CEOs Under Fire: Pressure From Within

The Effects of Inside Directors on CEO Compensation and Turnover

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Abstract

Are all non-CEO inside directors associated with greater CEO power or can certain inside directors strengthen board bargaining power? While it is often presumed that inside directors give CEOs greater power, I provide evidence that certain inside directors increase labor market forces acting on the CEO benefiting shareholders. First, I use the external labor market for directorships to differentiate among non-CEO inside directors. I find talented inside operating officers, as indicated by their holding an outside board seat, are associated with increases in CEO turnover sensitivity to firm accounting performance and greater sensitivity of CEO compensation to stock performance. Second, I separately examining inside directors with greater board authority than the CEO, non-CEO inside chairpersons. Capable of serving as a potential interim CEO when a more drastic change is needed, I find when boards have talented inside chairperson CEO turnover is more sensitive to market performance. Furthermore, the sensitivities of CEO turnover to firm accounting and market performance are economically stronger for forced turnover. The results are consistent with highly skilled and more independent executives increasing the pressure on current CEOs to perform, rather than entrenching CEOs. Consistent with the presumption that inside directors with outside directorships are highly talented, I find that they are more likely to become a CEO than are other non-CEO inside directors.

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1.0 Introduction

Researchers often overlook the role of corporate officers as inside directors when evaluating the effectiveness of a firm's board in managing CEO turnover. However, non-CEO inside directors can provide boards with two valuable resources. First, inside directors possess important proprietary information about firm operations, competitive position and investment opportunities, which can enhance board decision making by providing a non-CEO information source [Coles, Daniel, and Naveen (2008), Masulis and Mobbs (2009) and Raheja (2005)]. Second, their extensive knowledge of a firm's operations makes highly talented inside directors attractive CEO candidates. Hermalin (2005) models the critical board functions of hiring, monitoring and firing the CEO and shows that having a readily available replacement can strengthen a board's bargaining power with its current CEO by increasing the value of their option to replace him or her. Furthermore, when corporate officers are serious candidates to replace the current CEO, they are more likely to share additional information with the board further enhancing board monitoring and most likely affecting both CEO turnover and CEO pay sensitivity to performance. Unfortunately, most research on corporate boards has taken the view that all inside directors are equally detrimental and merely reflect greater CEO influence rather than potentially valuable board members. This paper examines the relations of various types of non-CEO inside directors with measures of board effectiveness in motivating a CEO to take actions beneficial to shareholder welfare.

One means of identifying whether an inside director is a valuable board member, and less influenced by the CEO, is by examining whether or not external firms value the director's decision management and control skills. Fama and Jensen (1983) argue the external labor market will seek out and reward talented directors with additional directorships. Previous research has revealed the effectiveness of this market in rewarding talented directors [Brickley, Linck, Coles (1999) and Ertimur, Ferri, and Stubben (2008)] and punishing poor performers [Kaplan and Reishus (1990) and Fich and Shivdasani (2007)]. Given the effectiveness of the external labor market in identifying talented decision management and control experts, I use outside directorships to identify these talented executives who are also likely strong candidates to become CEOs.

The literature has established several methods for assessing board effectiveness in monitoring the CEO [Hermalin and Weisbach (2003)]. One is to examine the board's willingness to replace their CEO. Diligent and more independent boards are more likely to replace a poor performing CEO before performance deteriorates drastically making turnover more sensitive to performance. For example, Weisbach (1988) finds boards dominated by outsiders are associated with greater CEO turnover sensitivity to performance.

Another means of assessing board effectiveness is to examine the CEO compensation contract. Effective boards will produce CEO compensation contracts that align with shareholder interests, rather than those of the self-interested manager. Bebchuck and Fried (2003) point out that managerial power enables deviations in optimal CEO financial contracts for shareholders, which are expected to arise under labor market competition. Hermalin and Weisbach (1998) model the bargaining game between the CEO and the board and show that the compensation contract is an outcome that reflects the relative power of either party. Empirically, Mehran (1995) finds boards with more outside directors are associated with CEO compensation contracts comprised of more equity-based compensation resulting in greater alignment with shareholder interests [Jensen and Meckling (1976), Jensen and Murphy (1990)].

The empirical studies in both of these strands of literature [Parrino and Starks (2001), Huson Malatesta and Parrino (2003), Core, Holthausen, and Larcker (1999) and Hallock (1997) to name others] focus on outside directors and do not examine the role of inside directors. In the spirit of the recent research finding that inside directors can play a valuable role on corporate boards [Harris and Raviv (2008), Coles, Daniels and Naveen (2008), Masulis and Mobbs (2009) and Raheja (2005)], this paper addresses this gap in the literature by examining the role of various inside directors and these measures of board effectiveness.

Many inside executives may be unwilling to vote against their CEO for fear of retribution or because it may also reflect poorly upon themselves, due to their association with the CEO [Hermalin and Weisbach (2003), Helmich and Brown (1972), Helmich (1974), and Fee and Hadlock (2004)]. This perspective of *dependent insiders* predicts the presence of these inside directors will lead to greater CEO

influence and thus weaker boards that are more likely associated with CEO turnover that is less sensitive to performance and CEO compensation contracts reflective of the CEO's interests rather than the interests of shareholders. Alternatively, executives recognized externally for their skills and talent, independent of their CEO, have greater concern in maintaining their reputation as a director and thus are likely to vote their conscience rather than simply supporting their CEO. Furthermore, highly skilled insiders have incentive to separate themselves from the CEO when the CEO is performing poorly as they vie for the top position themselves. This competition serves to limit a CEO's managerial power and extraction of private benefits from the firm and leads to compensation contracts and levels of employment security that are more aligned with shareholder interests [Bebchuck and Fried (2003)]. I refer to these directors as *independent insiders*.

Anecdotal evidence reveals that inside directors are valuable assets for boards when firms perform poorly. For example, Home Depot's board recently removed CEO Robert Nardelli following an 8.2% drop in stock price during his tenure and replaced him with an inside operating officer Executive Vice President Frank Blake[1] who had also been recognized by other firms as a talented and capable manager.[2] After the transition, a person close to the board noted that "Not only did [the board] act in a timely fashion, but in an orderly and complete fashion."[3] This underscores the value to a board of having a readily available replacement should a leadership change become necessary. However, even if independent inside directors do not replace the CEO, they still have incentives to distance themselves from a faltering top executive to maintain their reputation as a talented decision control expert. These incentives can lead to greater information revelation to outside board members thereby increasing their response time to poor performance. Greater alignment with the board and independence from a poor performing CEO increases the executives chances of remaining with the firm following the removal of the poor performing CEO and possibly of being their successor.

[1] Dow Jones Newswires, "Nardelli Leaves Home Depot, Will Get $210M" January 3, 2007.
[2] Mr. Blake was also a director for the Southern Company at the time of his appointment to CEO.
[3] Wall Street Journal article "For Boards, Firing or Keeping a CEO can be a tough call," October 22, 2007

Empirically, I find that independent inside directors are associated with a greater CEO turnover threat. Specifically, having an independent inside operating officer increases forced CEO turnover sensitivity to accounting performance. Moreover, these results are robust to a broad definition of turnover, which may include undisclosed forced departures, and suggests that even planned turnovers are more sensitive to performance when a replacement is readily available.

A second significant difference among non-CEO inside directors is their board authority. Firms often retain the previous CEO on the board as chairperson following a succession. These inside directors are clearly different from other inside operating officers, yet prior literature when focusing on outside directors has treated all inside directors as homogeneous. Retention of the former CEO on the board indicates the board values their skills, firm-specific information, credibility and greater board authority over the CEO. These characteristics make the former CEO a credible replacement threat to a poor performing current CEO, though it is different from the threat provided by talented inside operating officers. When a more thorough change in management is required, as reflected in lower market valuations, boards benefit from having a strong leader that is able to step in on an interim basis and "steady the ship" in a crisis while affording the board time to undertake a careful search for a permanent replacement. This was the case for the board at OfficeMax when they removed CEO Christopher Milliken and several other executives following allegations of accounting fraud in 2005, at which point the board appointed the inside chair, former CEO George Harad[4], as interim CEO for two months until appointing an outside CEO, Sam Duncan. Similarly, P&G's board, when they fired CEO Durk Jager in 2000 after the stock price dropped 50%, called upon its board chair and former CEO, John Pepper, before eventually appointing another inside officer A.G. Lafley as CEO.

Although former CEOs remaining as inside chairpersons have authority by their position, it does not suggest they are independent of the CEO. If the current chairperson were instrumental in the appointment of the current CEO, they may be less willing to oppose that CEO in the boardroom. Such a dynastic progression increases the dependence between the chairperson and the CEO rendering the board

[4] Prior to appointment as interim CEO, Harad also held an outside directorship with the Dial Corporation.

less effective. I refer to this extension as the *dependent inside chair* hypothesis. Alternatively, the *independent inside chair* hypothesis predicts that talented chairpersons, externally recognized for their decision management and control skills with valuable reputations to maintain, are more likely to oppose a poor performing CEO if the loss of their reputational capital outweighs the cost of sustaining a poor performing heir. Again, using the external labor market to distinguish between the two, I refer to non-CEO inside chairpersons with (without) outside directorships as independent (dependent) inside chairs.

Consistent with the anecdotal evidence, I find that simply having a separate inside chairperson on the board incrementally increases the threat of forced CEO departure indicating the greater monitoring benefit of retaining the previous CEO as chairperson. Furthermore, I find when a separate inside chair is present and holds an outside directorship; forced CEO departure is more sensitive to market performance.

The evidence of greater CEO turnover sensitivity to performance when independent inside directors are present is consistent with these boards having greater bargaining power relative to their CEO. To explore this further, I also examine their association with the quality of CEO compensation contracts. When independent inside operating officers are present, their boards are associated with CEO compensation contracts comprised of a greater fraction of equity-based pay. This is consistent with stronger and more independent boards [Mehran (1995) and Ryan and Wiggins (2004)] and leads to better CEO alignment of interests with shareholders [Jensen and Meckling (1976) and Jensen and Murphy (1990)]. In addition, I find the presence of independent inside chairpersons is associated with lower levels of excessive CEO compensation, which is consistent with their greater financial alignment of interests with shareholders. The results, for CEO compensation and CEO turnover sensitivity to performance, are also robust to controlling for the self-selection of firms to have non-CEO inside directors.

These findings reveal the differing roles played by two classes of talented inside directors in enhancing a board's disciplining function. A decline in stock market performance indicates the future prospects for the firm are poor and the board needs to make fundamental changes in the management to increase market value. However, these changes can take time to implement and leaving the current management team in place can be costly. Having a talented inside chair available to serve as an interim

CEO allows the board to quickly remove a poorly performing CEO and still have adequate time to consider other outside CEO candidates that could help fundamentally change the firm's senior management ranks. Empirically, I find inside chairpersons are indeed more likely to act as an interim replacement, rather than a permanent replacement of the CEO, since they have already stepped down from an active operating role in the firm.

Contrary to the drastic measures called for when a non-CEO chairperson takes the helm, when short-term accounting performance suffers, it is not necessarily an indication that a fundamental shift in strategy is required. The current strategy may be optimal, but the current CEO is simply not executing it effectively. In this case, an internal replacement of the CEO is less disruptive to firm operations and allows for a smoother transition to a new manager, who is knowledgeable of a firm's day-to-day internal operations. While inside operating officers may not have the same strong financial ties of inside chairs, they do have strong career incentives and current knowledge of the firm's operations.

Although all inside directors could potentially increase the turnover threat that a CEO faces, I find no evidence that more dependent inside operating officers or inside chairpersons (those *without* outside directorships) increase CEO turnover (voluntary or forced) sensitivity to performance or are associated with better CEO compensation contracts. This suggests outside directorships represent an important method for distinguishing among inside officer-directors and inside chairpersons. While I do find evidence of either type of inside operating officers on the board is associated with greater CEO turnover, this is consistent with their being on the board merely for grooming purposes for planned successions. Reinforcing the turnover evidence and consistent with the external labor market's ability to identify the more talented inside directors, I also find that boards are more likely to appoint independent inside directors, both operating officers and inside chairs, as CEO relative to other inside directors.

These findings contribute to our understanding of the varying roles played by inside directors and the powerful influence they can have on limiting or enhancing CEO entrenchment and correspondingly on shareholder interests. In addition to filling the gap in the literature on board effectives, this study contributes to the literature on board structure and its link to firm performance by identifying important

roles played by different non-CEO inside directors. A board comprised of a CEO and all outside directors may lack the necessary information needed to closely monitor a CEO and credibly threaten a CEO's swift removal when deemed necessary. Such an outsider-dominated board would not be as effective in representing shareholder interests as one with fewer outside directors and one or more talented inside directors who provide the board with greater insight into firm operations as well as a potential CEO replacement, which increases the board's bargaining power relative to that of the CEO.

The remainder of the paper consists of the following. A review of the related literature and my hypotheses development are next. Section 3 discusses the sample and descriptive statistics. Section 4 contains the analysis of inside directors who become CEO. Section 5 examines the relation between various inside directors and CEO turnover. Section 6 examines CEO compensation. Section 7 concludes.

2.0 Literature Review and Hypothesis Development

2.1 CEO turnover and inside replacements

While much of the research on CEO turnover has focused on the increasing occurrence of outside successors, most CEO successions are by inside operating officers of the firm. Parrino (1997) finds that 90% of the voluntary CEO successions from 1969 to 1989 were by insiders. He also finds that even among forced replacements, which are more reflective of a boards monitoring ability and relative power over the CEO, half of the successors were insiders. Huson Parrino and Starks (2001) find that between 1971 and 1994 81% (46.5%) of voluntary (forced) CEO successions were by an insider. In a more recent study, Cremers and Grinstsein (2008) find 68% of new CEOs from 1993 to 2005 came from inside the firm.

It is not surprising that insiders represent the most frequent CEO successors since their greater firm-specific human capital makes them a less costly hire for the board. Insiders are more knowledgeable of firm operations, the employees, proprietary information, growth opportunities available and how to implement them. Outsiders on the other hand must spend costly time and energy to develop their firm-specific human capital. This additional time and lack of information can be costly to the firm and may

only be warranted when significant changes need to be made in the management of the firm. Prior research has found evidence of such actions when focusing on outside directors. For example, Borokhovich, Parrino and Trapani (1996) find the likelihood of an outside successor increases with the percentage of outside directors on the firm's board. Nonetheless, about half, a significant portion, of the forced departures are still replaced by inside directors. A common aspect of prior studies is they all assume inside candidates to be homogeneous. However, the large frequency of inside replacements among forced departures is evidence of the value of certain insiders over outsiders and underscores the importance of greater firm specific human capital. Given the notable advantage and frequency of insider appointments, an interesting question arises as to which insiders are better candidates.

2.2 Insider talent

The most valued insiders of a firm are most likely to be on the board of directors [Fama and Jensen (1983)], especially in firms where firm-specific human capital is most important as in complex, high tech, or firms with high growth opportunities [Masulis and Mobbs (2009), Raheja (2005) and Coles, Daniels and Naveen (2008)]. In addition, Mobbs and Raheja (2009) find that executives who sit on their own firm's board are more likely to succeed their CEO. Thus, inside directors represent the most valued executives of the firm. However, not all inside directors are the same. Some may be inclined to support the CEO and thus may only be on the board because of their loyalty to the CEO. These inside directors are likely not optimal candidates to replace the CEO if they are dependent more upon the CEO for their position and less due to their own talents. On the other hand, if some inside directors are more talented and possess CEO-type decision management and control skills their board position is likely independent of the CEO. The challenge is in determining how to distinguish among inside directors those that are more talented independent of the CEO from those that are more dependent upon the CEO.

Naveen (2006) uses titles as a means of distinction among inside executives to identify firms with a succession plan. In her study, a firm has a successor identified if they have an executive other than the CEO or chairperson with the title of President or Chief Operating Officer. This method is useful for identifying the successor in planned voluntary successions. However, executive titles most likely

represent the CEO's assessment of the executive and do not represent an external assessment by a market mechanism. As such, it does not allow us to distinguish among those insiders that are more talented in their own right from those that have gained their position simply due to their supportiveness of the CEO. The lack of insight into executive talent or CEO dependence also makes this a difficult mechanism to use when examining forced CEO turnover.

Masulis and Mobbs (2009) look for differences among non-CEO inside directors and find that outside directorships are a useful mechanism for identifying talented and relatively independent non-CEO inside executive directors from less independent inside directors who generally support a CEO's position on the board. They find evidence that inside directors with outside board seats are more independent from the CEO and are associated with better firm performance and valuation. This is consistent with the Fama and Jensen (1983) argument that directorships are signals to internal and external markets recognizing valuable and highly regarded individuals. These outside directorships offer an external assessment of the talent of an executive and, unlike firm designated titles, provide an independent assessment of their greater talent and likelihood of becoming a CEO. This is especially true in their own firms, given their firm-specific knowledge, but their recognition in the external labor market and exposure of their talents to a greater number of executives and directors in other industries also increases their likelihood of becoming a CEO elsewhere, consistent with the evidence found by Cremmers and Grinstein (2008). My first hypothesis summarizes these expectations:

H1: Inside operating officers with outside directorships are more talented and thus more likely to become CEOs in their own firms or elsewhere than are other non-CEO inside directors.

2.2 CEO turnover sensitivity to performance

The labor market provides some degree of competition and a corresponding threat of termination for all CEOs, but the strength of the threat varies with the extent to which a CEO is exposed to, or insulated from, these forces. Parrino (1997) finds that in more homogeneous industries, where the external labor market is more active because of the many similarly skilled executives, CEOs face a greater monitoring, likelihood of termination and replacement by outsiders. Weisbach (1988) finds

boards with more outsiders have a greater likelihood of CEO turnover following poor performance. Outside board members, with connections to various other firms and industries, serve as conduits providing greater access to the external labor market for firms and thereby expose their CEOs to a greater termination threat. Thus, greater exposure to the labor market leads to greater turnover likelihood and ultimately lower job security for incumbent CEOs. These empirical findings illustrate the power of the external labor market in forcing CEOs to perform in the interests of shareholders. Similarly, CEOs exposed to an active internal labor market should also have reduced incentives to pursue self-serving actions because they face a greater likelihood of termination.

Hermalin (2005) models a board's decision to replace their CEO as a valuable option that increases in value with the expected ability of available candidates. In his model, Hermalin assumes the expected ability of internal candidates is lower than that of the CEO. However, when the inside executive is recognized for their talents by the managerial labor market, this may no longer hold. Furthermore, external recognition of an operating officer's talent establishes a greater reputation to uphold as an independent decision management and control expert. Thus, they have more incentive to further themselves from a poor performing CEO.

Poor CEO performance and ability is best signaled with accounting measures of performance as illustrated by Hermalin and Weisbach (1998), as opposed to the firm's market performance, which reflects a more fundamental and long-run outlook for the firm. Thus, if the CEO is a poor manager, as reflected by poor accounting performance, the board faces the decision as to how low must performance drop before a change is made. Furthermore, as performance suffers this reflects poorly on other non-CEO executives as well. Those with greater career concerns and reputation at stake have more of an incentive to oust the poor performing leader in hopes of preserving their own reputational capital while contending for the CEO position themselves [Bull (1987) Gibbons and Murphy (1992)]. On the other hand, those less talented and dependent upon the current CEO for their positions are likely to continue to support the CEO and argue against replacement for fear of losing their own position. Thus, a willing and capable replacement for the poor performing CEO is likely to increase the board's ability to replace a poor

performing CEO quickly, before performance deteriorates significantly, making turnover more sensitive to performance. Thus, my second hypothesis follows:

H2: The presence of an independent inside operating officer allows their boards to react swiftly should accounting performance decline and will be associated with CEO turnover that is more sensitive to accounting performance.

2.3 Non-CEO inside chairperson

Another difference among insiders relates to their board position. Many former CEOs or influential operating officers remain on the board as chairperson after retiring from an active operating position. Their historical connections with the firm lead to their classification as inside directors as well as provide their boards will valuable firm-specific experience and expertise. Furthermore, these inside directors are different from inside operating officers in several dimensions. First, they are likely to have longer tenure with their firms and thus have greater human capital invested into the firm. Given their greater tenure, they are likely to have greater ownership stakes creating greater incentives to ensure the long-run sustainability of the firm. Finally, they are likely to be founders, creating even further interest in the long-term fundamental health of the firm. Given their long-run firm-specific experience and their greater incentives to ensure the fundamentals of the firm are sound, these inside directors represent valid CEO replacements should the firm experience more fundamental problems and require more broad sweeping changes such as replacement of an entire management team. Lower stock prices will reflect these fundamental long-run problems not necessarily captured by short-term accounting measures of performance. Warner, Watts, and Wruck (1988) examine changes in the CEO, president, or chairperson and find poor stock performance in the year prior to turnover is associated with an increased likelihood of turnover in members of the management team. When boards face fundamental problems with the firm they may need to make sweeping changes to management, which can take time. Longer time translates to greater loses for shareholders unless they have a temporary option.

The anecdotal evidence cited earlier illustrates the powerful option inside chairpersons can provide to their board when the fundamentals of the firm deteriorate. Inside chairpersons are not likely to

be long-term replacement, given their previous retirement, but instead are likely to serve as an interim CEO allowing the board to remove the poor management team while providing time for them to search for a more permanent replacement. This option, allows firms to remove the poor CEO and search for a replacement without enduring continued poor management that could be costly for shareholders.

Further, as Brickley, Linck, and Coles (1999) point out, the managerial labor market is still a motivating force even following retirement. Thus, inside chairs with outside directorships are likely the more talented chairs and have greater reputational capital to maintain, making them less inclined to support their successor when performance suffers. This leads to my next hypothesis:

H3: Inside chairs, especially those with outside directorships will serve to strengthen their board's ability to respond to poor market performance by making forced CEO turnover more sensitive to stock market performance.

2.4 Executive compensation structure and board bargaining power

Jensen and Murphy (1990) point out that boards and shareholders use both the threat of termination and compensation structure as mechanisms to align the CEO's incentives with those of shareholders. The most direct way of aligning a risk-neutral manager's interests with those of shareholders is equity compensation [Jensen and Meckling (1976)]. However, risk-averse CEOs lose diversification by holding equity in their firm, creating a disparity between CEOs interests and those of shareholders as to the structure of the compensation. When a CEO is more influential or insulated from competitive forces, their desire for less equity risk exposure is borne out [Bebchuck and Fried (2003)]. However, CEOs governed by effective mechanisms should have contracts more reflective of shareholders' interests and thus consist of a greater proportion of equity compensation.

Hermalin and Weisbach (1998) illustrate the endogenous link between CEO ability and compensation. In their model of board evolution, better performing CEOs have more bargaining power over the board, which leads to more CEO-friendly boards, greater entrenchment, and higher CEO-friendly compensation. Thus, CEO compensation structure should provide a measure of the degree of CEO entrenchment. Again, however, most empirical research has focused on the monitoring effectiveness of outside directors and has found firms with greater agency problems [Core, Holthausen, and Larcker

(1999)] and less-independent outside directors [Hallock (1997)] are associated with CEO compensation contracts more aligned with the interests of the CEO rather than shareholders.

However, boards that are more responsive to poor performance and thus less inclined to succumb to the power and influence of their CEO have more bargaining power over their CEO, which is borne out in CEO compensation contracts that are more reflective of shareholder interests. Prior literature has relied solely on outside director representation as a proxy for board bargaining power. Mehran (1995) finds a positive association between the percentage of outside directors and the proportion of equity in CEO compensation packages. Similarly, Ryan and Wiggins (2004), find the percentage of inside directors relates negatively to the CEO's equity-based compensation for a sample of S&P 1500 firms in 1995 and 1997. While these findings imply greater inside representation on the board is associated with less CEO equity-based compensation and greater CEO entrenchment, they do not distinguish between insiders supportive of the CEO and those who represent potential threats to a CEO's position. If independent inside directors reflect an active labor market putting further competitive pressure on the incumbent CEO, I expect these directors to be associated with less CEO power and correspondingly with a greater proportion of equity in the compensation contract. Conversely, if these insiders are merely a reflection of CEO influence, then they should be associated with smaller proportion of equity compensation. This leads to my fourth hypothesis.

H4: Boards with independent inside operating officers have more bargaining power and thus CEO compensation contracts comprised of a greater percentage of equity based compensation.

2.5 Theoretical views of inside directors and the power of the labor market

Despite the recent push by institutions and legislators towards more outside representation on boards,[5] several recent theoretical models have incorporated the powerful role of inside directors [Adams and Ferreira (2005), Harris and Raviv (2008) and Baranchuk and Dybvig (2008)]. These models highlight the powerful role of insiders in information revelation, which can enhance both the monitoring and advisory roles of the board. However, as Raheja (2005) illustrates, inside directors are also potential

[5] See Masulis and Mobbs (2009) for a more comprehensive review of the literature and the institutional changes.

competitors of the CEO. In her model of optimal board composition inside directors compete with one another, and implicitly the current CEO, to become the next CEO. Their motivation for sharing information with outside board members is the possibility of winning the favor of the board in the competition to be the next CEO. Her model illustrates the importance of inside information as well as the power of internal competition as an internal governance mechanism. Fama (1980) points out, in a similar manner, the importance of internal labor market forces in disciplining management.

The main hypotheses of this paper are that highly skilled non-CEO inside board members, *independent insiders*, are a source of internal competitive pressure for their CEOs that results in CEO compensation contracts and termination threat more aligned with shareholder interests, rather than more aligned with CEO self-interest. Alternatively, *dependent inside directors* insulate the CEO from unwanted risk and are associated with CEO friendly compensation contracts and greater job security.

3.0 Data and Descriptive Statistics

3.1 Sample selection

I obtain director information from the Investor Responsibility Research Center (IRRC), firm data from COMPUSTAT and return information from CRSP. The sample period is from fiscal years 1997 through 2003 and includes all firms whose information is contained within these databases. IRRC includes director information for approximately 1,500 firms each year and identifies each director as either an employee of the firm, an outsider affiliated with the firm, or an independent outsider. IRRC also has a flag indicating if the inside director is the CEO. Two-hundred eighty-one firms had no CEO listed. I accounted for the missing CEO by the following assignment priority. If the firm had an insider listed as President, Chairman, or there was only one insider listed for the firm, I assign that insider as CEO.[6] When multiple observations occurred in the same year for a given firm, I used the most recent data.

From the IRRC database, I obtain information for 108,655 director-year observations for 2,901 firms, or 11,488 firm-years over the course of the seven-year sample. I collect firm information from

[6] I excluded 24 firm-year observations with no insiders listed and 75 firm-year observations have multiple or co-CEOs.

COMPUSTAT for fiscal years 1994 through 2003 and discard firms when COMPUSTAT does not have any information leaving 10,377 firm-year observations for 2,499 firms[7]. Compensation data is from COMPUSTAT's ExecuComp database. Finally, as with most studies of this nature, I exclude finance and utility firms from the sample.[8] The final sample consists of 8,355 firm-year observations for 1,987 firms from 1997 to 2003; however, not all variables are available for each firm-year observation. The subsequent regressions note the number of observations available for each specification.

3.2 Descriptive statistics

Table 1 shows the descriptive statistics of the key variables for the sample firms. The average (median) firm had total assets of $4.7 ($1.0) billion per year with 3 (2) business segments with a board size of 9 consisting of about 6 independent outside directors, 1 affiliated director, 1 non-CEO insider and the CEO. This is similar to other studies such as Coles et. al. (2008)'s that examines directors over the 1992-2001 period, which have mean sales of $4.1 billion and a median of two segments. Board size is also in line with other studies and trends toward smaller boards. Bhagat and Black (2002) study 934 firms from the 1985-1995 period with an average board size of 11.5 members with 3 insiders. Denis and Sarin (1999) study a sample of 583 firms from the 1983-1992 period with an average board size of 9.4 members. Coles et al. (2008) finds an average of one non-CEO insider on the board.

The average (median) CEO ownership and board ownership are 4.4% (1.3%) and 7% (1.9%) respectively. This is comparable to Bhagat and Black (2002) who have an average CEO ownership of 3.8% and an average ownership of 9% for the officers and directors in their sample, but differs from Denis and Sarin (1999) who have an average CEO ownership of 7.2% and 15.7% for officers and directors, though their random sample consists of smaller firms.[9] Founders are on the board in 21% of the firm-year observations and a founding family member is on the board in 13% of the observations. This is lower than the one-third found by Anderson and Reeb (2003) for the S&P 500, however, my sample is for

[7] I include 1994 to obtain the lagged values of certain variables in the dataset for 1997.
[8] Finance and Utility firms are excluded by excluding the Fama-French Industry Codes 31, and 45-48.
[9] They measure firm size with the market value of equity and report the mean firm size of their sample is 434 million. The mean market capitalization of my sample is 6.5 billion. This explains the differences in ownership.

the 1,500 largest U.S. firms. Fourteen percent of the sample firms have at least one non-CEO inside director with an outside board seat.

Mean (median) total annual CEO compensation is slightly over $5 ($2.4) million. Annual cash-based compensation mean and median are $1.27 and $.93 million, respectively. These are similar to the $1.1 and $.83 million found in a similar sample from 1992 to 2002 in Coles, Daniels and Naveen (2006). The remaining portion of annual compensation, equity-based (stock and/or option grants) represents a significant portion of a CEOs total annual compensation.

I identify a CEO turnover as occurring when the CEO identification in the IRRC database is different from the CEO identification in the prior year. This method captures all turnovers, but it does not distinguish forced turnover from planned successions. CEO turnover occurred in 14% of the firm-year observations, in which I had information on the previous year's board structure. While many of these turnovers are planned successions, which may still be sensitive to recent performance, a more direct indicator of board monitoring is the occurrence of forced CEO departures.[10] Only 4% of the observations have a new CEO following a forced turnover event.[11]

4.0 Inside directors promoted to CEO

4.1 Univariate analysis of inside directors promoted to CEO

Table 2 examines the instances within my sample where inside directors are promoted to CEO. There were 393 promotions (5.2%) among inside directors in my sample. Most of these were internal successions (5%), but there were some instances of inside directors leaving their firm to become CEO at another firm. Although there are fewer non-CEO inside directors who hold additional board seats than those who do not, Table 2 reveals those who do are proportionally more likely to become a CEO. Eight percent of independent inside directors become CEO compared to only 4.6% of more dependent non-

[10] I am grateful to Ronald Masulis and Lixiong Guo for providing hand-collected data on forced CEO departures.
[11] News articles or press releases from Factiva using words such as forced, ousted, removed or other language indicating the board asked the CEO to leave identify forced departures. Also, if the resigning CEO was less than 60 years old and remained on the board the departure was classified as forced. Departures due to death are not included.

CEO inside directors. Moreover, 9.4% of independent inside operating officers become CEO in either their own firm (8.8%) or elsewhere (.7%).

The proportion of independent inside chairpersons who become CEO of their own firm is not significantly different from dependent inside chairs. However, a significantly larger proportion of these independent inside chairs become CEO of another firm. While this sample is small and restricted to large IRRC firms, it illustrates the serious threat that highly skilled inside directors pose for their CEOs. Furthermore, it suggests independent inside operating officers are more likely to assume the role of CEO in their own firm than are independent inside chairs. This is consistent with the idea of operating officers being better suited to step into the CEO position as a full-time CEO as the firm continues on the current path. However, it does not preclude independent inside chairs from becoming CEO on an interim basis when a fundamental change is required in firm policies as the board conducts a search to find a more permanent CEO. If this is the case, I expect these CEO tenures to be relatively short.

In panel B, I examine the tenure of these new CEOs to assess whether their appointment is likely to be long-term or whether it is more likely only an interim position. There are 379 instances of internal CEO successions within my sample of inside directors. The average tenure throughout the remainder of the sample period is 1.79 years. For independent inside directors the average tenure is approximately 2 years and is not significantly different from the average tenure of other inside successors, which is 1.73 years. However, the average tenure of independent inside chairs is only 1 year, which is significantly lower. In contrast, the average tenure of independent inside operating officers is significantly higher at 2.24 years. Because the truncation of the sample period biases the length of observed tenure from these successions, I also examine the occurrences of tenure lasting 1 year or less, which are more likely due to the presence of interim CEOs. In Panel C, we see that independent inside chairs are significantly more likely to be CEO for 1 year or less. These results suggest independent inside chairs are indeed more likely to be interim replacements and independent inside operating officers are more likely to be long-term replacements.

4.2 Multivariate analysis of inside director promotions to CEO

I examine the determinants of inside directors promoted to CEO using a logit regression model. In each of the models, the dependent variable is one if the director is promoted to CEO in the following year and zero otherwise. In addition to whether or not they have an outside directorship, other director and/or CEO characteristics may influence the likelihood of an inside director becoming a CEO. Researchers have found the title of Chief Operating Officers (COO) is associated with future CEO successors within firms [Rajan and Wulf (2006), Naveen (2006), and Mobbs and Raheja (2009)]. Age and board tenure are other measures of the experience for the inside directors, however, it is not clear how these characteristics affect the likelihood of the director becoming a CEO. Surely, some minimum experience is beneficial, but if the new director is close to retirement, they are less likely to be long-term CEO candidates. Boyer and Molina-Ortiz (2006) argue that executive ownership is also a signal to the board about their willingness to become the next CEO and will therefore increase their chances of becoming CEO. Additionally, an operating officer who is one of the founders or related to the founder may have greater control over the current CEO as well as greater incentives to take over the reins of their firm.

CEO characteristics also may affect the likelihood of an inside director becoming the CEO in the next year. If the CEO is new, it is less likely that the inside directors on the board will become the CEO within the next year. However, the longer the CEO has been in office, the more likely a succession event is approaching and that one of the current inside directors will be appointed the next CEO. In addition, CEO ownership may influence the likelihood of the directors becoming CEO. CEOs with a greater equity stake in the firm may have more say in the selection of their successor. If CEOs are more inclined to support inside directors on their boards, greater CEO ownership is likely to be associated with a greater likelihood of the director becoming the next CEO. Conversely, a greater equity stake may provide incentives for the CEO to stay at the helm longer than expected thereby making it less likely that any of the inside directors will become CEO within the next year.

Finally, I control for firm characteristics that are likely to increase the likelihood of an inside director becoming the next CEO. Larger firms have a greater pool of internal potential CEO candidates

who already possess firm-specific knowledge of the complex organization and are thus, more likely to become CEOs. Additionally, visibility into the firm by the board may be critical in their ability to select an internal successor. I control for monitoring difficulty with the volatility of monthly stock returns.

Table 3 presents the results of this analysis. In model 1, I examine the pool of inside directors who are firm operating officers. Model 2 focuses on all non-CEO inside directors. The predicted likelihood of an inside director becoming the next CEO, in both models, is .03. In model 1, having an outside directorship is positive and significantly related to a greater likelihood the operating officer will become a CEO. The marginal effect of the director having an outside directorship on the likelihood of becoming a CEO is .021, which represents a 64% increase in the probability of the operating officer becoming a CEO.[12] Of the remaining control variables, only having the title of COO or being a relative of the founder has a greater influence on the likelihood of the director becoming the CEO. Age and board tenure both decrease the likelihood of the director becoming the next CEO suggesting the longer an individual is on a board the less likely they are to become the next CEO whereas individuals that are more talented are promoted and move on in their careers beyond being operating officers. Though older more tenured directors are more experienced, they have less career incentives relative to younger directors. Individual ownership, while positively associated with the executive's chances of becoming the next CEO is not significant. However, being a founder or a founder's relative does increase the likelihood of becoming the next CEO. The current CEO's influence also seems to matter. The longer the CEO has been in office the more likely an inside operating officer becomes CEO. Conversely, greater influence through ownership decreases this likelihood, as the CEO may be more inclined to stay at the helm.

In model 2, I examine all non-CEO inside directors and consider the affect of the inside director being the chairperson on the likelihood of becoming a CEO. The controls remain largely the same when introducing inside chairpersons, except being a founder loses significance and ownership becomes significant. Having an outside directorship for operating officers is still positive and significantly related

[12] The marginal effect for discrete variables is determined by the change in probability of an inside director becoming the CEO when the discrete variable changes from 0 to 1. Thus, Prob(Insider becomes CEO|Dependent Inside Operating Officer)=.033 and Prob(Insider becomes CEO|Independent Inside Operating Officer)=.054.

to the likelihood of becoming a CEO. Model 2 reveals that being an inside chairperson also increases the likelihood of the inside director becoming CEO reflecting the experience and skill of these inside directors. In fact, inside chairpersons are more likely to become the CEO, whether or not they have an additional outside directorship (Prob(insider becomes CEO| chairperson)=.035 + .037=.072). However, when they do hold an outside directorship, their likelihood of becoming a CEO is 61% greater than when they do not (Prob(insider becomes CEO| independent inside chairperson)=.035 + .081=.116). This is consistent with the greater incentives and talent of inside chairs recognized by the external market for directorships.

The evidence of Tables 2 and 3 is consistent with the hypothesis that independent inside directors are serious contenders to become CEOs. As such, their presence may allow boards to respond more quickly to poor performance and thereby minimizing the negative impact on shareholders. I turn to this question next.

5.0 CEO Turnover

5.1 Univariate analysis of CEO turnover

Table 4 presents the univariate analysis of the occurrences of turnover within my sample. There are 896 (14%) observations of a different CEO listed from the previous year with 255 (4%) identified as forced CEO turnover events. Panel A examines the impact from having either type of independent inside director on the board in the year prior to the turnover. Almost eighteen percent of the firms with an independent inside executive on the board experienced CEO turnover. This is significantly greater, at the 1% level, than the 13.4% turnover experienced by firms without these types of inside directors. This evidence of more frequent CEO turnover when independent insiders are present is consistent with CEOs facing greater pressure to perform when valuable more talented inside directors are on their boards prior to a succession.

Although both types of independent inside directors exert pressure on CEOs to perform, as they can both provide potential replacements should the board need to replace the incumbent CEO quickly, the

type of pressure they provide is distinctly different. Panel B of Table 4 reveals that firms with independent inside operating officers on the board have a significantly greater likelihood of CEO turnover than do other firms. Conversely, firms with independent inside chairpersons do not have a significantly greater likelihood of CEO turnover than do other firms. In panel C, I consider only firms with inside directors and find similar results. The evidence suggests outside directorships are more able to distinguish differences among operating officers than among inside non-CEO chairpersons. This also suggests that independent inside operating officers are a greater threat to an incumbent CEO, possibly because they represent a more likely permanent replacement and offer greater continuity of current policies.

The observations of forced CEO turnover are more likely representative of the threat imposed upon the current CEOs rather than simply succession planning. Panel D reveals that in 143 cases of the 255 forced CEO departures an inside executive replaced the ousted CEO and a majority of these (90) executives were also directors. Although there are more dependent inside directors replacing ousted CEOs than there are independent inside directors, when independent inside directors are present they are much more likely to replace an ousted CEO than are dependent insiders. This is true for both independent inside operating officers and independent inside chairs. When an independent insider is present prior to the forced departure, they replace the CEO 66.7% of the time. Conversely, dependent insiders only replace the ousted CEO in 40% of the cases. Thus, when independent insiders are present they appear to be viable threats to replace their CEOs in a forced departure. To examine the issue of threatened replacement more closely I look at the more critical aspect of CEO turnover for shareholders, which is the sensitivity of turnover to performance. How quickly will a board replace a poorly performing CEO?

5.2 Forced CEO turnover sensitivity to performance

The findings of Weisbach (1988) and Parrino (1997) reveal when monitoring is easier and a replacement is available, the board can respond more effectively by quickly removing/replacing poorly performing managers if performance suffers. However, the focus of these tests is on outside directors and there is no distinction made among various types of insiders. Because highly skilled and motivated inside

directors can improve monitoring and serve as a replacement, the sensitivity of CEO turnover to performance should be greater in firms with these directors.

Table 5 shows the results of the forced CEO turnover logit regressions with accounting performance. The dependent variable is one if a CEO forced departure occurred during the quarter. The key independent variables include binary variables that equal one if the inside director was listed in the most recent proxy statement prior to the forced departure announcement and a binary variable that equals one if the board had 60% or greater independent outside directors listed in the same proxy statement. Because the date of the departure announcement is known, I use quarterly accounting data to match more precisely the most recent performance leading up to the forced turnover and measure operating performance as the average of the most recent four quarters of operating cash flow scaled by beginning period assets.[13] I then adjust this measure by the Fama-French industry median for each firm. I include other control variables shown to influence turnover such as CEO and director ownership [Huson, Maletesta, and Parrino (2003), Parrino (1997), Weisbach (1988), Warner, Watts, and Wruck (1988), and Fich and Shivdasani (2006)]. I also include an indicator variable for CEO founders, as they may be less likely to be forced out. Similarly, I also include an indicator variable for the presence of a separate inside chairperson, as new CEOs may face more scrutiny and the presence of a recent CEO may increase their likelihood of termination. Finally, when CEOs are around retirement age, the board, as a professional courtesy, may allow the CEO to "voluntary" retire rather than publicly force them out resulting in fewer observed forced departures for these CEOs. To control for these cases, I include a dummy variable that equals one if the CEO is 60 to 70 years old. Model 1 reveals that poor operating performance does significantly increase forced turnover likelihood consistent with other studies [(Weisbach (1988), Huson, Parrino, and Starks (2001)]. The controls have the expected signs in all models and are significant in most. I compute the marginal effect, shown to the right of key coefficient estimates, at the mean and mode of the continuous and binary control variables, respectively.[14]

[13] Quarter Operating ROA is defined as data108/lag(data44) from the COMPUSTAT Quarterly data.
[14] I use the delta method to compute the standard error and the corresponding p-values of the marginal effect.

Model 2 includes the indicators for independent and dependent inside operating officers of the firm and shows their presence on the board does not significantly affect forced turnover likelihood. However, the interaction with performance is negative and significant for independent inside operating officers, suggesting their presence actually incrementally increases turnover sensitivity to accounting performance. The marginal effect, computed at the mean operating performance is also negative and significant.[15] An F-test of the total effect of performance on turnover when an independent inside operating officers is present is negative and significant (p-value=.013). Conversely, the interaction with the presence of dependent inside operating officers is not significantly different from zero, suggesting their presence does not increase the threat of forced departure for the current CEO when performance drops. The third and fourth columns of panel B reveal the implied probabilities of forced departure from this logit regression. When an independent inside operating officer is present and operating performance drops from the 75th to the 25th percentile, the implied probability of forced departure increases 66%. However, when they are not present the implied probability of forced departure increases only 11%.

Next, I consider the affect of strong board monitoring by independent outside directors in model 3. The presence of a majority of independent outside directors on the board is associated with a 38% greater termination threat upon the incumbent CEO. The F-tests reveal that when the board has 60% or greater independent outside directors or when an independent inside operating officer is present, the total effect of operating performance on forced turnover is greater. However, the marginal affect on forced CEO departures of having a readily available CEO replacement is much greater than simply having stronger independent outside monitoring. These results emphasize the importance of firm-specific information to boards when making key decisions such as forced CEO turnover. They also reveal the

[15] Because the logit models are non-linear and the key interaction terms involve dichotomous variables, the magnitudes and standard errors of the marginal effects of the interactive variables are estimated by taking discrete differences [Powers (2005), Ai and Norton (2003)] as:

$$\frac{\partial E[y|ROA,Insider,X]}{\partial_{ROA}}\Big|_{Insider=1} - \frac{\partial E[y|ROA,Insider,X]}{\partial_{ROA}}\Big|_{Insider=0}$$

where $\frac{\partial E[y|ROA,Insider,X]}{\partial_{ROA}} = \frac{e^{X\beta}}{(1+e^{X\beta})^2}[\beta_{ROA} + \beta_{Insider}Insider]$

value of having a ready replacement should operating performance suffer. To examine the responsiveness of the board more closely, I look at forced turnover sensitivity to only the most recent two quarters of operating performance of the forced departure event. Model 4 reveals the relation between independent inside operating officers and turnover sensitivity to the most current two quarters operating performance is stronger, economically and statistically, further illustrating that these directors can increase their board's responsiveness to poor operating performance.

Lastly, I consider whether the private information associated with a firm's choice to have inside directors affects their relationships with forced turnover sensitivity to performance. It is possible that firms that are more complex are willing to hold on to a poor performing CEO for a longer trial period. Alternatively, the difficulty associated with running a more complex company makes it more likely the CEO will not perform satisfactorily and thus the turnover among these firms may be higher and this may produce the results in models 1 through 4. I account for this possibility by using the Heckman (1979) self-selection model following Masulis and Mobbs (2009) where the first stage is a probit model of a firm's choice to have non-CEO inside directors. The second stage examines the forced CEO turnover model for firms selecting inside directors while controlling for the private selection with the inverse mills ratio from the first stage. The results are in model 5. The inverse mills ratio is positive and significant, suggesting that firms with insiders are more likely to have forced CEO departures relative to firms without non-CEO insiders present on their boards. Finally, the F-test reveals that even after controlling for self-selection, there is evidence that having independent inside operating officers present increases forced CEO turnover sensitivity to accounting performance. Conversely, in this specification, there is no evidence that independent outside directors enhance forced turnover sensitivity to accounting performance.

5.3 All CEO turnover sensitivity to performance

It is possible that many voluntary turnover events are not truly "voluntary" and are rather cases of the board graciously forcing out the current CEO. Likewise, many planned successions may occur earlier than scheduled if performance suffers and the board decides to hasten the transition, as was the case with

Home Depot's board and their replacement of CEO Robert Nardelli with successor Frank Blake. In either of these cases, when the board has more confidence in the ability of the successor they are able to be more responsive should performance of the current CEO suffer. To account for these possibilities and as robustness to the previous findings I examine the relations between all annual CEO turnovers, the presence of inside directors and measures of firm operating performance.

I measure operating performance as the average of the most recent two years annual operating performance[16] adjusted by the Fama-French industry median. I also use an indicator if the current CEO is at or approaching retirement age (63-65) making a planned succession more likely. Table 6 displays the results of the logit regressions. Model 1 reveals that CEO turnover is not sensitive to recent accounting performance, which is contrary to the results for forced turnover in Table 5. Model 2 reveals the presence of an inside operating officer does affect CEO turnover and is associated with a greater likelihood of CEO occurrence, whether or not the operating officers holds an additional directorship. This is consistent with inside directors joining the board prior to a CEO succession [Hermalin and Weisbach (1988)] but it does not provide any evidence of the board's ability to act in the interests of shareholders. Shareholders are most concerned with the responsiveness of their boards to poor performance, even in the midst of a planned succession. For boards to be able to respond quickly they must have confidence in the chosen successor and if the successor is not yet ready to assume the CEO position, simply having an insider on the board may not enhance the board's responsiveness to performance. The evidence in model 2 suggests that when the inside operating officer is recognized by other firms as a talented executive, as indicated by their holding an outside directorship, their presence on their own board is associated with greater turnover sensitivity to operating performance. The economic impact is not as great as forced turnover, but their presence is still associated with a 28% increase in the likelihood of CEO turnover if operating performance drops from the top to bottom quartile versus only 5% when they are not present.

Models 3 and 4 reveal similar results as those for forced CEO turnover. Specifically, a board with 60% or greater representation of independent outside directors is also associated with greater CEO

[16] Annual Operating ROA is data308/lag(data6) from COMPUSTAT Industrial Annual data.

turnover likelihood and greater sensitivity to accounting performance. However, just as in the forced CEO turnover analysis, the impact from having a talented inside operating officer knowledgeable of the firm serving as a ready replacement has a much greater impact on turnover sensitivity to operating performance than having a majority of independent outside directors. These results also continue to hold after controlling for a firm's self-selection to have inside directors in model 4.

5.4 Inside chairpersons, CEO turnover and market performance

We saw previously that the presence of an inside chairperson increases the likelihood of forced turnover, but in other tests not reported I found no evidence that they increase turnover sensitivity to accounting performance. However, while accounting performance reflects the current ability of the CEO, market measures of performance reflect the broader long-term outlook for the entire management team and the firm [Warner, Watts and Wruck (1988)]. Having the capability to act quickly and remove a poor management team while searching for a replacement increases the responsiveness of the board, making turnover more sensitive to market performance. As indicated in the previous evidence and in the anecdotal evidence discussed earlier, inside chairs do serve as valuable interim CEOs when the firm needs fundamental changes and there are no immediately available candidates to replace the CEO. I explore this further by looking at the relation between turnover sensitivity to market performance and the presence of inside chairpersons.

Stock performance is the abnormal return from the market of the most recent twelve months prior to the announcement month adjusted by the Fama-French industry median. Table 7 model 1 reveals a negative and significant coefficient for market performance, indicating greater forced turnover sensitivity to poor stock performance, consistent with Warner, Watts and Wruck (1988). [17] Model 2 reveals that the presence of a dependent inside chairperson increases the threat of forced departure, whereas the presence of an independent inside chair does not. A greater threat of turnover may be in the interests of shareholders, but it may also be reflective of a power struggle between the previous CEO and the

[17] They find that stock performance two years prior to the event is not significantly related to turnover, suggesting that boards react relatively quickly.

successor. The latter instance may not be in the interests of shareholders. However, if the threat increases when performance deteriorates then the threat aligns with shareholders interests. The coefficient on the interaction between the presence of an independent inside chairperson and stock performance is negative and significant, making the total sensitivity of forced departure more sensitive to decreases in stock performance. Conversely, the coefficient on the interaction between dependent inside chairpersons and stock performance is positive, though not significantly different from zero.

Panel B, columns 3 and 4 show the implied probabilities from the results of this logit regression. A drop from the 75th percentile to the 25th percentile of stock performance, when an independent inside chair is present, results in a 282% greater likelihood of forced departure. The same drop in stock performance when they are not present results in only a 69% increase in the likelihood of forced departure. The ability to replace quickly the current CEO with a valid interim CEO allows the board to be more responsive in their monitoring of the current CEO. Further, when the external market for directors has recognized the non-CEO inside chair with firm-specific experience as a highly skilled decision management and control expert, increasing their reputational capital [Brickely, Linck, and Coles (1999)], they are valuable assets to their boards. Conversely, when an inside chair is present who has not been recognized as a talented manager by other boards, their boards are not as responsive to stock performance.

In model 3, I control for the presence of 60% or more independent outside directors on the board and find that even after accounting for greater board monitoring by independent outside directors independent inside chairs still increase their board's ability to react to poor stock performance. In fact, the economic magnitude on the threat of forced CEO dismissal is greater when an independent inside chair is present than when the board has a majority of independent outside directors. These results illustrate again the importance of firm-specific information and the value of having a skilled director with firm experience on the board.

I include the accounting performance measures in model 4 to examine the effects of inside chairpersons and operating officers together. Stock performance appears to have the greatest impact on forced CEO turnover. However, after controlling for stock and accounting performance, the F-tests

reveal that independent inside operating officers and chairs, still have a significant impact on the sensitivity of forced CEO turnover on operating performance and stock performance respectively. Finally, I control for the self-selection of non-CEO inside directors with the Heckman two-stage model. After controlling for this private information, there is still evidence that independent inside chairpersons are associated with greater forced CEO turnover sensitivity to stock performance.

In Table 8, I examine the annual CEO turnover sensitivity to stock market performance. For each firm observation, I calculate the fiscal year stock return as the compounded returns over the 12 months prior to the fiscal year-end for the year prior to turnover. I then adjust this for the industry effect by subtracting the industry median compounded return.[18] In model 1, the coefficient for the first lagged measure of stock performance is negative, indicating significantly greater turnover sensitivity to performance.

Models 2 through 5 examine the impact from independent inside chairpersons on CEO turnover and stock performance. The results are consistent with the previous findings of forced turnover, even after controlling for the presence of a majority of independent outside directors and the private information associated with a firm's self-selection to have non-CEO insiders, though again the economic and statistical impacts are not as strong as with the forced turnover. If an independent inside chair is present (not present) when the stock performance drops from the top to bottom quartile, the likelihood of CEO turnover increases by 63% (7%).

5.5 Alternative explanations

5.5.1 Large firm effect

Masulis and Mobbs (2009) find that independent inside operating officers are more likely in larger firms. It could be that factors unique to large firms are driving the greater sensitivity of turnover to accounting performance. The prior tests using the Heckman self-selection model controls for factors influencing firms, including firm size, to select inside directors to their boards. However, it may be the case that firm size has a direct affect on turnover sensitivity to performance. To test this possibility I

[18] I also used a market adjusted return and the results are similar.

reexamine the relationship between forced turnover and accounting performance when independent inside directors are present with a sub-sample of only large firms. When only examining firms with above the median sales, I find the results continue to hold. The original regressions do not include firm size because of the correlation between size and the ownership variables. However, as a further control for large firms, I include firm size in the forced turnover regressions and continue to find the results are robust, further indicating that firm size is not driving the key results.

5.5.2 Succession planning and chosen successors

Naveen (2006) finds that firms with succession plans in place, as identified by an executive other than the CEO holding the title of President or Chief Operating Officer, are more likely to have a voluntary succession, but less likely to experience a forced turnover. Given the recognition in their own firms, other firms may be more likely to invite them to sit on their boards as well. It may be that their titles bestowed upon them by their firm, and not their outside board seats, that makes them attractive CEO replacements. If this is the case, independent inside operating officers may be simply capturing this effect. To test this possibility, I create an indicator variable that equals one if the firm has a succession plan, a non-CEO insider with the title of president or COO, and repeat the turnover analysis. I find that the presence of a succession plan alone does not lead to increased turnover sensitivity to operating performance. However, I continue to find evidence that the presence of an independent inside operating officer remains associated with greater turnover sensitivity to operating performance after controlling for firms with a succession plan. These results support the hypothesis that executive recognition by the external labor market as talented provides more precision as to the talent of these executives independent of their CEO more so than does titles bestowed upon executives by their own CEO.

6.0 CEO Compensation Analysis

With fewer constraints from the labor market, an influential CEO can manipulate contracts in their interests [Bebchuck and Fried (2003), Heramlin and Weisbach (1998)]. The previous evidence of the increased CEO turnover sensitivity to performance associated with the presence of independent inside

directors suggests these CEOs have less influence and face tighter labor market constraints, implying CEO compensation contracts should reflect greater alignment with shareholder interests through greater equity based compensation [Mehran (1995), Ryan and Wiggins (2004)]. Following this literature, I examine the relation between the presence of independent inside directors and the proportion of a CEO's compensation comprised of equity.

6.1 CEO compensation structure: Percentage of equity

In addition to the key independent variables, I also control for other firm, board and CEO characteristics known to influence CEO compensation [Bebchuck, L. and Y. Grinstein (2005), Bertrand, M. and S. Mullainathan (2000), Bertrand, M. and S. Mullainathan (2001), Becker (2006), Smith and Watts (1992), Demsetz and Lehn (1985), Rose and Shepard (1997) and others]. Mehran (1995) finds a positive association between the percentage of outside directors and the proportion of equity in CEO compensation packages. I control for board composition, in addition to key measures of independent insiders, with an indicator variable that equals one if the board has 60% or greater percentage of independent outside directors on the board. While Mehran's findings imply greater inside representation on the board is associated with less equity, it does not distinguish between insiders supportive of the CEO and those who represent potential threats to a CEO's position. If independent inside directors reflect an active labor market putting further competitive pressure on the incumbent CEO, I expect these directors to be associated with less CEO power and correspondingly with a greater proportion of equity in the compensation contract. Conversely, if these insiders are merely a reflection of CEO influence, then they should be associated with smaller proportion of equity compensation.

Table 9 presents the results of Tobit regressions where the dependent variable is the percentage of CEO compensation that is equity based. I use a Tobit model because the dependent variable, the percent of equity in the CEO's total compensation, is zero for many of the observations. In model 1, I examine the impact of independent inside directors, both operating officers and chairpersons, on the percentage of the CEO compensation that is equity based. The coefficient on the presence of independent inside operating officers is positive and significant (p-value=.004). This evidence suggests that the presence of

independent inside operating officers reduces the bargaining power of the CEO relative to the board, leading to a greater percentage of equity in their compensation. Conversely, the presence of independent inside chairpersons does not significantly relate to the portion of equity-based compensation. Similar to Mehran (1995), I also find evidence that independent outside directors prefer greater amounts of equity. Other control variables have the expected signs and are generally significant.

In model 2, I look to see if other inside directors are associated with the percentage of equity compensation in the CEO contract. Contrary to the results in model 1, I find that dependent inside operating officers are associated with a significantly *lower* portion of equity compensation for their CEO. I do not find any evidence, in either model, that inside chairpersons are associated with the percentage of equity-based compensation for their CEO.

For robustness, I use the Heckman (1979) two-stage procedure to control for the private information associated with a firm's decision to have inside directors on the board in model 3. The coefficient on the inverse mills ratio is positive and significant suggesting that firms with inside directors on their board are more likely to pay their CEO with greater amounts of equity. Moreover, among firms with inside directors, those with independent inside operating officers pay their CEOs an even greater percentage of equity. I also find a positive relationship with the presence of a majority of independent outside directors.

This evidence is consistent with earlier findings by Mehran (1995) that boards with greater outside representation are associated with greater proportions of equity in their CEO compensation contracts. However, the conjecture that greater insider representation is associated with lower portions of equity compensation is not universal. It appears that only dependent inside operating officers are associated with lower proportions of equity. Inside chairs have no relationship with compensation structure and, perhaps more importantly, independent inside operating officers are associated with greater portions of equity-based compensation in their CEO's contracts.

6.3 CEO pay-performance sensitivity

One potential concern with focusing on annual compensation is that it does not take into account the current share holdings of the CEO and their corresponding incentives. Further, Masulis and Mobbs (2009) find that independent inside operating officers are more likely in larger firms where the percentage shareholdings of the CEO are likely to be small. Lower percentage shareholdings by these CEOs may spur their boards to increase the equity component of their annual compensation in efforts to increase the CEO's relative ownership stake in the firm to better align their interests with shareholders. Although, I control for firm size in the previous analysis and find a significant and positive relationship as expected, I also examine the pay-performance sensitivity of CEOs that considers all equity holdings of the CEO through prior stock and option grants.

I compute pay-performance sensitivity (pps) as the number of shares held by the CEO plus the number of options held by the CEO times the options delta all divided by the number of shares outstanding. The options delta is calculated following the assumptions in Murphy (1999), Aggarwal and Samwick (2003) and Core and Guay (2003). Specifically, for options granted in the sample year I assume seven years until expiration and for options issued in prior years, I assume they have five years remaining until expiration. The dividend yield, volatility, yearend stock price, and exercise price are from Execucomp. Finally, I use interest rates from the U.S. Treasury yield curves for the month of yearend.

Table 10 shows the results of this analysis. In model 1, I find that that having an independent inside operating officer on the board is associated with greater pay-performance sensitivity for their CEOs. I consider other non-independent inside operating officers and boards with a majority of independent outside directors in model 2. Consistent with greater monitoring, boards with a majority of outside directors are also associated with greater pay-performance sensitivity for the CEOs. However, dependent inside operating officers do not relate significantly to CEO pay-performance sensitivity and the coefficient has a negative sign. The results are consistent with those in Table 10 and support the hypothesis that boards with independent inside operating officers have greater bargaining strength relative to the CEO allowing them to generate contracts more aligned with shareholder interests.

Pay-performance sensitivity is comprised of both sensitivity due to stock and that due to options. In model 3, I examine only the portion due to options and find the same positive and significant relationship with independent inside operating officers. However, the relationship with dependent inside operating officers is negative and significant. This suggests that boards with independent inside operating officers are able to increase pay-performance sensitivity of their CEO and that they do so through a greater association of options that are more sensitive to the firm's stock price.

6.3 CEO salary and bonus compensation

Obtaining a higher level of compensation is the most direct and immediate method for entrenched CEOs to extract wealth from shareholders. However, it is not clear how different inside directors may affect the level of compensation the board offers the CEO. Inside directors that are valid CEO replacements give more bargaining power to the board, which may be associated with lower levels of compensation. However, when a risk averse CEO is exposed to greater termination threat they may require higher compensation levels to offset that risk. Core, Guay, and Larcker (2003) point out that equity compensation is based on a noisy measure of CEO performance, thus it exposes the CEO to greater firm and market risk, and warrants a risk premium in the form of greater base salary. Similarly, Hermalin (2005) argues that better board oversight can lead to higher CEO pay as the CEO is at greater risk of termination. Therefore, there is an ongoing challenge to balance the right incentive level with the cost of the risk-premium. Boards with greater access to firm-specific inside information should be better able to achieve this balance without paying too high a premium for too little improvement in CEO incentives. In fact, Core, Holthausen and Larcker (1999) find that a greater portion of inside directors and the presence of a non-CEO insider owning a 5% or greater stake are associated with lower CEO salary and bonus compensation.

Table 11 contains the results of OLS regressions of industry adjusted CEO salary and bonus compensation levels on the key board independence measures and control variables discussed above. Model 1 examines the association with inside operating officers and CEO compensation. I find no evidence that independent (or dependent) inside operating officers are associated with higher CEO salary

and bonus compensation. These results suggest that boards do not offset the greater threat of termination with a higher level of salary relative to their industry. In model 2, I examine the effect of inside chairs on CEO compensation. Since inside chairs are more likely when the firm has a new CEO, I expect their presence to be associated with lower industry adjusted compensation levels. Interestingly, I find that independent and not dependent inside chairs are associated with lower levels of CEO compensation. These findings extend those in Core et.al. by revealing which inside directors are associated with less excess compensation. These results suggests that more talented inside chairs with outside directorships, who are superior to the CEO and who have greater percentage share holdings than operating officers, can use their authority and are more successful at negotiating lower fixed compensation than are inside chairs without outside directorships. I find the same results in model 3, when I include indicators for each type of non-CEO inside director.

However, it is possible that firms with inside directors pay their CEOs differently from firms without non-CEO inside directors. Therefore, in model 4 I incorporate the Heckman(1979) self-selection. Again, I find no evidence that inside operating officers are associated with higher levels of CEO pay and that independent inside chairs are associated with lower levels of pay, even after controlling for a firm's self-selection to have inside directors. Both, lower pay levels and greater equity compensation put more pressure on the CEO to perform in the interests of shareholders and limit their ability to extract rents from shareholders. Thus, this evidence suggests independent inside directors are beneficial to shareholders.

7.0 Conclusions

Fama (1980) argues the primary force disciplining managers does not come from owners, but from labor market forces, both internal and external. However, most of the empirical research on the disciplinary forces acting on CEOs has focused on the role of outside directors without considering the differing impact of non-CEO inside directors. This is evident from the focus on outside directors in the recent push by institutions and legislators towards more outside representation on boards. My main findings, however, reveal that certain highly skilled non-CEO inside board members, *independent*

insiders, are indeed a source of internal competition for their CEOs. This greater internal competition reduces CEO bargaining power and results in CEO employment contracts aligned with shareholder interests, rather than with CEO self-interest.

The external labor market for directorships is a useful mechanism for identifying executives who have superior skills and the potential of becoming the CEO. Furthermore, executives with outside directorships have reputations to protect and exposure to additional career opportunities outside their current employer independent of their current CEO. Consistent with this perspective, I find these insiders are more likely to become CEOs and their presence is associated with lower CEO bargaining power.

Independent inside operating officers are associated with greater CEO turnover sensitivity (forced or voluntary) to operating performance and greater pay-performance sensitivity in CEO compensation contracts. Independent inside chairpersons, on the other hand, provide a valuable short-term option for their boards when sweeping changes of the management team are in order, as their presence is associated with greater CEO turnover sensitivity to market performance and lower CEO excess compensation. These findings show that certain inside directors are beneficial to shareholders by increasing the board's bargaining power over the CEO in contract negotiations.

If the push toward greater outside representation leads to a reduction in valuable inside directors, this effort may actually be counter to shareholder interests. The evidence presented here suggests firms, researchers and policy makers should carefully consider the potential value of certain types of insiders. While director independence is a valuable characteristic to shareholders, director knowledge of the firm's inner workings is also critical for effective board functioning.

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Appendix: Variable Definitions[19]

Variable	Definition
Key Independent Variables- different types of non-CEO inside directors	
Independent Insider	non-CEO firm employee (operating officers or chairpersons) and director who holds an outside directorship
Dependent Insider	non-CEO firm employee (operating officers or chairpersons) and director who does not hold an outside directorship
Independent Inside Operating Officer	non-CEO firm employee and operating officer of the firm and director who holds an outside directorship
Independent Inside Chairperson	non-CEO firm employee and chairperson of the board of directors who holds an outside directorship. This also includes vice chairpersons who are firm employees in firms where the CEO is not the chairperson.
Dependent Inside Operating Officer	non-CEO firm employee and operating officer of the firm and director who does not hold an outside directorship
Dependent Inside Chairperson	non-CEO firm employee and chairperson of the board of directors who does not hold an outside directorship. This also includes vice chairpersons who are firm employees in firms where the CEO is not the chairperson.
Firm Characteristics	
Firm Size	Total Assets ($1,000,000): data6
Sales	Total Sales ($1,000,000): data12
Number of Business Segments	Number of business segments listed in COMPUSTAT
Firm Age	Current year less the first year the firm was listed in CRSP
Leverage	Long-term debt plus debt in current liabilities scaled by total assets: (data9 + data34)/data6
Capex/Sales	Capital Expenditure/Total Sales: data128/data12
Depreciation/Sales	Depreciation Expense / Total Sales: data14/data12
R&D/Assets	Max(data46,0) / Total Assets
Volatility	Standard deviation of most recent 3 years of monthly stock returns from CRSP
Annual Performance Measures	
ROA	Return on cash flow from operations (Cash Flow from Operations) / Beginning-year Total Assets data308/lag(data6)

[19] All dataxx variables refer to the corresponding variable identifiers in the COMPUSTAT annual data base

Annual Return	Compound 12 month return for the fiscal year from CRSP
Average Industry Adjusted ROA	Average return on cash flow from operations for the most recent two prior years adjusted by the industry median
Stock Return	Abnormal returns (compound annual returns adjusted for the market return) less the industry median abnormal return
Quarterly Performance Measures	
Industry Adjusted Average ROA	Return on cash flow from operations for the fiscal quarter The most recent four quarters (current and previous three) are averaged for each firm in the industry and then adjusted by the industry median
Stock Return	Abnormal returns (annual returns adjusted for the market return) for the most recent twelve months adjusted by the industry median.
Director and CEO Characteristics	
Age	Age of director from IRRC
Board Tenure	Current year minus the year the director was first appointed
Ownership %	Percent of common shares outstanding held by the director, including stock options, from IRRC
Founder-Director	Dummy variable: 1 if the director is a founder
Related to Founder	Dummy variable: 1 if a the director is a relative of the founder
CEO Ownership %	Percent of common shares outstanding held by the CEO, including stock options, from IRRC
CEO Tenure	Current year minus the year the CEO joined the board
CEO Age (X-Y)	Dummy variable: 1 if the CEO's age is between X and Y years old
CEO Turnover	Dummy variable: 1 if the current year CEO was not the CEO from the previous year
Forced CEO Turnover	Dummy variable: 1 if the firm announced the forced departure of their CEO in the current quarter. Forced is identified by manually searching press releases for CEO turnover within the sample period.
CEO Total Compensation	Consists of salary, bonus, the Black-Scholes value of option grants, restricted stock grants, long-term incentive payments and other annual compensation (ExecuComp data item tdc1) ($1,000)
CEO Salary and Bonus	Total salary and bonus compensation for the CEO ($1,000)
CEO Equity Compensation	Total equity compensation, stock options and restricted stock grants, received by the CEO in the fiscal year ($1,000)
CEO Pay-Performance Sensitivity (pps)	(#shares held by the CEO + deltaX(#options held by the CEO))/total shares outstanding

Board Characteristics

Board Ownership	Percent of common shares outstanding held by all directors of the board, excluding the CEO, including stock options from IRRC
Outside Director Ownership	Percent of common shares outstanding held by all outside directors of the board, excluding the CEO, including stock options from IRRC
High Outside Director Ownership	Dummy variable: 1 if the ownership of the outside directors is above the median ownership of outside directors
Board Size	Number of directors on the board
Percent Independent	Percentage of directors on the board classified as independent in IRRC. Independence refers to no business or family connections to the firm or its management
60% Independent Outsiders	Dummy variable: 1 if the percentage of independent outside directors is at least 60%
Percent Affiliated	Percentage of directors on the board classified as "linked" in IRRC. Linked or affiliated refers to directors that are not firm employees, but have other connections to the firm such as business or family ties
Separate CEO and Chair	Dummy variable: 1 if the CEO is not the chairperson of the board
Founder CEO	Dummy variable: 1 if the CEO is the founder
Independent Insider Present	Dummy variable: 1 if the board has at least one independent inside director present
Founder-Director	Dummy variable: 1 if the founder is on the board
Founder Family Director	Dummy variable: 1 if a relative of the founder is on the board
Interlocking board	Dummy variable: 1 if the board has at least one interlocking director as indicated in IRRC. An interlocking director is one who also sits on the board of another company and that company has a director who is also on the original director's board.

Year & Industry Characteristics

SOX	Dummy variable: 1 if the observations occurs in fiscal year 2002 or later
Technical industries	Dummy variable: 1 if the Fama-French industry code = 12(Medical Equipment), 13(Pharmaceutical Products), 14(Chemicals), 22(Electrical Equipment), 32(Communication), 35(Computer Hardware), 36(Computer Software), 37(Electronic Equipment), 38(Measuring and Control Equipment)
Service industries	Dummy variable: 1 if the Fama-French industry code = 7(Entertainment), 33(Personal Services), 34(Business Services), 44(Restaurants, Hotels, Motels), 45(Banking), 46(Insurance), 47(Real Estate), 48(Trading(Finance))

Table 1. Descriptive Statistics of Sample Firms

The sample of consists of 8,355 firm-year observations for 1,987 firms from fiscal year 1997 through 2003, excluding finance and utility firms. The accounting data (*Assets, Number of Segments, Capital Expenditure, Depreciation* and *Sales*) are from COMPUSTAT. *Firm Age* is the number of years the firm as been listed in CRSP. *Leverage* is long-term debt plus debt in current liabilities divided by total assets. *R&D* is the maximum of either data46 from COMPUSTAT or zero. *Volatility* is the standard deviation of the past 3 years of monthly stock returns from CRSP. *CEO Ownership* and *Board Ownership* are from IRRC and are winsorized at the 1% and 99% levels. *Founder on Board* equals one if at least one of the directors is the founder. F*ounding family member on board* equals one if a relative of the founder, excluding the founder, is on the board. *Board Size* is the number of directors on the board. *Percent Independent* and *Percent Affiliated* directors are the number of the respective directors as a percent of board size. *Separate CEO and Chair* equals one if the CEO is not the Chairman. *Independent Insider Present* equals one if the firm has at least one non-CEO inside director who holds an outside directorship. CEO *total compensation* consists of salary, bonus, the Black-Scholes value of option grants, restricted stock grants, LTIP, and other annual compensation (Execucomp data item tdc1). *CEO salary and bonus* is the total salary and bonus compensation for the CEO. *CEO equity compensation* is the total equity compensation received by the CEO in the fiscal year. *CEO Turnover* equals one if the firm CEO changed from the previous fiscal year. *Forced CEO Turnover* equals one if the CEO turnover was identified by press releases to be non-voluntary. Turnover variables are from 1998 -2003.

	N	Mean	Median	P25	P75
Firm Characteristics					
Assets ($1,000,000)	8346	4,719	1,011	427	2,872
Number of Business Segments	8355	3	2	1	4
Firm Age	7583	22	15	7	30
Leverage	8313	0.2	0	0	0
Capital Expenditure / Sales	8233	0.14	0.05	0.03	0
Depreciation / Sales	8308	0.08	0.04	0.03	0
R&D / Assets	8346	0.04	0.00	0.00	0.0
Volatility	8348	0.14	0.13	0.09	0.18
Ownership and Board Characteristics					
CEO ownership (%)	8354	4.38	1.37	0.52	3.77
Board Ownership (excluding CEO) (%)	8354	7.00	1.92	0.54	6.73
Founder on board	8355	0.21	0	0	0
Founding family member on board	8355	0.13	0	0	0
Board Size	8355	8.9	9.0	7.0	10.0
Percent Independent board (%)	8355	62.7%	66.7%	50.0	77.8%
Percent Affiliated Directors (%)	8355	15.1%	12.5%	0	23.1%
Separate CEO and Chair	8355	0.35	0	0	1
Independent Insider Present	8355	0.14	0	0	0
CEO Compensation					
Total Compensation ($1,000)	7411	5089	2366	1121	5108
Salary and Bonus ($1,000)	7411	1272	932	563	1543
Equity Compensation ($1,000)	7411	3423	988	156	3038
$Turnover_{(t+1)}$	6368	0.14	0	0	0
Forced $Turnover_{(t+1)}$	6368	0.04	0	0	0

Table 2. Promotions to CEO of Inside Directors within the Sample

This table shows the proportion of all non-CEO inside directors that are promoted to CEO the following year. There are 393 non-CEO executive directors promoted to CEO in the sample. I exclude directors in finance and utility firms. The resulting sample consists of 7,561 director-year observations. An Independent Inside director is a director and employee of the firm who also holds an additional outside directorship. A dependent inside director is a director and employee of the firm and does not hold an additional outside directorship. Operating Officers are directors who are subordinate to the CEO. Inside Chairpersons are non-CEO chairs who are also inside directors. Panel A shows all transitions to CEO. Panel B displays the tenure of the new internally promoted CEOs. Panel C displays the newly promoted CEOs with tenure ≤ 1 year.

Panel A: Transitions to CEO

	N	Promoted to CEO	Internal CEO Successor	Departing to Become CEO elsewhere
Non-CEO Inside Directors	7561	5.2%	5.0%	0.2%
Dependent Inside directors	6235	4.6%	4.5%	0.1%
Independent Inside directors	1326	8.0%***	7.2%***	.8%***
Independent Inside Chairs	458	5.2%	4.1%	1.1%***
Independent Inside Operating Officers	868	9.4%***	8.8%***	.7%***

Panel B: Tenure of new CEOs

	N	Mean CEO Tenure
Non-CEO Inside Directors	379	1.79
Dependent Inside directors	284	1.73
Independent Inside directors	95	1.99
Independent Inside Chairs	19	1.00**
Independent Inside Operating Officers	76	2.24**
Difference		-1.24***

Panel C: New CEOs with ≤ 1 year service

	N	% of New CEOs with ≤ 1 year service
Non-CEO Inside Directors	379	26.91%
Dependent Inside directors	284	27.11%
Independent Inside directors	95	26.32%
Independent Inside Chairs	19	47.37%*
Independent Inside Operating Officers	76	21.05%
Difference		26.32%**

, **,* indicate significance at the 10%, 5% and 1% levels respectively*

Table 3. Determinants of Inside Directors becoming CEO

The sample consists of non-CEO inside directors listed in the IRRC database from 1997 through 2003, excluding those in finance and utility firms (Fama-French Industries 45-48 and 31). The dependent variable equals one if the director title changes from inside executive to CEO for any firm within the sample. Model 1 includes only operating officers, those subordinate to the CEO. Model 2 includes all non-CEO inside directors, including inside non-CEO chairpersons. An Independent Inside director is a director and employee of the firm who also holds an additional outside directorship. A dependent inside director is a director and employee of the firm and does not hold an additional outside directorship. Standard errors are robust to heteroscedasticity (White 1980) and clustered by director. The marginal effect estimates of the significant coefficients of the logit regressions are to the right of the coefficients in each model with the corresponding p-values beneath the estimate.

	Model 1 Promoted to CEO		Model 2 Promoted to CEO	
	Coefficient *(p-values)*	dy/dx	Coefficient *(p-values)*	dy/dx
Independent Inside Operating Officers	0.553*** *(0)*	*0.021*** *(0.003)*	0.54*** *(0)*	*.023*** *(0.003)*
Independent Inside Chair			1.34*** *(0)*	*0.081*** *(0.001)*
Dependent Inside Chair			0.801*** *(0)*	*0.037*** *(0.009)*
COO	1.9399*** *(0)*	*0.108*** *(0)*	1.937*** *(0)*	*0.121*** *(0)*
Age	-0.017** *(0.05)*	*-0.0005*** *(0.048)*	-0.018** *(0.02)*	*-0.0006*** *(0.024)*
Board Tenure	-0.052*** *(0)*	*-0.0017*** *(0)*	-0.04*** *(0)*	*-0.0012*** *(0)*
Ownership (%)	0.02 *(0.13)*		0.02* *(0.09)*	*.00058** *(0.09)*
Founder	0.7* *(0.1)*	*0.030 (0.21)*	0.228 *(0.44)*	
Related to Founder	0.602** *(0.03)*	*0.025** *(0.077)*	0.59** *(0.02)*	*0.0254** *(0.052)*
CEO Tenure	0.02*** *(0)*	*0.0008*** *(0)*	0.021*** *(0)*	*0.0007*** *(0)*
CEO Ownership (%)	-0.035*** *(0)*	*-0.0011*** *(0)*	-0.034*** *(0)*	*-0.0016*** *(0)*
Ln(Assets)	0.059 *(0.23)*		0.049 *(0.26)*	
Volatility	-0.398 *(0.69)*		-0.931 *(0.32)*	
Number of Observations	5673		6843	
Psuedo-R^2	16.02%		13.94%	
Prob(Insider becomes CEO)=		*0.033*		*0.035*

, **, * indicate significance at the 10%, 5%, and 1% levels respectively*

Table 4. CEO Turnover Univariate Analysis

This table presents the univariate analysis of CEO turnovers occurring within the sample firms. A CEO turnover is a change in the CEO identification number in the IRRC database in subsequent years within my sample period. Excluding finance and utility firms, there are 896 CEO transitions during the period. An Independent Inside director is a director and employee of the firm who also holds an additional outside directorship. A dependent inside director is a director and employee of the firm and does not hold an additional outside directorship. Operating Officers are directors who are subordinate to the CEO. Inside Chairpersons are non-CEO chairs who are also inside directors.

	Full Sample		
	N	% Turnover	% Forced
	6368	14.1%	4.0%

Panel A: Impact of Independent Insiders

	Either Independent Insider	
	N	% Turnover
Present on Board $_{(t-1)}$	940	17.9%
Not Present on Board $_{(t-1)}$	5428	13.4%
Difference		4.5%***

Panel B: Differing Impact of Independent Insiders

Full Sample	*Independent Inside Operating Officers*		*Independent Inside Chairs*	
	N	% Turnover	N	% Turnover
Present on Board $_{(t-1)}$	631	19.8%	343	13.7%
Not Present on Board $_{(t-1)}$	5737	13.4%	6025	14.1%
Difference		6.4%***		-0.4%

Panel C: Differing Impact of Insiders

	Inside Operating Officers	
	N	% Turnover
Independent Operating Officer Present $_{(t-1)}$	631	19.8%
Dependent Operating Officers Present $_{(t-1)}$	2829	15.8%
Difference		4%**

	Separate Inside Chairs	
	N	% Turnover
Independent Inside Chairperson Present $_{(t-1)}$	343	13.7%
Dependent Inside Chairperson Present $_{(t-1)}$	581	12.9%
Difference		0.8%

Panel D: Forced Turnover- Successors

Total Forced Turnover	255					
112 External Successors						
Outside Director	43					
Non-Director	69					
		Insiders present prior to turnover		**Inside Successors**		t-test of difference (p-value)
143 Internal Successors		Independent	Dependent	Independent	Dependent	
Chairman	36	28	44	17(61%)	19(43%)	0.076
Officer & director	54	26	91	19(73%)	35(38%)	0.001
Internal Board members	90					
Non-director officers	53					
		54	135	36(66.7%)	54(40%)	0.000

, **, * indicate significance at the 10%, 5%, and 1% levels respectively*

Table 5. Forced CEO Turnover and Operating Performance Logit Regressions

The sample consists of firms from 1998-2003 and 255 identified forced CEO turnovers. In panel A, the key explanatory variables are the lagged indicator variables for various types of inside directors and industry adjusted operating performance. Operating performance is the average operating cash flow to assets for the most recent four quarters (two quarters in Models 4 and 5) adjusted by the industry median. *CEO Ownership* is the percentage stock owned by the CEO prior to the turnover announcement. *High Outside Director Ownership* is an indicator variable that equals 1 if the percentage ownership of the outside directors is greater than the median. *Founder CEO* equals one if the CEO is the founder. *CEO Age (60-70)* equals one if the age of the CEO prior to turnover is between 60 and 70. Standard errors are robust to heteroscedasticity (White 1980) and clustered by firm with p-values in parentheses. The estimates of the marginal effects of the significant coefficients of the key independent variables for each logit regressions are to the right of the coefficients in each model. Model 5 is the second stage of the Heckman Self-Selection model. The first stage is a probit model of firms with inside directors from Masulis and Mobbs (2009). Panel B shows the implied probabilities of turnover in performance quartiles.

Panel A	Model 1	dy/dx	Model 2	dy/dx	Model 3	dy/dx	Model 4	*dy/dx*	Model 5
Independent Operating Officer Present $_{(t-1)}$			0.145		0.189		0.112		0.002
			(0.49)		(0.367)		*(0.594)*		*(0.456)*
Dependent Inside Operating Officer Present $_{(t-1)}$			-0.1395				-0.133		
			(0.31)				*(0.336)*		
60% Independent Outside Directors$_{(t-1)}$					0.331**	0.003**			0.001
					(0.023)	*(0.02)*			*(0.502)*
ROA	-2.49***	*-0.015****	-1.934*	*-0.02**	-1.767	*-0.025****	-1.707**	*-0.017***	-0.029
	(0.001)	*(0.001)*	(0.053)	*(0.052)*	(0.251)	*(0.01)*	*(0.048)*	*(0.046)*	*(0.154)*
Independent Inside Operating Officer Present $_{(t-1)}$ x ROA			-6.527*	*-0.08**	-6.524*	*-0.088***	-7.746***	*-0.088****	-0.06
			(0.062)	*(0.057)*	(0.063)	*(0.056)*	*(0.002)*	*(0.007)*	*(0.18)*
Dependent Inside Operating Officer Present $_{(t-1)}$ x ROA			-0.748				0.08		
			(0.658)				*(0.965)*		
60% Independent Outside Directors$_{(t-1)}$ x ROA					-0.594				0.008
					(0.737)				*(0.776)*
Controls									
Separate Inside Chairperson$_{(t-1)}$	0.438***		0.451***		0.547***		0.453***		
	(0.004)		*(0.003)*		*(0.001)*		*(0.003)*		
CEO Ownership$_{(t-1)}$	-0.039**		-0.04**		-0.03**		-0.04**		0.0002*
	(0.012)		*(0.016)*		*(0.028)*		*(0.015)*		*(0.091)*
High Outside Director Ownership$_{(t-1)}$	0.249**		0.253**		0.305**		0.255**		0.004**
	(0.048)		*(0.044)*		*(0.016)*		*(0.043)*		*(0.038)*
Founder CEO$_{(t-1)}$	-0.39		-0.37		-0.35		-0.36		-0.0025
	(0.117)		*(0.133)*		*(0.154)*		*(0.138)*		*(0.363)*
CEO Age (60-70) $_{(t-1)}$	-0.522***		-0.52***		-0.54***		-0.52***		-0.004*
	(0.006)		*(0.006)*		*(0.004)*		*(0.006)*		*(0.06)*
Inverse Mills Ratio									0.035***
									(0)
F-Test: ROA + Independent Inside Operating Officer PresentXROA			-8.46**		-8.29**		-9.45***		-0.09**
			(0.013)		*(0.0196)*		*(0)*		*(0.048)*
F-Test: ROA + 60% Independent Outside DirectorsXROA					-2.36**				-0.02
					(0.0101)				*(0.302)*
Number of Observations	25315		25315		25315		25388		12495
Psuedo-R^2 /Prob>χ^2	1.88%		2.03%		2.20%		2.05%		0.00%

Panel B		Independent Inside	
Quartile	ROA	Present	Not Present
25th	-0.0285	0.0149***	0.0107***
		(0)	(0)
75th	0.0312	0.009***	0.0096***
		(0)	(0)

, **, * indicate significance at the 10%, 5%, and 1% levels respectively*

Table 6. CEO Turnover Logit Regressions – Sensitivity to Accounting Performance

The sample consists of firms from 1998-2003. CEO turnover is identified by a change in the CEO identification number in the IRRC data base in subsequent years. There are 896 CEO transitions in the sample period. The key explanatory variables are the lagged indicator variables for various types of inside directors and lagged industry adjusted operating performance. Operating Performance is measured as cash flow from operations scaled by beginning of year assets (data308/lag(data6). *CEO Ownership* is the percentage of stock held by the CEO prior to the announcement. *Outside Director Ownership* is the percentage of shares held by all outside directors on the board. *Founder CEO* equals one if the CEO prior to the turnover is the founder. *CEO Age (63-65)* equals one if the age of the CEO in the prior year is 63 to 65. Standard errors are robust to heteroscedasticity (White 1980) and clustered by firm to control for intra-firm correlation. p-values are in parentheses beneath the coefficients. The estimates of the marginal effects of the significant coefficients of the key independent variables for each logit regressions are to the right of the coefficients in each model with the corresponding p-values beneath the estimate. Model 4 is the second stage of the Heckman Self-Selection model. The first stage is a probit model of firms with inside directors from Masulis and Mobbs (2009).

	Model 1	*dy/dx*	Model 2	*dy/dx*	Model 3	*dy/dx*	Model 4
Independent Operating Officer Present $_{(t-1)}$			0.474***	*0.06***	0.466***	*0.06***	0.06***
			(0)	*(0)*	*(0)*	*(0)*	*(0)*
Dependent Inside Operating Officer Present $_{(t-1)}$			0.4263***	*0.05***	0.528***	*0.06***	
			(0)	*(0)*	*(0)*	*(0)*	
Independent InsideChairperson Present $_{(t-1)}$					0.054		
					(0.731)		
Dependent Inside Chairperson Present $_{(t-1)}$					-0.34**	*-0.036***	
					(0.014)	*(0.005)*	
60% Independent Outside Directors$_{(t-1)}$					0.111		0.012
					(0.188)		*(0.341)*
ROA $_{(t-1)\ \&\ (t-2)}$	0.0327		-0.564		0.14		0.13
	(0.578)		*(0.257)*		*(0.838)*		*(0.133)*
Independent Inside Operating Officer Present $_{(t-1)}$ x ROA			-2.567**	*-0.34***	-2.46**	*-0.34***	-0.197**
			(0.03)	*(0.025)*	*(0.041)*	*(0.033)*	*(0.028)*
Dependent Inside Operating Officer Present $_{(t-1)}$ x ROA			0.641		-0.037		
			(0.199)		*(0.958)*		
60% Independent Outside Directors$_{(t-1)}$ x ROA					-0.97**	*-0.11***	-0.16
					(0.034)	*(0.014)*	*(0.187)*
Controls							
CEO Ownership$_{(t-1)}$	-0.015**		-0.02***		-0.02***		-0.0002
	(0.029)		*(0.008)*		*(0.008)*		*(0.818)*
Outside Director Ownership	0.006***		0.006***		0.007***		0.001***
	(0.005)		*(0.002)*		*(0.002)*		*(0.007)*
Founder CEO$_{(t-1)}$	0.11		0.07		0.07		0.07***
	(0.393)		*(0.591)*		*(0.601)*		*(0.001)*
CEO Age (63-65) $_{(t-1)}$	1.161***		1.12***		1.092***		0.195***
	(0)		*(0)*		*(0)*		*(0)*
Inverse Mills Ratio							.240***
							(0)
F-Test: ROA + Independent Inside Operating Officer PresentXROA			-3.13***		-2.31*		-0.07***
			(0.009)		*(0.076)*		*(0.01)*
F-Test: ROA + 60% Independent Outside DirectorsXROA					-0.83		-0.03
					(0.105)		*(0.783)*
Number of Observations	6337		6337		6337		3234
Psuedo-R^2 /Prob>χ^2	2.25%		3.39%		3.65%		0.00

, **, * indicate significance at the 10%, 5%, and 1% levels respectively*

Table 7. Forced CEO Turnover and Market Performance Logit Regressions

The sample consists of firms from 1998-200 and 255 identified forced CEO turnovers during the sample period. The key explanatory variables are the lagged indicator variables for various types of inside directors and industry adjusted stock performance. Stock performance is the most recent twelve months abnormal return adjusted by the industry median. Standard errors are robust to heteroscedasticity (White 1980) and clustered by firm with p-values in parentheses. The estimates of the marginal effects of significant coefficients of key independent variables for each logit regressions are to the right of the coefficients in each model with the corresponding p-values beneath. Model 5 is the second stage of the Heckman Self-Selection model. The first stage is a probit model of firms with inside directors from Masulis and Mobbs (2009). Panel B shows the implied probabilities of turnover in performance quartiles.

Panel A	Model 1	*dy/dx*	Model 2	*dy/dx*	Model 3	*dy/dx*	Model 4	*dy/dx*	Model 5
Independent InsideChairperson Present $_{(t-1)}$			0.302		0.318		0.521*	*0.004*	0.009***
			(0.253)		*(0.231)*		*(0.054)*		*(0.003)*
Dependent Inside Chairperson Present $_{(t-1)}$			0.644***	*0.006****			0.803***	*0.008****	0.007**
			(0)	*(0.003)*			*(0)*	*(0.002)*	*(0.012)*
60% Independent Outside Directors$_{(t-1)}$					0.135		0.283*	*0.002**	0.002
					(0.375)		*(0.079)*	*(0.076)*	*(0.21)*
Independent Operating Officer Present $_{(t-1)}$							0.217		
							(0.304)		
Stock Return	-1.16***	*-0.009****	-1.171***	*-0.024***	-0.651***	*-0.038***	-0.804***	*-0.036***	-0.003*
	(0)	*(0.001)*	*(0)*	*(0.028)*	*(0.007)*	*(0.028)*	*(0.005)*	*(0.030)*	*(0.085)*
Independent Inside Chair Present $_{(t-1)}$ x Stock Return			-1.165**	*-0.034**	-1.291**	*-0.053**	-1.166**	*-0.053**	-0.02***
			(0.048)	*(0.073)*	*(0.028)*	*(0.087)*	*(0.033)*	*(0.078)*	*(0)*
Dependent Inside Chair Present $_{(t-1)}$ x Stock Return			0.609				0.546		-0.003
			(0.129)				*(0.191)*		*(0.552)*
60% Independent Outside Directors$_{(t-1)}$ x Stock Return					-0.693**	*-0.021**	-0.531		-0.0021
					(0.027)	*(0.075)*	*(0.112)*		*(0.469)*
ROA							-1.233		
							(0.139)		
Independent Inside Operating Officer Present $_{(t-1)}$ x ROA							-5.135		
							(0.143)		
Controls									
CEO Ownership$_{(t-1)}$	-0.04**		-0.04**		-0.03**		-0.029*		0.00028**
	(0.01)		*(0.018)*		*(0.026)*		*(0.055)*		*(0.021)*
High Outside Director Ownership$_{(t-1)}$	0.241*		0.241*		0.293**		0.3**		0.004**
	(0.051)		*(0.052)*		*(0.02)*		*(0.017)*		*(0.044)*
Founder CEO$_{(t-1)}$	-0.435*		-0.39		-0.39		-0.37		-0.00092
	(0.076)		*(0.115)*		*(0.108)*		*(0.135)*		*(0.738)*
CEO Age (60-70) $_{(t-1)}$	-0.55***		-0.482**		-0.533***		-0.52***		-0.003
	(0.003)		*(0.01)*		*(0.004)*		*(0.006)*		*(0.19)*
Inverse Mills Ratio									0.033***
									(0)
F-Test: Stock Return + Independent Inside Chair X Stock Return			-2.336***		-1.943***		-1.97***		-0.024***
			(0)		*(0)*		*(0)*		*(0)*
F-Test: Stock Return + 60% Independent Outside Directors X Stock Return					-1.344***		-1.335***		-0.005**
					(0)		*(0)*		*(0.021)*
F-Test: ROA + Independent Inside Operating Officer PresentXROA							-6.368*		
							(0.061)		
Number of Observations	24996		24996		24996		24831		12438
Psuedo-R^2 / Prob>χ^2	3.57%		4.42%		4.29%		5.05%		0.00%

Panel B		Independent Inside	
Quartile	Stock Return	Present	Not Present
25th	-0.2229	0.0502**	0.0292**
		(0.038)	(0.03)
75th	0.2345	0.0178*	0.0173**
		(0.079)	(0.038)

, **, * indicate significance at the 10%, 5%, and 1% levels respectively*

Table 8. CEO Turnover Logit Regressions – Sensitivity to Market Performance

The sample consists of firms from 1998-2003. CEO turnover is a change in the CEO identification number in the IRRC database in subsequent years. There are 896 CEO transitions in the sample period. The key explanatory variables are the lagged indicator variables for various types of inside directors and lagged industry adjusted stock return. The industry-adjusted returns are calculated as the compounded monthly return net of market for the firm less the median net-of-market return for the industry. Standard errors are robust to heteroscedasticity (White 1980) and clustered by firm with p-values in parentheses. The estimates of the marginal effects of the significant coefficients of key independent variables for each logit regressions are to the right of the coefficients in each model with the corresponding p-values beneath the estimate. Model 5 is the second stage of the Heckman Self-Selection model. The first stage is a probit model of firms with inside directors from Masulis and Mobbs (2009).

	Model 1	*dy/dx*	Model 2	*dy/dx*	Model 3	*dy/dx*	Model 4	*dy/dx*	Model 5
Independent Operating Officer Present $_{(t-1)}$							0.421***	*0.05****	
							(0)	*(0.001)*	
Dependent Operating Officers Present $_{(t-1)}$							0.508***	*0.06****	
							(0)	*(0)*	
Independent Inside Chairperson Present $_{(t-1)}$			-0.014		-0.019		0.047		-0.02
			(0.935)		*(0.911)*		*(0.783)*		*(0.311)*
Dependent Inside Chairperson Present $_{(t-1)}$			-0.142				-0.376***	*-0.037****	-0.046***
			(0.298)				*(0.008)*	*(0.003)*	*(0.007)*
60% Independent Outside Directors$_{(t-1)}$					-0.056		0.109		0.014
					(0.483)		*(0.204)*		*(0.302)*
Stock Return $_{(t-1)}$	-0.165*	*-0.019**	-0.172*	*-0.019**	0.036		-0.004		0.009
	(0.088)	*(0.086)*	*(0.078)*	*(0.076)*	*(0.674)*		*(0.962)*		*(0.48)*
Independent Inside Chair$_{(t-1)}$ x Stock Return $_{(t-1)}$			-1.021**	*-0.101***	-1.005**	*-0.094***	-1.05**	*-0.084***	-0.047*
			(0.039)	*(0.020)*	*(0.038)*	*(0.021)*	*(0.033)*	*(0.022)*	*(0.099)*
Dependent Inside Chair$_{(t-1)}$ x Stock Return $_{(t-1)}$			0.3005				0.191		-0.008
			(0.178)				*(0.294)*		*(0.798)*
60% Independent Outsiders$_{(t-1)}$ x Stock Return $_{(t-1)}$					-0.448**	*-0.05***	-0.423**		-0.038*
					(0.03)	*(0.0260)*	*(0.041)*		*(0.065)*
Controls									
CEO Ownership$_{(t-1)}$	-0.014**		-0.014**		-0.015**		-0.02**		-0.001
	(0.048)		*(0.044)*		*(0.039)*		*(0.015)*		*(0.292)*
Outside Director Ownership	0.006***		0.01***		0.01***		0.007***		0.001***
	(0.004)		*(0.004)*		*(0.007)*		*(0.001)*		*(0.007)*
Founder CEO$_{(t-1)}$	0.116		0.12		0.11		0.07		0.06***
	(0.381)		*(0.373)*		*(0.417)*		*(0.585)*		*(0.003)*
CEO Age (63-65) $_{(t-1)}$	1.173***		1.17***		1.18***		1.119***		0.19***
	(0)		*(0)*		*(0)*		*(0)*		*(0)*
Inverse Mills Ratio									.220***
									(0)
F-Test: Stock Return + Independent Inside Chair X Stock Return			-1.193**		-0.969**		-1.056**		-0.038
			(0.014)		*(0.045)*		*(0.033)*		*(0.154)*
F-Test: Stock Return + 60% Independent Outside Directors X Stock Return					-0.412**		-0.427**		-0.029*
					(0.029)		*(0.029)*		*(0.099)*
Number of Observations	6195		6195		6195		6195		3203
Psuedo-R^2 /Prob>χ^2	2.45%		2.63%		2.80%		3.79%		0.00

, **, * indicate significance at the 10%, 5%, and 1% levels respectively*

Table 9. CEO Compensation Structure: Tobit Regressions

The sample consists of firms from 1997-2003. The dependent variable is the fraction of CEO total compensation that is equity based. It is calculated as the dollar value of equity grants and restricted stock grants scaled by the CEO's total compensation. Models 1 and 2 use the Tobit specification with a lower limit of zero for the dependent variable. All regressions include year fixed-effects. p-values are in parentheses beneath the coefficients. Model 3 is the second stage of the Heckman Self-Selection model. The first stage is a probit model of firms with inside directors from Masulis and Mobbs (2009).

	Model 1	Model 2	Model 3
Dependent variable: CEO % Equity Compensation	Coefficient *(p-values)*	Coefficient *(p-values)*	Coefficient *(p-values)*
Independent Inside Operating Officer Present$_{(t-1)}$	0.046***	0.042***	0.055***
	(0.004)	*(0.008)*	*(0)*
Independent Inside Chairperson Present$_{(t-1)}$	0.0121	0.008	-0.002
	(0.557)	*(0.703)*	*(0.927)*
Dependent Inside Operating Officer Present$_{(t-1)}$		-0.029***	
		(0.008)	
Dependent Inside Chairperson Present$_{(t-1)}$		0.0004	
		(0.982)	
60% Independent Outside Directors$_{(t-1)}$	0.037***	0.027**	0.036***
	(0)	*(0.015)*	*(0.002)*
Controls			
Ln(Sales)	0.036***	0.036***	0.042***
	(0)	*(0)*	*(0)*
Ln(Firm Age)	-0.026***	-0.026***	-0.024***
	(0)	*(0)*	*(0.002)*
Number of Business Segments	-0.005**	-0.005**	-0.008***
	(0.023)	*(0.019)*	*(0.003)*
Capital Expenditure / Sales	0.073***	0.073***	0.049***
	(0)	*(0)*	*(0)*
Annual Stock Return	0.013*	0.013*	-0.013
	(0.082)	*(0.085)*	*(0.152)*
Annual Stock Return $_{(t-1)}$	0.013**	0.013**	0.009
	(0.045)	*(0.045)*	*(0.234)*
Industry Adjusted ROA	0.074	0.076	0.231***
	(0.162)	*(0.151)*	*(0)*
Industry Adjusted ROA $_{(t-1)}$	0.09*	0.092*	0.075
	(0.076)	*(0.072)*	*(0.227)*
Volatility	0.726***	0.7189***	0.8879***
	(0)	*(0)*	*(0)*
CEO Tenure	0.007***	0.007***	0.002
	(0)	*(0)*	*(0.321)*
CEO Tenure^2	-0.0003***	-0.0003***	-0.0001**
	(0)	*(0)*	*(0.037)*
CEO Ownership	-0.018***	-0.018***	-0.0135***
	(0)	*(0)*	*(0)*
CEO Ownership^2	0***	0***	0***
	(0.001)	*(0.001)*	*(0.001)*
Board Ownership	-0.0032***	-0.0032***	-0.0017***
	(0)	*(0)*	*(0)*
Inverse Mills Ratio			0.056**
			(0.02)
Number of Observations	5697	5697	2905
Psuedo-R^2	14.07%	14.19%	-
Prob>χ^2			0.00

, **, * indicate significance at the 10%, 5%, and 1% levels respectively*

Table 10. Pay-Performance Sensitivity

The sample consists of firms from 1997-2003. The dependent variable in models 1 and 2 is the CEO pay-performance sensitivity. Pay performance sensitivity is measured as the number of shares owned by the CEO plus the number of options owned by the CEO times the option delta all divided by the number of shares outstanding. The dependent variable in model 3 is the pay-performance sensitivity due to options. Standard errors are robust to heteroscedasticity (White 1980). All regressions include firm and year fixed-effects. p-values are in parentheses beneath the coefficients.

Dependent variable: CEO Pay-Performance Sensitivity	Model 1 Coefficient *(p-values)*	Model 2 Coefficient *(p-values)*	Model 3 Coefficient *(p-values)*
Independent Inside Operating Officer Present$_{(t-1)}$	2.84**	2.95**	1.459**
	(0.048)	*(0.046)*	*(0.018)*
Dependent Inside Operating Officer Present$_{(t-1)}$		-0.328	-0.714*
		(0.777)	*(0.082)*
60% Independent Outside Directors$_{(t-1)}$		2.49**	0.168
		(0.039)	*(0.716)*
Controls			
Ln(Sales)	-8.02***	-8.06***	-4.225***
	(0)	*(0)*	*(0)*
Ln(Firm Age)	-1.429	-1.58	5.179**
	(0.78)	*(0.757)*	*(0.02)*
Number of Business Segments	-0.997**	-1.028**	0.135
	(0.025)	*(0.021)*	*(0.261)*
Capital Expenditure / Sales	-2.572	-2.518	-1.485
	(0.48)	*(0.488)*	*(0.65)*
Annual Stock Return	0.185	0.186	0.722***
	(0.809)	*(0.809)*	*(0.006)*
Annual Stock Return $_{(t-1)}$	-0.797	-0.807	-0.149
	(0.274)	*(0.266)*	*(0.485)*
Industry Adjusted ROA	4.021	3.813	0.465
	(0.576)	*(0.595)*	*(0.831)*
Industry Adjusted ROA $_{(t-1)}$	5.621	5.689	2.559
	(0.245)	*(0.239)*	*(0.15)*
Volatility	25.25*	25.57*	9.369
	(0.087)	*(0.084)*	*(0.145)*
Board Ownership	-0.087	-0.08	0.08**
	(0.555)	*(0.588)*	*(0.017)*
Number of Observations	4220	4220	4220
Adjusted-R^2	85.78%	85.79%	82.55%

, **, * indicate significance at the 10%, 5%, and 1% levels respectively*

Table 11. CEO Compensation Level: OLS Regressions

The sample consists of firms from 1997-2003. The dependent variable is the CEO salary and bonus compensation adjusted by the industry median. Standard errors are robust to heteroscedasticity (White 1980) and clustered by firm to control for intra-firm correlation. I also exclude firm-year observations in which a CEO turnover occurred. All regressions include industry and year fixed-effects. p-values are in parentheses beneath the coefficients. Model 4 is the second stage of the Heckman Self-Selection model. The first stage is a probit model of firms with inside directors from Masulis and Mobbs (2009).

Table 11. *(continued)*

Dependent variable: Industry Adjusted CEO Salary & Bonus Compensation	Model 1 Coefficient *(p-values)*	Model 2 Coefficient *(p-values)*	Model 3 Coefficient *(p-values)*	Model 4 Coefficient *(p-values)*
Independent Operating Officer Present	17.021		15.857	77.274
	(0.813)		*(0.826)*	*(0.141)*
Dependent Inside Operating Officer Present	-20.88		-7.97	
	(0.59)		*(0.852)*	
Independent Inside Chairperson Present		-222.35**	-223.042**	-150.001*
		(0.027)	*(0.028)*	*(0.05)*
Dependent Inside Chairperson Present		-103.64	-98.688	
		(0.142)	*(0.201)*	
60% Independent Outside Directors	-58.35	-65.56	-67.47	-53.83
	(0.23)	*(0.173)*	*(0.174)*	*(0.217)*
Controls				
Ln(Sales)	444.02***	443.96***	443.19***	381.77***
	(0)	*(0)*	*(0)*	*(0)*
Ln(Firm Age)	45.04	46	45.73	54.29*
	(0.177)	*(0.164)*	*(0.171)*	*(0.057)*
Number of Business Segments	19.7	19.48	19.48	26.49***
	(0.216)	*(0.218)*	*(0.217)*	*(0.009)*
Capital Expenditure / Sales	12.18***	12.23***	12.2***	135.2**
	(0)	*(0)*	*(0)*	*(0.011)*
Stock Return	108.2***	107.5***	107.453***	144.474***
	(0)	*(0)*	*(0)*	*(0)*
Stock Return $_{(t-1)}$	53.7***	53.2***	53.2***	99.1***
	(0)	*(0)*	*(0)*	*(0)*
Industry Adjusted ROA	155.74	161.1	161.775	384.5
	(0.332)	*(0.313)*	*(0.31)*	*(0.109)*
Industry Adjusted ROA $_{(t-1)}$	-300.7**	-306.7**	-307**	-461.9**
	(0.021)	*(0.019)*	*(0.019)*	*(0.036)*
Volatility	61.9	52.81	52.5	820.8**
	(0.79)	*(0.822)*	*(0.823)*	*(0.024)*
CEO Age	20.06	18.1	18	7.19
	(0.456)	*(0.497)*	*(0.5)*	*(0.761)*
CEO Age^2	-0.12	-0.11	-0.111	-0.0167
	(0.62)	*(0.646)*	*(0.65)*	*(0.936)*
CEO Tenure	2.28	1.752	1.7969	9.929
	(0.756)	*(0.81)*	*(0.806)*	*(0.151)*
CEO Tenure^2	0	0	0.007	-0.23
	(0.991)	*(0.968)*	*(0.972)*	*(0.159)*
CEO Ownership	19.85	17.49	17.61	11.512
	(0.124)	*(0.173)*	*(0.171)*	*(0.143)*
CEO Ownership^2	-0.58*	-0.53*	-0.535*	-0.32
	(0.06)	*(0.081)*	*(0.08)*	*(0.116)*
Board Ownership	-0.12	0.603	0.596	-2.552
	(0.956)	*(0.772)*	*(0.776)*	*(0.14)*
Ln(Board Size)	7.79	13.488	14.48	129.25
	(0.942)	*(0.901)*	*(0.893)*	*(0.161)*
Interlocking board	91	111.1	108.93	33.344
	(0.437)	*(0.343)*	*(0.357)*	*(0.616)*
Inverse Mills Ratio				66.99
				(0.478)
Number of Observations	6288	6288	6288	3356
Adjusted-R^2	26.84%	26.97%	26.95%	-
Prob>χ^2				0.00

, **, * indicate significance at the 10%, 5%, and 1% levels respectively*