DETERMINANTS AND IMPLICATIONS OF BOARD LEADERSHIP STRUCTURE

Aiyesha Dey
University of Chicago
Booth School of Business
Chicago, IL 60637

Ellen Engel
University of Chicago
Booth School of Business
Chicago, IL 60637

Xiaohui Gloria Liu
The School of Management
University of Texas, Dallas
Richardson, Texas 75083

January 29, 2009

We would like to thank Phil Berger, Bill Cready, Zhonglan Dai, Pingyang Gao, Steven Kaplan, April Klein, Christian Leuz, Stan Markov, Jonathan Rogers, Abbie Smith, Ross Watts, Joe Weber, workshop participants at the IECG Corporate Governance Research Symposium at the University of Texas, Dallas, University of Chicago, MIT, New York University and Washington University at St. Louis for very helpful comments. All errors are our own.

DETERMINANTS AND IMPLICATIONS OF BOARD LEADERSHIP STRUCTURE

Abstract

We examine the determinants of the leadership structure of the board - whether the CEO is also the board chairman (DUAL leadership) - and its implications for performance. We find that firms with greater information flows, as proxied by firm size, and firms with board characteristics associated with stronger governance are more likely to combine the roles of the CEO and the chairman of the board. We also find that CEOs with greater experience and ability are more likely to have the additional title of the chairman of the board. We also document that DUAL firms for which the benefits from combining the roles are likely to be greater outperform both DUAL firms with lower expected benefits from the combined roles, as well as firms with NON-DUAL leadership structures. We separately examine the sample of firms that separated the roles between 2001 and 2006. While we find an increasing number of firms switching from a combined to a separate CEO/chair leadership structure over this period, we do not find a positive market reaction to the switch or improved performance after the separation. In fact, we find some evidence that firms that acknowledge separating the roles due to pressure are perceived more negatively by the market at the time of the switch and the period after the separation. We conclude that firms' decisions on board leadership structures appear to be related to economic factors, and recent proposals suggesting that separating the roles will lead to improved performance for all firms warrant more careful consideration.

1. Introduction

The purpose of this paper is to examine the leadership structure of the board of directors, manifested through the combination or the separation of the roles of the Chief Executive Officer (CEO) and the chairman of the board of directors. We explore firm and CEO characteristics associated with the choice of board leadership structure and the implications of this choice for performance. Historically, an overwhelming majority of U.S. firms have chosen to combine the role of CEO and chairman of the board – we refer to this combined role as CEO duality. The choice of leadership structure has received greater attention from regulators, institutional investors and the business press in recent years, in part due to recent corporate scandals and related concerns of the strength of firms' governance structures. The great scrutiny has triggered an increase in the number of firms opting to separate the CEO and chairman role. A recent study by the Corporate Library, a research group in Portland, Maine, reports that roughly 36% of

Standard and Poor's 500 companies had a separate CEO and chairman in 2007, up from 22% in 2002.

One of the primary roles of the board of directors is to effectively monitor the decisions and actions of management. The strength of the board in performing this function is likely to be a function of its independence. Advocates of splitting the roles of CEO and board chair argue that if the CEO is also made the chairman of the board, the board's ability to monitor the CEO is reduced (Fama and Jensen [1983]; Lipton and Lorsch [1992]; Jensen [1993]). On the other hand, proponents of CEO duality argue that vesting the two positions to one individual provides a unified command and reduces information costs (Anderson and Anthony [1986]; Brickley, Coles and Jarrell [1997]).

Despite the potential benefits of both structures, an implicit assumption in the recent scrutiny of CEO duality is that the practice hinders effective governance of the firm. Numerous empirical studies use the presence of CEO duality as a proxy for a weak governance structure in a firm. We argue that the choice of leadership structure, as with most governance structure choices, is dependent on a firm-level assessment of the costs and benefits of the alternatives. While the potential policy implications surrounding the recent attention to CEO duality is a key motivation behind our research, several other factors contribute to our interest in exploring this issue.

First, while there exist several studies that examine how the combined role of the CEO and board chairmanship affect performance, these studies have drawn quite diverse conclusions regarding the implications of combined roles on performance (see, for example, Berg and Smith [1978]; Donaldson and Davis [1991]; Rechner and Dalton [1991]; Boyd [1995]). Second, most of the research in this area fails to take under consideration that firms are likely to choose the leadership structure that is best suited for their business environment. We argue that firms select their leadership structure after an assessment of the related costs and benefits of the two alternative structures. We consider the factors underlying this assessment in examining the performance of firms with dual and nondual structures. Finally, while most studies exploring the

potential consequences of board leadership structures focused on the 1980s and 1990s, recent financial scandals and the corresponding regulatory changes have heightened the press and shareholders' attention to the overall strength of corporate governance systems. In particular, the desirability of the combined leadership structure has received particular scrutiny as a practice that weakens board control over management. The Sarbanes Oxley Act in 2002 (SOX) and related changes in requirements by the major stock exchanges have led to a number of additional checks in place to monitor the actions of the CEO.[1] Our sample period covers the years 2001 through 2006 allowing us to consider the implications of recent shifts in other governance mechanisms on the cost/benefit assessment involved in the leadership structure decision. We are also able to specifically examine characteristics and performance of the set of firms that switched from a dual to a combined leadership structure during this period. Thus, our study may provide new insights on the validity of the assumption that CEO duality has negative implications for corporate governance.

Our first objective is to examine the factors associated with firms' choices of board leadership structure. We follow Brickley, Coles and Jarrell [1997] in arguing that firms weigh the costs versus the benefits in choosing the leadership structure that is best suited to their business environment. We hypothesize that firms' choices of board leadership structures are likely to be positively associated with variables related to information sharing needs and the ability, experience and bargaining power of the CEO and negatively associated with agency costs experienced by the firm. Using a sample of 405 firms that combine the positions of the CEO and the chairman (DUAL firms) and 102 firms that separate these roles (NON-DUAL firms) over the time period 2001 through 2006, we find support for the above hypotheses suggesting that economic factors are associated with the firm's leadership structure choice.

[1] For instance, boards have more independent directors, and almost all firms have appointed lead directors that conduct executive sessions evaluating the CEO's decisions, even when the CEO is the chairman of the board. Audit committees and auditors are more vigilant, and CEOs themselves are likely to be more careful given the increased severity of penalties for wrong doings imposed by SOX.

Building on the finding that economic factors appear linked with the firms leadership structure decision, we would expect that DUAL firms with greater benefits from combining the roles will outperform DUAL firms with lesser corresponding benefits. While CEO duality may be attractive for both types of firms, we expect cross-sectional variation in the success of the leadership structure based on the extent of the net benefits from combining the roles. Our findings are consistent with these notions – accounting and market performance of DUAL firms with greater net benefits are significantly higher than that of DUAL firms with lower net benefits. Further, we find that contrary to the idea that separation of the CEO and chairman roles is a stronger governance structure, the market performance of DUAL firms significantly exceeds the NON-DUAL firms.

We also examine 109 firms that switched from a DUAL to a NON-DUAL structure over our sample period for reasons other than CEO or chair transition. We examine market returns both at the announcement date of the switch and up to two-year periods following the switch, relative to a control group of firms that changed CEOs but did not split the CEO and chair roles. We find no abnormal market returns at the time of the announcement or in periods subsequent to the switch. In fact, we find that firms that explicitly stated that they are splitting the roles to conform to good governance standards or due to pressure from institutional investors have significantly negative announcement returns as well as worse post-split performance. Taken together our findings are consistent with the notion that a separate leadership structure is not associated with better performance.

Two recent papers are similar in spirit to our analysis. Linck, Netter and Yang [2008] examine the trends in and determinants of board structures, including board leadership, over the period 1990 through 2004. They document that CEO duality is positively associated with firm size, CEO age and tenure. They conclude that the result on firm size is consistent with the notion that firms award high-ability CEOs the title of the chairman. They suggest the result on age and tenure indicates an incentive argument, i.e., that CEOs are awarded the title as part of the

succession process. Grinstein and Valles [2008] compares firms in 2000 with those in 2004 to examine the trend towards separating the roles and the characteristics of the new chairman. They document that the firms separating the roles increased from 26% in 2000 to 31% in 2004 and there is an increase in the percentage of independent chairman, particularly for large firms.

Our analysis complements and differs from the above in the following ways. First, in our analysis of the determinants of CEO duality we consider information sharing needs, agency costs and CEO bargaining power - factors associated with the costs and benefits of CEO duality. We explicitly consider these factors in examining performance differences both across the sample of DUAL firms and between DUAL and NON-DUAL firms. Second, we identify a group of switching firms to investigate whether the shift in leadership structure away from CEO duality is related to subsequent improvements in performance – a view advocated by the business press and shareholder groups.

Finally, while constructing our sample, we use proxy statement disclosures to determine firms in which the separation is due to the CEO transition and categorize these as DUAL firms. Several CEO contracts specify that the CEO will be awarded the chairman role within a year or two of hire, which indicates that a separation of CEO and chairman is temporary.[2] Not controlling for this may lead to inferences that they were promoted based on the incentive story. While the incentive story is an important one and a focus of several related papers[3], we focus on the firm- and CEO-specific characteristics that are likely to determine this choice for firms that have consistently maintained a certain board leadership policy.

Our results contribute to the recent policy debate on the desirability of having the same individual serve as the CEO and the chairman of the board. We document the factors associated with firms' choices of board leadership structures. Our results indicate that firm's decisions to

[2] For instance, Jeff Bewkes, Time Warner Inc.'s new CEO can resign if the company does not give him the additional role of the chairman of the board by early 2009. *WSJ article "When Chairman and CEO Roles get a Divorce." January 14, 2008.*

[3] See, for example, Brickley, Coles and Jarrell [1997] and Fosberg and Rosenberg [2002].

combine the CEO and chairman of the board roles are associated with economic factors. These results suggest that recent calls by regulators, directors and the business press for firms to separate the roles need more careful consideration of the firm-specific costs and benefits. Also, researchers should be cautious in using the presence of CEO duality to uniformly proxy for weak governance in empirical analyses involving governance factors.

The remainder of the paper is divided into the following sections. Section 2 develops the hypotheses and briefly discusses some related research. Section 3 discusses the data. Section 4 compares DUAL and NON-DUAL firms to study the determinants and performance consequences of CEO duality. Section 5 examines the performance implications for firms that switched leadership structures during our sample period, and Section 6 concludes.

2. Hypotheses Development

Determinants of CEO Duality

We develop three hypotheses of the determinants of corporate leadership structure – information needs, agency costs and CEO ability and power. We argue that a firm's governance structure, including the choice of a board leadership structure, likely depends on the scope and complexity of the organization (Fama and Jensen [1983]). Large firms with more operating segments will have more complex operations and greater information flows across segments. The CEO is likely to have unparalleled specialized knowledge regarding the strategic challenges and opportunities facing the firm as well as knowledge valuable to the chairman's job (Brickley, Coles and Jarrell [1997]). Separation of the roles of the CEO and the chairman in this setting may result in the costly and potentially incomplete transfer of critical information between the CEO and the chairman, and the reduced flexibility and speed of the CEO implementing different strategies. Thus, the costs of separating the roles are more likely to outweigh the benefits. We hypothesize that firms with more specialized information flows, as proxied by larger firms and

firms with more segments, are likely to combine the roles of CEO and board chair. We refer to this as the *Information Hypothesis*.

The leadership structure of the board is also likely to reflect the extent of agency problems in the firm and the monitoring requirements of the CEO, with greater agency costs resulting in higher costs to CEO duality. We refer to this as the *Agency Hypothesis*. Firms with more volatile operating environments and more growth opportunities have greater uncertainty and more opportunities for the CEO to squander firm's resources. The greater likelihood of these agency costs will require institutional arrangements that separate decision management from decision control (Fama and Jensen [1983]). Thus, we hypothesize that firms with more volatile operating environment and more growth opportunities are more likely to separate the role of the CEO and board chair.

We also argue that agency costs are greater in firms where the CEO is more entrenched. Entrenchment refers to the extent to which the CEO is insulated from intervention or removal from shareholders (Bebchuk, Cohen and Ferrell [2005]). Such insulation is likely to harm shareholders by weakening the disciplinary threat of removal and thereby increasing shirking, empire-building, and extraction of private benefits by incumbents (Manne [1965]). We measure entrenchment using the entrenchment index, *EINDEX*, created by Bebchuk, Cohen and Ferrell [2005]. *EINDEX* is an aggregation of six provisions in the firm's charter. Four of these provisions, namely staggered boards, limits to shareholder amendments of the bylaws, supermajority requirements for mergers and supermajority requirements for charter amendments, limit the extent to which a majority of shareholders can impose its will on management. Two other provisions, namely poison pills and golden parachute arrangements, are the most well known and salient measures taken in preparation of a hostile offer. We predict that firms with higher values for the *EINDEX* will be more likely to separate the roles of the CEO and the chairman.

The choice of the leadership of the board is one of several board related governance choices. The decision to combine or separate the roles of the CEO and the chairman of the board is likely impacted by these other monitoring mechanisms. Such monitoring mechanisms provide a strong check on the actions of the CEO, arguably lowering the agency costs associated with combining the roles of the CEO and the chairman. Prior research has shown that the presence of more independent board members is likely to counteract the negative aspect of the combined roles (McWilliams and Sen [1997]; Coles and Hesterly [2000]). Bhagat and Bolton [2008] show that stock ownership of board members is positively related to both future operating performance and to the probability of disciplinary management turnover in poorly performing firms.

Several studies provide evidence that board size is negatively correlated with several accounting measures of profitability, suggesting that smaller boards are likely to be more effective monitors (Lipton and Lorsch [1992]; Jensen [1993]; Yermack [1996]). On the other hand, Bhagat and Black [2000] find that the inverse correlation between board size and performance is not robust to the choice of performance measure. They conclude that different firms are likely to optimally choose boards of different sizes. Nevertheless, board size is likely to be an important mechanism in the functioning of boards. We also consider directors who have multiple board appointments as a measure of more effective monitors on the board as a result of the expertise and influence of such directors. Pritchard, Ferris and Jagannathan [2003] find that firm performance has a positive effect on the number of appointments held by a director.[4] To address the issue that firms with stronger alternative governance mechanisms are more likely to combine the roles of the CEO and the chairman, we include proxies for board independence, board size, board ownership and multiple corporate board appointments of directors.

[4] On the other hand, sitting on many boards may imply that these directors are too busy, suggesting that they are less effective as monitors. For instance, Fich and Shivdasani [2006] document that firms in which a majority of directors hold three or more directorships are associated with weak corporate governance. These firms exhibit lower market-to-book ratios, weaker profitability, and lower sensitivity of CEO turnover to firm performance. However, Pritchard, Ferris and Jagannathan [2003] find no evidence that directors with multiple appointments shirk their responsibilities to serve on board committees, or that such directors are associated with a greater likelihood of securities fraud litigation.

Our final set of predictions is related to the leadership capabilities and bargaining power of the CEO related to his or her ability, reputation and experience. We refer to this as the *CEO Power Hypothesis*. CEOs that are more powerful in terms of ability, experience and reputation are likely to command more respect and have earned the confidence of the board and investors. These CEOs, with their boards' support, desire the dual role in order to facilitate their agenda to lead the firm in creating value for the shareholders. Boards willing to grant these leaders the dual role are signaling to investors their confidence in the leadership and abilities of the CEO. Related, experienced and strong CEOs are also likely to have more bargaining power in negotiating the additional title of the board chair as part of their employment contract. Such CEOs are also likely to prefer not having to answer to or to seek approval from another individual while conducting their business. Baliga et al [1996] report that CEOs who support duality suggest that splitting the roles would dilute their power to provide effective leadership, create potential for rivalry between the chair and the CEO and limit innovation.[5] The potential for such disagreements and rivalries are likely to increase with the power of the CEO.

We draw from the management and law literatures to develop proxies for the abilities and power of the CEO. Our first measure of CEO ability and power is how central the CEO is within the top executive team, or "CEO centrality" (Bebchuk, Cremers and Peyer [2008]). As in Bebchuk, Cremers and Peyer [2008], we measure CEO centrality by the pay slice of the CEO (*CPS*), i.e., the percentage of the aggregate compensation awarded to the firm's top five executives that is captured by the CEO. Bebchuk, Cremers and Peyer [2008] argue that the importance of the CEO relative to the other members of the top executive team, in terms of contribution, ability or power, is expected to be reflected in *CPS*.

[5] For example, there is an ongoing rivalry between BAE Systems PLC's CEO Mr. Turner and its board chair Mr. Olver and "each was active in trying to get rid of the other". This has also made board meetings more difficult and strained and resulted in the departure of two COO's. *WSJ article "When Chairman and CEO Roles get a Divorce." January 14, 2008.*

Based on Finkelstein [1992], we also use the number of corporate boards that the CEO is a member of, his or her total compensation relative to industry median, and the percentage of the firm's shares owned by the CEO as measures of reputation, structural power and ownership power of the CEO. We also include the age of the CEO as a measure of experience and whether the CEO is also the founder of the firm as additional measures of power. We predict that more capable and powerful CEOs as captured by the above measures are more likely to have the additional role of board chairman. The detailed descriptions of all the variables discussed in this section are presented in Table 1.

Performance Implications of CEO Duality

We next consider the potential performance implications of CEO duality. While we argue that on average firms choose their board leadership structure based on an assessment of firm-level costs and benefits, we expect that firms with similar leadership structures may have different levels of net benefits. Therefore, based on the above *Information*, *Agency* and *CEO Power* characteristics, DUAL firms that have the greatest benefits from combining the roles of the CEO and chairman are likely to outperform DUAL firms that have lesser benefits from this choice.

The *Information* and *CEO Power* theories provide arguments suggesting that net benefits result from combining the CEO and chairman roles. The benefits derive from improved information sharing between CEO and boards for complex firms and the concentration of decision-making with a strong and effective leader. This unambiguous and unchallenged role of the CEO provides a single focal point for company leadership which can lead to superior decision-making and better performance (Anderson and Anthony [1986]; Donaldson [1985]). Therefore, we predict that DUAL firms with higher information sharing needs and more powerful CEOs are likely to outperform DUAL firms with lower values of these variables.

The *Agency* theory perspective predicts that the separation of decision management (CEO) and decision control (chairman of board) facilitates the reduction of the agency costs and leads to better decision-making and performance. Separating the roles of the CEO and the chairman of the board also enhances monitoring effectiveness of the board and improves performance (Fama and Jensen [1983]; Berle and Means [1932]; Pratt and Zeckhauser [1985]; Rechner and Dalton [1991]; Goyal and Park [2002]). We predict that DUAL firms with lower agency costs are likely to outperform DUAL firms with higher agency costs.

Alternatively, we may observe no (or opposite) associations if our model of economic determinants of board leadership structure is misspecified, or our variables do not adequately capture the characteristics they are intended to measure. For instance, firm size may be measuring the degree of agency costs in the firm, in which case we would expect the opposite result. The CEO power variables may be measuring the extent to which the CEO is entrenched, which would also lead to the opposite result.

We test for the performance implications for each of the above characteristics, information, agency and CEO power separately, as well as by aggregating them. Several empirical studies have examined the relation between CEO duality and firm performance. These studies, however, do not consider the potential for cross-sectional variation in performance across firms with similar leadership structures based on the extent of net benefits. We consider this variation in our performance analyses to highlight the role of the economic factors in the leadership structure decision. We also compare the performance of firms with different leadership structures (DUAL versus NON-DUAL). If firms optimally select the leadership structure after a careful consideration of the costs and benefits of each approach, we would not expect to find performance differences between firms that separate the CEO and chairman roles and those have combine the roles. This would be in contrast to recent popular arguments that a separate corporate leadership structure provides more effective governance and thus, leads to improved performance.

We also explore the performance implications of CEO duality by examining the change in performance for firms that switched from one leadership structure to another. If firms change from one leadership structure to another in response to changes in their business environments that alters the cost-benefit tradeoff of their existing structures, then we conjecture that there will be no change in their performance after the switch. However, if there is an exogenous setting which leads firms to change their existing leadership structure (which they would not have altered otherwise), then the corresponding change in the performance of these firms will indicate the performance implications of a dual versus non-dual leadership structure with greater precision. In other words, if duality is indeed harmful for shareholder, we conjecture that there will be an improvement in the performance of this group of firms after the split in leadership roles. We test these hypotheses on a group of firms that switched leadership structures, including those that explicitly stated that they switched to conform to environmental pressure. Our tests include both the market's reaction to the announcement of the switch and differences in market and accounting performance before and after the switch.

3. Sample Description

We develop our sample from the Corporate Library Database (previously known as Board Analyst). Our study spans the years covered by the Corporate Library from 2001 through 2006. Our goal in classifying firms is to capture the governance decision of the firm with respect to the leadership structure. We separate sample firms into three primary categories based on an assessment of their board leadership structures over the sample period – firms with a combined CEO and chairman role (DUAL firms), firms with a separate leadership structure (NON-DUAL) and firms that alter their leadership structure over the sample period (SWITCHER).

The first category (the DUAL group) comprises firms that have a policy of making their CEOs the chairman of the board either directly on hiring them or after a brief transition period. In making this assessment, we are careful to consider that some firms with a policy of a DUAL

leadership structure will have a separate chairman and CEO for a short time during a transition in top management. During this transition period the prior CEO typically remains as chairman while the new CEO is "trained" for the role.[6] The second category comprises firms that do not combine the roles of the CEOs and the chairman of the board over the sample period (the NON-DUAL group).[7] Our third category captures those firms that switched from one leadership structure to another over the sample period) for reasons other than transition to a new CEO (the SWITCHER group).[8]

After merging the sample of firms with the Compustat and ExecuComp databases, our sample consists of 405 firms in the DUAL group, 102 firms in the NON-DUAL group and a total of 136 firms in the SWITCHER sample. We summarize our sample construction in panel A of Table 2. Table 2 notes that while we identified a 136 firms that switched from one leadership structure to another, the overwhelming majority of switchers (109 firms) switched away from a dual structure to a non-dual structure with only 27 firms choosing to move to a dual structure. Due to the small number of observations of firms switching toward a dual structure, we focus our empirical analysis on the firms that switched away from the dual structure.

Panel B of Table 2 provides the industry distribution of the sample firms for each leadership structure category. For all three categories, DUAL, NON-DUAL and SWITCHER,

[6] Vancil (1987) refers to this transition process when the new CEO is experiencing a probationary period as "passing the baton." In contrast to prior studies which classify such firms as having separate leadership structures, we consider the overall leadership structure policy in making our classification by examining the firms' leadership policies over our entire sample period. A firm with a dual leadership structure over the sample period except for the transition period would be classified as one with a dual leadership structure period for all firm years. To correctly categorize such firms, we examine proxy statements for several periods surrounding the switch to determine whether the switch was transitional.

[7] While our analysis period covers 2001 through 2006, we examined proxy statements of firms as far back as 1994 when proxy statements became available on the SEC's Edgar system in order to assess the consistency of the firms leadership structure choice. Almost all firms in the two groups followed their respective policies prior to our sample period. Repeating our analysis by eliminating the few firms that did not follow the same policy prior to our sample period did not alter our results.

[8] Almost all firms in the SWITCHERS sample switched only once over the sample period. We encountered several firms that switched back and forth within 1 or 2 years. Review of their proxy statements we revealed that these 'back and forth' switches were not due to CEO transitions. These rapid reversals of board leadership structure are likely due to reasons other than economic triggers – we have omitted these few switchers from our final sample.

the majority of firms are concentrated in the Manufacturing, Business Equipment and Wholesale, Retail and Services industries. A significant portion of the sample firms in the DUAL and SWITCHER categories are also present in the Consumer Non-durables, Utilities and Healthcare industries. For the NON-DUAL group, other than the three industries mentioned above, firms are quite evenly distributed in the other industries.

In the next section we focus on the DUAL and NON-DUAL group of firms. We examine the firm- and CEO-specific determinants of the choice of leadership structure, as well as its performance implications. In Section 5 we present analyses of the SWITCHER group of firms that separated the role of the CEO and chairman over the sample period.

4. ANALYSIS OF DUAL AND NON-DUAL FIRMS

4.1 Descriptive Statistics

We begin by conducting univariate analyses of the various firm, governance and CEO characteristics of the two categories of sample firms: DUAL and NON-DUAL. The factors chosen align with the three hypotheses presented in section 2. Table 3 provides the mean, median and standard deviations of the firm, CEO and governance characteristics for these firms. To compute the summary statistics, for the DUAL and NON-DUAL firms we randomly select one firm-year over the sample period.[9] We test whether the mean and median values of the above characteristics for the NON-DUAL firms are significantly different from those of the DUAL firms. The significances based on the t-tests for the means and the Wilcoxon tests for the medians are indicated next to the corresponding variables in the NON-DUAL firms in Table 3.

Both means and medians indicate the firms in the DUAL group are significantly larger in size (based on sales) than those in the NON-DUAL group. This supports the conjecture that it is more cost-effective for larger firms with their more complex business operations to have

[9] However, we get similar values when we compute these statistics for the DUAL and NON-DUAL firms over all years in the sample.

combined roles of the CEO and the chairman of the board. DUAL firms also have significantly more business segments than the NON-DUAL firms (the median difference is significant). These results are consistent with the theory related to the *Information Hypothesis* suggesting that firms with greater need for more specific information flows find it more beneficial to combine the leadership roles.

While growth is not significantly different across the different groups, standard deviation of returns is significantly higher for the NON-DUAL firms than the DUAL firms (the median is significant). The governance measures suggest that the DUAL firms have significantly more outside directors and more directors who sit on multiple boards than the NON-DUAL firms. This suggests that having more outside directors on the board (and possibly more effective directors given their multiple appointments) is a governance mechanism that is complementary to the board leadership structure, so as to mitigate agency concerns that may be associated with a combined CEO and board chair roles.

The entrenchment index, *EINDEX*, is marginally significantly higher for the DUAL firms than the NON-DUAL firms (although only the mean difference is significant), which is somewhat contrary to expectations. However, firms with higher *EINDEX* are positively correlated with *%OUTDIR* and *DIR_STK* (in unreported correlations), which indicate they have several other monitoring mechanisms in place, and it is possible that having more insulation for CEOs from removal by shareholders does not prevent firms from combining the roles. The other governance mechanisms, namely, board size and director stock ownership are not significantly different among these groups. The above univariate analyses support the ideas presented in the *Agency Hypothesis*, that firms with lesser agency costs and with more monitoring mechanisms to provide a check the actions of the CEO are more likely to have a combined role of the CEO and board chairman.

Among the CEO characteristics, we find that CEOs in the DUAL group are older than the CEOs in the NON-DUAL group of firms. These results support the theory that more experienced

CEOs, as proxied by their age, are also likely to have the position of the board chairman. The results for the total compensation, stock ownership and pay slice indicate that CEOs for DUAL firms are paid more than the industry median CEO, own significantly higher levels of stock, and have significantly higher pay slice than the top 5 officers within their company than the CEOs of the NON-DUAL firms. The evidence is consistent with the notion that CEOs in the DUAL group have more bargaining power related to experience, ability, or both, so as to command higher levels of compensation and ownership. Finally, we also observe that for firms in the DUAL group the CEOs are significantly more likely to be founders or co-founders than the CEOs for the NON-DUAL group. In sum, the above results support the *CEO Power Hypothesis*.

Overall, the univariate analyses indicate a number of significant differences between firms that have a policy of combining the roles of the CEO and chairman and those that always choose to separate the roles. These results support the hypotheses that information sharing, agency costs and CEO power are important explanatory variables for board leadership structures.

4.2 Multiple Regression Analyses: Determinants of CEO Duality

In this section we conduct probit regressions relating the leadership structure decision to firm and CEO characteristics. We examine the determinants of the duality decision between the DUAL and NON-DUAL firms – the two categories of firms that have consistent leadership structures over the sample period. We conduct the analyses in several ways: (1) by randomly selecting one firm-year for each firm (so that each firm appears only once in the regressions); (2) pooled with robust t-statistics (clustered by year); and (3) by year. We report our results using the specification of one firm-year observation per firm. Our results are essentially unchanged using the alternative specifications. In all regressions we include industry controls to control for unmodeled differences in board structures that may covary with the industry.

Our determinants model explores factors associated with the probability of a firm choosing a dual leadership structure with a consistent structure over time. We conduct the following probit analysis:

$$\begin{aligned} Prob(CEO\_COB) = {} & \beta_0 + \beta_1 \times SIZE + \beta_2 \times \#SEGMENTS + \beta_3 \times GROWTH + \beta_4 \times STD\_RET \\ & + \beta_5 \times BD\_SIZE + \beta_6 \times \%OUTDIR + \beta_7 \times DIR\_MULTBDS \\ & + \beta_8 \times DIR\_STK + \beta_9 \times EINDEX + \beta_{10} \times AGE + \beta_{11} \times TOTAL\_COMP \\ & + \beta_{12} \times CEO\_STK + \beta_{13} \times CEO\_\#BDS + \beta_{14} \times CPS + \beta_{15} \times FOUNDER + \varepsilon \end{aligned}$$

The variable *CEO_COB* is an indicator variable that takes the value of 1 for the firms in the DUAL group where the CEO is made the chairman on hire or after a brief transition period, and 0 for the firms in the NON-DUAL groups where the CEO role is consistently separate from the board chair role. In accordance with the *Information Hypothesis*, we expect positive coefficients for the variables *SIZE* and *#SEGMENTS*. The *Agency Hypothesis* predicts positive coefficients for *GROWTH*, *%OUTDIR*, *DIR_MULTBDS*, *DIR_STK* and negative coefficients for *STD_RET*, *BD_SIZE* and *EINDEX*. While our prediction for *BD_SIZE* is based on the evidence in most prior studies, we do acknowledge the argument in Bhagat and Black [2000] that different board sizes are optimal for different firms and are open to alternative interpretations. The *CEO Power Hypothesis* suggests that the coefficients on the variables *AGE*, *TOTAL_COMP*, *CEO_STK*, *CEO_#BDS*, *CPS* and *FOUNDER* are expected to be positive.

The results for the determinants of CEO duality are presented in Table 5. *SIZE* is positive and significantly associated with the probability that the CEO is also the chairman of the board of the firm. This result is consistent with the *Information Hypothesis* suggesting that larger firms with greater information flows are more likely to combine the roles of the CEO and the chairman of the board. The coefficient on our second complexity proxy, *#SEGMENTS*, is not significant. One possible explanation for the lack of significance of *#SEGMENTS* is due to its significant correlation with *SIZE* (ρ = 0.223 (Pearson); ρ = 0.247 (Spearman)). The results provide some support for the *Agency Hypothesis* as well. While *GROWTH*, *STD_RET* and

DIR_STK are not significant, *BD_SIZE*, *DIR_MULTBDS* and *%OUTDIR* are significantly positive in support of the *Agency Hypothesis*. The evidence indicates that firms with more independent directors, directors with multiple appointments and smaller boards are likely to be effective in monitoring the actions of the CEO, thus reducing agency costs related to combining the roles of the CEO and the chair. This evidence supports results in prior studies that the presence of independent directors counteracts the negative effect of CEO duality (McWilliams and Sen [1997]). Finally, contrary to predictions, *EINDEX* is positive, though not significant. Recall our prediction that agency costs are higher in firms with more entrenched CEOs and that these firms would thus be less likely to combine the roles of CEO and chair.

Turning to the *CEO Power Hypothesis*, we document significant positive coefficients on several proxies capturing CEO power. We find positive and significant coefficients on *AGE*, *CEO_STK* and *CPS* suggesting that that CEOs who are more experienced, have more ownership in the firm and command more power inside the organization (as revealed through their pay relative to other members of the management team) are also more likely to be the chairman of the board of their firm. One broad interpretation of this evidence is that the firms hiring these individuals require such powerful leaders with the relevant expertise and connections to make strategic decisions without having to spend too many resources to justify their decisions and seek approval from the board. Moreover, leaders with more experience and ability are also likely to have the bargaining power to demand the additional title of the chairman.

Overall, the evidence supports the hypothesis that both the business environment, including information and agency cost requirements, and especially the power of the individual hired as the CEO are significantly related to the probability that the CEO is also the chairman of the board of the firm. These results are consistent with firms determining the optimal leadership structure based on the cost-benefit tradeoffs of these factors.

4.3 Performance Implications of CEO Duality

Our next objective is to examine the performance implications of dual and non-dual board leadership structures. We first divide the sample of DUAL firms into groups based on the extent of information sharing needs, agency costs and power of the CEO. Our goal is to consider the cross-sectional variation in performance across firms with similar leadership structures based on the extent of net benefits. Higher performance by the DUAL firms with greater benefits relative to DUAL firms with lower benefits will highlight the role of the economic factors in the leadership structure decision.

In comparing the size of the benefits across DUAL firms, we combine the multiple measures for each hypothesis into an aggregate measure or index. To create the index, we first calculate the percentile rank for each firm for each of the underlying variables. We then form the aggregate index as the average of the percentile rank values of the related variables. The information index (*INFO_INDEX*) is the average of the percentile rank values of the information variables *SIZE* and *#SEGMENTS* for each firm. Similarly, we form the agency index (*AGENCY_INDEX*) which is the average of the percentile rank values of the agency variables *GROWTH*, *STD_RET*, *BD_SIZE*, *%OUTDIR*, *DIR_MULTBDS*, *DIR_STK* and *EINDEX* for each firm. Similarly, the CEO power index (*CEO_INDEX*) is the average of the percentile rank values of the CEO power variables *AGE*, *TOTAL_COMP*, *CEO_STK*, *CEO_#BDS*, *CPS* and *FOUNDER*. We also form an aggregate index (*AGGR_INDEX*) which is the average of the percentile rank values of all the above information, agency and CEO power variables for each firm. Note that we adjust the signs of each of the variables in the agency index so that greater values of the *INFO_INDEX*, *AGENCY_INDEX* and *CEO_INDEX* suggest greater extent of information sharing needs, lower agency costs and greater CEO power. Higher values of the *AGGR_INDEX* represent greater benefits to combining the roles of the CEO and chairman.

We then divide the DUAL firms into three groups, high, medium and low based on the index values of each firm. While we argue that on average all firms choose their leadership

structure optimally, the *Information*, *Agency* and *CEO Power* hypotheses suggest that DUAL firms in the high group for each of the individual indices or for the aggregate index are likely to have the greatest benefits from combining the roles of the CEO and chairman and thus higher performance than DUAL firms in the low group.

We also compare the performance of the firms in the high DUAL group with the firms in the NON-DUAL sample. If the critics' argument that splitting the roles will lead to better performance is valid, then we should observe that the NON-DUAL firms will outperform the firms in the high DUAL group. In contrast, if firms optimally select their leadership structure after careful consideration of the costs and benefits of each approach, we would not expect to find performance differences between firms that separate the CEO and chairman roles and those have combine the roles.

The results for these are reported in Table 5. We consider an accounting performance measure, the average industry-adjusted return on assets, *ROA*, and a stock market performance measure, the average market-adjusted returns, *RETURN*, to examine the performances across the different groups.[10] We report the performances for the high DUAL, low DUAL and the NON-DUAL firms, with the significant differences from the high DUAL group indicated alongside the corresponding low DUAL and the NON-DUAL firms. The accounting performance results reveal a significant difference between the high and the low groups for the *AGENCY_INDEX* as well as the *AGGR_INDEX*. As expected, firms in the high agency group, who are likely to have greater benefits to combining the roles due to lower agency costs of giving the CEO the additional role of the chairman, outperform those in the low *AGENCY_INDEX*. Similarly, this is also true for the low *AGGR_INDEX* group firms, indicating that firms with a combination of all

[10] We also conduct the analyses (untabulated) with an alternative accounting measure, *EBITDA* (earnings before interest, tax, depreciation and amortization expenses), and find results similar to those with *ROA* reported in Table 5. Table 5 computes performance using data for the current year. The results reported in table 5 are also robust to using different performance horizons – including, one year ahead and two years ahead.

the information, agency and CEO power determinants clearly do better in terms of performance than the low group.

The analyses using market returns show that the high DUAL group has significantly higher returns than the low DUAL group for all three indices, the information, agency and CEO power index, as well as the aggregate index. This supports the conclusions reached above. It is interesting to note that both in terms of the *INFO_INDEX* and the *CEO_INDEX*, the high group outperforms the low group (for both *ROA* and *RETURN*, though *ROA* is not statistically significant). This alleviates some of the alternative arguments that our CEO power variables may also measure CEO entrenchment versus an efficient and experienced CEO. If we were primarily capturing entrenchment, then we would expect the high group to perform worse than the low group.

In our analyses comparing the performance variables of the high DUAL group to all the NON-DUAL firms, we surprisingly find higher performance for high DUAL firms than NON-DUAL firms. We find that *ROA* is significantly higher for the high DUAL group firms for the *AGENCY_INDEX*, and *RETURN* is significantly higher for the high DUAL group for all three indices as well as the aggregate index. Critics of CEO duality argue that separation of the CEO and chairman roles is a stronger governance mechanism which, all else equal, should lead to higher performance in NON-DUAL firms. The evidence instead suggests that DUAL firms with the highest expected benefits of the combined structure perform better than firms with separate roles.

Overall, the performance analyses do not support the notion that firms with a separate leadership structure perform better than firms in which CEOs are also the chairmen of the boards. Further, the documented higher performance by the DUAL firms with greater benefits from CEO duality relative to DUAL firms with lower benefits highlights the role of economic factors in the leadership structure decision. In the next section, we conduct analyses of firms that switched from

a combined leadership structure to one with separate CEO and chairman roles in order to further examine the firms decision process and its implications.

5. ANALYSES OF FIRMS SWITCHING TO A SPLIT LEADERSHIP STRUCTURE

In this section we examine a set of firms that changed with leadership structure from one of combined roles of CEO and chairman of the board to one in which the roles are separate. The shift in leadership structure provides a research setting that may allow us to further probe the firm's decision process on leadership structure and more crisply examine performance differences across the two structures, controlling for many firm specific factors.

Firms may change their board leadership structures for several reasons. Changes in the business environment of firms, such as changes in the information environment or changes in the bargaining power of the CEO, may alter the cost benefit tradeoff of their existing leadership structure. While critics of the combined leadership structure would argue that the separate structure is indicative of stronger governance and thus, better performance, we assert that one would not expect any difference in performance after the split as firms are adapting to changes in their environment and moving towards an optimal governance structure.

We do consider, however, that over our sample period (following the scandals and SOX) there was a surge in the number of firms separating the roles of the CEO and chairman either due to explicit pressure from their boards and institutional investors, or to conform to a belief held by many that the separation of the roles is an indicator of stronger governance. We read news articles and press releases on all announcements of switches in an attempt to identify the firms that explicitly stated that investor pressure or a desire to keep up to recent governance trends are a reason for the switch. We refer to this subgroup of 18 switcher firms as the SWITCH_PRESS sample, as these firms appear to be strongly influenced by the recent focus and controversy over dual leadership structures. This sample of firms creates an attractive setting for further probing

the effects of the split on performance, assuming that the scandals and SOX made for an exogenous shock that led to the change in leadership.

A total of 109 firms split the roles of the CEO and chairman over the sample period 2001 through 2006 (the SWITCHER sample). The corresponding subsample of DUAL firms that changed CEOs but kept the dual leadership structure over this period is 84 (the CONTROL sample). Figure 1 graphically depicts the trend in the number of firms splitting the roles of the CEO and chairman, including those that split the roles in order to conform to environmental pressure and the number of CONTROL firms changing their CEOs by year. The trend shows that, as indicated by the press, there seems to be an increase in the number of firms splitting the roles in the period following SOX, particularly 2004 onwards. Figure 2 presents the details of the characteristics of leadership changes among the SWITCHER sample. In The largest category of SWITCHERS in most years changed only their CEO, while the former CEO-chair remained the chairman. A substantial number of switching firms also changed both the CEO and the chairman. Very few firms changed only the chairman of the board.

In the following sections we discuss univariate and multivariate tests of the SWITCHER and CONTROL samples. Although the sample of switchers is relatively small, it is comparable to prior studies in this topic (Brickley et al. [1997]). Note, however, that in contrast to prior studies that capture all firm-years with switches, our sample excludes firms that separate the CEO and board chair roles as part of a transition to a new top manager. This is consistent with our goal to understand the determinants and implications of firms' leadership structures more broadly.

5.1 Descriptive Statistics

We first present the descriptive statistics for the information, agency and CEO power variables for the SWITCHER sample and the CONTROL sample. To compute the summary statistics for the SWITCHER sample we consider the year of switch for each firm. We test whether the mean and median values of the above characteristics for firms in the SWITCHER

group are significantly differently from those of the CONTROL dual firms. The significances based on the t-tests for the means and the Wilcoxon tests for the medians are indicated next to the corresponding variables in the SWITCHER group in Table 6.

The CONTROL firms are significantly larger and have significantly more business segments than the SWITCHER firms (only the mean difference is significant for *#SEGMENTS*) which is consistent with the *Information Hypothesis* discussed earlier. The *Information Hypotheses* suggests that more complex firms with greater needs for information sharing find greater benefit from maintaining a combined leadership structure. Likewise, less complex firms (proxied by size and number of segments) may experience fewer information sharing benefits from the combined role and thus, have lower net benefits from this structure.

While growth is not significantly different across the different groups, standard deviation of returns is significantly higher for the SWITCHER firms than the CONTROL firms. The governance measures suggest that the CONTROL firms have significantly more outside directors and more directors who sit on multiple boards, factors hypothesize to be associated with stronger governance. Stronger governance may contribute to lowering the agency costs related to a dual CEO/ chairman role. However, the SWITCHER sample has smaller boards, the directors own more stock, and the *EINDEX* is significantly smaller indicating these firms have better governance. Thus, some firms in the SWITCHER sample split the roles in spite of lower agency costs of keeping the roles combined. One possible explanation for this is that the changes in other factors may have reduced the benefits of staying dual. Another explanation is that some firms switched due to pressure to conform and not due to changing economic factors. Overall, the above univariate analyses provides mixed support for the *Agency Hypothesis*

Among the CEO characteristics, we find that CEOs in the CONTROL group are older, have higher total compensation, and have greater number of additional board appointments than the CEOs in the SWITCHER group. However, the CEOs in the SWITCHER group have higher stock ownership. These results mostly support the *CEO Power* theory that firms that hire CEOs

who have more bargaining power related to experience, ability, or both, are likely to continue combining the positions of the CEO and board chairman.

The summary statistics suggest that in general firms move to non-duality when the benefits of splitting the role are likely to be greater than the costs. There are some inconsistencies in the above results, which could be due to some firms switching due to investor or other environmental pressures that shift the cost/benefit trade-off. Next we examine how the market reacts to announcements of a switch from a combined to separate leadership structure and whether consistent with the beliefs of the critics of duality, the switching firms perform better after they split the roles of the CEO and chairman.

5.2 Analysis of Announcement Returns

Critics of CEO duality argue that firms that combine the roles of the CEO and chairman are not maximizing shareholder value. If this is true then, all else equal, the market should react positively to firms that split the titles of CEO and chairman. In this section we examine the stock market reactions to announcements of changes in leadership structure. We obtain dates of the leadership structure change announcements using the Lexis-Nexis database as our primary data source. We use the major U.S and world publications, news wire services and company news announcements and focus on collecting the announcement dates for SWITCHER (and SWITCH_PRESS) sample of firms that separated the roles of the CEO and chairman (and either hired a new CEO, a new chairman or both) and the CONTROL firms that hired a new CEO, but did not separate the roles of the CEO and the chairman. We estimate the following regression:

$$CAR = \alpha_0 + \alpha_1 \times SWITCHER + \alpha_2 \times SWITCH\_PRESS + \alpha_3 \times SIZE$$
$$+\alpha_4 \times GROWTH + \alpha_5 \times STD\_RET + \alpha_6 \times PAST\_ROA + \alpha_7 \times POS\_NEWS$$
$$+\alpha_8 \times NEG\_NEWS + \alpha_9 \times RESIG + \alpha_{10} \times RETIRE + \varepsilon$$

The dependent variable *CAR* is the abnormal return (computed as the difference between the daily stock return and the value-weighted market return) over the three-day event window (-1, +1) where day 0 represent the day of the announcement.[11] The variable *SWITCHER* is a dummy variable that equals 1 if the firm split the roles of CEO and chairman and 0 otherwise. The dummy *SWITCH_PRESS* is 1 for those firms that stated their reason for the split being pressure. The control variables *SIZE*, *GROWTH*, *STD_RET* and *PAST_ROA* are consistent with prior studies of announcement returns and are as defined before. We also control for any concurrent news announcements in the event window, positive (*POS_NEWS*) or negative (*NEG_NEWS*) that could potentially affect the returns in the event window.[12] Finally we control for the changes in the CEOs and / or chairman that were explicitly stated as resignations (*RESIG*) or retirements (*RETIRE*) in the press release.

The results of the event study are presented in Table 7. We present two sets of regression analyses. In the first set (models (1) and (2)) we conduct the analyses using only the SWITCHER sample (in this case the dummy *SWITCHER* will not be active). Model (1) includes the basic control variables discussed above while model (2) also includes the controls for concurrent news, change due to retirement and resignation. The second set of regressions includes both the SWITCHER and the CONTROL samples. Models (3) and (4) correspond to models (1) and (2). In each model, the intercept capturing the base market reaction is negative (although it is only significant in model (2)). The coefficient on *SWITCHER* in models (3) and (4) is also not significant suggesting that the market does not have a differential market reaction to top management changes involving a change in to a separate leadership structure compared to a change that maintains the combined roles. The lack of a positive reaction to the switch is contrary to the notion that the market values separation of the CEO and chairman roles. Further,

[11] We also conduct the analysis over the two-day event window (-1, 0), day 0 being the day of the announcement and find statistically similar results.

[12] Examples of such news items in our sample include earnings announcements, merger news, dividend announcements and new product announcements.

the coefficient on *SWITCH_PRESS* is significantly negative (at the 10% level) in each of the models suggesting the market is punishing firms acknowledging that a key reason for the leadership structure switch is a response to external pressure. A plausible interpretation of the negative reaction is that the market understands that the costs and benefits of the combined leadership structure differ across firms and appreciates a careful assessment by the firm of these factors in the decision process vs. a switch triggered primarily by environmental pressure of CEO duality for some firms.

Among the control variables, the results are consistent with expectations. The better the past performance, the more negative is the reaction to any change in leadership structure. The reaction is significantly negative when there is other concurrent negative news. The coefficient for *POS_NEWS* is positive as expected, but not significant. Finally, *STD_RET* is significant and positive. Overall the results are not consistent with the conventional notion that splitting the titles will generate improved performance.[13]

5.3 Performance Implications for Switchers

If firms with unitary leadership structures result in poorer performance, then we should observe improvements in performance for the firms that switched from a dual to a non-dual leadership structure in the period after the switch. We examine whether performance improves following the separation of the roles. We conduct both univariate and multivariate tests to compare the post-split performance of the SWITCHER (including the SWITCH_PRESS subsample) with their pre-split performance. Table 8, panels A and B present the results of the univariate and multiple regression analysis. Due to data constraints for some of the variables, we

[13] Baliga, Moyer and Rao [1996] also examine announcement returns and performance differences for a sample of firms that separate the CEO and chair roles for firm-year switches occurring in the period 1980 – 1991. The results of their analyses are consistent with those reached in our study. We note, however, that our results are more surprising given recent regulatory reforms relating to governance, in general, and attention to the leadership structure issue, in particular, during the period of our study. Further, recall that our sample of switcher firms excludes firms that switch as part of a transition to a new CEO allowing us to isolate those firms that switched as part of a shift in corporate governance structure.

present a different number of firms for the different subgroups and performance variables. Further, the requirement in some of the analyses that we have data for the switchers for two years before and two years after the switch significantly reduces the number of firms we are able to examine.

We examine the change in both the average industry adjusted return on assets (*FUT_ROA*) and the average market-adjusted common stock returns (*FUT_RETURN*) over the subsequent one year and two years after announcement for both variables. The median return on assets decreases in the post-announcement period for each of the subsamples (SWITCHER, CONTROL and SWITCH_PRESS), but the decreases are statistically significant. In the case of the returns, except the future one year returns for the CONTROL group, there is a decrease in the future returns for all the sub samples. However, the changes in the stock returns (both one year and two year) for the SWITCH_PRESS sample are significant, indicating a significant decline in performance after the split for those firms that split due to pressure.[14] These results are not consistent with the conventional wisdom that splitting the positions will improve performance –in fact, we the evidence shows that performance is significantly worse after the split..

We also examine the change in performance in a multiple regression setting by estimating the following regression:

$$FUT\_RETURN = \alpha_0 + \alpha_1 \times SWITCHER + \alpha_2 \times SWITCH\_PRESS + \alpha_3 \times SIZE + \alpha_4 \times GROWTH + \alpha_5 \times STD\_RET + \alpha_6 \times PAST\_RETURN + \alpha_7 \times CAR + \varepsilon$$

The dependent variable, *FUT_RETURN*, is the average market-adjusted stock return, cumulated over one year or two years subsequent to the announcement. All the variables are as defined before. The variable *PAST_RETURN* represents the average stock returns prior to the announcement, cumulated over the same horizon as is the corresponding dependent variable. We

[14] We examine both mean and median returns, but report only the median returns for brevity. The inferences based on changes in the mean returns are similar to those reported.

also include the event window returns, *CAR* as an additional control. We include these to control for any potential correlations between past and future returns.

The results are very similar to those in the univariate analysis and similar using both one year and two year returns. Therefore, we only discuss the results for the one year future returns and point out any significant differences in the results for the two year returns. The coefficient on the variable *SWITCHER* is negative, but not significant. However, as in the univariate results, we find the future returns are significantly lower for the firms that split the roles due to pressure to conform to governance standards. This reinforces the notion that it is not necessarily true that splitting the roles will improve performance. Among the control variables, consistent with prior studies *SIZE* is significant and negative (however, this variable is not significant in the case of two year returns), and *STD_RET* is positive and significant. While *PAST_RETURN* is significantly negative (though this is not significant for the two year returns), *CAR* is insignificant.[15]

Overall, our results in the section do not support the hypothesis that firms that split the title of the CEO and chairman have improved performance after the split. On the contrary, we document that the performance worsens for those firms that indicate that they switched leadership structures due to environmental pressure. These finding are consistent with the view that for some firms a leadership structure that involves combining the roles may be more suited to their environment.

6. Conclusion

Board leadership structure, specifically appointing the CEO to be the chairman of the board, has come under fire in the period after the corporate scandals. While the current

[15] We also repeated the analysis with the average return on assets as the dependent variable (not reported). While the level of return on assets were not significantly different for the switching firms as compared to the control firms, the probability that the return on assets declined after the announcement was significantly higher for the SWITCH_PRESS sample.

regulations do not mandate separating the role of the CEO from that of the board chairman, we document that a fair number of firms have opted to split the roles due to pressure from investors. Critics are concerned that the combined roles may reduce monitoring effectiveness by the board and create a setting that provides the CEO with more opportunities to take self-serving decisions that are not in the interest of shareholder value. Numerous empirical studies use the presence of CEO duality as a proxy for a weak governance structure in a firm. These views seem quite predominant despite the lack of definite conclusions in the literature regarding the implications of CEO duality and the anecdotal evidence of the majority of firms in the U.S following this governance structure for years.

We argue that firms are likely to choose their leadership structures based on an assessment of the costs and benefits of the alternative structures based on their business and economic environments. Consistent with this conjecture, we find the choice of leadership structure is associated with a firm's information sharing needs and agency costs and the power and ability of the CEO. Further, our evidence indicates that DUAL firms with the highest expected benefits from combining the CEO and board chair roles perform better than both firms with lower expected benefits and NON-DUAL firms.

We examine the set of firms that change leadership structures over the sample period to further probe the leadership structure decision and more crisply examine the performance differences across the two structures. Results of both market reactions to the switch announcements and comparisons of market and accounting performance between the periods before and after the switch do not suggest performance improvements from the separation of the CEO and board chair roles. On the contrary, we document that firms that separated the roles due to environment pressures perform worse in the period after the separation. Our evidence suggests that on average firms optimally choose their board leadership structures based on their business environments, and proponents calling for all firms to maintain separate CEO and chairman roles need to carefully consider the economic reasons behind firms' leadership choices.

References

Anderson, C. A. and R. N. Anthony. 1986. The New Corporate Directors: Insights for Board Members and Executives. *Whiley, New York, NY.*

Baliga, B. R., R. C. Moyer and R. S. Rao. 1996. CEO Duality and Firm Performance: What's the Fuss? *Strategic Management Journal 17: 41-53.*

Bebchuk, L.A., A. Cohen and A. Ferrell. 2005. What Matters in Corporate Governance? *Working Paper, Harvard Law School.*

Bebchuk, L.A., M. Cremers and U. Peyer. 2005. CEO Centrality. *Working Paper, Harvard Law School.*

Berg, S. V. and S. K. Smith. 1978. CEO and Board Chairman: A Quantitative Study of Dual vs. Unitary Board Leadership. *Directors and Boards 3: 34-49.*

Berle, A.A. and G. Means. 1932. The Modern Corporation and Private Property. *Macmillan, NY.*

Bhagat, S. and B. S. Black. 2000. Board Independence and Long-Term Firm Performance. *Working paper, University of Colorado.*

Bhagat, S. and B. Bolton. 2008. Corporate Governance and Company Performance. *Working paper, University of Colorado and University of New Hampshire.*

Boyd, B. K. 1995. CEO Duality and Firm Performance: A Contingency Model. *Strategic Management Journal 16: 301-312.*

Brickley, J. A., J. L. Coles and G. Jarrell. 1997. Leadership Structure: Separating the CEO and Chairman of the Board. *Journal of Corporate Finance 3: 189-220.*

Bushman, R., Q. Chen, E. Engel and A. Smith. 2003. Financial Accounting Information, Organizational Complexity and Corporate Governance Systems. *Journal of Accounting and Economics 37: 167 – 201.*

Coles, J. W. and W. S. Hesterly. 2000. Independence of the Chairman and Board Composition: Firm Choices and Shareholder Value. *Journal of Management 26: 195-214.*

Donaldson, L. 1985. In Defense of Organization Theory, A Reply to the Critics. Cambridge, Cambridge University Press.

Donaldson, L. and J. H. Davis. 1991. Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns. *Australian Journal of Management 16: 49-64.*

Fama, E. F. and M. Jensen. 1983. Separation of Ownership and Control. *Journal of Law and Economics 26: 301-325.*

Fich, E. M. and A. Shivdasani. 2006. Are Busy Boards Effective Monitors? *The Journal of Finance 61: 689-724.*

Finkelstein, S. 1992. Power in Top Management Teams: Dimensions, Measurement and Validation. *Academy of Management Journal 35: 505-538.*

Fosberg, R. H. and S. Rosenberg, 2002. Determinants of Firm Leadership Structure. *The Journal of Applies Business Research 18: 75-84.*

Goyal, V. K. and C. W. Park. 2002. Board Leadership Structure and CEO Turnover. *Working Paper, Hong Kong University of Science and Technology.*

Grinstein, Y. and Y. Valles. 2008. Separating the CEO from the Chairman Position: Determinants and Changes after the New Corporate Governance Regulation. *Working Paper, Cornell University.*

Jensen, M. C. 1986. Agency Costs of Free Cash Flows, Corporate Finance, and Takeovers. *American Economic Review 76: 323-329.*

Jensen, M. C. 1993. Presidential Address: The Modern Industrial Revolution, Exit and the Failure of Internal Control Systems. *Journal of Finance 48: 831-880.*

Linck, J. S., J. M. Netter and T. Yang. 2008. The Determinants of Board Structure. *Journal of Financial Economics 87: 308 – 328.*

Lipton, M. and J. W. Lorsch. 1992. A Modest Proposal for Improved Corporate Governance. *Business Law 48: 59-77.*

Manne, Henry. 1965. Mergers and the Market for Corporate Control. *Journal of Political Economy 73:110-120.*

McWilliams, V. B. and N. Sen. 1997. Board Monitoring and Antitakeover Amendments. *Journal of Financial and Quantitative Analysis 32: 491-505.*

Pratt, J. W. and R. Zeckhauser. 1985. Principals and Agents: The Structure of Business. *Harvard Business School Press.*

Pritchard, A. C., S. P. Ferris and M. Jagannathan. 2003. Too Busy to Mind the Business? Monitoring by Directors with Multiple Board Appointments. *The Journal of Finance 58: 1087-1112.*

Rechner, P. L. and D. R. Dalton. 1991. CEO Duality and Organizational Performance: A Longitudinal Analysis. *Strategic Management Journal 12: 155-160.*

Vancil, R. F., 1987. Passing the Baton: Managing the Process of CEO Succession. *Harvard Business School Press, Boston*.

Yermack, D. 1996. Higher Market Valuation of Companies with a Small Board of Directors. *Journal of Financial Economics 40: 185-211.*

TABLE 1
VARIABLE DESCRIPTIONS

Category	Variable description (*Name*)	Measurement
Firm Characteristics	Size of the firm. (*SIZE)*	This variable is the natural logarithm of sales.
	Growth opportunities for the firm. (*GROWTH*)	This variable the book value of equity divided by the market value of equity.
	Organizational complexity of the firm. (*#SEGMENTS*)	This variable is the natural logarithm of number of business segments the firm operates in.
	Operating volatility of the firm. (*STD_RET*)	This variable is the standard deviation of firm's monthly stock return measured over the immediately preceding year.
	The operating performance of the firm. (*ROA*)	This variable is the operating income before depreciation divided by average total assets of the firm, adjusted for the industry as measured by the two-digit SIC code.
	The subsequent operating performance of the firm. (*FUT_ROA*)	This variable is the operating income before depreciation divided by average total assets of the firm, adjusted for the industry as measured by the two-digit SIC code for the subsequent one year or average for two years following the year of announcement of a change in leadership structure.
	The stock market returns for a firm. (*RETURN*)	This variable is the monthly abnormal return calculated as the difference between the firm return and the value-weighted market return cumulated over one year period ending 3 months after fiscal year end.
	The cumulative market returns over the announcement window for a firm. (*CAR*)	The difference between daily stock return and the value-weighted market return accumulated over the three-day trading window [-1, +1], where day 0 is the event day, when the company announced the change in leadership structure.
	The subsequent stock market returns for a firm. (*FUT_RETURN*)	This is the daily abnormal return calculated as the difference between the firm return and the value-weighted market return cumulated over the subsequent one or two year period following the announcement of the change in leadership structure.

Table 1 Contd.

CEO Characteristics	The CEO is also the chairman of the board of directors. (*CEO_COB*)	This variable equals 1 if the CEO is also the chairman of the board; and 0 otherwise
	The age of the CEO. (*AGE*)	This variable is the natural logarithm of the CEO's age.
	The amount of total compensation received by the CEO relative to the industry median. (*TOTAL_COMP*).	This variable is the total compensation received by the CEO in a year as a proportion of the industry median.
	The amount of stock owned by the CEO. (*CEO_STK*)	This variable is the number of shares of stock (including restricted stock) owned by the CEO divided by the total number of shares outstanding.
	The pay slice of the CEO which measures CEO centrality. (*CPS*)	This variable is the percentage of the total compensation of the top five executives that goes to the CEO.
	The amount of influence the CEO has based on the number of boards he/ she serves in. (*CEO_#BDS*)	This variable is the natural logarithm of the total number of corporate boards on which a CEO currently serves.
	The role of the CEO as a founder of the company. (*FOUNDER*)	This variable equals to 1 if the CEO is the founder or co-founder of the firm; and 0 otherwise.
Governance Characteristics	The index measuring the extent to which the shareholder rights enable the CEO to be entrenched. (*EINDEX*)	This variable is the sum of the six provisions, namely, staggered boards, limits to shareholder amendments to bylaws, supermajority requirements for mergers, supermajority requirements for charter amendments, poison pills and golden parachutes. For our sample period the data on this measure is available for years 2002, 2004 and 2006 only. Given that these provisions are somewhat sticky, we fill in the data for each missing year (years 2001, 2003 and 2005) with the value of the following year.
	The size of the board of directors. (*BD_SIZE*)	This variable the natural logarithm of the number of directors on the board.
	The composition of the board as measured by the percentage of outside directors on the board. *(%OUTDIR*)	This is the percentage of outside directors on the board.
	The number of directors that serve on more than 4 boards. (*DIR_MULTBDS*)	This variable is the natural logarithm of sum of the number of directors that serve on more than four corporate directorships.

Table 1 Contd.

	The stock ownership of the board of directors (*DIR_STK*)	This variable is measured as the median director's ownership of stock (including restricted stock) divided by the total number of shares outstanding.
Firm Level Indices	Information Index (*INFO_INDEX*)	This index is computed by first calculating the percentile rank for each firm for the two information variables, *SIZE* and *#SEGMENTS*. For each firm the *INFO_INDEX* is the average of these percentile rank values.
	Agency Index (*AGENCY_INDEX*)	This index is computed by first calculating the percentile rank for each firm for the agency variables, *GROWTH, STD_RET, BD_SIZE, %OUTDIR, DIR_MULTBDS, DIR_STK* and *EINDEX*. For each firm the *AGENCY_INDEX* is the average of these percentile rank values.
	CEO Power Index (*CEO_INDEX*)	This index is computed by first calculating the percentile rank for each firm for the two information variables, *AGE, TOTAL_COMP, CEO_STK, CEO_#BDS, CPS and FOUNDER.* For each firm the *CEO_INDEX* is the average of these percentile rank values.
	Aggregate Index (*AGGR_INDEX*)	This index is the average of the percentile rank values of all the above information, agency and CEO power variables for each firm.
This table summarizes the descriptions and measurements of all the dependent and independent variables used in the study. ***NOTE***: For the firm level indices, we adjust the signs of each of the variables in the agency index so that greater values of the *INFO_INDEX*, *AGENCY_INDEX* and *CEO_INDEX* suggest greater extent of information sharing needs, lower agency costs and greater CEO power. Higher values of the *AGGR_INDEX* represent greater benefits to combining the roles of the CEO and chairman.		

TABLE 2, PANEL A
SAMPLE DESCRIPTION

Data Source	DUAL	NON-DUAL	SWITCHER	
			FIRMS THAT SWITCHED TO DUALITY	FIRMS THAT SWITCHED AWAY FROM DUALITY
Initial number of firms from Corporate Library (2001 onwards)	548	163	36	152
Firms remaining after merging with Compustat and ExecuComp	405	102	27	109

This table reports the final number of firms in the sample for each of the three groups of firms: the DUAL group where the CEO is made the chair as soon as he or she is hired or within 2 years of hire; the NON-DUAL group where the CEO is never made the chairman; and the two sets of SWITCHER firms, one where the firms switched to a dual leadership structure from a non-dual leadership structure and the other where the firms switched away from a dual leadership structure to non-dual leadership structure over the sample period.

TABLE 2, PANEL B
INDUSTRY COMPOSITION

Industry	DUAL	NON-DUAL	FIRMS THAT SWITCHED AWAY FROM DUALITY
Consumer Nondurables	32	4	19
Consumer Durables	16	2	9
Manufacturing	67	12	2
Oil, Gas and Coal Extraction and Products	15	3	13
Chemicals and Allied Products	21	4	2
Business Equipment	76	35	4
Telephone and Television transmission	5	3	28
Utilities	40	5	1
Wholesale, Retail and Services	50	13	7
Healthcare, Medical Equipment and Drugs	38	8	15
Other	45	13	9
Total	405	102	109

This table reports the industry distribution of firms in the sample for each of the three groups of firms: the DUAL group where the CEO is made the chair as soon as he or she is hired or within 2 years of hire; the NON-DUAL group where the CEO is never made the chairman; and the set of SWITCHER firms, where the firms switched away from a dual leadership structure to a non-dual leadership over the sample period.

TABLE 3
COMPARISON OF FIRM, CEO AND GOVERNANCE CHARACTERISTICS FOR DUAL VERSUS NON-DUAL FIRMS

	DUAL				NON-DUAL		
	MEAN	**MEDIAN**	**STD DEV**		**MEAN**	**MEDIAN**	**STD DEV**
SIZE	7.5417	7.4707	1.4928		7.0367**	6.9509**	1.4775
#SEGMENTS	0.8649	1.0986	0.6685		0.8207	1.0986*	0.6786
GROWTH	0.4581	0.4170	0.2870		0.4732	0.4290	0.3211
STD_RET	0.0947	0.0804	0.0561		0.1025	0.0862***	0.0684
BD_SIZE	2.1833	2.1972	0.2406		2.1807	2.1972	0.2016
%OUTDIR	0.7276	0.7500	0.1450		0.6653***	0.6833***	0.1519
DIR_MULTBDS	0.1139	0.0909	0.1323		0.0915*	0.0833**	0.1087
DIR_STK	0.0005	0.0001	0.0012		0.0004	0.0002	0.0007
EINDEX	1.6716	2.0000	1.0824		1.4608*	2.0000	1.0593
AGE	4.0234	4.0431	0.1174		3.9776**	3.9982**	0.1369
TOTAL_COMP	2.3006	1.3555	3.0638		1.4322**	0.9112**	1.7763
CEO_STK	0.0197	0.0031	0.0511		0.0075***	0.0025**	0.0163
CPS	0.4103	0.4123	0.1257		0.3644**	0.3517***	0.1242
CEO_#BDS	1.0658	1.0986	0.4455		1.0469	1.0986	0.3755
FOUNDER	0.0815	0.0000	0.2739		0.0392*	0.0000**	0.1951
NO. OF FIRMS	**405**				**102**		

This table presents the mean, median and standard deviations of the firm, governance, and CEO characteristics of the DUAL group and NON-DUAL group. The DUAL group comprises firms where the CEO is made the chair on hire or within 2 years of hire and the NON-DUAL group comprises firms where the CEO is never made the chairman over the sample period. We test whether the mean and median values of the variables for the DUAL firms are significantly different from those of the NON-DUAL firms. The results of Wilcoxon-Mann-Whitney two sample tests for differences in medians and t-tests for differences in means from the DUAL firms are indicated next to the corresponding variables in the NON-DUAL group. (***, **, * represent significance at less than 1 percent, 5 percent and 10 percent levels respectively).

The firm, governance, and CEO variables are defined as follows. *SIZE* is the natural logarithm sales; *#SEGMENTS* is the natural logarithm of the number of business segments the firm operates in; *GROWTH* is measured by book-to-market ratio; *STD_RET* is the standard deviation of the monthly returns over the preceding year; *BD_SIZE* is the natural logarithm of the number of directors on the board; *%OUTDIR* is the percentage of outside directors; *DIR_MULTBDS* is the natural logarithm of the sum of the number of directors that serve in more than four boards; *DIR_STK* is the median director's ownership of stock divided by the total number of shares outstanding; *EINDEX* is the sum of the six individual dummy variables indicating the presence of the respective provisions, namely, staggered boards, limits to shareholder amendments to bylaws, supermajority requirements for mergers, supermajority requirements for charter amendments, poison pills and golden parachutes; *AGE* is the natural logarithm of the age of the CEO; *TOTAL_COMP* is the total compensation received by the CEO for the year relative to the industry median; *CEO_STK* is the number of shares of stock including restricted stock owned by the CEO divided by the total number of shares outstanding; *CPS* is the proportion of the total compensation paid to the top five executives that goes to the CEO; *CEO_#BDS* is the number of corporate boards the CEO serves on; *FOUNDER* is a dummy variable that equals 1 if the CEO is the founder or co-founder.

TABLE 4
DETERMINANTS OF BOARD LEADERSHIP STRUCTURE
DUAL VERSUS NON-DUAL FIRMS

$$Prob(CEO\_COB) = \beta_0 + \beta_1 \times SIZE + \beta_2 \times \#SEGMENTS + \beta_3 \times GROWTH + \beta_4 \times STD\_RET + \beta_5 \times BD\_SIZE + \beta_6 \times \%OUTDIR + \beta_7 \times DIR\_MULTBDS + \beta_8 \times DIR\_STK + \beta_9 \times EINDEX + \beta_{10} \times AGE + \beta_{11} \times TOTAL\_COMP + \beta_{12} \times CEO\_STK + \beta_{13} \times CEO\_\#BDS + \beta_{14} \times CPS + \beta_{15} \times FOUNDER + \varepsilon$$

	EXPECTED SIGNS	**COEFFICIENT**	**(Z-STATISTIC)**
INTERCEPT		-8.3687	(-3.16)**
SIZE	+	0.2007	(2.71)***
#SEGMENTS	+	-0.1771	(-1.41)
GROWTH	+	0.0593	(0.21)
STD_RET	-	1.8599	(1.37)
BD_SIZE	-	-0.9626	(-2.26)**
%OUTDIR	+	1.8097	(3.49)***
DIR_MULTBDS	+	1.1606	(1.71)*
DIR_STK	+	83.4479	(0.93)
EINDEX	-	0.1134	(1.62)
AGE	+	1.8750	(3.05)***
TOTAL_COMP	+	0.0786	(1.47)
CEO_STK	+	10.0689	(2.56)***
CEO_#BDS	+	-0.2891	(-1.50)
CPS	+	1.2325	(2.71)**
FOUNDER	+	0.4655	(1.38)
Industry Controls	**Yes**		
Log Pseudo Likelihood	**-209.8245**		
Pseudo R-Square	**0.1757**		
No. of Obs.	**507**		

This table analyses the association between the probability that the CEO is also the chairman and various firm, governance and CEO characteristics. The control group is the set of NON-DUAL firms. Z-statistics and the levels of significance are reported in parenthesis. (***, **, * represent significance at less than 1 percent, 5 percent and 10 percent levels respectively).

For each firm *j* and year *t*, the dependent variable, *CEO_COB* is a dummy variable which equals 1 when the CEO is also the chairman and 0 otherwise; *SIZE* is the natural logarithm sales; *#SEGMENTS* is the natural logarithm of the number of business segments; *GROWTH* is measured by book-to-market ratio; *STD_RET* is the standard deviation of the monthly returns over the preceding year; *BD_SIZE* is the natural logarithm of the number of directors; *%OUTDIR* is the percentage of outside directors; *DIR_MULTBDS* is the natural logarithm of the sum of the number of directors that serve in more than four boards; *DIR_STK* is the median director's ownership of stock divided by the total number of shares outstanding; *EINDEX* is the sum of the six individual dummy variables indicating the presence of the respective provisions, namely, staggered boards, limits to shareholder amendments to bylaws, supermajority requirements for mergers, supermajority requirements for charter amendments, poison pills and golden parachutes; *AGE* is the natural logarithm of the age of the CEO; *TOTAL_COMP* is the total compensation received by the CEO for the year relative to the industry median; *CEO_STK* is the number of shares of stock including restricted stock owned by the CEO divided by the total number of shares outstanding; *CPS* is the proportion of the total compensation paid to the top five executives that goes to the CEO; *CEO_#BDS* is the number of corporate boards the CEO serves on; *FOUNDER* is a dummy variable that equals 1 if the CEO is the founder or the co-founder of the firm.

TABLE 5
PERFORMANCE IMPLICATIONS FOR DUAL FIRMS

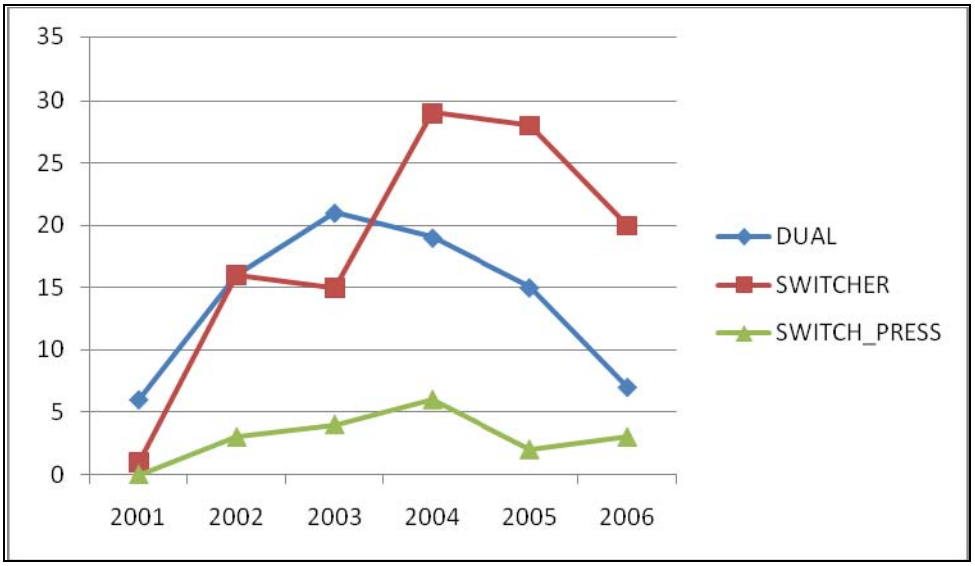
	HIGH DUAL GROUP	LOW DUAL GROUP	ALL NON-DUAL FIRMS
INFO_INDEX			
ROA	0.0717	0.0621	0.0658
RETURN	0.1904	0.1278*	0.0980*
N	129	116	92
AGENCY_INDEX			
ROA	0.1167	0.0331***	0.0658*
RETURN	0.2043	0.1129**	0.0980*
N	125	116	92
CEO_INDEX			
ROA	0.0745	0.0736	0.0658
RETURN	0.1897	0.1247*	0.0980*
N	110	113	92
AGGR_INDEX			
ROA	0.0862	0.0406***	0.0658
RETURN	0.2271	0.1362**	0.0980*
N	118	117	92

This table presents the median performances across the high DUAL group, the low DUAL group and the NON-DUAL group of firms. We test whether the median values of the variables for the low DUAL group and the NON-DUAL group are significantly different from the high DUAL group. The results of Wilcoxon-Mann-Whitney two sample tests for differences in medians are indicated next to the corresponding variables in the LOW DUAL GROUP and the NON-DUAL GROUP. (***, **, * represent significance at less than 1 percent, 5 percent and 10 percent levels respectively).

The performance variables are defined as follows. *ROA* is the operating income before depreciation divided by average total assets of the firm, adjusted for the industry as measured by the two-digit SIC code; *RETURN* is the average monthly market adjusted return cumulated over the current year; *N* represent the number of firms. The indices are defined as follows: the *INFO_INDEX* is the average of the percentile rank values for each firm for the two information variables, *SIZE* and *#SEGMENTS*; the *AGENCY_INDEX* is the average of the percentile rank values for each firm for the agency variables, *GROWTH*, *STD_RET*, *BD_SIZE*, *%OUTDIR*, *DIR_MULTBDS*, *DIR_STK* and *EINDEX*; the *CEO_INDEX* is the average of the percentile rank values for each firm for the CEO power variables, *AGE*, *TOTAL_COMP*, *CEO_STK*, *CEO_#BDS*, *CPS* and *FOUNDER*; the *AGGR_INDEX* is the average of the percentile rank values of all the above information, agency and CEO power variables for each firm.

FIGURE 1
TRENDS IN CEO CHANGES FOR DUAL CONROL FIRMS
VERSUS SWITCHING FIRMS

	NUMBER OF FIRMS						
	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**TOTAL**
SWITCHER	1	16	15	29	28	20	109
SWITCH_PRESS	0	3	4	6	2	3	18
DUAL	6	16	21	19	15	7	84

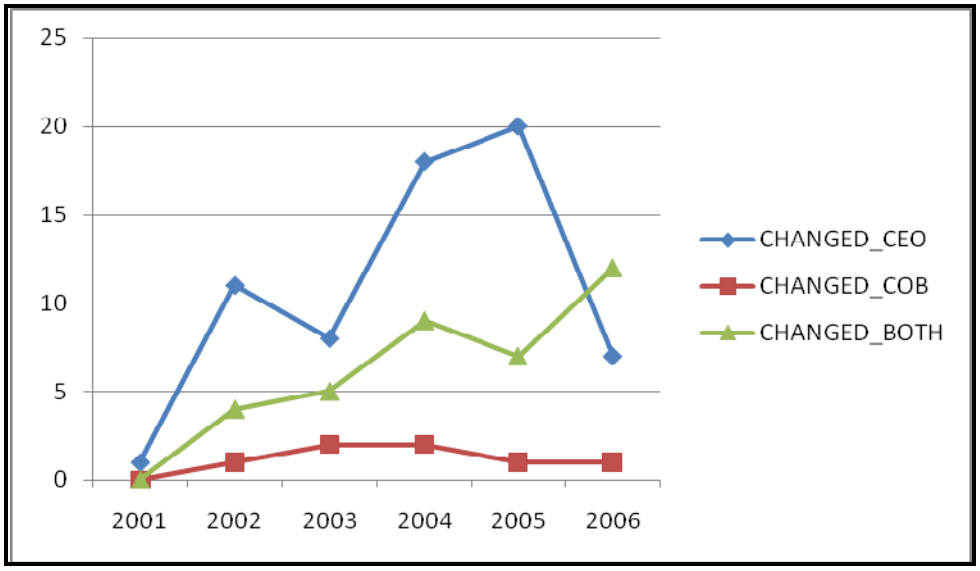


Legend Figure 1

For the sample period 2001 – 2006, this figure presents by year the number of firms that split the roles of the CEO and board chairman (SWITCHER), the number of control firms that changed CEOs but did not split the CEO and chair roles (DUAL) and among the SWITCHER group the number of firms that explicitly stated in an announcement of the management change they were splitting due to pressure or to conform to governance standards (SWITCH_PRESS).

FIGURE 2
TRENDS IN TYPES OF LEADERSHIP CHANGES FOR SWITCHING FIRMS

	NUMBER OF FIRMS						
	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**TOTAL**
CHANGED_CEO	1	11	8	18	20	7	65
CHANGED_COB	0	1	2	2	1	1	7
CHANGED_BOTH	0	4	5	9	7	12	37



Legend Figure 2

For the sample period 2001 – 2006 and for the SWITCHER sample, this figure presents by year the number of changes for the different categories, including CHANGED_CEO which represents firms that changed their CEO only, CHANGED_COB which represents the firms that changed their chairman of board only and CHANGED_BOTH, which represents firms that changed both their CEO and chairman of board.

TABLE 6
COMPARISON OF FIRM, CEO AND GOVERNANCE CHARACTERISTICS FOR DUAL CONTROL FIRMS VERSUS SWITCHING FIRMS

	DUAL				SWITCHER		
	MEAN	**MEDIAN**	**STD DEV**		**MEAN**	**MEDIAN**	**STD DEV**
SIZE	8.3327	8.5697	1.5356		7.1073***	7.1214***	1.3914
#SEGMENTS	0.9162	1.0986	0.6883		0.7466*	1.0986	0.6529
GROWTH	0.5563	0.4817	0.4535		0.4661	0.4542	0.3274
STD_RET	0.0839	0.0756	0.0487		0.1005**	0.0875***	0.0555
N	68				100		
BD_SIZE	2.3555	2.3979	0.2173		2.1529***	2.1972***	0.2355
%OUTDIR	0.7526	0.7500	0.1221		0.6895***	0.7143***	0.1464
DIR_MULTBDS	0.1374	0.1000	0.1294		0.1015*	0.0909**	0.1196
DIR_STK	0.0002	0.0001	0.0007		0.0005**	0.0002*	0.0010
EINDEX	1.9268	2.0000	1.0632		1.4579***	2.0000***	0.9836
N	82				107		
AGE	4.0589	4.0775	0.1161		4.0177*	4.0073**	0.1521
TOTAL_COMP	2.4453	2.0989	1.8471		1.7921*	1.1855**	2.2383
CEO_STK	0.0021	0.0007	0.0036		0.0156***	0.0021***	0.0399
CPS	0.3627	0.3580	0.1406		0.3694	0.3516	0.1343
CEO_#BDS	1.1822	1.0986	0.4501		1.0554*	1.0986*	0.5060
FOUNDER	0	0	0		0	0	00.2436
N	52				80		

This table presents the mean, median and standard deviations of the firm, governance, and CEO characteristics of the DUAL group of firms that hired new CEOs and the SWITCHER firms who split the roles of CEO and chairman. The DUAL group comprises firms where the CEO is made the chair on hire. The SWITCHER comprises the group of firms which switched from a dual leadership structure to a non-dual leadership structure over the sample period. We test whether the mean and median values of the variables for the DUAL firms are significantly different from those of the SWITCHER firms. The results of Wilcoxon-Mann-Whitney two sample tests for differences in medians and t-tests for differences in means from the DUAL firms are indicated next to the corresponding variables in the SWITCHER group. (***, **, * represent significance at less than 1 percent, 5 percent and 10 percent levels respectively).

The firm, governance, and CEO variables are defined as follows. *SIZE* is the natural logarithm sales; *#SEGMENTS* is the natural logarithm of the number of business segments the firm operates in; *GROWTH* is measured by book-to-market ratio; *STD_RET* is the standard deviation of the monthly returns over the preceding year; *BD_SIZE* is the natural logarithm of the number of directors on the board; *%OUTDIR* is the percentage of outside directors; *DIR_MULTBDS* is the natural logarithm of the sum of the number of directors that serve in more than four boards; *DIR_STK* is the median director's ownership of stock divided by the total number of shares outstanding; *EINDEX* is the sum of the six individual dummy variables indicating the presence of the respective provisions, namely, staggered boards, limits to shareholder amendments to bylaws, supermajority requirements for mergers, supermajority requirements for charter amendments, poison pills and golden parachutes; *AGE* is the natural logarithm of the age of the CEO; *TOTAL_COMP* is the total compensation received by the CEO for the year relative to the industry median; *CEO_STK* is the number of shares of stock including restricted stock owned by the CEO divided by the total number of shares outstanding; *CPS* is the proportion of the total compensation paid to the top five executives that goes to the CEO; *CEO_#BDS* is the number of corporate boards the CEO serves on; *FOUNDER* is a dummy variable that equals 1 if the CEO is the founder or co-founder of the firm.

TABLE 7
ANALYSIS OF ANNOUNCEMENT RETURNS FOR SWITCHING FIRMS

$$CAR = \alpha_0 + \alpha_1 \times SWITCHER + \alpha_2 \times SWITCH\_PRESS + \alpha_3 \times SIZE$$
$$+\alpha_4 \times GROWTH + \alpha_5 \times STD\_RET + \alpha_6 \times PAST\_ROA + \alpha_7 \times POS\_NEWS$$
$$+\alpha_8 \times NEG\_NEWS + \alpha_9 \times RESIG + \alpha_{10} \times RETIRE + \varepsilon$$

	SWITCHERS ONLY		**ALL FIRMS**	
	Model (1)	**Model (2)**	**Model (3)**	**Model (4)**
	Coeff. (t-stat)	**Coeff. (t-stat)**	**Coeff. (t-stat)**	**Coeff. (t-stat)**
INTERCEPT	-0.0352 (-0.95)	-0.0352 (-0.93)*	-0.0420 (-1.47)	-0.0399 (-1.34)
SWITCHER			0.0118 (1.27)	0.0113 (1.12)
SWITCH_PRESS	-0.0277 (-1.72)*	-0.0275 (-1.70)*	-0.0231 (-1.71)*	-0.0203 (-1.69)*
SIZE	0.0069 (1.59)	0.0074 (1.74)*	0.0036 (1.29)	0.0037 (1.31)
GROWTH	0.0039 (1.19)	0.0099 (0.48)	0.0091 (0.70)	0.0078 (0.60)
STD_RET	0.2380 (2.04)**	0.2081 (1.79)*	0.2240 (2.63)**	0.2346 (2.72)**
PAST_ROA	-0.0981 (-1.89)*	-0.1015 (-1.99)**	-0.0625 (1.72)*	-0.0705 (-1.93)*
POS_NEWS		0.0003 (0.02)		0.0014 (0.17)
NEG_NEWS		-0.0493 (-2.15)**		-0.0337 (-2.10)**
RESIG		0.0183 (1.06)		-0.0002 (-0.02)
RETIRE		-0.0152 (-1.01)		-0.0001 (-0.01)
Industry Controls	**Yes**	**Yes**	**Yes**	**Yes**
Adj. R-Square	**0.0764**	**0.1163**	**0.0808**	**0.0846**
No. of Firms	**108**		**192**	

This table presents the results of the event study for the announcement of the separation of the role of the CEO and the chairman for the SWITCHER firms. T-statistics are presented in parentheses. (***, **, * represent significance at less than 1 percent, 5 percent and 10 percent levels respectively).

The dependent variable *CAR* is the cumulative abnormal returns over the three day window (-1, 1) around the announcement of the separation of roles of CEO and chairman for the SWITCHER sample, or the announcement of the hire of a new CEO for the CONTROL sample. The independent variables are defined as follows. *SWITCHER* is a dummy variable that equals 1 if the firm belongs to the SWITCHER sample and 0 otherwise; *SWITCH_PRESS* is a dummy variable that equals 1 if the firm belongs to the SWITCHER sample and explicitly stated that it was splitting the roles due to pressure or to conform to governance standards, and 0 otherwise; *SIZE* is the natural logarithm sales; *GROWTH* is measured by book-to-market ratio; *STD_RET* is the standard deviation of the monthly returns over the preceding year; *PAST_ROA* is the operating income before depreciation divided by average total assets of the firm, adjusted for the industry as measured by the two-digit SIC code of the previous year; *POS_NEWS* is a dummy variable that equals 1 if there was a concurrent positive news announcement over the event window; *NEG_NEWS* is a dummy variable that equals 1 if there was a concurrent negative news announcement over the event window; *RESIG* is a dummy variable that equals 1 if the prior CEO and/ or chairman resigned; *RETIRE* is a dummy variable that equals 1 if the prior CEO and/ or chairman retired.

TABLE 8, PANEL A
SUBSEQUENT PERFORMANCE AFTER SEPARATION OF CEO AND CHAIRMAN
UNIVARIATE ANALYSIS

	DUAL FIRMS		SWITCHER			
			ALL SWITCHERS		SWITCH_PRESS	
	PRE-CEO CHANGE	POST-CEO CHANGE	PRE-SPLIT	POST-SPLIT	PRE-SPLIT	POST-SPLIT
FUT_ROA: ONE YEAR	0.0786	0.0736	0.0682	0.0539	0.0989	0.0720
N	84	84	91	91	18	18
FUT_ROA: TWO YEARS	0.0764	0.0681	0.0824	0.0603	0.1148	0.1013
N	74	74	69	69	14	14
FUT_RETURN: ONE YEAR	0.0296	0.0330	0.0867	0.0440	0.0242	-0.1002***
N	84	84	91	91	18	18
FUT_RETURN: TWO YEARS	0.1280	0.0640	0.1522	0.0439	0.1175	-0.0587***
N	77	77	71	71	15	15

This table presents the median values of performance measures both pre- and post-split for the SWITCHER who split the roles of CEO and chairman, the SWITCH_PRESS sample who explicitly stated the reason for the split was the pressure to conform to governance standards, and the CONTROL sample that hired new CEOs but did not separate the roles of the CEO and the chairman. The CONTROL (DUAL) group comprises firms where the CEO is made the chair on hire. The SWITCHER comprises the group of firms which switched from a dual leadership structure to a non-dual leadership structure over the sample period. We test whether the median values of the variables for the three groups are significantly different after the announcement. The results of Wilcoxon-Mann-Whitney two sample tests for differences in medians are indicated next to the corresponding variables in the post-split category. (***, **, * represent significance at less than 1 percent, 5 percent and 10 percent levels respectively).

The performance variables are defined as follows. Both the subsequent one year and two year averages for each sample are presented for the performance variables. *FUT_ROA* is the operating income before depreciation divided by average total assets of the firm, adjusted for the industry as measured by the two-digit SIC code; *FUT_RETURN* is either the cumulative abnormal returns over the one year or two years after the announcement of the separation of roles of CEO and chairman for the SWITCHER sample, or the cumulative abnormal returns over the one year or two years after the announcement of a new CEO for the CONTROL sample.

TABLE 8, PANEL B
SUBSEQUENT PERFORMANCE AFTER SEPARATION OF CEO AND CHAIRMAN
MULTPLE REGRESSION ANALYSIS

$$FUT\_RETURN = \alpha_0 + \alpha_1 \times SWITCHER + \alpha_2 \times SWITCH\_PRESS + \alpha_3 \times SIZE + \alpha_4 \times GROWTH + \alpha_5 \times STD\_RET + \alpha_6 \times PAST\_RETURN + \alpha_7 \times CAR + \varepsilon$$

	One year	Two year
	Coefficient (t-stat)	**Coefficient (t-stat)**
INTERCEPT	0.23051 (1.51)	-0.07576 (-0.35)
SWITCHER	-0.06356 (-1.25)	-0.04857 (-0.66)
SWITCH_PRESS	-0.08492 (-1.96)*	-0.09253 (-1.62)*
SIZE	-0.03032 (-1.93)*	-0.0001 (-0.01)
GROWTH	-0.09509 (-1.46)	0.07511 (0.82)
STD_RET	1.37064 (2.85)**	1.41761 (2.09)**
PAST_RETURN	-0.15358 (-3.23)**	-0.02594 (-0.53)
CAR	0.48501 (1.14)	-0.88176 (-1.45)
Industry Controls	**Yes**	**Yes**
Adj. R-Square	**0.1086**	**0.0172**
No. of Observations	**190**	**162**

This table presents the results of the multiple regression analysis of returns subsequent to the announcement of the separation of the CEO and chairman positions. T-statistics are presented in parentheses. (***, **, * represent significance at less than 1 percent, 5 percent and 10 percent levels respectively).

The dependent variable *FUT_RETURN* is either the cumulative abnormal returns over the one year or two years after the announcement of the separation of roles of CEO and chairman for the SWITCHER sample, or the cumulative abnormal returns over the one year or two years after the announcement of a new CEO for the CONTROL sample. The independent variables are defined as follows. *SWITCHER* is a dummy variable that equals 1 if the firm belongs to the SWITCHER sample and 0 otherwise; *SWITCH_PRESS* is a dummy variable that equals 1 if the firm belongs to the SWITCHER sample and explicitly stated that it was splitting the roles due to pressure or to conform to governance standards, and 0 otherwise; *SIZE* is the natural logarithm sales; *GROWTH* is measured by book-to-market ratio; *STD_RET* is the standard deviation of the monthly returns over the preceding year; *PAST_RETURN* is the cumulative abnormal returns over the prior one year (when the dependent variable is the subsequent returns for one year after the announcement) and over the prior two years (when the dependent variable is the subsequent returns for one year after the announcement); *CAR* is the abnormal returns over the three-day event window, day 0 being the announcement date.