Beyond Independence: CEO Influence and the Internal Operations of the Board

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Using a detailed dataset on the meeting sub-structure of the board, this paper investigates the time trends and cross-sectional determinants of internal boardroom control. First, I document that the principal governance reform following Sarbanes–Oxley was the removal of the CEO as a participating member in board monitoring and investment decisions. Consistent with this being against the preferences of the average CEO, I find that CEO power is negatively related to monitoring work handled outside of the CEO's presence and positively related to board-time spent in the executive committee. Together the results highlight internal operations as governance concerns of the modern board.

Keywords: Corporate governance; boards of directors; Sarbanes–Oxley.

1. Introduction

Beginning in the early 1980s, shareholder advocacy groups, academics, and institutions devoted to corporate governance issues started calling for increased outside director representation on U.S. boards.[1] Accompanying these demands for board reform, the composition of the average board changed in a material manner over the latter half of the 20th century, with the fraction of outside directors serving on the board roughly increasing from 50% to 80%.[2]

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[1] See the American Law Institute (1982) and The Business Roundtable (1997) for evidence pertaining to governance advocacy groups' demands for greater board independence.
[2] Lehn *et al.* (2005) study the evolution of 81 firms over time and note that independence increased from 50% to 83% during the second half of the 20th century. Coles *et al.* (2008) provide similar evidence which demonstrates that the median percent of insiders on the board had shrunk to 20% over the 1990s.

Moreover, by the time that the NYSE and NASDAQ first formally imposed board independence requirements in 1999 for firms listed on their exchanges, the vast majority of firms already had 'outsider-dominated' boards, and further, many firms had the CEO sitting as the sole inside director on the board.

Despite this level of board independence, a series of corporate malfeasance, accounting, and backdating scandals occurred at the turn of the 21st century. If these corporate failures were at least partially attributable to lax oversight on the part of the board, this suggests that the mere presence of many outside directors on the board might not be sufficient. If CEOs have the ability to alter the monitoring operations of the board through alternative channels, such as presiding over the decisions made on the board, or implementing policies removed from the oversight of the full board (via the executive committee), then the high level of board independence witnessed at the time of the scandals does not necessarily imply that CEOs had forfeited their control or influence over board proceedings. Nor does it mean that the overwhelming number of 'outsider-dominated' boards which existed at this point in time were, in fact, dominated by outside directors. Therefore, to have a clearer picture of both control within the boardroom, and how CEO influence over the board has truly changed over time, a deeper and more robust understanding of the internal workings of the board seems imperative.

In this paper, I explore such an alternative dimension of 'independence' on the board: the extent to which outside directors are able to handle their board responsibilities removed from the influence of the CEO, or conversely, the CEO's ability to control the internal monitoring and investment decision-making processes of the board.

Using a detailed, hand-collected dataset on board committee and meeting structure, I proxy for outside directors' control over board proceedings using the fraction of meetings which outside directors hold in independent monitoring committees (audit, compensation, nominating) removed from the CEO's voting influence. This measure, often noted as 'the fraction of meetings held in independent monitoring committees' or 'the fraction of board work controlled by outside directors', is constructed as the ratio of the number of meetings which outside directors hold in independent committees to the number of meetings which the CEO presides over (has a voting stake in).

Implicit in the construction of this measure is the idea that having directors perform their board responsibilities in the presence of management can alter board oversight and may benefit the CEO in some manner. Past

research and anecdotal evidence on the inner-workings of boards provide support for this contention. Charles Elson notes that directors face significant pressure when speaking in front of the executive officers of the firm: "In a boardroom, there is nothing more difficult to do than to talk about the CEO while the CEO is present."[3] If CEOs desire to control board oversight, then this measure appropriately functions to capture the operational control over monitoring decisions on the board and the degree to which outside directors handle their duties free from CEO interference.

With this measure of internal board control, I empirically investigate how CEO influence over the operations of the board has changed over time. Following the various corporate malfeasance scandals of 2000–2002, the Sarbanes–Oxley Act of 2002 (SOX) and the NYSE/NASDAQ listing requirement changes in 2003 were enacted with the intention of being a comprehensive solution to the governance problems which brought about the scandals. Yet, since most firms were already in compliance with the board independence mandates, did these events have any real impact on the CEO's control over the board? Examining board changes for a sample of 586 NYSE firms, I document that the structure of the board underwent a significant transformation between 1999 and 2005, not in terms of size or independence, but in terms of the internal decision-making processes on the board.

While board independence increased a marginal 5% between 1999 and 2005, the structural form of the average board transitioned from one where the CEO was present for and had a voting stake in the majority of board meetings, to a structural form where the vast majority of board meetings were held by outside directors in independent committees, removed from the CEO's voting influence. In particular, in 1999 the average CEO presided over 9.10 meetings a year, while outside directors held a total of 8.56 meetings in the independent monitoring committees (3.48 audit meetings, 3.98 compensation meetings, and 1.11 nominating meetings). By 2005, the average CEO presided over 8.59 meetings a year, while outside directors held a total of 18.42 meetings in the independent monitoring committees (9.15 audit meetings, 5.45 compensation meetings, and 3.82 nominating meetings). This implies that 48% of board meetings were held in independent committees in 1999, and 68% of board meetings were held in independent committees in 2005. The fact that the CEO presided over fewer board meetings, in

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[3]See 'Emerging Trends in Corporate Governance', a supplement to *Corporate Board Member*, 2001. Further, see Mace (1986) which details a case study where an independent director was removed from the firm's proxy statement after openly disagreeing with management during a board meeting.

conjunction with the significant increase in work allocation to independent monitoring committees, suggest that the CEO's influence over the monitoring decision-making processes on the board decreased over this period.

Though these results highlight a shift in board oversight control, equally important to our understanding of how board structure changed during this period is the control over the investment operations of the board. If the executive committee functions as an environment where the CEO may implement policy decisions (i.e., dividend and capital structure changes) with far fewer outside directors scrutinizing such decisions, then how did the operations of this committee change surrounding the regulatory events of 2002–2003? I document that in 1999 32% of firms held one or more meetings in the executive committee, while by 2005 only 19% of firms held one or more executive committee meetings. In a similar manner, examining the average number of meetings held in the committee, the fraction of board-time spent by the CEO in the executive committee decreased by 40% over this time period. Together, these findings support the contention that the CEO's ability to side-step the oversight of the full board and implement policy/ investment decisions through the executive committee were significantly curtailed between 1999 and 2005.

While past empirical research has demonstrated that SOX had a strong mechanical impact on director workloads and the risks associated with holding board positions (Linck *et al.*, 2009), the results presented here extend these findings by providing strong supporting evidence that these regulatory events not only affected board work levels, but also the CEO's involvement in the decision-making processes of the board.[4] Given that the average board already exhibited a high degree of 'nominal independence' by 1999 (80% outsider representation), the documented changes in board structure indicate that shareholder demands for greater board scrutiny following the corporate malfeasance scandals of 2000–2002 were primarily satisfied via an alternative channel of 'independence' on the board — the removal of the CEO as a participating member in the board's internal operations.

To address the issue of whether these drastic changes in board internal structure were contrary to the preferences of the CEO and how they relate to firm characteristics, I also investigate the cross-sectional variation in the

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[4]Though the finding that independent monitoring committee meetings increased post-SOX is consistent with the idea that more work had to be done on the board, the fact that the number of meetings which the CEO presided over and the number of meetings held in the executive committee both significantly decreased suggest that CEO influence over board oversight/ operations was abated during this time period.

operational form of the board over the 2005–2006 time period. Several authors have formulated and tested numerous theories pertaining to the relationship between board composition and firm-level determinants (Lehn et al., 2005; Raheja, 2005; Boone et al., 2007; Harris and Raviv, 2008; Duchin et al., 2010). Collectively these works demonstrate that board independence and size are a product of a firm's business environment, information environment, and various contracting costs. Following this line of literature, I categorize these theories on board structure into three primary hypotheses: the *scope of operations hypothesis*, the *monitoring hypothesis*, and the *negotiation hypothesis*. I extend each of these hypotheses by examining how control over the monitoring/investment decision-making processes of the board is associated with the bargaining position of the CEO, information costs for outside directors, and other firm-level factors.

In accordance with the scope of operations hypothesis, I find that the fraction of board meetings held in committees is positively related to firm size. This is consistent with the notion advanced by Fama and Jensen (1983) that complex firms develop more hierarchical organizations. Turning to the monitoring hypothesis, I ultimately find weak supporting evidence that monitoring costs are negatively associated with the fraction of meetings held by outside directors in monitoring committees, and that managerial private benefits are positively associated with the fraction of board meetings held in monitoring committees.[5]

Next, I examine how CEO influence affects operational control over board proceedings. If board structure follows from a negotiation process between the CEO and the outside directors on the board (Hermalin and Weisbach, 1998), then in what manner do high power CEOs bargain for lower levels of board oversight? While prior empirical studies have demonstrated that the proportion of independent directors on the board is negatively related to measures of CEO influence (Boone et al., 2007; Linck et al., 2008), I extend this idea by detailing that high power CEOs (high ownership, high tenure) are associated with a lower fraction of meetings held in independent monitoring committees (higher fraction of meetings held in the CEO's presence). These findings suggest that CEOs who have the ability to alter board structure will pull the monitoring operations of the board away from

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[5] This lack of conclusive evidence regarding the monitoring hypothesis is not entirely surprising given some of the indeterminate empirical results documented in the prior literature. Boone et al. (2007) and Coles et al. (2008) find ultimately inconclusive results (not in accordance with the monitoring hypothesis) regarding the association between R&D expenditures (monitoring costs) and board independence.

independent committees and back toward an environment where they may preside over monitoring discussions and influence board oversight.

Extending the negotiation hypothesis to the issue of control over the policy decisions of the board, I find that the bargaining power of the CEO is positively associated with the fraction of board meetings handled in the executive committee. CEOs with the capability to affect the structure of board operations spend less time convening the full board for approval on investment decisions, and instead bypass the oversight of outside directors by enacting such decisions through the executive committee. In total, these results highlight the mechanism by which powerful CEOs, despite being subject to boards with $80+\%$ outsider representation, still control board-level investment and monitoring decisions in the modern boardroom.[6]

Together, the results associated with the negotiation hypothesis offer support for the notion that the drastic shift in the operational form of the board between 1999 and 2005 was contrary to the preferences of the CEO. Since CEOs who have a greater ability to influence board structure allocate a lower fraction of meetings to be held outside of their presence in independent monitoring committees, and a higher fraction of meetings to be held in the executive committee, the documented changes in board operations over the 1999 to 2005 time frame appear to be against the desires of the average CEO.

Overall the results presented here extend our understanding of board structure in two ways. First, the significant transformation in the internal operations of the board between 1999 and 2005 lends support to the idea that the second wave of board governance reform to occur in the past 60 years was one in which CEOs were removed from the decision-making processes of the board. Second, the results pertaining to the cross-sectional determinants of board operating form demonstrate that the internal structure of the board is an important feature to consider when discussing issues related to board control and governance in the modern board. Together, these findings shed light on a previously unexplored area of board structure, and highlight that the internal operations of the board may offer a more complete and robust understanding of 'independence' on the board.

This paper proceeds as follows. Section 2 develops the boards hypotheses and details the construction of the data. Section 3 presents the cross-sectional

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[6] Adams *et al.* (2005) demonstrate that powerful CEOs are associated with higher variability in firm performance and decisions. Further, Core *et al.* (1999) document that CEOs who hold the board chair position demand higher cash-based and total compensation.

determinants of board operational form and the time trends. Section 4 concludes the paper.

2. Background Information, Data, and Summary Statistics

In this section, I first summarize how recent governance and listing requirement changes relate to this empirical investigation. Next, I highlight the existing research on the role of the board and the responsibilities of committees. Following this, I describe and extend three hypotheses in the boards literature. Finally, I detail the construction of the dataset used in this investigation and provide summary statistics.

2.1. *Post-SOX regulatory environment*

The regulatory changes of the late 1990s and early 2000s constituted a significant shift in the governance standards applied to U.S. public firms. Following the Enron, Tyco, and WorldCom corporate and accounting scandals, the SOX was enacted with the intention of being a thorough solution to the governance deficiencies which engendered the scandals. In 2003, NYSE and NASDAQ both took measures to further strengthen the SOX regulatory requirements by mandating that publicly listed firms have a majority of independent directors on their boards.

While the two exchanges set similar listing requirements regarding audit committee composition, their rules regarding other committees differed slightly. NYSE required that all firms establish audit, nominating/governance, and compensation committees comprised entirely of independent directors and that such independent directors were to meet separately from inside board members in non-management executive sessions on a regular basis. NASDAQ took similar measures regarding committee formation, yet allowed more flexibility in the composition of these committees.[7] Both exchanges instituted timetables by which firms had to comply with the rulings. In general, firms had to meet the listing requirements by late 2004, with extended time (late 2005) given to firms with staggered boards.

Given NYSE's more definitive rulings regarding committee independence, the sample of firms used in this empirical analysis is based on a set of post-SOX NYSE firms. NYSE's 2003 mandate to require the complete

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[7]NASDAQ did not explicitly require that firms have nominating or compensation committees, but compensation payable to the CEO and other officers had to be approved either by a majority of the independent directors on the board or a compensation committee of independent directors.

independence of the monitoring committees (audit, compensation, nominating/governance) enables the collection of a 'clean' dataset where the distinction between the influence of independent directors and inside directors (or the CEO) is easily observable.

2.2. *Background literature and committees*

The board of directors' responsibilities extend far beyond that of monitoring the CEO's performance and replacing the CEO, should the situation warrant it. The Business Roundtable (1990) details the five primary functions of the board: (1) review and approve the major plans and strategies of the corporation; (2) advise executive officers on corporate issues; (3) evaluate, and if necessary, replace executive officers, and set compensation practices; (4) evaluate board performance and provide shareholders a slate of candidates for the board of directors; (5) formulate and review systems for corporate legal and regulation compliance.

Each of these responsibilities of the board may be handled by the full board, where all members discuss such issues, or may be delegated to committees, where a select few individuals focus on particular tasks. Vance (1983) notes that corporate decisions are primarily influenced by four board committees: the audit, executive, compensation, and nominating committees. If the board is primarily operating through its committees then the structure of each committee may be an important determinant of overall board performance.[8]

For the purposes of this study, to understand how the internal structure of the board relates to firm determinants, it is important to first summarize how various committees operate within the board. I provide a detailed look at the tasks and responsibilities of the four committees of most importance in this study.[9] What follows is a conglomerate description taken from firm proxy statements on the operating functions of the audit, compensation, nominating, and executive committees.

The audit committee's primary responsibilities are to oversee the financial reporting of the firm, the disclosure process, the appointment of independent auditors, and to monitor the performance of the auditors. The committee also monitors the internal control process, consulting auditors to discuss these

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[8] See Klein (2002) and Shivdasani and Yermack (1999) for evidence supporting this notion.

[9] Hayes *et al.* (2004) provide a similar look at all the functions of committees in their sample. See the authors' work for a detailed look at the functions of less frequent committees (e.g., technology, pension plan, corporate responsibility).

matters, and monitors the choice of accounting policies. In addition, the committee may also be tasked with discussing risk management practices, compliance with laws and regulations, and reviewing safety and environmental audit functions.

The compensation committee's primary tasks are to review and recommend to the full board the CEO's and officers' compensation — including salary, benefits, and long-term incentive plans. The committee may also establish and monitor performance guidelines for the CEO and evaluate such performance. In addition, it can make recommendations concerning director compensation and oversee the appointment of consultants to help with such compensation issues.

The nominating/governance committee is responsible for reviewing, assessing, and nominating members of the board of directors. It also reviews criteria for new directors, deals with consultants to find appropriate new members, and recommends committee assignments within the board. The committee is also responsible for developing corporate governance principles, shaping the governance standards of the company, and is often tasked with overseeing the company's CEO succession planning process.

The executive committee is responsible for exercising the powers of the board and the affairs of the firm when the board is not in session. The committee primarily deals with dividend and capital structure decisions, and has the right to alter or change such practices (including the issuance of equity). Limitations to the powers of the executive committee are set by firm by-laws. One near universal restriction on the powers of the executive committee is that it cannot change by-laws or amend the firm's articles of incorporation.

2.3. *Development of cross-sectional hypotheses*

Past empirical and theoretical studies on board structure provide evidence that firm and market determinants affect the size and composition of the board. Here, I detail how these determinants relate to three primary hypotheses in the boards literature, and in turn, how these hypotheses apply to this investigation into the internal allocation of work on the board.

Fama and Jensen (1983) conjecture that the manner in which a firm is organized stems from the complexity of its operations. Large firms, or firms with more detailed and complex processes, will function in a more hierarchical manner. This idea, often referred to as the *scope of operations hypothesis*, has served as a basis for investigations into the relation between

firm complexity and board structure, and has been validated through numerous studies such as Lehn *et al.* (2005), Linck *et al.* (2008), and Coles *et al.* (2008).

With respect to this empirical investigation, the scope of operations hypothesis would imply a positive association between firm complexity and work allocation on the board. If firm complexity fosters a more rigid hierarchical firm form (Fama and Jensen, 1983), then the same should apply to the form of the board. Large and diverse firms should tend to structure the monitoring and investment aspects of the board as distinct units, with the board spending more time in separate committees as compared to time spent making decisions as a full board. Consistent with the past literature, to proxy for firm complexity, I use firm size, firm age, and the number of business segments.

A second hypothesis in the boards literature is that the form of the board should reflect the costs of monitoring and the managerial private benefits present at the firm-level. This two-fold hypothesis is often denoted as the *monitoring hypothesis*.[10] First, if inside director and CEO knowledge is an important feature to a well functioning board in high asymmetric information environments, then outside directors in such boards should stand to benefit from a discussion with inside directors. Since outside directors must serve by themselves on the primary monitoring committees in this post-SOX period, firms in high monitoring cost environments should be more inclined to pull the operations of the board away from monitoring committees (where inside directors have no say) and structure board operations so that oversight decisions are discussed at full board meetings. It follows that the monitoring hypothesis would predict that the fraction of board-time spent by outside directors in monitoring committees is negatively related to monitoring costs. Consistent with the prior literature, R&D intensity is used to proxy for the importance of firm-specific knowledge (monitoring costs).

In addition to the costs of monitoring, board composition should also be related to the level of managerial private benefits (Raheja, 2005; Adams and Ferreira, 2007; Harris and Raviv, 2008). If higher levels of board oversight are needed to constrain managers as private benefits increase, then a greater fraction of the internal monitoring operations of the board should be handled outside the influence of the CEO. Following the existing literature on the issue of managerial private benefits (Jensen, 1986; Gompers *et al.*, 2003; Bebchuk *et al.*, 2009), I implement two measures to proxy for private benefits: free cash flow (FCF) and antitakeover provisions (E-Index). In total, the

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[10] See Coles *et al.* (2008), Boone *et al.* (2007) and Adams and Ferreira (2007) for validation of this hypothesis.

monitoring hypothesis predicts that the fraction of board-time spent on the independent monitoring committees should be positively associated with managerial private benefits (FCF, antitakeover provisions) and negatively associated with information costs (R&D expenditures).

A third primary hypothesis in the boards literature is the *negotiation hypothesis*. The predictions of this hypothesis generally follow from the idea that CEOs bargain with shareholders for certain board features that suit their interests. Hermalin and Weisbach (1998) formalize this hypothesis in a model where CEOs use their influence (via surplus production) to negotiate for insiders to be placed on open board seats. The model suggests that as a CEO's bargaining position increases, board independence will fall.[11]

If CEOs dislike the monitoring role played by outside directors and derive private benefits from control over the operations of board, then CEOs with considerable influence over the firm should mandate that the internal processes of the board be handled in their presence. Therefore, the fraction of board work performed by outside directors removed from the CEO's presence (fraction of board-time spent in independent monitoring committees) should be negatively related to CEO bargaining power. Further, if CEOs desire to control dividend and capital structure decisions with minimal interference from outside directors, the negotiation hypothesis also predicts that the fraction of work handled by the CEO in the executive committee will be positively associated with CEO bargaining power. Consistent with the literature, to proxy for CEO influence I consider two primary measures: CEO ownership and CEO tenure.

2.4. *Dataset construction and variable specification*

The sample of firms used in the empirical analysis to test the three boards hypotheses is based on a set of post-SOX NYSE firms from 2005 to 2006. To construct my sample of NYSE firms, I start by accessing Compustat for the following firm-specific information: total assets, firm age, number of business segments, book leverage, R&D intensity (R&D/Sales), FCF, acquisitions, return on assets (ROA), and market-to-book.[12] In addition, the CRSP monthly files are used to define all firm prices and returns. To ensure that outliers do not have an impact on the results, variables are winsorized at the 1% level.

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[11] Support for this theory comes from a number of recent empirical investigations including Baker and Gompers (2003), Boone *et al.* (2007), and Linck *et al.* (2008).

[12] Specifically, ROA is operating income before depreciation over assets. Market-to-book is the book value of assets minus book value of equity plus the market value of equity normalized by the book value of assets.

To obtain information on firm-level institutional ownership and charter provisions, I access the Thomson Financial Institutional Ownership database and the IRRC database, respectively. Form 13-F statements via Thomson are used to construct aggregate institutional ownership measures while the IRRC database is used to construct the E-Index metric.

Next, the Corporate Library is used for information on director characteristics and board membership. The Corporate Library provides data on board size, director affiliation, director tenure, director ownership, and committee structure. In particular, from this database, board independence is constructed as the fraction of non-employee directors on the board: the number of outside directors divided by the total number of directors, where affiliated outside directors are denoted as outsiders.[13] In addition, Execu-Comp provides CEO and officer data, including compensation, CEO age, CEO ownership, and CEO tenure.

To supplement the board-level data provided by the Corporate Library, I hand collect detailed board operations information from firm proxy statements (DEF 14A) over the 2005–2006 fiscal years (2006–2007 reporting years), available from the SEC's EDGAR reporting system. Should pertinent information be unavailable in these proxy statements, firm 10-K statements (annual reports) are used to provide supplemental information. To avoid complications with changes in board behavior which may have occurred following the financial crisis of 2007, the 2005 and 2006 fiscal years serve as the central time frame in this study. To limit the size of the pre-collection dataset, I require that necessary firm-level data be available from all previously detailed databases for two consecutive years. All regulated entities (utilities and financials) and firms that are not in compliance with the 2003 NYSE rulings (e.g., foreign private issuers, controlled companies, firms in bankruptcy and other passive organizations) are also removed from the dataset.[14] These necessary conditions result in 1,356 firm-year observations over the 2005–2006 period.

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[13]While not in direct accordance with the NYSE definition of independence, this measure is consistent with the prior literature (Coles *et al.*, 2008; Huson *et al.*, 2001). This measure of independence is also preferred to the alternative construct, where affiliated directors are treated as insiders, due to the fact that the definition of 'affiliated director' has changed over time. Hence, this treatment gives the cleanest and most consistent measure of board composition over time.

[14]This treatment to remove firms that are not required to be in compliance with the rulings reduces the sample size by 5%. The inclusion of these firms does not alter subsequent results and in fact strengthens the results regarding the primary hypotheses.

From firm proxy statements I record detailed information on each firm's committee structure — which standing committees exist within the board, the composition of each committee, and the number of meetings held by each committee in the fiscal year.[15] Consistent with Adams (2003), board committees are classified by their three primary functions: monitoring, investment (advising), and stakeholder interest. The three monitoring committees of foremost concern in this investigation are the compensation, nominating/governance, and audit committees. As mandated by NYSE's listing requirements, each firm has such a committee and discloses the operations of each of these monitoring committees in its proxy statements. Predominantly, the operations of these monitoring committees are handled by outside directors apart from managerial input. The independent chairman of each committee sets the agenda for all meetings and reserves the right to call other officers of the firm to their committee meetings to assist with decisions, yet the language of the disclosure statements suggests that in general a vast majority of meetings are handled in isolation from inside director influence.[16] This implies that the average monitoring committee meeting in the post-SOX board represents an environment where not only does the CEO/insider have no voting stake, but the CEO/insider has also relinquished all control over decisions to the outside directors on the board.

The primary investment committee of greatest concern in this investigation is the executive committee. The executive committee operates in the board's stead when the full board is not in session and may make decisions on behalf of the board should the full board not be able to convene. Committees organized to represent the stakeholders' interests constitute the smallest fraction of committees in the sample. Those that deal with public image issues (e.g., contributions, human resources, environment, diversity, corporate responsibility, public issues) are all classified as stakeholder committees.

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[15] Schedule 14A of the Securities Exchange Act of 1934 requires firms to disclose the functions performed by their committees, the names of committee members, and the number of committee meetings during the last fiscal year. Anecdotal evidence suggests that board meetings held via teleconference are a fraction of the length of in-person board meetings (full meetings). Hence, such meetings are treated as half-meetings in this investigation. Results throughout hold in a qualitatively identical fashion whether teleconference meetings are treated as regular meetings (full meetings) or completely omitted.

[16] The one exception to this rule is the audit committee. The audit committee frequently meets with external auditors and the CFO of the firm to prepare and review financial statements. Considering the nominating and compensation committees, 20 out of the 1,356 firm-year proxy statements explicitly note, or imply through the language of the document, that the CEO attended a majority of the meetings. The inclusion or exclusion of these observations has no material impact on results throughout the paper.

Although small in total numbers, many firms have other miscellaneous committees operating within the board. Committees organized to deal with safety, retirement/pension, options, and succession are denoted as 'miscellaneous monitoring committees'. Committees dealing with technology, strategy, and acquisition issues are recorded as 'miscellaneous investment committees'. The final committee not classified into any particular category is the finance committee. The finance committee may function as a monitoring committee, scrutinizing the capital structure decisions of the CEO, yet may also serve an advisory role to the executives of the firm (Klein, 1998). Given its dual functions, I do not allocate the finance committee to either the 'miscellaneous monitoring committee' group or the 'miscellaneous investment committee' group.

Following the assignment of committees, NYSE's 2003 listing rules also required boards to hold regularly scheduled outside executive sessions, where independent directors meet amongst themselves, separate from the CEO and any other current employee directors.[17] Since outside executive sessions constitute an NYSE mandate, and not a specific committee, the disclosure of the number of such meetings is not explicitly required. Nevertheless, firms often report the number of outside executive sessions in proxy statements. In fact, only 14% of sample firms make no mention of the issue, and 21% of firms state that they are in compliance with the NYSE listing requirements or that 'executive sessions of outside directors were regularly held'. In the data, firms appear to reveal the number of outside executive sessions held in a given fiscal year with a lower bound of one-quarter the level of full board meetings (e.g., eight full board meetings and two outside executive sessions in a given year). In accordance with this finding, missing observations, or firm observations which simply state compliance with the NYSE outside executive session mandate, are recorded as having one-quarter the number of outside executive sessions as full board meetings (alternate treatments to this are noted in robustness results).

For the second part of the empirical analysis in this paper, detailed information on committee and board operations is also needed from the pre-SOX period. Taking the original set of 2005 to 2006 firm-year observations, I create a matched sample to the year 1999 where inclusion is conditional on being present in the 2005–2006 dataset. I use the IRRC database to provide supplementary information for the 1999 set of firm observations. Identical committee and board operations variables are collected for this earlier set of

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[17] See SEC Release No. 34-48745 (November 4, 2003) for more details on the issue.

data. This construction yields 586 firm observations with available board, ownership and financial data for the 1999 fiscal year.[18]

2.5. *Specification of primary measures*

To proxy for the allocation of and control over internal monitoring work, the fraction of board meetings handled by independent directors in a particular monitoring committee (Frac Monitoring) is constructed as the number of meetings held in the particular monitoring committee divided by the sum of full board meetings, executive committee meetings, and the number of meetings in the particular monitoring committee. This measure functions to capture the fraction of board monitoring work controlled by outside directors in the committee. The denominator includes the sum of full board meetings and executive committee meetings since executive committee meetings serve as a substitute to full meetings for the CEO (i.e., the CEO may call executive committee meetings in lieu of full board meetings). In essence, the denominator of the measure operates to proxy for the amount of work which the CEO controls (has a voting stake in), while the numerator operates to proxy for the amount of monitoring work which the independent directors control.

Frac Monitoring

= Monitoring Committee Meetings /(Full Board Meetings

+ Monitoring Committee Meetings + Executive Committee Meetings).

Next, the fraction of board work handled in the executive (investment) committee is constructed in a similar manner: the number of meetings held in the executive (investment) committee divided by the sum of full board meetings and executive (investment) committee meetings. This measure, denoted as Frac Exec (Frac Exec/Inv), serves to proxy for the CEO's ability to control policy/investment decisions within the board.

$$\text{Frac Exec} = \frac{\text{Executive Committee Meetings}}{\text{Full Board Meetings} + \text{Executive Committee Meetings}}.$$

It is important to discuss the limitations of these measures before proceeding. First, each constructed measure includes only a 'count' of committee

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[18] The loss of 92 observations follows generally from insufficient information (lack of coverage) in Compustat and ExecuComp for the 1999 sample.

and full board meetings, and therefore the observed length of time spent in each meeting, and the effort intensity of each meeting is unobservable. The assumption throughout is that each meeting is equivalent to a unit of board-time and that across firms and within the board itself, such a measure of board-time captures a relatively consistent fraction of the work/effort devoted to a task. Next, though Frac Monitoring is constructed to capture the degree to which outside directors handle their monitoring operations in isolation from the CEO's influence, it is true that it is ultimately indeterminate the degree to which CEOs participate in committee meetings as non-voting members. Though the reports filed in firm proxy statements suggest that CEOs generally do not attend meetings, whether the CEO is physically present for some or many meetings is again inconclusive. Yet, as previously discussed, the monitoring committee still represents an environment where the CEO has relinquished ultimate voting control and procedural control to the outside directors.

2.6. *Summary statistics*

Table 1 provides summary statistics for the 1,356 firm-year observations over the 2005–2006 period. Panel A includes the mean, median, standard deviation, 25th percentile, and 75th percentile for various firm financial and governance measures. The mean (median) value of total assets is 10,331 $MM (2,733 $MM) in the sample, implying that the average firm in this study is larger compared to firms in previous boards studies (Boone *et al.*, 2007; Linck *et al.*, 2008), yet this follows as a natural consequence of the stringent sample requirements previously detailed. The mean (median) E-Index and institutional ownership for the sample firm is 2.44 (2) and 81% (84%), respectively. The mean (median) level of CEO ownership in the sample is 1.30% (0.26%), suggesting that a few CEOs hold considerable stakes in their firm, while most hold low levels of firm equity.

Panel B presents summary statistics for board, committee, and meeting structure. The median board size in the sample is nine members, while the median level of independence (fraction of non-employee directors on the board) is 87.5%.[19] Given that the median firm in this sample has a board size of 9, this indicates that the most common board structure by 2005 is one in which the CEO serves as the single insider on the board. In addition, the average audit, nominating, compensation, and executive committees have

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[19]Altering this definition and treating affiliated directors as inside directors decreases independence by approximately 8% for the sample.

Table 1.   Summary statistics.

	Mean	Std Dev	25th Percentile	Median	75th Percentile
Panel A: Firm statistics					
Financial & Investment Policies					
Assets	10,331.88	36,763.02	1,158.36	2,733.50	7,362.19
Book Leverage	0.346	0.226	0.191	0.333	0.475
R&D Intensity	0.021	0.041	0	0	0.022
Acq Ratio	0.036	0.094	0	0.002	0.025
FCF	0.085	0.082	0.055	0.086	0.123
Segments	3.40	1.98	1	3	5
Firm Age	29.24	14.33	15	34	44
ROA	0.148	0.089	0.102	0.140	0.191
Market-to-Book	1.87	0.948	1.27	1.61	2.155
Governance & Compensation					
E-Index	2.44	1.16	2	2	3
Institutional Holdings	0.811	0.146	0.74	0.841	0.941
Block	0.104	0.044	0.074	0.097	0.126
CEO Salary	878.49	356.01	645	847	1,026
CEO Total Comp	6,747.89	7,665.97	2,366	4,540.97	8,494
CEO Equity Comp	0.451	0.252	0.287	0.489	0.646
CEO Ownership (%)	1.30	3.50	0.095	0.265	0.765
CEO Tenure	6.40	6.18	2	5	8
CEO Age	55.77	6.61	51	56	60
Mean Director Ownership	0.214	0.748	0.008	0.026	0.087
Director Tenure	6.98	3.82	4	6	9
Panel B: Board statistics					
Board & Committee Structure					
Board Size	9.67	2.12	8	9	11
Independence	0.841	0.082	0.80	0.875	0.90
Fraction Busy	0.330	0.219	0.142	0.333	0.50
Family Board	0.096	0.290	0	0	0
Audit Committee Size	3.96	1.01	3	4	5
Nom/Gov Committee Size	4.06	1.44	3	4	5
Compensation Committee Size	3.85	1.09	3	4	4
Executive Committee Size	3.89	1.43	3	4	5
Executive Committee Indep	0.641	0.231	0.60	0.667	0.80
Committee Positions Held	1.46	0.836	1	1	2
Meeting Structure					
Full Board Meetings	7.98	3.46	6	7	9
Audit Committee Meetings	9.01	3.31	7	9	11
Nom/Gov Committee Meetings	3.81	1.81	3	4	5
Comp Committee Meetings	5.46	2.66	4	5	7
Monitoring Meetings	10.00	4.48	7	9	12
Executive Committee Meetings	0.66	1.96	0	0	0
Misc Inv Committee Meetings	0.24	1.14	0	0	0

Table 1. (*Continued*)

	Mean	Std Dev	25th Percentile	Median	75th Percentile
Standing Executive Committee	0.398	0.49	0	0	1
Fraction Audit	0.514	0.108	0.440	0.526	0.601
Fraction Nom/Gov	0.310	0.113	0.235	0.315	0.40
Fraction Comp	0.389	0.110	0.311	0.400	0.465
Fraction Monitoring	0.531	0.117	0.461	0.542	0.616
Fraction Outside Exec Sessions	0.327	0.137	0.20	0.307	0.50

Note: This table reports summary statistics for the sample of 1,356 firm-year observations from 2005 and 2006. The firm policy descriptive statistics in Panel A include: assets ($MM), book leverage, R&D intensity (R&D/Sales), acquisition ratio (total value of acquisitions over market equity), FCF, business segments, firm age, ROA, and the ratio of the market value to book value of assets (market-to-book). The governance and compensation descriptive statistics in Panel A include: the Bebchuk *et al.* (2009) entrenchment index (E-Index), institutional ownership (aggregate), block (top blockholder), CEO salary, CEO total compensation, CEO percent ownership, CEO equity compensation (equity compensation over total compensation), CEO tenure, CEO age, mean director ownership (mean holdings of independent directors by firm), and director tenure by firm. Panel B presents summary statistics for the sample board structure. The board descriptive statistics include: board size, the ratio of outsiders to board size (independence), the fraction of board members holding three or more board seats (fraction busy), the fraction of family boards, the size of various committees (audit, compensation, nominating/governance, executive), the independence of the executive committee, and the number of committee positions held per director. In addition, the summary statistics for the meeting structure of the board are also presented. These statistics include: the number of full board meetings, the number of committee meetings (audit, compensation, nominating/ governance, executive, miscellaneous investment, outside executive sessions), the number of monitoring meetings (excluding audit, but including miscellaneous monitoring meetings and stakeholder meetings), and the fraction of meetings held in each committee.

3.96, 4.06, 3.85 and 3.89 members, respectively (in accordance with Hayes *et al.* (2004)).

Panel B also details the meeting structure of the board. The mean (median) number of full board meetings over this time period is 7.98 (7), which similarly corresponds to Vafeas (1999). The nominating and compensation committees meet an average of 3.81 and 5.46 times a year, respectively. Combining the nominating, compensation, stakeholder, and miscellaneous monitoring committees (excluding the audit committee), the average firm holds 10 monitoring committee meetings a year. Adding the number of monitoring committee meetings (10.00) to the number of audit committee meetings (9.01) highlights that the 2005–2006 board holds over two times the number of meetings in outsider committees as compared to full board meetings (19.01 meetings per year versus 7.98 meetings per year).

This implies that outside directors spend a considerable fraction of their board-time interacting only with other members within committee, as compared to interacting with all board members in full board meetings.

Next, 40% of firms have a standing executive committee in the sample. Yet, looking at the number of meetings held in the executive committee, it appears to be highly skewed. The 75th percentile of executive committee meetings held is still 0, yet the mean is 0.66 meetings a year. In fact, only 19% of firms held one or more executive committee meetings in a given year. Though, these firms which do have executive committee meetings hold a significant number of meetings in the executive committee, with an average of over three meetings a year being held in the committee.

In addition, it is important to summarize the fraction of meetings held in various committees since these measures serve as central variables in this investigation. First, the mean (median) fraction of meetings in the audit committee, Frac Audit, is 0.51 (0.52). Similarly, the mean fraction of meetings held in nominating, compensation, and monitoring (excluding audit) committees is 0.31, 0.39, and 0.53, respectively. In addition, the mean (median) fraction of outside executive sessions is 0.33 (0.31). The 25th and 75th percentile for this statistic are 0.20 and 0.50, respectively. On the lower end, this indicates that over 25% of firms are merely stating that they are in compliance with the NYSE's requirement regarding outside executive sessions.

3. Empirical Design

In this section, I address the cross-sectional determinants of the operational form of the board and changes to the operational form of the board over time. First, I investigate how the three board hypotheses relate to the internal structure of board operations in a post-SOX environment. Following this, I detail how the operating structure of the board has changed over the pre- and post-SOX time frame.

3.1. *Cross-sectional determinants of the operational form of the board*

3.1.1. *Univariate analysis of internal monitoring structure*

Before explicitly testing the primary board hypotheses, I isolate one particular hypothesis, the negotiation hypothesis, and detail in a univariate sense how it is associated with the internal operations of the board.

Table 2 investigates the negotiation hypothesis considering three measures of CEO power: high tenure (10 or more years as the CEO), high ownership (greater than 1% ownership of the common shares outstanding), and family board (two or more family members sitting on the board). To mitigate the effect that CEO turnover may have on the operations of the board, 353 CEO turnover observations are removed from the table, leaving 1,003 firm-year observations.

In the first column of Table 2, the difference in mean board size between high tenure (ownership) and low tenure (ownership) CEOs is −0.81 (−0.99). This difference in means (and difference in medians according to the Wilcoxon signed-rank test) is significant at the 5% level. Next, high tenure CEOs are associated with mean independence of 82%, while low tenure CEOs are associated with mean independence of 85%, a difference significant at the 5% level.

High power CEOs also hold weakly fewer full board meetings (significant at the 5% level when considering CEO ownership and family board as the measures of CEO power).[20] Yet, when allocating executive committee meetings to full board meetings, the difference between high and low power CEOs becomes statistically insignificant. High power CEOs also hold far fewer compensation and nominating committee meetings as well (significant across all measures of CEO power). Most importantly, Table 2 demonstrates that high power CEOs have a lower fraction of monitoring (compensation, nominating) meetings held outside of their presence on committees (Frac Comp, Frac Nom/Gov). Economically, the fraction of meetings handled by outside directors in the compensation (nominating) committees is 7% (17%) lower when considering high tenure CEOs as compared to low tenure CEOs. Table 2 also highlights that high power CEOs are also associated with fewer outside executive sessions. Across all measures of CEO power, the fraction of time spent by independent directors in outside executive sessions is considerably lower when high power CEOs sit on the board.

The final two columns of Table 2 detail the relationship between CEO power and the executive committee. The second to last column (Frac Exec) highlights that high tenure CEOs spend 33% more time in the executive committee as compared to low tenure CEOs (0.075 versus 0.050 fraction of meetings held in the executive committee). In addition to this measure of investment decision control, I also construct an indicator variable which

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[20] This is in accordance with the findings of Vafeas (1999) who demonstrates that high power CEOs hold fewer full board meetings.

Table 2. Operational form and CEO power.

	Board Size	Indep	Board Meetings	Comp Meetings	Nom Meetings	Frac Comp	Frac Nom/Gov	Outside Sessions	Frac Exec	Work in Exec
High Tenure	9.14	0.820	7.54	4.81	3.09	0.366	0.275	0.301	0.075	0.124
	[9]	[0.857]	[7]	[4]	[3]	[0.375]	[0.285]	[0.250]	[0]	
Low Tenure	9.95	0.855	7.82	5.36	3.95	0.392	0.323	0.337	0.050	0.075
	[10]	[0.875]	[7]	[5]	[4]	[0.400]	[0.333]	[0.333]	[0]	
Difference	**−0.81**	**−0.035**	−0.28	**−0.55**	**−0.86**	**−0.026**	**−0.048**	**−0.036**	**0.025**	**0.049**
	[−1]	[−0.018]	[0]	**[−1]**	**[−1]**	**[−0.025]**	**[−0.048]**	**[−0.083]**	**[0]**	
High Own	8.97	0.814	7.31	4.72	3.08	0.373	0.282	0.295	0.073	0.118
	[9]	[0.857]	[6]	[4]	[3]	[0.384]	[0.294]	[0.200]	[0]	
Low Own	9.96	0.856	7.90	5.38	3.92	0.389	0.320	0.337	0.052	0.079
	[10]	[0.875]	[7]	[5]	[4]	[0.400]	[0.333]	[0.333]	[0]	
Difference	**−0.99**	**−0.042**	**−0.59**	**−0.66**	**−0.84**	−0.016	**−0.038**	**−0.042**	**0.021**	**0.039**
	[−1]	[−0.018]	**[−1]**	**[−1]**	**[−1]**	[−0.016]	**[−0.039]**	**[−0.133]**	**[0]**	
Family Firm	9.77	0.771	6.71	4.61	2.94	0.379	0.288	0.286	0.074	0.105
	[10]	[0.777]	[6]	[4]	[3]	[0.400]	[0.300]	[0.200]	[0]	
No Family Firm	9.72	0.857	7.89	5.29	3.81	0.386	0.314	0.332	0.054	0.085
	[9]	[0.875]	[7]	[5]	[4]	[0.400]	[0.316]	[0.333]	[0]	
Difference	0.05	**−0.086**	**−1.18**	**−0.68**	**−0.87**	−0.007	**−0.026**	**−0.046**	0.020	0.020
	[1]	**[−0.098]**	**[−1]**	**[−1]**	**[−1]**	[0]	**[−0.016]**	**[−0.133]**	[0]	

Note: This table reports board structure statistics for the 2005–2006 sample, partitioned by various measures of CEO power. The three measures of CEO power are CEO tenure, CEO ownership and family boards. High CEO tenure denotes CEOs that have held the executive position for 10 or more years. High Own denotes CEOs who hold greater than 1% of the common shares outstanding. Family board denotes boards where two or more family members sit on the board. In addition, 353 turnover event-years are excluded from the analysis (observations where the CEO departs in the current or prior year), leaving 1,003 firm-year observations. The table presents differences for high and low CEO power across the following variables: board size, independence, full board meetings, compensation meetings, nominating/governance meetings, the fraction of meetings held in the compensation committee, the fraction of meetings held in the nominating/governance committee, outsider executive sessions, the fraction of executive sessions, and work in exec (the fraction of firms who hold 25% of their board meetings in the executive committee). Differences in means (and medians in brackets) denoted in bold represent statistical significance at the 95% confidence level.

takes a value of 1 if a board spends over 25% of their board meetings in the executive committee (Frac Exec > 25%). 12.4% of high tenure CEOs spend this extreme amount of board-time in the executive committee, while only 7.5% of low tenure CEOs spend this level of time in the executive committee (difference significant at the 5%). Results are less significant when considering family board as the measure of CEO power, but are significant at the 5% level when considering CEO ownership as the measure of CEO power.[21]

3.1.2. *Determinants of internal monitoring structure*

While the univariate results presented in Table 2 lend support to the notion that high power CEOs generally control the internal monitoring processes of the board by having outside directors spend a greater fraction of their board-time in meetings in which the CEO has a voting stake, how do the other board hypotheses relate to the monitoring structure of the board? In Table 3, I investigate this issue. A variety of monitoring control measures are regressed on firm-level determinants used to capture the three board hypotheses. In Columns (1) and (2) the dependent variable is Frac Comp; in Columns (3) and (4) the dependent variable is Frac Nom/Gov; in Columns (5) and (6) the dependent variable is Frac Mon; and in Columns (7) and (8) the dependent variable is Frac Sessions.

   As discussed in previous sections, I use several firm-level controls to capture various aspects of the three board hypotheses. Firm size, segments, and firm age are implemented as proxies for firm complexity (the scope of operations hypothesis). FCF and E-Index are used to serve as proxies for firm private benefits and R&D is used to capture the costs of monitoring (monitoring hypothesis). To proxy for the level of CEO power, I focus on the two primary measures previously noted: CEO ownership and CEO tenure (negotiation hypothesis). Finally, to control for other factors which may influence internal board operations, I include the following variables: CEO turnover (departure in the current or previous year), director turnover (departure in the current or previous year), market-to-book, mean outside director ownership, industry-adjusted returns over the prior year (adjusted by median returns in Fama–French 48 groupings), fraud/restatement (indicator of 1 if fraud or a restatement was announced in the prior year),

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[21] The documented findings with respect to CEO power and board investment control are robust to alternative thresholds for Frac Exec (including Frac Exec > 10%, and Frac Exec > 30%), and all results in Table 2 are robust to the inclusion of CEO turnover events as well.

and high acq (indicator of 1 if acquisitions normalized by market value were at the 75th percentile or higher in the previous year). Firm-specific performance measures (industry-adjusted returns and market-to-book) are implemented as controls to serve as proxies for CEO ability, leaving the CEO power measures to capture the bargaining position of the CEO. In addition, all models include time and industry fixed effects to control for underlying economic factors (either in a given year, or specific to common market conditions) that may explain board operational structure. Standard errors are computed using robust methods (heteroskedasticity-consistent with clustering by firm) and p-values are denoted below coefficients in the table.

Columns (1) and (2) demonstrate a positive association between the fraction of meetings held in the compensation committee and the firm

Table 3.   Determinants of internal monitoring structure.

	Frac Comp (1)	Frac Comp (2)	Frac Nom/ Gov (3)	Frac Nom/ Gov (4)	Frac Mon (5)	Frac Mon (6)	Frac Sessions (7)	Frac Sessions (8)
Firm Size	0.0071	0.0069	0.0092	0.0091	0.0148	0.0142	0.0074	0.0074
	(0.01)	(0.02)	(0.00)	(0.00)	(0.00)	(0.00)	(0.07)	(0.08)
Segments	0.0021	0.0023	0.0051	0.0074	0.0033	0.0048	−0.0029	−0.0030
	(0.74)	(0.62)	(0.42)	(0.26)	(0.63)	(0.50)	(0.74)	(0.73)
Firm Age	0.0004	0.0004	0.0005	0.0005	0.0007	0.0007	−0.0001	−0.0001
	(0.16)	(0.15)	(0.08)	(0.10)	(0.03)	(0.03)	(0.81)	(0.85)
FCF	0.0461	0.0393	0.0319	0.0501	0.0284	0.0307	0.0502	0.0350
	(0.48)	(0.55)	(0.61)	(0.45)	(0.67)	(0.65)	(0.58)	(0.71)
E-Index	−0.0033	−0.0031	0.0019	0.0036	−0.0004	0.0005	−0.0019	0.0004
	(0.37)	(0.39)	(0.57)	(0.30)	(0.91)	(0.90)	(0.69)	(0.93)
R&D	−0.0009	−0.0009	0.0012	0.0032	0.0014	0.0019	0.0582	0.0653
	(0.94)	(0.93)	(0.91)	(0.79)	(0.90)	(0.87)	(0.00)	(0.00)
CEO Tenure	−0.0011		−0.0032		−0.0026		−0.0038	
	(0.15)		(0.00)		(0.00)		(0.00)	
CEO Own		−0.0041		−0.0085		−0.0089		−0.0070
		(0.08)		(0.00)		(0.00)		(0.01)
CEO Turnover	0.0057	0.0103	−0.0193	−0.0053	−0.0097	0.0010	−0.0315	−0.0107
	(0.50)	(0.20)	(0.05)	(0.46)	(0.28)	(0.90)	(0.03)	(0.35)
Director Turnover	−0.0038	−0.0041	0.0001	0.0025	−0.0038	−0.0023	0.0033	0.0085
	(0.54)	(0.51)	(0.97)	(0.69)	(0.56)	(0.71)	(0.75)	(0.41)
Director Own	−0.0021	−0.0012	0.0005	0.0011	−0.0026	−0.0017	0.0022	0.0017
	(0.59)	(0.74)	(0.88)	(0.76)	(0.56)	(0.65)	(0.72)	(0.78)
Inst Own	0.0254	0.0166	0.0333	0.0150	0.0349	0.0167	0.0740	0.0611
	(0.30)	(0.50)	(0.20)	(0.57)	(0.22)	(0.55)	(0.03)	(0.07)

Table 3.   (*Continued*)

	Frac Comp (1)	Frac Comp (2)	Frac Nom/ Gov (3)	Frac Nom/ Gov (4)	Frac Mon (5)	Frac Mon (6)	Frac Sessions (7)	Frac Sessions (8)
Market-to-Book	0.0011	0.0013	0.0020	0.0001	0.0019	0.0009	−0.0019	−0.0024
	(0.80)	(0.76)	(0.59)	(0.96)	(0.67)	(0.83)	(0.79)	(0.72)
Ind Adj Ret	0.0075	0.0101	0.0209	0.0238	0.0172	0.0217	−0.0118	−0.0106
	(0.48)	(0.35)	(0.04)	(0.02)	(0.12)	(0.07)	(0.47)	(0.52)
Fraud/Restatement	0.0071	0.0081	0.0043	0.0063	0.0098	0.0115	−0.0092	−0.0067
	(0.50)	(0.44)	(0.65)	(0.51)	(0.35)	(0.27)	(0.51)	(0.62)
High Acq	0.0065	0.0076	−0.0031	−0.0032	0.0014	0.0018	0.0010	0.0015
	(0.39)	(0.30)	(0.67)	(0.66)	(0.84)	(0.81)	(0.93)	(0.91)
N	1,356	1,356	1,356	1,356	1,356	1,356	1,356	1,356
R^2	0.0692	0.0719	0.1339	0.1392	0.1201	0.1331	0.0786	0.0776

Note: The table reports results from regressing various measures of monitoring work allocation on firm-level determinants. The sample includes 1,356 firm-year observations from 2005 to 2006. The following firm-level variables are implemented: firm size (log of total assets), segments (log of business segments), firm age, FCF, E-Index, institutional ownership (aggregate), R&D (indicator of 1 if R&D expenditures over sales is at the 75th percentile or higher), CEO tenure, CEO ownership, director ownership (average holdings of outside directors), market-to-book, CEO turnover (departure of the CEO in the current or previous year), director turnover, industry-adjusted returns over the prior year, fraud/restatement (indicator variable if there was an announcement of fraud or a restatement in the current or prior year), and high acq (indicator of 1 if acquisitions over market equity is at the 75th percentile or higher). The dependent variables presented are: the fraction of meetings held in the compensation committee, the fraction of meetings held in the nominating/governance committee, the fraction of meetings held in all monitoring committees (excluding the audit committee, but including miscellaneous monitoring committees and stakeholder meetings), and the fraction of time spent in outside executive sessions. All regressions are estimated via OLS, with the exception of outside executive sessions (Frac Sessions) which is estimated via tobit regressions. Industry (Fama–French 48 classification) and year fixed effects are included in all regressions. Standard errors are computed using robust methods (clustered by firm) and *p*-values are reported below coefficients in parentheses.

complexity variables (firm size, segments, and firm age), significant at the 1% level. In addition, pertaining to the negotiation hypothesis, both CEO tenure and CEO ownership are weakly negatively related to the fraction of meetings in the compensation committee.

Columns (3) and (4) present the results where the dependent variable is the fraction of meetings held in the nominating committee. Similar findings persist throughout. While CEO tenure and CEO ownership were weakly associated with the allocation of work to the compensation committee in Columns (1) and (2), in Columns (3) and (4) the coefficients on these two measures of CEO power are significant at the 1% level.

In Columns (5) and (6) the dependent variable is the fraction of all monitoring meetings held in committees (excluding audit committee meetings, but including stakeholder and miscellaneous monitoring committee meetings). The coefficients associated with firm size and firm age are both positive and significant. A Wald test of the joint significance of the measures (all scope of operations measures) is significant at the 1% level. Hence, firm complexity is positively related to the allocation of monitoring tasks to committees. Again, the coefficients on CEO tenure and CEO ownership are negative and significant at the 1% level.

The dependent variable in Columns (7) and (8) is the fraction of time spent in outside executive sessions. As previously noted, in the collected proxy statement data, firms appear to report the actual number of outside executive sessions held in a given year with a lower bound of one-fourth the number of full board meetings. Given this, I have categorized those firms that do not report, or simply state compliance with the NYSE mandate, as holding one-fourth the number of outside executive sessions as full board meetings. This treatment creates a lower bound to the distribution of observations. An upper bound to the distribution also exists due to the fact that firms do not report holding more outside executive sessions than full board meetings. To control for this issue, a tobit regression is implemented in Columns (7) and (8). Similar to the previous results, firm size is positively related to the fraction of meetings held in outside executive sessions and both coefficients on the CEO power measures are negatively related to outside executive sessions.

Also of interest is the fact that, in general, control variables in Table 3 appear to be insignificantly related to board monitoring structure. Turnover events (CEO or director) do not appear to significantly alter the meeting structure on the board. Firms with high levels of institutional ownership weakly structure the board so that a greater fraction of the meetings are handled by outside directors in committees. In addition, while Vafeas (1999) demonstrates a strong negative association between full board meetings held and performance (market-to-book), in this study, the fraction of meetings in monitoring committees does not appear to change over market-to-book states.

In total, Table 3 demonstrates how the internal monitoring structure of the board relates to the three board hypotheses. The results offer strong support for the scope of operations hypothesis, weak support for the monitoring hypothesis, and strong support for the negotiation hypothesis.

3.1.3. *Determinants of investment/policy control*

With the firm-level determinants of board monitoring control detailed, I now turn to the issue of board investment control. Table 4 presents a series of regressions where the dependent variable is the fraction of meetings held in investment committees. In Columns (1) and (2) the dependent variable is the fraction of board meetings in the executive committee. Since this measure is strongly skewed, for robustness I construct an indicator variable which takes a value of 1 if the firm holds greater than 25% of its meetings in the executive committee. This measure is implemented as the dependent variable in Columns (3) and (4), and logit models are run to test its association with

Table 4. Determinants of internal investment control.

	Frac Exec (1)	Frac Exec (2)	Work in Exec (3)	Work in Exec (4)	Frac Inv/ Exec (5)	Frac Inv/ Exec (6)	Work in Inv/ Exec (7)	Work in Inv/ Exec (8)
Firm Size	0.0078	0.0092	0.1291	0.1457	0.0137	0.0148	0.2140	0.2245
	(0.04)	(0.02)	(0.10)	(0.07)	(0.00)	(0.00)	(0.00)	(0.00)
Segments	0.0002	0.0002	0.0365	0.0393	0.0022	0.0002	0.0950	0.0537
	(0.97)	(0.96)	(0.83)	(0.82)	(0.81)	(0.95)	(0.52)	(0.72)
Firm Age	0.0004	0.0004	0.0198	0.0186	0.0001	0.0001	0.0010	0.0008
	(0.25)	(0.33)	(0.04)	(0.04)	(0.91)	(0.98)	(0.88)	(0.91)
FCF	−0.0076	−0.0223	−1.8653	−2.0428	−0.0131	−0.0386	−1.2169	−1.8467
	(0.90)	(0.73)	(0.30)	(0.29)	(0.87)	(0.64)	(0.40)	(0.25)
E-Index	−0.0001	−0.0007	−0.0713	−0.0959	0.0009	0.0002	0.0274	0.0062
	(0.97)	(0.87)	(0.44)	(0.31)	(0.84)	(0.95)	(0.73)	(0.94)
R&D	−0.0057	−0.0046	0.2312	0.2782	0.0210	0.0201	0.7572	0.7632
	(0.59)	(0.66)	(0.57)	(0.49)	(0.17)	(0.18)	(0.02)	(0.02)
CEO Tenure	0.0020		0.0460		0.0018		0.0305	
	(0.03)		(0.01)		(0.08)		(0.07)	
CEO Own		0.0054		0.1105		0.0053		0.0632
		(0.07)		(0.02)		(0.12)		(0.12)
CEO Turnover	0.0104	0.0022	0.2108	0.0159	0.0023	−0.0058	−0.0512	−0.2367
	(0.30)	(0.81)	(0.43)	(0.94)	(0.83)	(0.57)	(0.82)	(0.28)
Director Turnover	−0.0007	−0.0004	−0.0174	−0.0259	−0.0028	−0.0018	−0.1201	−0.1188
	(0.91)	(0.94)	(0.93)	(0.90)	(0.73)	(0.82)	(0.49)	(0.50)
Director Own	0.0033	0.0033	0.1093	0.1133	0.0024	0.0026	0.0670	0.0720
	(0.53)	(0.52)	(0.27)	(0.26)	(0.67)	(0.64)	(0.50)	(0.47)
Inst Own	−0.0680	−0.0544	−0.5156	−0.1930	−0.0646	−0.0490	−0.3113	−0.1403
	(0.07)	(0.15)	(0.41)	(0.77)	(0.09)	(0.21)	(0.57)	(0.79)
Market-to-Book	−0.0019	−0.0006	−0.1873	−0.1285	0.0046	0.0058	0.1266	0.1603
	(0.67)	(0.88)	(0.27)	(0.45)	(0.45)	(0.33)	(0.24)	(0.15)
Ind Adj Ret	−0.0039	−0.0065	−0.2064	−0.2285	−0.0032	−0.0049	−0.1116	−0.1084
	(0.72)	(0.57)	(0.54)	(0.50)	(0.80)	(0.71)	(0.68)	(0.70)

Table 4.　(*Continued*)

	Frac Exec (1)	Frac Exec (2)	Work in Exec (3)	Work in Exec (4)	Frac Inv/ Exec (5)	Frac Inv/ Exec (6)	Work in Inv/ Exec (7)	Work in Inv/ Exec (8)
Fraud/Restatement	−0.0039	−0.0036	−0.0473	−0.0691	0.0045	0.0052	0.1119	0.1277
	(0.74)	(0.76)	(0.86)	(0.80)	(0.75)	(0.72)	(0.63)	(0.58)
High Acq	−0.0047	−0.0030	−0.0778	−0.0379	−0.0017	−0.0003	−0.0819	−0.0289
	(0.59)	(0.73)	(0.76)	(0.88)	(0.86)	(0.97)	(0.70)	(0.89)
N	1,356	1,356	1,356	1,356	1,356	1,356	1,356	1,356
R^2/p-value	0.0828	0.0876	0.0001	0.0001	0.0820	0.0858	0.0001	0.0001

Note: The table reports results from regressing various measures of board/investment work allocation on firm-level determinants. The sample includes 1,356 firm-year observations from 2005–2006. The following firm-level variables are implemented: firm size (log of total assets), segments (log of business segments), firm age, FCF, E-Index, institutional ownership (aggregate), R&D (indicator of 1 if R&D expenditures over sales is at the 75th percentile or higher), CEO tenure, CEO ownership, director ownership (average holdings of outside directors), market-to-book, CEO turnover (departure of the CEO in the current or previous year), director turnover, industry-adjusted returns over the prior year, fraud/restatement (indicator variable if there was an announcement of fraud or a restatement in the current or prior year), and high acq (indicator of 1 if acquisitions over market equity is at the 75th percentile or higher). The dependent variables presented are: the fraction of board meetings held by the CEO in executive committee outside of the full board (Frac Exec), an indicator variable of 1 if the CEO holds greater than 25% of board meetings in the executive committee (Work in Exec), the fraction of board meetings held in the executive and investment committees (Frac Inv/Exec), and an indicator variable of 1 if the board holds greater than 25% of board meetings in the executive/ investment committees (Work in Inv/Exec). Regressions for Frac Exec and Frac Inv/Exec are implemented via OLS, and regressions for Work in Exec and Work in Inv/Exec are implemented via logit regressions. Industry (Fama–French 48 classification) and year fixed effects are included in all regressions. Standard errors are computed using robust methods and p-values are reported below coefficients in parentheses.

firm-level determinants.[22] In Columns (5)–(8) I run a similar set of tests with the single addition of miscellaneous investment committee meetings to the dependent variable. A similar indicator variable to that used in Columns (3) and (4) follows in Columns (7) and (8). All columns also include previously constructed control variables.

In Columns (1) and (2), the firm complexity variables (firm size, segments, and age) are all positively associated with the allocation of board meetings to the executive committee. In particular, the coefficient on firm size is positive and significant at the 5% level. Next, the coefficients on CEO tenure and

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[22] Note that in Columns (3) and (4) the p-values denoted at the bottom of the columns follow from tests of model significance (Model χ^2).

CEO ownership are also positive and significant. The results associated with the logit models in Columns (3) and (4) provide similar results.

Columns (5)–(8) provide qualitatively similar results. First, firm size is positively related to the fraction of meetings in the investment/executive committees. Also, over the four regressions, the coefficients on CEO tenure and CEO ownership are positive, though not at the same level of significance as the coefficients on these measures in Columns (1)–(4). This result highlights that CEOs of high power desire to make investment decisions for the full board through the executive committee, though are less likely to exercise control through alternative investment committees (e.g., strategy, acquisitions, etc.). Altogether, the results presented in Table 4 again lend support to the scope of operations and negotiation hypotheses.

3.1.4. *Changes in performance surrounding abnormal monitoring meetings*

To investigate whether or not excess meetings held in monitoring committees lead to a change in performance for the firm, Table 5 details how control-firm adjusted performance measures change following a positive abnormal fraction of board-time spent in monitoring committees. In particular, Table 5 presents changes in performance with respect to two different dimensions of abnormal monitoring meetings: the fraction of meetings held in all monitoring committees (Panel A), and the fraction of meetings held in all monitoring committees including outside executive sessions. Each measure of 'abnormal meetings' is constructed by regressing the measure on its determinants (Table 3) and then taking the residual for each firm in 2005 (the 'zero' year). If the firm has a positive residual then it is considered to have abnormal monitoring meetings held in committee. Only the firms with positive residuals from the regression are included in Table 5, which leaves 345 observations in the table. This is done to isolate the firms that appear to be spending a greater fraction of board-time removed from the CEO's voting presence.

Next, from the 'zero date' (2005) I look at changes in firm performance. Performance changes are constructed as (1) changes in firm market-to-book minus changes in market-to-book for a control firm matched based on industry-adjusted market-to-book and size at $t-1$; (2) changes in firm ROA minus changes in ROA for a control firm matched based on industry-adjusted ROA and size at $t-1$; (3) changes in industry-adjusted market-to-book (where the industry benchmark is the median firm in the corresponding FF-48 classification); (4) changes in industry-adjusted ROA (where the industry benchmark is the median firm in the corresponding FF-48

Table 5.   Changes in performance surrounding abnormal monitoring meetings.

Year	Control Firm-Adjusted Market-to-Book	Control Firm-Adjusted ROA	Industry Adjusted Market-to-Book	Industry Adjusted ROA
Panel A: Fraction of meetings held in all monitoring committees				
−2 to −1	−0.002	−0.000	−0.014	0.002
	[−0.010]	[0.001]	[−0.015]	[0.003]
−1 to 0	−0.009	0.001	−0.003	0.002
	[−0.008]	[0.001]	[−0.014]	[0.002]
0 to +1	0.012	0.001	0.026	0.001
	[0.031]	[0.002]	[0.032]	[0.003]
+1 to +2	**0.061**	0.000	**0.066**	−0.000
	[0.130]	[0.001]	**[0.141]**	[0.001]
−1 to +1	0.031	0.002	0.028	0.003
	[0.038]	[0.002]	[0.040]	[0.005]
−2 to +2	**0.071**	0.002	**0.085**	0.003
	[0.107]	[0.004]	**[0.115]**	[0.007]
Panel B: Fraction of meetings held in all monitoring committees including outside executive sessions				
−2 to −1	0.009	0.001	−0.010	−0.001
	[−0.006]	[−0.001]	[−0.012]	[0.003]
−1 to 0	−0.015	0.000	−0.011	0.001
	[−0.016]	[−0.000]	[−0.011]	[0.002]
0 to +1	0.042	0.002	0.032	0.000
	[0.049]	[0.001]	[0.031]	[0.000]
+1 to +2	0.040	0.002	**0.052**	−0.001
	[0.130]	[0.003]	**[0.134]**	[0.001]
−1 to +1	0.023	0.001	0.019	0.000
	[0.012]	[0.002]	[0.000]	[0.000]
−2 to +2	**0.060**	0.004	**0.062**	−0.001
	[0.103]	[0.004]	**[0.112]**	[0.002]

Note: This table reports changes in performance following abnormal monitoring meeting (fraction of meetings held in monitoring committees). Abnormal monitoring meetings are constructed across two dimensions: the fraction of meetings held in all monitoring committees (Panel A), and the fraction of meetings held in all monitoring committees including outside executive sessions (Panel B). Each measure is regressed on its determinants (Table 3) and then the residual is extracted for each firm to capture abnormal monitoring meetings in 2005. Firms with negative residuals are excluded from the sample, leaving a total of 345 firms with abnormal monitoring meetings. Year zero is the year of abnormal monitoring meetings (2005). Performance changes are defined as (1) changes in firm market-to-book minus changes in market-to-book for a control firm matched based on industry-adjusted market-to-book and size at $t - 1$; (2) changes in firm ROA minus changes in ROA for a control firm matched based on industry-adjusted ROA and size at $t - 1$; (3) changes in industry-adjusted market-to-book (where the industry benchmark is the median firm in the corresponding FF-48 classification); (4) changes in industry-adjusted ROA (where the industry benchmark is the median firm in the corresponding FF-48 classification). Each cell presents the mean change in performance, and in brackets below, the median change in performance. The Wilcoxon signed-rank test is used to assess if the median change in performance is different from zero. Changes in performance marked in bold represent statistical significance at the 95% confidence level.

classification). For the first two performance measures a control firm is necessary to calculate changes in performance. This control firm is selected by picking one firm which matches the sample firm in terms of being in the same size quintile and in the same in-industry performance quintile (MtB, ROA).

For both Panel A and Panel B, the average firm appears to be weakly, yet not significantly, doing worse before 2005 in terms of market-to-book. Following the abnormal meetings held in monitoring committees, performance picks up slightly between 2005 and 2006, but again not significantly. Then, between 2006 and 2007 (year +1 to +2), market-to-book increases an average of 0.06 and a median positive shift of 0.13 (both significant at the 95%). These same positive changes in performance do not manifest when considering changes in ROA for firms with abnormal meetings held in monitoring committees. In total, Table 5 presents evidence that following an excess fraction of meetings held in monitoring committees (away from the CEO) performance improves for such firms when considering valuation measures.

3.2. *Changes in the internal operations of the board over time*

In this sub-section, I detail just how the board materially changed following the accounting scandals of the early 21st century and subsequent SOX legislation. Table 6 presents the differences between various board statistics over the 1999–2005 time period. Included in Panel A of Table 6 are board size, independence, full board meetings (including executive committee meetings), fraction of meetings held in the compensation committee, fraction of meetings held in the nominating committee, fraction of meetings held in miscellaneous monitoring committees, fraction of time spent in the executive committee, work in executive committee, and the fraction of firms holding one or more meetings in the executive committee.

In Panel A, I first detail differences over the time period using an unadjusted matched sample. Since NYSE firms in 1999 were not required to have independent monitoring committees, CEOs and insiders could sit on such committees. In fact, for this matched sample, 20% of firms in 1999 had an insider or the CEO sitting on the nominating committee. In addition, 34% of firms had no nominating committee in place. Thus, for 54% of firms in the sample the CEO or an insider had a voting stake in the board composition discussion. For this unadjusted matched sample, I simply treat such situations as though no insider was sitting on the monitoring committee.

The mean (median) board size in 2005 was 9.73 (9), while the mean (median) board size in 1999 was 9.75 (9). This amounts to an insignificant

difference of 0.02 (0). Independence averaged 83.1% in 2005 and 79.0% in 1999. This yields a difference of 4.1% (significant at the 5% level). Altering the constructed definition of independence and treating affiliated directors as non-independent members yields a similar 6% increase in the measure over the time period (consistent with Duchin *et al.*, 2010). While this difference is significant, the overall economic magnitude is still quite small. Since board size remained the same over the time period, the change in independence reflects the removal of less than one-half of one insider from the board and the addition of less than one-half of one outsider to fill the position. For the unadjusted matched sample, the number of board meetings controlled by the CEO (full board meetings plus executive committee meetings) in 1999 was 8.54 and 8.59 in 2005. Next, although not directly noted in the table, the mean number of executive committee meetings held in 1999 was 1.20, far above the mean level of 0.67 in 2005.

For the unadjusted matched sample, the fraction of meetings held outside the CEO's voting influence in the monitoring committees increased significantly between 1999 and 2005. The mean (median) fraction of time spent in the compensation committee was 0.321 (0.333) for the 1999 sample and 0.390 (0.400) for the 2005 sample (differences significant at the 5% level). The mean (median) fraction of meetings held in the nominating committee was 0.134 (0.111) for the 1999 sample and 0.313 (0.333) for the 2005 sample. This amounts to a difference in means (medians) of 0.179 (0.222), significant at the 5% level. Similarly, the difference in means (medians) for the time spent in the audit committee is 0.219 (0.233), significant at the 5% level. In addition, the fraction of time spent in the executive committee was nearly cut in half between 1999 and 2005. In 1999 the mean fraction of meetings held in the executive committee was 0.093, and by 2005 it was 0.055. This constitutes a 40% drop in the measure between 1999 and 2005 (significant at the 5% level). A similar significant difference persists when considering boards which do over 25% of their board work in the executive committee.

To properly adjust for the presence of CEOs on committees in 1999, I create an adjusted matched sample. If the CEO sits on a particular monitoring committee (compensation, audit or nominating), any meetings that such a committee holds are now treated as 'full board meetings', or in other words, meetings which the CEO presides over. It is important to note that this adjustment is very conservative. Since, the CEO may exercise control over the committees in alternative manners in 1999 such as placing inside directors or affiliated directors to committee positions, this treatment is only isolating cases where the CEO definitely votes on decisions. Yet, though

constructed in a conservative manner, this adjusted match sample gives a more accurate representation of just how control over the monitoring decision-making processes changed over this time period. First, the mean number of meetings in which the CEO had a voting stake decreased from 9.10 to 8.59 between 1999 and 2005, significant at the 5% level. Next, the mean number of meetings held by outside directors in the independent audit, compensation, and nominating committees increased from 3.48, 3.98, 1.11 to 9.15, 5.45, 3.82, respectively, between 1999 and 2005 (all differences significant). Adding these monitoring committee meetings together, the CEO had a voting stake in more meetings (9.10) than meetings held by outside directors in independent committees (8.56) in 1999. In contrast, by 2005, the CEO had a voting stake in 8.59 meetings while outside directors held 18.42 meetings in the three primary independent monitoring committees.

Across all monitoring measures previously detailed, similar, yet slightly more significant results hold given the adjusted matched sample. The mean (median) difference in the fraction of meetings in the compensation committee over this time period is 0.088 (0.087). This amounts to a 30% increase in the time spent discussing compensation issues outside of meetings in which the CEO has a voting stake. Similarly, the average fraction of time spent in the nominating committee increased over 200% (mean difference of 0.213), and the average fraction of meetings in the audit committee increased 80% (mean difference of 0.231). The final three columns of the adjusted matched sample also provide supporting evidence pertaining to the decline in the CEO's ability to exercise control over board investment decisions through the executive committee. The fraction of the meetings held in the executive committee fell by 0.034 (38%) between 1999 and 2005. In addition, noted in the final column of the table, in 1999 31.8% of firms held at least one executive committee meeting, while in 2005 only 19.5% of firms held at least one executive committee meeting (a significant difference).

In Panel B of Table 6, I also examine a matched sample of firms where the percent difference in a given firm's market-to-book ratio over the period (between 1999 and 2005) is less than 40%. This matched sample is constructed to control for possible differences in meeting structure which may result purely from differences in firm performance states between 1999 and 2005. This new market-to-book matched sample includes 391 observations. The results presented in Panel B follow in a near identical manner to those detailed in Panel A.

Given the cross-sectional determinants of the operational form of the board presented in Tables 2–4, it is also important to detail how differences

Table 6. Changes in board structure over time.

	Board Size	Indep	Board Meetings	Frac Comp	Frac Nom/Gov	Frac Audit	Frac Misc Monitoring	Frac Exec	Work in Exec Com	Meet Exec Com
Panel A: Matched sample										
Unadjusted Matched Sample										
2005 Sample	9.73	0.831	8.59	0.390	0.313	0.520	0.061	0.055	0.087	0.195
	[9]	[0.875]	[8]	[0.400]	[0.333]	[0.533]	[0]	[0]		
1999 Sample	9.75	0.790	8.54	0.321	0.134	0.301	0.046	0.093	0.143	0.318
	[9]	[0.818]	[8]	[0.333]	[0.111]	[0.300]	[0]	[0]		
Difference Btwn Periods	−0.02	**0.041**	0.05	**0.069**	**0.179**	**0.219**	0.015	**−0.038**	**−0.056**	**−0.123**
	[0]	[**0.057**]	[0]	[**0.067**]	[**0.222**]	[**0.233**]	[0]	[0]		
Adjusted Matched Sample										
2005 Sample	9.73	0.831	8.59	0.390	0.313	0.520	0.061	0.055	0.087	0.195
	[9]	[0.875]	[8]	[0.400]	[0.333]	[0.533]	[0]	[0]		
1999 Sample	9.75	0.790	9.10	0.302	0.100	0.289	0.045	0.089	0.141	0.318
	[9]	[0.818]	[8]	[0.313]	[0]	[0.286]	[0]	[0]		
Difference Btwn Periods	−0.02	**0.041**	**−0.51**	**0.088**	**0.213**	**0.231**	0.016	**−0.034**	**−0.054**	**−0.123**
	[0]	[**0.057**]	[0]	[**0.087**]	[**0.333**]	[**0.247**]	[0]	[0]		
Panel B: Market-to-book controlled sample										
Unadjusted Matched Sample										
2005 Sample	9.78	0.830	8.51	0.391	0.320	0.518	0.061	0.058	0.093	0.210
	[10]	[0.875]	[8]	[0.400]	[0.333]	[0.529]	[0]	[0]		
1999 Sample	9.76	0.794	8.33	0.328	0.142	0.304	0.045	0.092	0.148	0.331
	[10]	[0.818]	[8]	[0.333]	[0.125]	[0.300]	[0]	[0]		
Difference Btwn Periods	0.02	0.036	0.18	**0.063**	**0.178**	**0.214**	0.016	**−0.034**	**−0.055**	**−0.121**
	[0]	[**0.057**]	[0]	[**0.067**]	[**0.208**]	[**0.229**]	[0]	[0]		

Table 6.   (Continued)

	Board Size	Indep	Board Meetings	Frac Comp	Frac Nom/Gov	Frac Audit	Frac Misc Monitoring	Frac Exec	Work in Exec Com	Meet Exec Com
Adjusted Matched Sample										
2005 Sample	9.78	0.830	8.51	0.391	0.320	0.518	0.061	0.058	0.093	0.210
	[10]	[0.875]	[8]	[0.400]	[0.333]	[0.529]	[0]	[0]		
1999 Sample	9.76	0.794	8.89	0.308	0.104	0.291	0.043	0.088	0.143	0.331
	[10]	[0.818]	[8]	[0.333]	[0]	[0.286]	[0]	[0]		
Difference Btwn Periods	0.02	0.036	−0.38	**0.083**	**0.216**	**0.227**	0.018	**−0.030**	−0.050	**−0.121**
	[0]	**[0.057]**	[0]	**[0.067]**	**[0.333]**	**[0.243]**	[0]	[0]		

Note: This table reports board structure statistics for a matched sample of firms. The sample comprises 586 firms from the original 2005–2006 dataset which have available board and financial data for fiscal years 1999 and 2005. The full matched sample (unadjusted) includes all matched firms regardless of CEO or insider positions on monitoring committees. The unadjusted matched sample makes no alteration to firm-year observations where the CEO holds a committee position. In addition to the unadjusted full matched sample, the table also presents board structure statistics for an adjusted match sample. If a CEO holds a particular monitoring committee position and presides over meetings in a given year, then such committee meeting observations are treated as full board meeting observations. The variables presented are the following: board size, independence, full board meetings (including executive committee meetings), the fraction of compensation committee meetings (Frac Comp), the fraction of nominating/governance committee meetings (Frac Nom/Gov), the fraction of audit committee meetings (Frac Audit), the fraction of miscellaneous monitoring meetings (including stakeholder committee meetings), the fraction of meetings in the executive committee (Frac Exec), Work in Exec Com (an indicator variable of 1 if the board holds greater than 25% of board meetings in the executive committee), and the fraction of firms which hold one or more executive committee meetings in a given year (Meet Exec Com). Board meetings include executive committee meetings. Panel B presents board structure statistics for a matched sample of firms where the percentage difference in a firm's market-to-book ratio over the period (between 1999 and 2005) is less than 40%. This controlled sample has 391 observations. Differences in means (and medians in brackets) denoted in bold represent statistical significance at the 95% confidence level.

Table 7.   Changes in firm, CEO and board characteristics.

	Assets	Market-to-Book	CEO Tenure	CEO Ownership
Panel A: Firm/CEO characteristics				
2005 Sample	9,949.58	1.84	6.15	1.61
	[2,650.41]	[1.58]	[5]	[0.258]
1999 Sample	6,798.27	2.02	6.79	2.12
	[1,628.27]	[1.55]	[5]	[0.291]
Difference Btwn Periods	**3,151.31**	−0.18	−0.64	−0.51
	[1,022.14]	[0.03]	[0]	[−0.033]

	Frac Misc Investment	Frac Finance	Misc Investment Independence	Finance Independence	Standing Exec
Panel B: Misc committee structure					
2005 Sample	0.018	0.063	0.762	0.791	0.402
	[0]	[0]	[0.75]	[0.80]	
1999 Sample	0.011	0.053	0.681	0.693	0.415
	[0]	[0]	[0.67]	[0.71]	
Difference Btwn Periods	0.007	0.010	**0.081**	**0.098**	−0.013
	[0]	[0]	[0.08]	**[0.09]**	

Note: This table reports differences in firm, CEO and board statistics between 1999 and 2005 for a matched sample of firms. The sample comprises 586 firms from the original 2005–2006 dataset which have available board and financial data for fiscal years 1999 and 2005. The variables presented in Panel A for the full matched sample are the following: total assets, market-to-book, CEO tenure, and CEO ownership. Panel B presents changes in board structure statistics for the unadjusted matched sample which include: the fraction of meetings held in miscellaneous investment committees, the fraction of meetings held in the finance committee, miscellaneous investment committee independence, finance committee independence, and standing executive committee (the fraction of firms which have a standing executive committee). Differences in means (and medians in brackets) denoted in bold represent statistical significance at the 95% confidence level.

in firm characteristics over the time period cannot explain the documented changes in internal board control in Table 6. Table 7 presents changes in CEO and firm attributes for the matched sample over the 1999–2005 period. First, the median market-to-book ratio for the matched sample weakly increased from 1.55 to 1.58 between 1999 and 2005, while median CEO tenure remained at five years over the time period.[23] In addition, the fraction of shares held by the CEO also did not change in a material

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[23] Average CEO tenure decreased from 6.79 years to 6.15 years between 1999 and 2005, while average market-to-book decreased from 2.02 to 1.84 over the period.

fashion, with median ownership decreasing from 0.29% to 0.26% between 1999 and 2005. Firm size (total assets) did increase in a statistically significant manner over this period, with the average total assets amounting to 6,798 ($MM) in 1999 and 9,949 ($MM) in 2005. Yet, consider the actual economic impact that this 46% change in total assets would have on the fraction of meetings held in committees. Implementing the cross-sectional results in Table 3, such a shift in total assets would imply an approximate 1% increase in the fraction of meetings in the compensation committee, and an approximate 1.2% increase in the fraction of time spent in the nominating committee (relative to median levels). These two implied changes are no where near the magnitude of the changes which took place between 1999 and 2005, and hence the increase in firm total assets may at best supplement the documented trends.

In Panel B of Table 7, I document changes in miscellaneous investment related features of the board. First, the mean fraction of meetings held in the finance committee weakly increased from 0.053 to 0.063, and the mean fraction of meetings held in miscellaneous investment committees weakly increased from 0.011 to 0.018 (insignificant). Though the fraction of board-time spent in these committees did not change in a material manner, the composition of both sets of committees did shift in a significant manner. Outsider representation on the finance committee, and miscellaneous investment committees increased 0.098 and 0.081, respectively. Thus, allocating such observations where the CEO holds positions on these committees to the number of meetings which the CEO has a voting stake in serves to increase the difference in the measure to −0.60 (as compared to the −0.51 difference presented in Table 6).

3.3. *Robustness checks*

In this sub-section, I discuss robustness checks to the preceding analysis. First, results throughout the paper are robust to numerous other variable constructions for the dependent variables. If the fraction of board meetings handled by a particular monitoring committee (Frac Monitoring) is altered to include the number of 'miscellaneous investment committee' meetings in which the CEO holds a position (in the denominator of the measure), the primary results detailed in this investigation hold in a qualitatively similar manner. Similarly, if the fraction of board work handled in the executive committee (Frac Exec) is altered to exclude executive committee meetings from the denominator, the significance of the primary findings do not change. And, if finance committee meetings are added to either of the dependent

variables, or if Frac Sessions is defined using a zero bound for its tobit cutoff, quantitatively similar results persist throughout.

For further robustness, I also consider a committee-member weighted measure to determine the fraction of meetings held in a particular committee. This amounts to scaling each number of committee meetings held by the number of committee members in the particular committee and the number of full board meetings by the number of members on the board. Since the number of board members on each committee tends to move in accordance with board size (e.g., an eight-person board has four members on a committee and a 10-person board has five members on a committee), these alternative measures of board monitoring control function in nearly an identical fashion to the measures used in Tables 3 and 4. Results presented throughout hold in an equivalent manner if these measures are implemented.

In addition, the results are also robust to numerous other specifications for the variables used to test the scope of operations, monitoring and negotiation hypotheses. First, results throughout are robust to using the log transform of CEO tenure and the log transform of CEO ownership to denote CEO power. And, to capture the monitoring hypothesis, if the standard deviation of returns over the prior year is used to proxy for information asymmetry, similar results persist. Finally, alternative models where board size and independence are implemented as control variables yield similar results throughout Tables 3 and 4, with the exception of the significance attached to the coefficient on firm size. Since the single greatest determinant of board size is firm size or firm complexity (Boone *et al.*, 2007) this correlation serves to diminish the significance associated with the variable.[24]

4. Conclusion

This paper functions to extend our understanding of board control beyond independence. Using a hand-collected dataset of 586 NYSE firms, I provide supporting evidence that the primary change in the structure of the board between 1999 and 2005 was the reduction in the CEO's influence and control over the decision-making processes of the board. Over this time period, not only did the CEO have a voting stake in fewer board meetings, but more importantly, the fraction of meetings held by outside directors removed from

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[24]Yet, since independence and board size are not fundamental firm-level determinants of monitoring meeting structure on the board, and are in fact simultaneous choice variables which respond to similar controls used in this study, their use is omitted in the preceding table.

the CEO's voting influence in the nominating, audit, and compensation committees increased 200%, 80%, and 30%, respectively. In addition, the fraction of board meetings held by the CEO in the executive committee decreased by 40%. Hence, while board independence increased 5% between 1999 and 2005, the empirical findings lend support to the idea that the principal governance reform following the corporate malfeasance scandals/ regulatory events of 2000–2003 was through an alternative channel of 'independence' on the board — the internal control over board monitoring and investment operations.

Following this, to provide greater clarity on how the internal operations of the board are related to the bargaining position of the CEO and other firm-level determinants, I extend and test three primary hypotheses in the boards literature: the scope of operations hypothesis, the monitoring hypothesis, and the negotiation hypothesis. Consistent with past empirical work, I find strongest support for the scope of operations hypothesis and the negotiation hypothesis. The results offer support for the idea that CEOs who have a greater ability to affect the structure of the board will pull the monitoring operations of the board away from independent committees (meetings which they cannot control), and will also pull the investment operations of the board toward the executive committee, thus avoiding the scrutiny of the full board as it pertains to policy decisions. And, these two points suggest that the documented changes in board operational form between 1999 and 2005 were contrary to the preferences of CEOs.

The empirical results in this investigation lend new insight into a primarily unexplored area of board structure. In a post-SOX environment, where all boards are 'dominated' by outside directors and 87% independence is the norm, the findings presented here provide evidence that the internal operations of the board are an important structural feature to consider when discussing issues concerning board governance. And, if most board work is now handled at the committee level, the structure and composition of distinct committees is as crucial a feature to understand as the structure of the overall board of directors when discussing decision-making processes and board control.

Acknowledgments

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