paper we have data available for 4260 unique firms that we track over the period

[1]We obtain data on the latitude and longitude for US Zip codes from the US Census Bureau from the following URL: `https://www.census.gov/geo/maps-data/data/gazetteer2018.html`

1999-2016, although we do not have a balanced panel dataset.

3.2.1 Measuring CEO Distraction

Our main variable of interest is a firm-level proxy for how much the CEO is distracted in a given year due to their role as independent director at another firm. We are inspired by studies such as [90], which exploit independent directors' preferences of effort allocation over their different directorships and [76], which study how institutional investors get temporarily distracted by attention grabbing shocks. We call this proxy "distraction" and it is defined such that higher values of this measure indicate when CEOs are more distracted in their focal firms. In terms of our distracted CEO hypothesis, a higher distraction implies temporarily less attention to the operations of the focal firm.

The intuition behind CEO distraction and our measure is the following: a given CEO c in a focal firm i is more likely to be distracted if there is an attention-grabbing event in another firm where such CEO participates as an independent director, and that if that other firm is important for the CEO, i.e., the firm represents a large percentage of relative market value over the portfolio of different directorships in which the CEO participates in a given year [90]. These attention grabbing events should at the same time create less distraction for CEOs if their focal firm (where they hold the CEO status) is of relative importance in the portfolio of different directorships in which the CEO participates in a given year, i.e., if the relative market value of the focal firm with respect to the whole portfolio is greater. We first compute the weighted distraction that every independent directorship d generates for a CEO in a given year t, and later we aggregate it at the focal firm level i as:

$$Distraction_{it} = (1 - \omega_{it}) \times \sum_{d}^{D} Shock_{dt} \times \omega_{dt}, \tag{3.1}$$

where $Shock_{dt}$ captures whether an attention-grabbing event occurs in a directorship other than the one where the CEOs hold their status as chief officer and ω_{dt} represents how much CEO c cares about the shocked directorship. The weight $(1-\omega_{it})$ captures how important focal firm f is in CEO i's portfolio.

More specifically, we start calculating ω_{dt}, which indicates the market value weight a directorship d represents over the total portfolio of directorships (including the focal firm where CEOs hold their CEO status) in a given year t.[2] Secondly, we define $Shock_{dt}$ as a firm-level measure that indicates whether there is an attention-grabbing event going on in firm d at time t. In most of our tests, $Shock_{dt}$ is an indicator variable that takes the value one whenever a directorship shows extreme neutral returns. We define extreme neutral returns for a given firm d at year t where CEOs sit as independent directors as the top or bottom 15%, 10%, 5% or 1% returns from the distribution of firm d. These two terms measure whether there is something happening that could attract the time and attention from CEO c and whether this event happens at a firm that is of relative importance for such CEO. Finally, we define $(1-\omega_{it})$ where ω_{it} is the relative importance of the focal firm i in the portfolio of directorships for CEO c in year t. We give more weight to instances where the shocked directorship (focal firm) is relatively larger (smaller) and thus the attention-grabbing event will have a greater impact. We weight the measure twice as it could be that a CEO participates in three different directorships (including the focal firm), and including both weights provide a more complete view of the importance of the CEO distraction. Therefore, we define:

$$\omega_{dt} = \frac{MV_{dt}}{MV_{it} + \sum_{d}^{D} MV_{dt}}, \tag{3.2}$$

and

[2]Market value is calculated as *prcc_f*csho* from Compustat.

$$\omega_{it} = \frac{MV_{it}}{MV_{it} + \sum_{d}^{D} MV_{dt}}, \tag{3.3}$$

where MV_{it} and MV_{dt} are the market value of the focal firm and a firm where the CEO participates as an independent director.

To sum up, our measure of CEO distraction (Equation 3.1) depends on whether there are attention-grabbing events at other firms in which CEOs participate, whether those firms are of relative importance for the CEO and whether the focal firm is of relative unimportance for the CEO.

3.2.2 Descriptive Statistics

Table 3.1 shows the summary statistics for the main variables used in the paper. We see that mean of the CEO distraction according to the baseline measure is 0.02. We see that 26% of the CEOs sit as an independent director in another firm in a given year, with around 4% of the CEOs sitting as an independent director in another firm within the same industry.

3.3 Empirical Setting

In this section we discuss the main empirical strategy. We are interested in evaluating the impact of CEO distraction due to extreme returns at the other firm in which the CEO sits as an independent director. We estimate the following equation:

$$ROA_{i,t} = \alpha + \beta Distraction_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it},$$

where $ROA_{i,t}$ is the return-on-asset for firm i in the year t. $Distraction_{i,t}$ is the measure of CEO distraction which takes on a non-zero value if the CEO is distracted. In the baseline specification, we measure the distraction variable using different definitions of neutral shocks at 15%, 10% and 5% i.e. bottom and top 15%, 10% and 5%

performance in the firms where the CEO holds an independent director position. In the augmented specification, we explore whether the CEO's are more distracted due to positive or negative shocks. $Controls_{i,t-1}$ are one-period lagged firm controls. We include board controls such as the proportion of independent directors, proportion of busy directors in the focal firm, board size and board tenure; firm controls such as the firm size, market-to-book value, leverage, cash and sales growth; and CEO controls such as the tenure of the CEO, age and gender of the CEO.

Additionally, to account for differences in firm performance among firms that in which the CEO sits in another board, we control for whether the CEO holds a seat in another board as an independent director (Outside Seat) and the proportion of firms where CEOs sit as independent board members that are in the same industry (Pct Same Industry). To account for market size of the firms in which the CEO sits as an independent director, we control for the log of the average market value of firms where CEOs sit as independent directors (Mkv Other).

π_i denotes the firm fixed effects. This expression absorbs all the firm-specific time-invariant factors that may explain firm performance. Factors such as the location and the industry of the firm are absorbed by this term. τ_t accounts for the year effects which absorb shocks which are common to all the firms in a given year. This term absorbs shocks such as the business cycle fluctuations.

Our main parameter of interest is β. β measures how the performance of the focal firm changes with respect to a unit increase in the distraction of the CEO. For β to reflect an impact of distracted CEO and not some CEO or firm-specific factors, the measure of distraction needs to be orthogonal to the CEO and focal firm. Given that we focus on the attention-grabbing events at other firms in which CEOs participate, it is likely that these events are uncorrelated with the characteristics of the focal firm.

3.4 Main Results

Table 3.2 shows the main results. In all specifications, we include firm and year fixed effects and cluster the standard errors at the firm level. We see that a higher CEO distraction results in a lower firm performance for the focal firm. We see that a unit increase in the CEO distraction results in a 0.042 lower return-on-asset. This implies that a one standard deviation increase in the distraction results in a 0.023 standard deviation lower return-on-asset for the focal firm.

The effect is similar across the different definitions of CEO distraction. We measure CEO distraction using 15%, 10%, 5%, and 1% neutral returns in Columns 1, 2, 3, and 4, respectively. We see that the firms with distracted CEOs as measured according to 10%, 5%, and 1% extreme events in the firm where the CEO is an independent director leads to 0.038, 0.045, and 0.037 lower return-on-asset in the focal firm of the CEO.

We also see that the proportion of CEOs sitting in the board of other firms in the same industry do not have an impact on the performance of the focal firm. We see that a higher proportion of busy directors is associated with a 0.046 lower return-on-asset. Since the magnitudes and standard deviations of CEO distraction and busy directors are similar, these estimates suggest that the impact of a one standard deviation increase in the CEO distraction on the focal firm is similar to the impact of a one standard deviation increase in the proportion of busy directors.

3.5 Additional Results and Robustness

3.5.1 Additional Results

3.5.1.1 Impact of positive and negative shocks. In this section, we analyze how to positive and negative shocks at the firm in which CEO sits as a director. Are

CEOs more reactive to positive or negative shocks? In Table 3.3, we test whether the positive shocks grab more CEO attention than negative shocks. In Panel A, we see the estimates from the neutral shocks i.e. both positive and negative shocks. We see that these shocks lead to a 0.042 lower return-on-asset. In Panel B, we see how negative shocks at the firm in which CEO sits as director impacts CEO's focal firm. We see that negative shocks at the other firm in which CEO sits as a director leads to a 0.032 lower return-on-asset. In Panel C, we see how positive shocks impact CEO's focal firm. We see that positive shocks at the other firm in which CEO sits as a director leads to a 0.049 lower return-on-asset. The impact of a positive shock is 50% larger in magnitude compared to the negative shock. The results are robust across different definitions of positive and negative shocks. In Panel D, we test whether volatility shocks at the firm in which CEO sits as a director impact the firm performance at the focal firm. We see that the volatility shocks also result in lower firm performance at the CEO's focal firm. A standard deviation of return-on-asset at the top or bottom 10% leads to a 0.043 lower return-on-asset in the CEO's focal firm. These results paint a consistent picture that the CEO distraction due to positive, negative, and volatility shocks at the firm in which CEO sits as a director lead to a lower firm performance in the CEO's focal firm.

3.5.1.2 Horizon of impact. In this section, we analyze the dynamic impact of CEO distraction on firm performance. Table 3.5 shows the impact of CEO distraction on firm performance in the subsequent years. We see that the impact of CEO distraction lasts for two years i.e. the year and the year following the year in which CEO is distracted. We see that the firms with distracted CEO have a 0.016 lower return-on-asset in the year following the year in which CEO was distracted due to extreme events at the firm in which CEO sits as an independent director. The impact in the subsequent year is around 40% of the impact of CEO distraction in the year in which CEO is distracted.

We see a similar dynamic pattern across different definitions of firm performance. We see that the impact of a distracted CEO on annual market returns last for two years as well. The annual market return are 1 percentage point lower in the year following the year in which CEO is distracted. These estimates are three times larger than the impact of CEO distraction on the annual market return in the year in which CEO is distracted. This suggests that it takes some time for the impact of CEO distraction to reflect into the market returns.

In Panel C, we measure the impact of CEO distraction on the long-term firm performance as measured by Tobin's Q. We see that the impact of CEO distraction on firm performance lasts for three years following the CEO distraction. CEO distraction results in a 0.161 and 0.096 lower Tobin's Q in the year $t+1$ and year $t+2$, respectively. Finally, in Panel D, we see that the impact of CEO distraction on return-on-equity does not extend to the subsequent years. Together, these results show that the impact of CEO distraction on firm performance lasts for one year after the distraction.

3.5.1.3 Committee chairmanship. The CEO distraction stemming from CEOs sitting on board of other firms maybe more if these individuals have important role in the board. In this section, we test whether CEOs having an important role in the board leads to a greater loss in firm profitability in the focal firm. Specifically, we analyze CEO distraction due to role of CEO as a chairperson of one of the three committees: audit, compensation, and nomination.

Table 3.6 shows the results. We see that a shock in the profitability of the firm in which CEO sits as an independent director leads to a 0.060 lower return-on-asset in the CEO's focal firm if the CEO is chairperson of one of the three committees. On the contrast, similar shock leads to a 0.038 lower return-on-asset in the CEO's focal firm if the CEO is not the chairperson of one of the three committees.

The three key committees: audit, compensation, and nomination committees may

require different level of attention as a result of a shock to the firm profitability. In Columns 2 to 5, we specifically test how the impact on the focal firm differs depending on whether the CEO is a chairperson of each of these three different committees. In Column 2, we see that the return-on-asset of the focal firm decreases by 0.047 if the CEO is chairperson of the audit committee compared to 0.039 if the CEO is not chairperson of the audit committee. Similarly, we see that the return-on-asset decreases by 0.019 and 0.044 if the CEO is the chairperson of the compensation and nomination committee respectively, relative to 0.048 and 0.042 if the CEO is not the chairperson of the compensation and nomination committee respectively. These results suggest that being the chairperson of the audit and nomination committees require more CEO attention relative to the compensation committee.

3.5.1.4 Geographic Distance. The CEO distraction maybe greater or lower depending on the geographic distance of the firm in which CEO sits as an independent director. Firms which are close maybe easier to monitor and consume less time and attention of the CEO. In this section, we test whether CEOs are more distracted by firms which are geographically close to their focal firm.

Table 3.7 shows the results. We define far and near as dummy variables equal to one if the geogprahic distance between the firm in which CEO sits as an independent director and focal firm of the CEO is less than median and greater than the median, respectively. We see that the shock to firm in which CEO sits as an independent director results in a greater decrease in firm profitability if the firm is geographically far from the CEO's focal firm. We see that a shock results in a 0.045 lower return-on-asset if the firm is geographically further away from the CEO's focal firm, while it results in a 0.028 lower return-on-asset if the firm is geographically close to the CEO's focal firm.

3.5.1.5 CEO outcomes. Does CEO distraction result in any change in CEO outcomes? In this section, we explore whether CEO distraction impacts the CEO outcomes. Specifically, we are interested in whether the distraction impacts the CEO compensation and CEO turnover. Table 3.8 shows the impact of distraction on CEO outcomes. We see that CEO distraction does not impact the salary (Column 1) and bonus (Column 2) of the CEO. On the other hand, we see that CEO distraction results in a lower total compensation. We see that the total compensation of distracted CEOs is 593 lower (Column 3).

In Columns 4 to 6, we study whether the CEO turnover is affected by the CEO distraction. We see that CEO distraction does not change the probability of unconditional CEO turnover (Column 4). However, once we condition the CEO turnover on the market return or return-on-asset, we see that CEO distraction leads to a higher CEO turnover. Specifically, we see CEO distraction leads to a 2.3 and 2.2 percentage points higher CEO turnover conditioning for market returns and return-on-asset increases, respectively. These results suggest a 10% increase in the probability of CEO turnover for an average firm.

3.5.2 Robustness

3.5.2.1 Alternate measures of performance. In this section, we show that the results are robust to alternate ways of measuring firm performance. Table 3.4 shows the results. In Panel A, we measure the performance using annual market return. We see that firms with distracted CEOs have a 0.3 to 1.6 percentage points lower annual market return depending on the definition of distraction. In Panel B, we see measure the impact of CEO distraction on firm's long term performance as measured by Tobin's Q. We see that firms with a distracted CEO has a 0.45 to 0.28 lower Tobin's Q according to different definitions of distraction. Finally, in Panel C, we measure the impact of CEO distraction on firm performance using return-on-

equity as a measure for firm performance. We see that a distracted CEO results in 0.069 to 0.094 lower return-on-equity according to different measures of distraction. These results together show that the impact of CEO distraction on firm performance is robust not only to different cut-offs of defining CEO distraction, but also to various different measures of firm performance.

3.6 Conclusion

In this paper, we analyze the impact of CEO distraction on firm performance. We measure CEO distraction as the transient extreme positive or negative returns in the firms in which CEO sits as an independent director. We find that the CEO's focal firm suffers as a result of these attention-grabbing events in the firms among CEO's directorship portfolio. A one standard deviation increase in the CEO distraction results in a 0.023 standard deviation lower return-on-asset in the CEO's focal firm. The effect is stronger if the CEO serves as a chair in one of the committees in the other firm and the firm is geographically distant from the CEO's focal firm. We also show that these distraction events also lead to lower CEO compensation and higher forced turnover. These results suggest that CEO distraction can be costly for the focal firm.

Table 3.1: Sample Descriptive Statistics.

	Observations	Mean	Std Dev	P25	P50	P75
ROA	25708	-0.02	0.22	-0.02	0.04	0.08
Return	25468	0.02	0.03	0	0.01	0.03
Tobin_Q	25708	1.92	1.61	0.97	1.42	2.23
ROE	25705	-0.01	0.65	-0.03	0.08	0.16
Distraction_15/85_Neutral	25708	0.02	0.12	0	0	0
Distraction_10/90_Neutral	29223	0.02	0.09	0	0	0
Distraction_5/95_Neutral	32437	0.01	0.07	0	0	0
Distraction_1/99_Neutral	34163	0	0.05	0	0	0
Distracted_15/85_Neutral	25708	0.07	0.26	0	0	0
Distraction_15/85_Negative	29896	0.01	0.09	0	0	0
Distraction_15/85_Positive	32163	0.01	0.08	0	0	0
Distraction_15/85_Volatility	31755	0.01	0.08	0	0	0
Salary	12821	776.51	344.72	519.62	737.31	996.44
Bonus	12821	326.50	696.59	0	0	332.46
Compensation	12769	5494.63	5477.78	1761.37	3796.37	7156.47
Turnover	25708	0.20	0.40	0	0	0
Forced_Turnover (Return)	25708	0.03	0.18	0	0	0
Forced_Turnover (ROA)	25708	0.04	0.19	0	0	0
Pct_Same_Industry	25708	0.04	0.2	0	0	0
Pct_Busy	25708	0.07	0.11	0	0	0.12
Pct_Ind	25708	0.71	0.17	0.6	0.75	0.86
Outside_Seat	25708	0.26	0.44	0	0	1
Mkv_Other	25708	6.67	2.48	4.97	6.52	8.16
CEO_Tenure	25708	9.02	7.81	3	7	12
CEO_Age	25708	55.69	8.22	50	56	61
Female_CEO	25708	0.03	0.17	0	0	0
Board_Tenure	25708	6.99	3.45	4.5	6.44	8.86
Board_Size	25708	8.58	1.30	7.02	9.03	9.97
Firm_Size	25708	6.1	1.99	4.67	6.07	7.48
MTB	25708	3.24	4.77	1.36	2.25	3.81
Leverage	25708	0.2	0.2	0.01	0.15	0.31
Cash	25708	0.22	0.23	0.04	0.14	0.32
Sales_Growth	25708	0.14	0.45	-0.02	0.07	0.2

ROA is measured as the ratio between net income before special items (ib) over total assets (at). **ROE** is measured as the ratio between net income before special items (ib) over the book value of common equity (ceq). **Tobin_Q** is measured as the ratio between the market value of equity (csho*prcc_f), plus debt in short-term liabilities (dlc), plus long-term debt (dltt), plus the liquidating value of preferred shares (pstkl) and plus the accumulated tax deferrals (txdb), over the book value of total assets (at). **Return** is the yearly-average return at the fiscal year end. **Distraction_15/85_Neutral** is the measure of CEO distraction generated by extreme positive and negative returns in firms where the CEO holds an independent director position. These shocks are defined as the bottom or top 15% of the sample time series distribution of a firms' return for **Distraction_15/85_Neutral**. **Distraction_10/90_Neutral** is the measure of CEO distraction generated by extreme positive and negative returns in firms where the CEO holds an independent director position. These shocks are defined as the bottom or top 10% of the sample time series distribution of a firms' return for **Distraction_10/90_Neutral**. **Distraction_5/95_Neutral** is the measure of CEO distraction generated by extreme positive and negative returns in firms where the CEO holds an independent director position. These shocks are defined as the bottom or top 5% of the sample time series distribution of a firms' return for **Distraction_5/95_Neutral**. **Distraction_1/99_Neutral** is the measure of CEO distraction generated by extreme positive and negative returns in firms where the CEO holds an independent director position. These shocks are defined as the bottom or top 1% of the sample time series distribution of a firms' return for **Distraction_1/99_Neutral**. **Distracted_15/85_Neutral** is an indicator variable that takes the value 1 whenever there are extreme positive or negative returns in firms where the CEO holds an independent director position. These shocks are defined as the bottom or top 15% of the sample time series distribution of a firms' return for **Distracted_15/85_Neutral**. **Distraction_15/85_Negative** is the measure of CEO distraction generated by extreme negative returns in firms where the CEO holds an independent director position. These shocks are defined as the bottom 15% of the sample time series distribution of a firms' return for **Distraction_15/85_Negative**. **Distraction_15/85_Positive** is the measure of CEO distraction generated by extreme positive returns in firms where the CEO holds an independent director position. These shocks are defined as the top 15% of the sample time series distribution of a firms' return for **Distraction_15/85_Positive**. Distraction_15/85_Volatility is the measure of CEO distraction generated by extreme volatility (volatility is calculated as the annual standard deviation of monthly returns) in firms where the CEO holds an independent director position. These shocks are defined as the top 15% of the sample time series distribution of a firms' volatility for **Distraction_15/85_Volatility**. **Salary** is the inflation-adjusted annual fixed salary (in thousands of USD) of a CEO. **Bonus** is the inflation-adjusted annual bonus (in thousands of USD) of a CEO. **Compensation** is the inflation-adjusted total annual compensation (in thousands of USD) of a CEO. **Turnover** is an indicator variable that takes the value one whenever CEOs are in the final year of their tenure. **Forced_Turnover (Return)** is an indicator variable that takes the value one whenever CEOs are in the final year of their tenure and the firm's market return in the previous year is at the bottom quartile of the industry-year distribution. **Forced_Turnover (ROA)** is an indicator variable that takes the value one whenever CEOs are in the final year of their tenure and the firm's ROA in the previous year is at the bottom quartile of the industry-year distribution. **Pct_Same_Industry** measures the percentage of firms where CEOs sit as independent board members and that are classified in the same 2-digit SIC code as the CEO focal firm. **Pct_Busy** is the percentage of independent directors that hold at least three board seats in a given year. **Pct_Ind** is the percentage of independent directors in a given year. **Outside_Seat** is an indicator variable that takes the value one whenever the CEO holds a seat in another board as an independent director. **Mkv_Other** is the natural logarithm of the average market value of firms where CEOs sit as independent directors. **CEO_Tenure** is the number of years that a CEO has held their role as CEO. **CEO_Age** is the age of the CEO. **Female_CEO** is an indicator variable that takes the value one if the CEO is of female gender. **Board_Tenure** is the average number of years that Independent Directors have held their role in the firm. **Board_Size** is the number of board members in a given firm and year. **Firm_Size** is the natural logarithm of total assets (ln(at)). **MTB** is the market-to-book ratio calculated as the ratio between a firm's market value of equity (prcc_f*csho) and book value of equity (ceq). **Leverage** is the ratio between total debt (dlc + dltt) and total assets (at). **Cash** is the cash-to-assets ratio measured as cash (ch) divided by total assets (at). **Sales_Growth** is the growth rate of sales ($(\text{sale}_t\text{-sale}_{t-1})/\text{sale}_t$).

Table 3.2: The Effect of CEO Distraction on Operating Performance.

Dep. Var: ROA	(1)	(2)	(3)	(4)
Neutral Shocks	15/85	10/90	5/95	1/99
Distraction	-0.042***	-0.038***	-0.045***	-0.037*
	(-5.109)	(-3.981)	(-3.192)	(-1.945)
Pct_Same_Industry	0.007	0.004	0.010	0.012
	(0.746)	(0.466)	(1.063)	(1.311)
Pct_Busy	-0.046***	-0.057***	-0.055***	-0.052***
	(-3.100)	(-3.846)	(-3.818)	(-3.725)
Pct_Ind	0.061***	0.059***	0.059***	0.055***
	(3.648)	(3.621)	(3.808)	(3.654)
Outside_Seat	-0.016***	-0.016***	-0.014***	-0.013***
	(-4.122)	(-4.147)	(-3.747)	(-3.536)
Mkv_Other	0.012***	0.011***	0.010***	0.009***
	(7.508)	(7.239)	(6.564)	(6.229)
CEO_Tenure	-0.001**	-0.001**	-0.001*	-0.001*
	(-2.062)	(-2.169)	(-1.955)	(-1.850)
CEO_Age	0.000	0.000	0.000	0.000
	(0.762)	(1.046)	(0.858)	(0.724)
Female_CEO	-0.018	-0.014	-0.013	-0.012
	(-1.420)	(-1.159)	(-1.143)	(-0.992)
Board_Tenure	0.002***	0.002***	0.002***	0.002***
	(3.643)	(3.361)	(3.291)	(3.410)
Board_Size	0.001	0.005	0.008	0.013
	(0.096)	(0.473)	(0.824)	(1.359)
Firm_Size	-0.015***	-0.012***	-0.014***	-0.016***
	(-3.131)	(-2.681)	(-3.425)	(-3.968)
MTB	0.002***	0.002***	0.002***	0.002***
	(4.399)	(4.801)	(4.925)	(5.222)
Leverage	-0.033*	-0.040**	-0.041**	-0.046***
	(-1.844)	(-2.330)	(-2.392)	(-2.698)
Cash	-0.000	0.002	-0.004	-0.004
	(-0.008)	(0.137)	(-0.220)	(-0.250)
Sales_Growth	0.003	0.004	0.002	0.004
	(0.646)	(0.838)	(0.533)	(1.029)
Constant	-0.071*	-0.095***	-0.078**	-0.065*
	(-1.902)	(-2.671)	(-2.187)	(-1.871)
Observations	25,708	29,223	32,437	34,163
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes
Adj. R2	0.0167	0.0153	0.0141	0.0141

This table depicts the results from the fixed effects estimation of the following equation:

$$ROA_{i,t} = \alpha + \beta Distraction_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}$$

For Column (1) the measure of CEO distraction is **Distraction_15/85_Neutral**, for Column (2) the measure is **Distraction_10/90_Neutral**, for Column (3) is **Distraction_5/95_Neutral** and for Column (4) is **Distraction_1/99_Neutral**. Neutral shocks are defined as the bottom or top 15% of the return distribution of a given firm. Coefficients are reported with t-statistics in parentheses. Robust standard errors are clustered at the firm level. All variables are defined in Table 3.1. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 3.3: Alternative Shocks to CEO Distraction.

Dep. Var: ROA				
Panel A	(1)	(2)	(3)	(4)
Dummy Indicator (Neutral Shocks)	*15/85*	*10/90*	*5/95*	*1/99*
Distracted	-0.007**	-0.007*	-0.005	-0.002
	(-2.140)	(-1.939)	(-1.105)	(-0.291)
Observations	25,708	29,223	32,437	34,163
Adj. R2	0.0158	0.0148	0.0137	0.0140
Panel B				
Negative Shocks	*15*	*10*	*5*	*1*
Distraction	-0.032***	-0.029***	-0.035**	-0.037*
	(-3.433)	(-2.731)	(-2.030)	(-1.945)
Observations	29,896	31,707	33,422	34,163
Adj. R2	0.0150	0.0146	0.0140	0.0141
Panel C				
Positive Shocks	*85*	*90*	*95*	*1*
Distraction	-0.049***	-0.039***	-0.051**	-
	(-4.041)	(-2.758)	(-2.216)	
Observations	32,163	33,860	35,356	36,341
Adj. R2	0.0153	0.0140	0.0134	0.0133
Panel D				
Volatility Shocks	*85*	*90*	*95*	*1*
Distraction	-0.025	-0.043***	-0.036*	-
	(-1.454)	(-2.581)	(-1.655)	
Observations	31,755	33,497	35,140	36,341
Adj. R2	0.0128	0.0120	0.0133	0.0133

This table depicts the results from the fixed effects estimation of the following equation:

$$ROA_{i,t} = \alpha + \beta Distraction_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}$$

Panel A uses a dummy indicator that takes the value one whenever a CEO that participates as an independent director in another board that is affected by a neutral shock. Neutral shocks are defined as the bottom or top 15% (Column (1) panel A), 10% (Column (2) panel A), 5% (Column (3) panel A) and 1% (Column (4) panel A) of the return distribution of a given firm. Panel B uses as shocks to CEO distraction negative events defined as the bottom 15% (Column (1) panel B), 10% (Column (2) panel B), 5% (Column (3) panel B) and 1% (Column (4) panel B) of the return distribution of a given firm. Panel C uses as shocks to CEO distraction positive events defined as the top 15% (Column (1) panel C), 10% (Column (2) panel C), 5% (Column (3) panel C) and 1% (Column (4) panel C) of the return distribution of a given firm. Panel D uses as shocks to CEO distraction extreme volatility events defined as the top 15% (Column (1) panel D), 10% (Column (2) panel D), 5% (Column (3) panel D) and 1% (Column (4) panel D) of the volatility distribution of a given firm's returns. All regressions include firm FE and year FE and Controls from Table 3.2. Coefficients are reported with t-statistics in parentheses. Robust standard errors are clustered at the firm level. All variables are defined in Table 3.1. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 3.4: Alternative Measures of Performance.

Neutral Shocks	(1)	(2)	(3)	(4)
Panel A: Market Return	*15/85*	*10/90*	*5/95*	*1/99*
Distraction	-0.003**	-0.004**	-0.008***	-0.016***
	(-2.071)	(-2.149)	(-2.862)	(-3.538)
Observations	25,465	28,980	32,195	33,921
Adj. R2	0.0306	0.0429	0.0577	0.0737
Panel B: Tobin's Q	*15/85*	*10/90*	*5/95*	*1/99*
Distraction	-0.448***	-0.411***	-0.280***	-0.301***
	(-8.089)	(-6.221)	(-3.760)	(-3.447)
Observations	25,709	29,224	32,438	34,164
Adj. R2	0.128	0.121	0.116	0.115
Panel C: ROE	*15/85*	*10/90*	*5/95*	*1/99*
Distraction	-0.094***	-0.072**	-0.071*	-0.069
	(-2.877)	(-2.012)	(-1.676)	(-1.183)
Observations	25,705	29,218	32,430	34,156
Adj. R2	0.0157	0.0138	0.0147	0.0148

This table depicts the results from the fixed effects estimation of the following equation:

$$Performance_{i,t} = \alpha + \beta Distraction_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}$$

Panel A uses as dependent variable (performance measure) market returns, Panel B uses Tobin's Q and Panel C uses return on equity. For Column (1) the measure of CEO distraction is **Distraction_15/85_Neutral**, for Column (2) the measure is **Distraction_10/90_Neutral**, for Column (3) is **Distraction_5/95_Neutral** and for Column (4) is **Distraction_1/99_Neutral**. Neutral shocks are defined as the bottom or top 15% of the return distribution of a given firm. All regressions include firm FE and year FE and Controls from Table 3.2. Coefficients are reported with t-statistics in parentheses. Robust standard errors are clustered at the firm level. All variables are defined in Table 3.1. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 3.5: Horizon of the Impact of CEO Distraction on Performance.

Panel A	(1) ROA_{t+1}	(2) ROA_{t+2}	(3) ROA_{t+3}	(4) ROA_{t+4}
Distraction_15/85_Neutral	-0.016**	-0.003	0.006	0.006
	(-2.007)	(-0.429)	(0.795)	(0.792)
Observations	22,590	19,919	17,655	15,389
Adj. R2	0.00822	0.00864	0.00858	0.0121
Panel B	$Return_{t+1}$	$Return_{t+2}$	$Return_{t+3}$	$Return_{t+4}$
Distraction_15/85_Neutral	0.010***	0.003	0.004	0.002
	(3.873)	(1.045)	(1.522)	(0.663)
Observations	22,408	19,785	17,551	15,323
Adj. R2	0.0436	0.0139	0.00972	0.00335
Panel C	$Tobin\_Q_{t+1}$	$Tobin\_Q_{t+2}$	$Tobin\_Q_{t+3}$	$Tobin\_Q_{t+4}$
Distraction_15/85_Neutral	-0.161***	-0.096*	-0.003	-0.056
	(-2.926)	(-1.726)	(-0.041)	(-0.955)
Observations	22,591	19,920	17,656	15,390
Adj. R2	0.0553	0.0270	0.0219	0.0170
Panel D	ROE_{t+1}	ROE_{t+2}	ROE_{t+3}	ROE_{t+4}
Distraction_15/85_Neutral	-0.020	-0.014	0.026	0.025
	(-0.524)	(-0.338)	(0.834)	(0.706)
Observations	22,587	19,915	17,654	15,386
Adj. R2	0.00630	0.00472	0.00393	0.00457

This table depicts the results from the fixed effects estimation of the following equations:

$$ROA_{i,(t+y)} = \alpha + \beta Distraction\_15/85\_Neutral_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}; \quad y = 1,2,3,4. \quad \text{(Panel A)}$$

$$Return_{i,(t+y)} = \alpha + \beta Distraction\_15/85\_Neutral_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}; \quad y = 1,2,3,4. \quad \text{(Panel B)}$$

$$Tobin\_Q_{i,(t+y)} = \alpha + \beta Distraction\_15/85\_Neutral_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}; \quad y = 1,2,3,4. \quad \text{(Panel C)}$$

$$ROE_{i,(t+y)} = \alpha + \beta Distraction\_15/85\_Neutral_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}; \quad y = 1,2,3,4. \quad \text{(Panel D)}$$

Table 3.5 shows the impact of CEO distraction generated by neutral shocks defined as extreme positive and negative events at boards where the CEO participates as an independent director. Neutral shocks are defined in this Table as the bottom or top 15% returns from the return distribution of a given firm. All regressions include firm FE and year FE and Controls from Table 3.2. Coefficients are reported with t-statistics in parentheses. Robust standard errors are clustered at the firm level. All variables are defined in Table 3.1. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 3.6: The Impact of Chair and Subcommittee Participation.

Dep. Var.: ROA	(1)	(3)	(4)	(5)
Distraction_15/85_Neutral*Chair_Yes	-0.060***			
	(-2.842)			
Distraction_15/85_Neutral*Chair_No	-0.038***			
	(-4.398)			
Distraction_15/85_Neutral*Audit_Comm_Yes		-0.047***		
		(-3.486)		
Distraction_15/85_Neutral*Audit_Comm_No		-0.039***		
		(-3.967)		
Distraction_15/85_Neutral*Comp_Comm_Yes			-0.019	
			(-1.416)	
Distraction_15/85_Neutral*Comp_Comm_No			-0.048***	
			(-5.188)	
Distraction_15/85_Neutral*Nom_Comm_Yes				-0.044
				(-0.970)
Distraction_15/85_Neutral*Nom_Comm_No				-0.042***
				(-5.087)
Observations	25,708	25,708	25,708	25,708
Controls?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes
Adj. R2	0.0168	0.0167	0.0169	0.0167

This table depicts the results from the fixed effects estimation of the following equation:

$$ROA_{i,t} = \alpha + \beta_1 Interaction_{1,,i,t} + \beta_2 Interaction_{2,i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}$$

Table 3.6 shows the cross-sectional differences of CEO participation in sub-committees of firms where they hold an independent director position. CEO distraction is generated by neutral shocks defined as extreme positive and negative events at boards where the CEO participates as an independent director. Neutral shocks are defined in this Table as the bottom or top 15% returns from the return distribution of a given firm. **Chair_Yes** is a dummy variable that takes the value 1 whenever the neutral shock stems from a board in which the CEO holds the title of Chairperson of a major subcommittee (audit, compensation or nominating committee). **Chair_No** is a dummy variable that takes the value 1 whenever the neutral shock stems from a board in which the CEO does not hold the title of Chairperson of a major subcommittee (audit, compensation or nominating committee). **Audit_Comm_Yes** is a dummy variable that takes the value 1 whenever the neutral shock stems from a board in which the CEO participates as a member of the audit committee. **Audit_Comm_No** is a dummy variable that takes the value 1 whenever the neutral shock stems from a board in which the CEO does not participate as a member of the audit committee. **Comp_Comm_Yes** is a dummy variable that takes the value 1 whenever the neutral shock stems from a board in which the CEO participates as a member of the compensation committee. **Comp_Comm_No** is a dummy variable that takes the value 1 whenever the neutral shock stems from a board in which the CEO does not participate as a member of the compensation committee. **Nom_Comm_Yes** is a dummy variable that takes the value 1 whenever the neutral shock stems from a board in which the CEO participates as a member of the nominating committee. **Nom_Comm_No** is a dummy variable that takes the value 1 whenever the neutral shock stems from a board in which the CEO does not participate as a member of the nominating committee. All regressions include firm FE and year FE and Controls from Table 3.2. Coefficients are reported with t-statistics in parentheses. Robust standard errors are clustered at the firm level. All variables are defined in Table 3.1 except for those defined above. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 3.7: The Impact of Geographical Distance.

Dep. Var.: ROA	(1)	(2)	(3)	(4)
Neutral Shocks	15/85	10/90	5/95	1/99
Distraction*Far	-0.045***	-0.043***	-0.053***	-0.048**
	(-4.822)	(-3.832)	(-3.168)	(-2.211)
Distraction*Near	-0.028**	-0.021	-0.013	0.012
	(-1.963)	(-1.252)	(-0.711)	(0.352)
Observations	25,708	29,223	32,437	34,163
Control?	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes
Adj. R2	0.0168	0.0153	0.0141	0.0142

This table depicts the results from the fixed effects estimation of the following equation:

$$ROA_{i,t} = \alpha + \beta_1 Distraction * Far_{i,t} + \beta_2 Distraction * Near_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}$$

Table 3.7 shows the cross-sectional differences of CEO participation in sub-committees of firms where they hold an independent director position. CEO distraction is generated by neutral shocks defined as extreme positive and negative events at boards where the CEO participates as an independent director. Neutral shocks are defined in this Table as the bottom or top 15% returns from the return distribution of a given firm. **Far** is a dummy variable that takes the value 1 whenever the geographical distance from the focal firm to the shocked firm is above the median geographical distance between focal firms and the firms where CEOs (of the focal firm) participate as independent board members. **Near** is a dummy variable that takes the value 1 whenever the geographical distance from the focal firm to the shocked firm is above the median geographical distance between focal firms and the firms where CEOs (of the focal firm) participate as independent board members. All regressions include firm FE and year FE and Controls from Table 3.2. Coefficients are reported with t-statistics in parentheses. Robust standard errors are clustered at the firm level. All variables are defined in Table 3.1 except for those defined above. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

Table 3.8: The Impact of CEO Distraction on CEO Outcomes

	(1) Salary	(2) Bonus	(3) Compensation	(4) Turnover	(5) Forced Turnover (Return)	(6) Forced Turnover (ROA)
Distraction_Neutral_15/85	2.791	-32.443	-593.263**	0.020	0.023**	0.022*
	(0.239)	(-0.818)	(-2.240)	(0.860)	(2.196)	(1.694)
Observations	12,821	12,821	12,769	25,709	25,709	25,709
Controls?	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE?	Yes	Yes	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2	0.0909	0.0132	0.0336	0.0263	0.0190	0.0105

This table depicts the results from the fixed effects estimation of the following equation:

$$CEO\_Outcome_{i,t} = \alpha + \beta Distraction\_Neutral\_15/85_{i,t} + \gamma' Controls_{i,t-1} + \pi_i + \tau_t + \varepsilon_{it}$$

For Column (1) the measure of CEO outcome is **Salary**, for Column (2) the measure is **Bonus**, for Column (3) is **Compensation**, for Column (4) is **Turnover** and for Columns (5) and (6) the measures are **Forced Turnover (Return)** and **Forced Turnover (ROA)**. Neutral shocks are defined as the bottom or top 15% of the return distribution of a given firm. All regressions include firm FE and year FE and Controls from Table 3.2. Coefficients are reported with t-statistics in parentheses. Robust standard errors are clustered at the firm level. All variables are defined in Table 3.1. ***, **, and * represent significance levels at the 1%, 5%, and 10% levels, respectively.

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