

Are All Inside Directors the Same?
CEO Entrenchment or Board Enhancement

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Abstract

There are two competing views of the inside directors roles on corporate boards. One view emphasizes the valuable information-sharing role of inside directors, while the other view emphasizes CEO influence over inside directors. Both views treat inside directors as a homogenous group. I use the external labor market for directorships to distinguish among inside directors. I find that inside directors who hold an outside directorship, referred to as independent insiders, are more likely when firm specific information is important, as theory predicts, and less likely when a CEO is more influential. Independent inside directors are associated with significantly better firm performance and higher market-to-book ratios, especially when firm-specific information is more important. Independent inside directors add more value when there is a separate CEO and board chairperson, which increases the board's need for firm-specific information. Furthermore, if an inside director becomes independent, then shareholder wealth increases and if an independent inside director departs, then shareholder wealth decreases. These findings support the importance of the external labor market for directorships in identifying and rewarding valuable inside directors. This evidence helps bridge the gap between the conflicting views of inside directors.

1. Introduction

Fama and Jensen (1983) theorize that internal managers are the most influential board members due to the valuable firm specific information they possess. More recently, theoretical research has emphasized the important role of non-CEO inside directors in enhancing the board's advisory and monitoring functions [Harris and Raviv (2006), Raheja (2005), and Adams and Ferreira (2007)]. In contrast, most empirical research views insiders as under a CEO's influence and therefore associated with greater agency costs. Despite the growing theoretical understanding of the role of inside directors, there is little empirical evidence on their value to corporate boards.¹ One possible reason for the divergent views on the value of inside directors is the assumption that non-CEO inside directors are homogeneous, though studies of outside directors have uncovered important differences among them that affect major firm decisions.² Given the pivotal role inside directors potentially play, uncovering important differences among this class of directors may help identify what director and board characteristics are associated with better corporate governance, and potentially better firm performance. In this study, I assess the importance of one difference among inside directors that could affect firm performance and stock value.

I use the market for corporate directorships to identify non-CEO inside directors with special skills. About one tenth of non-CEO operating officers on boards of their own firms also hold outside directorships, and almost one in two firms has one or more non-CEO inside directors as of the end of 2003. There are at least two reasons inside directors with outside directorships could serve special roles on their employer's boards. First, as Fama and Jensen (1983) suggest, an outside directorship indicates that an individual possesses valuable decision management skills, which are highly valued by other firms. Therefore, inside directors with outside directorships could be associated with better decision making by their own boards and better firm performance.

¹ Coles, Daniel, and Naveen (2006) is an exception. They find insiders are valuable in high R&D firms, where firm specific information is more important.

²For example, Mace (1971), Hallock (1997), Core et al. (1999), Shivdasani and Yermack (1999), Kaufman et. al. (2005), Larcker et al. (2005) and Fich and Shivdasani (2006), and see Hermalin and Weisbach (2003) for a nice review.

The second difference between inside directors with outside directorships and other non-CEO inside directors relates to their future career concerns. Many researchers discount the value of inside directors due to the influence of CEOs over their future career opportunities. The incentives of company officers to support the CEO increase when a CEO has greater influence over their careers. As a result, these inside directors can strengthen a CEO's power over the board and further CEO entrenchment. However, when inside directors hold outside directorships, their visibility to officers and outside directors at other firms increases. This raises the visibility of an officer-director's skill level to senior executives in other firms, enhancing an executive's career opportunities outside the firm where they serve as operating officers. This enhanced visibility weakens their reliance on their current CEO for career advancement, thereby making them less susceptible to CEO influence in the boardroom. This greater independence suggests that these officers may be more willing to share their knowledge and insights about firm operations with outside directors. In addition, their outside experience also makes them serious competitors for the current CEO's position. If a CEO has less influence over a board with independent inside directors, then a board's decision-making should better reflect shareholder interests. This lower agency cost would then translate into better firm performance and higher firm market-to-book valuations.

Using a panel data set of firms included in the S&P 1500 in one or more years over the 1997-2003 period, excluding regulated finance and utility firms, I first examine director and firm level determinants of independent inside directors and other inside directors. At the director level, I find on average that independent inside directors have considerably shorter board tenure in their own firms, compared to other more dependent inside directors. This suggests that skill, rather than simply experience or tenure, of independent inside directors leads to outside directorships. The average board with independent inside directors also has more independent outside directors compared to boards with other more dependent insiders. This suggests these boards have better governance and CEO entrenchment is a less likely motivation for insider representation in these firms. In firm-level panel regressions, I find evidence that independent inside directors are positively associated with firm size, greater growth opportunities, and higher levels of R&D. These findings are consistent with the greater

importance of information transparency to these firms, which leads these firms to have independent inside directors on their boards [Raheja (2005)].

Since independent inside directors are more likely on boards where firm specific information is important and are less susceptible to CEO influence, these directors may enhance board effectiveness. Enhanced board monitoring and advisory capacity may ultimately be associated with better firm performance and lower agency costs. After controlling for a firm's decision to select inside directors, I find evidence that independent inside directors on boards are associated with better operating performance and greater market-to-book ratios. A change from a dependent to an independent inside director is associated with a 138 basis point increase in industry-adjusted operating performance. A similar increase in the percentage of independent insiders is also associated with a 5.8% increase in the firm industry-adjusted market-to-book ratio. I also find independent inside directors are associated with better operating performance prior to receiving their outside directorship(s) and the acquisition of their first directorships is associated with an increase in their firm's market-to-book ratio. These results suggest that outside directorships serve as useful signals of more talented operating officers and their appointment to the boards of their own firms is likely to enhance corporate governance.

I also study the ability of independent inside directors to enhance other board monitoring functions. Adams and Ferreira (2007) note, "unless boards are given better access to information, simply increasing board [outside] independence is not sufficient to improve governance." I examine the interaction of independent inside directors with a majority of independent outside directors and a separate CEO and chair. I do not find evidence that a board with a majority of independent outsiders benefits from the presence of independent insiders. However, I do find that independent inside directors are associated with an incremental improvement in a firm's operating performance and market-to-book ratio when there is a separate CEO and Chair. Conversely, I find no support for other more dependent insiders offering any incremental improvement in the functioning of boards with a separate CEO and Chair. These results suggest independent inside directors are valuable when the board is chaired by a director less familiar with firm-specific information, but potentially independent of the CEO.

My results also indicate that independent inside directors have a much stronger effect on measures of performance when information is more critical to board decision making. Using Principle Component Analysis I calculate a measure of *Information Importance* for a firm using R&D/assets, Capital Expenditures/Sales, and an indicator for firms in high tech industries as a proxy for the importance of firm-specific information. In firms with high *Information Importance*, I find changing from a dependent to an independent insider director is associated with an increase in industry adjusted operating performance of 225 basis points and an 8% increase in industry-adjusted market-to-book. Examining high R&D firms, I find a positive relationship between other more dependent inside directors and a firm's market-to-book ratio, but the economic magnitude of independent inside directors is almost twice as large. Moreover, I find no relationship between dependent inside directors and operating performance, whereas the relationship between independent insiders and operating performance is positive and significant. These findings are robust to controls for other measures of firm information complexity such as firm size, various controls for endogeneity and outliers in the data.

Finally, I examine shareholder wealth effects when a non-CEO inside director acquires an independent outside directorship and when independent inside directors leave their firms. When inside directors acquire an outside board seat, independent of their current firm or board, I find a significant positive average market reaction to these announcements. In addition, the shareholder reaction is more favorable when information transfer is most critical to board decision making. Specifically, the wealth effect is greater in firms with high levels of R&D and/or a majority of independent outside directors or in large firms when the Chairperson is someone other than the CEO. Conversely, when independent inside directors leave their firms, shareholders experience a significant negative wealth effect on these departure announcements.

These findings extend the current literature in four key ways. First, many studies document the differing degrees of independence and competence among outside directors. However, I am unaware of any efforts to examine similar variation among inside directors. My findings suggest there are important differences among inside directors that future research should consider when evaluating board

effectiveness. By considering one major difference among inside directors, namely outside directorships, I uncover empirical evidence which supports existing theories concerning when inside directors enhance shareholder wealth. Second, these findings contribute to our understanding of how board composition affects firm performance by uncovering the important roles played by certain inside directors and how they interact with other board characteristics. Previous research, which focuses almost exclusively on outside director characteristics and firm performance, has a mixed record of success. My findings reveal the importance of considering multiple dimensions of board characteristics, including board composition and the interactions among directors, when examining firm performance. Thirdly, this study furthers our understanding of the role of the managerial labor market for corporate directors in identifying an important group of skilled corporate officers.

Finally, using outside directorships to distinguish among inside directors has the advantage of relying on external certification of an executive's ability. Because the identification mechanism is market determined, it reduces the impact of endogeneity on the analysis. After correcting for the endogenous choice of a firm to have inside directors on its board using the Heckman (1979) two-step procedure, I am able to observe the impact on firm performance when the external labor market for directorships identifies some inside directors as being worthy of outside directorships.

Consistent with research that focuses on the importance of outside directors, many recent reforms in corporate governance have emphasized firms attaining greater outside representation on their boards with little consideration of the importance of inside directors. For example, the recent legal reforms put in place by the Sarbanes-Oxley Act of 2002 (SOX) emphasized the importance of greater outside representation, which implicitly discounts the role of all inside directors.³ The cumulative effect of these legislative reforms, pressures from influential institutional investors,⁴ and revisions in exchange listing

³ Section 301 of the Sarbanes-Oxley Act of 2002 has reinforced the push toward increased numbers of outside directors by requiring the audit committees of all public U.S. firms to be solely composed of outside directors. See <http://www.fmccenter.aicpa.org/Resources/Sarbanes-Oxley+Act./Summary+of+the+Provisions+of+the+Sarbanes-Oxley+Act+of+2002.htm>

⁴ TIAA-CREF states, "a board should be comprised of a substantial majority of independent directors". Likewise, the California Public Employees Retirement System (CalPERS), a major public pension fund, advocates that a substantial majority of corporate board seats be comprised of independent directors and is believed to pressure firms where they hold substantial shares to reduce

rules⁵ is to reduce insider representation on corporate boards.⁶ However, if certain inside directors are more valuable, we should expect firms to attempt to retain their more valuable insiders, even in the presence of recent regulatory pressures.⁷ Looking in the years surrounding the enactment of SOX, Figure 1 reveals a downward trend in the percentage of firms with non-CEO inside directors. Nevertheless, the percentage of firms with independent inside directors decreases only slightly prior to the enactment of SOX and remains relatively flat thereafter. Panel B reveals that the change in the percentage of firms with more dependent inside directors decreased significantly between 2001 and 2003. Yet, the decrease in the percentage of firms with independent insiders is insignificantly different from zero. In 2003, over 7% of the largest 1,500 firms had at least one independent inside director on their board.⁸ This initial evidence suggests firms are responding to requirements of SOX and other regulatory changes by reducing the role of some inside directors, but they are retaining their more valuable inside directors, those with outside directorships.

Despite this momentum for greater outside director representation, some observers are concerned that important aspects of board structure continue to be overlooked. Becht et al. (2003) warns that regulation can affect board structure in ways that are unanticipated. For example, focusing on independent outside directors fails to consider the importance of firm specific and industry knowledge available to boards, which inside directors can provide.⁹ If the push for more outside directors either directly or indirectly reduces the presence of independent inside directors on boards, the resulting changes may not enhance corporate governance or firm performance, but instead have just the opposite effect and thus, may not be in the best interests of shareholders. My findings suggest that having certain types of inside directors on the board can be valuable to shareholders and beneficial to firm performance.

inside directors [Wu (2000)]. See <http://www.calpers-governance.org/principles/domestic/us/page04.asp> and http://www.tiaa-cref.org/pubs/pdf/governance_policy.pdf

⁵ <http://www.nyse.com/pdfs/section303Afaqs.pdf> and http://www.nasdaq.com/about/Corp_Gov_Summary101002.pdf

⁶ There is also international pressure for more outside directors. The Higgs Report of 2003 in the U.K. recommended, “at least half of the board be independent non-executives” [Hill (2005)].

⁷ Link, Netter, and Yang (2006) find firms are indeed keeping some insiders and are adding outsiders to increase outside independence.

⁸ Twelve percent of the firms in the S&P 500 had at least one independent insider in fiscal year 2003.

⁹ Relying on executives of other firms in the industry can be problematic due to competitive concerns and because of the risk that courts could view such directors as evidence of price collusion among competitors that amounts to illegal price fixing under anti-trust laws.

I review the related literature on boards, directors, and firm performance and develop the hypotheses in Section 2. Section 3 contains the sample description and summary statistics. I examine the determinants of inside director representation in Section 4. Section 5 contains an analysis of the relationship of inside directors with firm performance and valuation. I examine wealth effects of announcements of outside directorship appointments and departures of independent inside directors in section 6. Section 7 contains a discussion of several robustness tests and Section 8 summarizes my results.

2. Literature Review

2.1 Different views of inside directors

Fama and Jensen (1983) posit that inside directors contribute firm-specific expertise and insight into a firm's activities that enhance a board's ability to monitor a firm's performance and set its strategic objectives. As such, they expect well functioning boards to "include several of the organization's top managers." Recent theoretical research has begun to explore the importance of inside directors more thoroughly. Raheja (2005) emphasizes that insiders, especially those with fewer private benefits in their current position, can improve the monitoring role of the board by providing information regarding the outcomes of CEO's poor investment decisions to the outside directors. Adams and Ferreira (2007) present a model focusing on the advisory role of the board emphasizing the importance of information transparency between the CEO and independent outside directors. Harris and Raviv (2006) develop a model of board control that focuses on the trade-off between information sharing and minimizing manager agency costs. In their model, they emphasize the important role of inside directors, even when outsiders control the board, and find that outside directors will optimally, in some instances, delegate decision making to inside directors. These models highlight the important role of non-CEO inside directors in providing firm specific information, which enhances both the monitoring and advisory roles of the board. Consistent with this board enhancing view of inside directors in these models, Raheja

(2005) predicts that inside directors are more likely, where information transfer to the board is more critical, such as in larger, more complex, or high tech firms.

The other view of inside directors is that they further CEO entrenchment since their compensation and continued employment are CEO determined, making them dependent on CEO support. Thus, they are unlikely to take positions that differ from the CEO in the boardroom. The importance of this career concern is intuitive and supported empirically by evidence of senior management turnover surrounding CEO successions [Helmich and Brown (1972), Helmich (1974), and Fee and Hadlock (2003)]. This view considers inside directors as evidence of greater agency conflicts with shareholders as it enables the CEO to exert greater influence over the board. Thus, from this viewpoint, inside directors do not enhance a board's functionality, as Fama and Jensen theorize; rather they serve to entrench the CEO and increase the agency conflicts with shareholders. Hermalin and Weisbach (1998) provide an elegant model of board evolution that illustrates the bargaining game between the CEO and the independent directors on the board and show how a CEO with greater bargaining power will over time lead to a board with fewer independent directors. Their model predicts that firms with influential CEOs should have relatively fewer independent directors on their boards. Greater tenure, ownership, and a track record of strong firm performance all contribute to greater CEO influence and therefore should be associated with fewer independent directors on the board. Thus, the CEO entrenchment hypothesis predicts that insiders are more likely when the CEO has more power and influence over the board.

The two opposing views of the role of inside directors yields very different predictions about the determinants of insider representation on boards, and suggests there can be important differences among inside directors fulfilling these two roles. I use outside directorships as an external mechanism for identifying a potentially important difference among non-CEO inside directors to test the contradictory predictions of these two hypotheses. Several papers find evidence supporting the important role played by the managerial labor market in identifying valuable directors. Brickley, Linck, and Coles (1999) find the managerial labor market identifies and rewards top performing CEOs with post-retirement

directorships. Kaplan and Reishus (1990) find that poor firm performance manifested by dividend cuts reduces the likelihood of current executives receiving additional directorships.

In addition to identifying highly skilled executives, outside directorships also provide these officers with additional incentives. Insider incentives to share or conceal information hinge upon the existence of private benefits of control in several existing theoretical models [Raheja (2005) and Harris and Raviv (2006)]. In both models, when insiders expect to realize fewer private benefits, they are less inclined to conceal information and more willing to share valuable firm-specific knowledge with the board. When inside directors hold an outside board seat, they have greater exposure to external job opportunities with its associated benefits, which reduces the relative importance of the private benefits expected from their current positions.

My main hypothesis posits that inside directors with outside directorships have greater decision management skills and better incentives to act independently than other inside directors have. Thus, independent inside directors enhance the board's monitoring role by aiding the transfer of firm specific information among directors and by enhancing the quality of board decision-making capabilities. Thus, my first hypothesis predicts that inside directors with outside directorships are more likely in firms where independent inside directors are most valuable.

H1: Independent inside directors (insiders with outside directorships) have better incentives than other inside directors and tend to be more independent of the CEO. Thus, they are more frequent in larger, more complex firms where firm-specific information is important and are less frequent when a CEO has more influence.

2.2 Inside directors and firm performance

Some recent empirical papers have examined the role of inside directors as a group and their association with firm performance. Klein (1998) examines board structure at the committee level and finds insiders on the board's finance and investment committees are associated with higher stock market returns. Similarly, Adams et al. (2004) finds the lack of insiders on the board is positively associated with increased CEO power as measured by increased volatility of performance. This perspective suggests insiders improve the board's decision-making, when outside directors have poor alternative sources of

firm-specific information not provided by the CEO. Coles et al. (2006) finds a greater proportion of insiders in research-intensive firms is associated with higher firm value as measured by Tobin's Q. These studies, however, do not consider differences among inside directors.

In a closely related study, Perry and Peyer (2005) finds that when executives with two or more directorships receive an additional outside directorship, their firm experiences positive announcement returns on average provided that agency costs in the firm are low as indicated by a majority of independent outside directors on the board or greater executive ownership. They also note that non-CEO executives are associated with higher announcement returns. Their findings suggest shareholders benefit when their inside directors have multiple directorships. However, only about 20% of the executives in the Perry and Peyer sample, some of which are CEOs, have multiple outside directorships. This leaves the question open as to how non-CEO appointments differ from outside appointments of CEOs. Thus, many non-CEO executives hold one or two directorships, differentiating themselves from other perhaps more dependent inside directors without additional directorships. The entrenchment and improved monitoring hypotheses of the impact of inside directors have dramatically different implications for board decision-making, firm performance and firm value. Thus, if outside directorships serve to recognize talented operating officers and decision managers and strengthen their independence from the CEO, then I expect the association between independent inside directors and firm performance in the cross-section of firms to be positive.

H2: Independent inside directors are associated with both stronger firm performance and market-to-book value, due to their talent and independence, relative to other inside directors.

While, boards with a large majority of independent outside directors or a non-CEO chairperson are more independent of the CEO, increasing their incentives to monitor the CEO carefully, these boards suffer from being less informed about firm operations, which make board monitoring less effective. Such boards can greatly benefit from better access to firm specific information that independent inside directors can offer. Thus, if independent inside directors are associated with better information transfer

to the board, then firms with at least one of these two board characteristics that make them more independent should be associated with better firm performance and stock valuation.

H3: Independent inside directors enhance firm performance and the market-to-book ratio when a firm has a majority of independent outsiders on the board or a non-CEO board chairperson.

As the role of information transfer to the board becomes more critical to firm decision making it also plays a greater role in enhancing the board's monitoring and advisory role, which should strengthen their positive association with firm performance and market-to-book value. Firm characteristics can provide insight into the importance of firm specific information. Several proxies are available to measure the presence of valuable growth options within a firm and thus, the importance of firm specific information. I use principal components analysis to extract the common component from three measures of firm complexity: R&D, capital expenditure, and a high-tech industries indicator to proxy for information importance within a firm. I then use the principal component of these variables as a proxy for *Information Importance* to a firm. I expect independent inside directors to be more important to a board's oversight function as a firm's *Information Importance* measure rises, as specified in the next hypothesis:

H4: In firms where *Information Importance* is high, independent inside directors are positively associated with firm operating performance and market-to-book value.

2.3 Inside directors and succession planning

Hermalin and Weisbach (1988) find that inside directors join the board prior to CEO succession. This evidence suggests grooming for succession may be a separate reason for including inside directors on the board. However, it is not clear how grooming an inside director by placing them on the board will affect board performance. It may be a manifestation of an entrenched CEO extending his or her control of the firm into retirement, in which case agency costs rise. Alternatively, it may be an efficient mechanism for selecting a successor, which enables the remainder of the board to make a more informed CEO selection decision, while minimizing transaction costs to the firm. Because it is not clear how inside

directors affect performance near a succession, I exclude observations where the CEO is 64 years old or older in the subsequent analysis.¹⁰

3. Sample Selection and Data Description

3.1 Sample Selection

I extract 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 available in these three databases. IRRC includes director information for approximately 1,500 firms each year, including the number of other directorships held, if any. IRRC 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 that indicates if the inside director is the CEO. Two-hundred eighty-one firm-years had no CEO listed. I accounted for a missing CEO by the following assignment priority. If the firm had an inside director listed as President, Chairman, or there was only one inside director listed for the firm, I assign that insider as CEO.¹¹ Inside operating officers are those listed as employees of the firm who are not the CEO or Chairman of the firm. 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 discard firms when Compustat does not have information leaving 10,377 firm-year observations for 2,499 firms. Next, as with most studies of this nature, I exclude finance and utility firms from the sample because of the likelihood of regulations affecting firm performance.¹² The final sample consists of 7,455 firm-year observations for 1,987 firms from 1997 to 2003.

One advantage of the 1997-2003 sample period is that it includes periods of economy-wide prosperity and recession, which reduces any dependency in my results on macroeconomic factors.

¹⁰ The results are qualitatively the same when including all these observations.

¹¹ I excluded 24 firm-year observations with no insiders listed and 75 firm-year observations have multiple or co-CEOs.

¹² Finance and Utility firms are excluded by excluding the Fama-French Industry Codes 31, and 45-48.

Perhaps more importantly, the sample period encompasses a period of increased scrutiny of boards of directors and increased pressure for more outside representation. This allows me to examine the influence of these forces on firms' decisions to retain certain inside directors on their boards.

The key dependent variables in this study are the industry-adjusted market-to-book ratio and the industry-adjusted operating cash flow return on assets (ROA). Market-to-book value is measured by summing the year-end market value of equity with the book value of assets less the book value of equity all normalized by total assets.¹³ I reduce the affect of outliers by using a natural logarithmic transformation. One concern with relying on this measure of firm value is that it may actually be a proxy for growth opportunities available to a firm, rather than indicating the value created by the current management/board. To avoid confounding the relationship between inside directors and firm value, I include other proxies for firm growth opportunities in the regressions to extract out this effect. I also analyze recent operating performance as another measure of firm performance that is not forward looking. Following the existing literature, I define firm operating performance as cash flow from operations scaled by lagged year-end total assets¹⁴ and is industry adjusted by subtracting out the median operating performance of the public firms in the same Fama-French industry.

In the analysis to follow, I control for other influences on these key performance measures following prior studies of this area [Coles et. al. (2006), Anderson and Reeb (2003), Fich and Shivdasani (2006)].¹⁵ A list of all variable definitions can be found in the Appendix.

3.2 Data Description and Univariate Analysis

Table 1, Panel A, shows the descriptive statistics for directors in my sample of firms. There are 7,559 non-CEO inside director-years in the sample and 11% of them have additional directorships. There are several notable differences among insiders. First, independent inside directors have shorter tenures

¹³ $MtB = (\text{Yearend Market Value of Equity} + (\text{Book value of assets} - \text{Book value of equity}))/\text{Total Assets} = (\text{data199} * \text{data25} + \text{data6} - \text{data60})/\text{data6}$ from Compustat.

¹⁴ $\text{Operating Performance} = (\text{cash flow from operations}) / \text{beginning end of year assets} = \text{data308}/\text{lag}(\text{data6})$.

¹⁵ Some studies use board size and the percentage of independent outside directors as explanatory variables, but I exclude them as controls given the endogenous relationship with other measures of board compositions. For robustness, I run the same analysis using these variables as additional controls and find that the results do not change. I also thank Ronald Masulis and Lixiong Guo for graciously providing me with founder data to supplement the director information in IRRC.

relative to other inside directors. Independent inside directors also have less ownership and are less likely to be founders or relatives of founding families than other inside directors, which is consistent with their appointments reflecting their valuable managerial skills and firm expertise. Inside directors related to the founding family may be on the board simply due to their family ties, rather than their managerial skills. Independent inside directors are employed by firms with fewer other non-CEO insiders on their boards, suggesting they are able to supply the necessary firm-specific information to the board. Correspondingly, independent inside directors, on average, have a greater proportion of independent outside directors on their boards than do firms with other more dependent inside directors. These initial findings suggest that independent inside directors have greater value to independent boards than other more dependent inside directors.

To examine the characteristics of outside directorships held by independent inside directors, I focus on the officers whose outside directorships are with other firms within my sample. Panel B presents descriptive statistics for this sub-sample of independent inside directors and their outside directorships. First, independent inside directors served on their own board an average (median) of 4 (2) years before receiving their first outside directorship. This suggests it takes a few years for the outside market to recognize valuable inside directors and to reward them with additional outside directorships. Their tenure on an outside board is between 4 to 5.5 years. However, 27% of these independent inside directors acquire their outside directorships prior to joining their own boards. Eighty-three percent of the independent inside directors sit on boards in different Fama-French-defined industries. The boards on which they sit generally have a majority of independent directors and a significant portion also have separate CEO and chair positions. This evidence indicates that independent inside directors have greater career opportunities available and greater demand for their managerial skills. Finally, there is evidence that they are valuable monitors in the firms where they serve as directors. Eighty three percent of these independent inside directors are independent outside directors on the boards they serve, which makes them more credible monitors.

Table 2, Panel A, shows the descriptive statistics for key sample firm characteristics. 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. (2006)'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) examine 934 firms from the 1985-1995 period with an average board size of 11.5 members and 3 inside directors. Denis and Sarin (1999) study a sample of 583 firms from the 1983-1992 period and find an average board size of 9.4 members. Coles et al. (2006) finds an average of one non-CEO insider on the board.

Average (median) CEO ownership and board ownership are 3.8% (1.3%) and 7.0% (1.9%) respectively. This is comparable to Bhagat and Black (2001) who find average CEO ownership is 3.8% and average officer and director ownership is 9% for their sample, and is smaller than the Denis and Sarin sample of smaller firms where average CEO ownership is 7.2% and officer and director ownership is 15.7%.¹⁶ Nine percent of the sample firms have at least one non-CEO inside operating officer and director with an outside board seat.

Panel B of Table 2 contains the sample means of firms with and without independent inside directors. Firms with independent insiders are significantly larger, have more business segments, and are older and more stable firms. This evidence supports the hypothesis that inside directors with outside board seats have more expertise and/or specialized skills and are more likely in firms with less information transparency. This univariate analysis shows evidence that firms with independent inside directors on average have lower levels of R&D, consistent with the negative relationship between the fraction of inside directors and R&D levels found by Coles et al. (2006). There is no significant difference in their mean capital expenditure to sales, but firms with independent inside directors have slightly more debt.

¹⁶ 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.

Firms with independent inside directors have larger boards, which are typically associated with weaker governance and greater agency problems [Yermack (1996)] and lower levels of CEO and board ownership. However, Coles et al. (2006) finds that larger boards may be optimal for larger firms. Coles et al. argue for larger boards to function optimally, they require greater firm transparency, which independent inside directors help provide. Firms with independent inside directors are also more likely to have a member of the founding family on the board. These are all indicative of stronger governance and potentially lower agency costs. However, the presence of independent insiders is also associated with a lower percentage of independent outside directors and a lower frequency of a separate CEO and chair. This suggests that independent inside directors may act as a substitute for independent outside directors or a non-CEO board chair. These conflicting results concerning other measures of board independence make it difficult to assess the value of independent inside directors, especially relative to other inside directors, without turning to multivariate analysis.

4.0 Determinants of firms with Inside Directors

4.1 Controls

Because not all firms choose to have non-CEO inside directors on their boards, it is important to examine the factors influencing a firm's choice of board composition prior to examining the impact of that composition on firm performance. Firm characteristics known to influence board composition are firm size, firm age, number of business segments, leverage, past performance, volatility and investment opportunities [Boone et. al. (2007), Linck et. al. (2007), and Coles et. al. (2006)]. I follow these studies and implement similar controls. Specifically, the primary proxies for the importance of firm-specific information and growth opportunities include firm size, research and development expense and capital expenditures. CEO age, ownership, and tenure serve as proxies for CEO influence. I also include indicator variables for the presence of the founder or a founder family member on the board.

In addition, I introduce two new control variables related to a firm's decision to have inside directors. First, to capture the increased push toward outside directors, I include an indicator variable for

the post Sarbanes-Oxley Act (SOX) period, which equals one for observations occurring in 2001 or later. Second, Denis and Sarin (1999) find past firm performance and corporate control activity can influence board structure. For example, if a firm recently acquired or merged with another firm, then the top executives of the target firm could temporarily join the board of the newly combined firm to assist with the management of the larger more complex firm. I control for this possibility through an indicator variable that equals one if the firm engaged in any M&A activity within the past two years, as indicated in the SDC database.

4.2 Determinants Results

Table 3 reports the results for the determinants of inside board representation. In model 1, the dependent variable is the percentage of all non-CEO inside directors on the board. I find a negative association between the fraction of insiders on boards and firms with substantial growth options or valuable firm-specific information. Coles et al. (2006) reports a similar finding. Model 1 also shows a positive relationship between the percentage of inside directors and CEO tenure. This is consistent with the Hermalin and Weisbach (1998) model of board evolution in which the longer a CEO remains in office, the greater his/her bargaining power over the board. They argue that longer tenure allows CEOs to reduce board independence by nominating new directors supportive of their positions. In addition, I find CEO's with greater share ownership are associated with more insiders, consistent with the evidence of Coles et al. (2006) and Denis and Sarin (1999). The presence of a founder or a founding family member on the board is also positively associated with the proportion of insiders. However, firm performance is unrelated to the likelihood of insiders being on the board, but greater inside representation is positively associated with recent M&A activity. Lastly, the SOX indicator is associated with a significant reduction in insider board representation in recent years.

In model 2, the dependent variable is the percentage of *independent* inside directors on the board. This model reveals distinct differences in the factors associated with the board representation of independent inside directors, relative to other inside directors. The earlier negative association between insider representation and R&D or firm growth options found in model 1 is not evident in model 2. In

fact, independent inside directors have a significant positive relationship with R&D and capital expenditures. Independent inside directors are also significantly more likely as firm size rises. This is in contrast to model 1 and other studies [Coles et al. (2006) and Denis and Sarin (1999)], which report a negative relationship between all inside directors and firm size. Thus, in larger firms, where firm-specific information is more complex or more important, independent insider directors are more likely to be on the board than are other more dependent inside directors.

Model 2 also reveals some differences in the relationship between inside directors and various proxies for CEO influence. The relationship between CEO tenure and the percent of (independent) inside directors is positive for both model 1 and 2, but it is much smaller in magnitude for the independent insiders in model 2. Examining the relationship to CEO ownership reveals a much greater difference in CEO influence. The relationship with inside directors as a whole is positive and significant, but the relationship with independent inside directors is negative and significant. Following the reasoning of Hermalin and Weishbach's model, this is evidence that independent inside directors are in fact more *independent* of the CEO as they are less likely to hold board seats relative to other insiders, as the influence of the CEO rises. The presence of a founder is also positively associated with more inside directors. While founders are definitely influential, it is unclear if they lead to greater agency costs, since Anderson and Reeb (2003) find family presence is associated with better firm performance. However, relatives of the founder are less likely to possess the entrepreneurial skills and more likely to increase agency costs. The presence of founder family members on the board increases the frequency of inside directors, but it is not significantly associated with independent insiders. These results suggests that the presence of independent inside directors supports the monitoring role of outside directors, rather than representing greater CEO entrenchment.

Finally, while the push towards greater outside director representation on boards is related to a lower portion of independent inside directors, the economic impact is only about one eighth that for all insiders. This is consistent with the trend illustrated in Figure 1 and suggests that firms optimally remove their least valuable inside directors first while retaining their most valuable inside directors, as long as the

benefit of their presence is greater than the cost of removing them. This is consistent with Link et al. (2006) finding that firms may add outside directors, rather than reduce inside directors to increase outside director representation.

Model 3 (model 4) reports logit regression estimates where the dependent variable equals one if the firm has at least one non-CEO insider (independent insider) on the board. The implication of the results remains the same as those in models 1 and 2. Although the magnitudes of the coefficients are larger for CEO tenure in the independent inside director regressions, the magnitudes of the marginal effects are still larger for other inside directors. The marginal effect of CEO tenure on the likelihood of having any inside director is .055, compared to .022 for independent inside directors. Similarly, the marginal effect of the SOX variable on the likelihood of having an inside director is -.22 compared to -.04 for independent inside directors. Together, the evidence in Table 3 underscores the importance of distinguishing between independent inside directors and other more dependent insiders in board of director research, as well as in policy decisions.

5.0 Independent Inside Directors and the Relationship with Firm Performance

Because the decision to have inside directors is not random, I use the Heckman (1979) two-step procedure to produce consistent estimates that account for self-selection in the decision to have inside directors. This also allows me to control for a potential endogeneity problem of omitted variable bias. Specifically, if the private information leading to a firm's decision to have inside directors also affects the key performance variables then not considering this information will bias the results. The first stage of the following regressions, unless otherwise noted, is a probit model using the same specification as the logit regression shown in model 3 of Table 4 where the dependent variable is one if the firm has inside directors and zero otherwise. The second stage consists of a firm performance regression for the subset of firms with inside directors. This regression also includes the inverse mills ratios from the first stage regression as an independent variable to control for the self-selection of firms choosing inside directors. This inverse mills ratio is also a proxy for the unobserved information affecting a firm's decision to have

inside directors. The non-linearity of the inverse mills ratio also helps to solve the identification problem in the system of two equations [Heckman and Navarro-Lazano (2004)]. However, the first stage also includes CEO tenure, which is positively correlated with the presence of inside directors, but not with firm market-to-book¹⁷ and an indicator for the post Sarbanes-Oxley period, which is negatively correlated with the presence of inside directors, but not correlated with either measure of firm performance.¹⁸

5.1 Independent inside directors and firm performance

Table 4 presents the results of the Heckman two-stage procedure on the associations of industry-adjusted firm operating performance (model 1) and market-to-book ratio (model 2) with the percentage of independent inside directors on the board. In model 1, we see that independent inside directors are positively and significantly associated with firm operating performance. Changing from a dependent to an independent inside directors is equivalent to an 11-percentage point increase in independent insider representation. This change is associated with a 138 basis point increase in industry-adjusted operating performance. In model 2, we also find a positive and significant relationship between the percentage of independent inside directors and the market-to-book ratio. Adding an independent insider is associated with a 5.8% increase in the industry-adjusted market-to-book ratio.

Another interesting observation is the coefficient on the inverse mills ratio. In both models, the coefficient is negative and it is significant in model 1. Because this variable represents the unexplained portion of a firm's decision to have inside directors, one can view it as a proxy for the private information associated with this firm decision [Li and Prabhala (2006)]. The fact that it is significant for operating performance implies that the private information associated with a firm's decision to have inside directors has a negative impact on firm operating performance. One interpretation of this result is these firms are more difficult to operate, relative to firms not choosing to have inside directors. This implies firms with inside directors have lower operating performance relative to firms without inside directors, but that these

¹⁷ The Spearman correlation coefficient between CEO tenure and industry adjusted operating performance is .02 (p-value=.02) and industry adjusted market-to-book is .01 (p-value=.23).

¹⁸ The Spearman correlation between SOX and industry adjusted operating performance is .005 (p-value=.61) and industry adjusted market-to-book is .006 (p-value=.55).

firms perform better with inside directors than they would without them. This is consistent with larger and more complex firms having inside directors.

The negative coefficient on inside directors in the market-to-book regressions implies that these firms have lower ratios, relative to firms without inside directors. If the lower market-to-book ratio reflects a greater presence of agency costs, this interpretation suggests these firms on average have greater agency costs when they have inside directors. Although the coefficient on inside directors is negative, it is not significantly different from zero, which indicates that unobserved firm-specific private information captured by the inside director indicator is unrelated to a firm's market-to-book ratio. However, with either interpretation, when inside directors are independent, they are associated with significantly better operating performance and higher market-to-book ratios.

5.2 Why outside directorships add value

The evidence thus far suggests outside directorships is an effective mechanisms for identifying difference among inside directors and that those officers with outside directorships are the inside directors associated with better firm performance and value. However, it is not clear, from the analysis presented thus far, whether the directorship serves merely as a signal to identify top performing executives or if the directorship itself serves to strengthen director's independence and the quality of corporate governance and therefore translates into better firm performance and higher value. I examine these questions next taking two alternative approaches.

First, I consider if the outside directorship is a signal of a talented executive. Specifically, I examine the quality of independent inside directors *prior* to receiving their outside directorships. If these are the firm's most talented executives, their presence on the board should be associated with better firm performance and lower agency costs as reflected in the market-to-book ratio. Alternatively, if the outside directorship is the source of improved governance, then the presence of inside directors prior to their outside appointments should have no positive impact on firm performance. The results of this test are shown in models 1 and 3 of Table 5. In the operating performance regression, we find results similar to that in model 1 of Table 4. The presence of these inside directors is significantly

associated with higher operating performance. However, in model 3, the coefficient is positive, but it is not significantly different from zero. These results suggest that the external labor market is effective in recognizing the most talented executives, as these are the directors associated with better firm operating performance, even before they obtain outside directorships. However, model 3 suggests these talented insiders alone are not sufficient to reduce agency cost. To examine the importance of the outside board seat, I next examine the impact on firm performance when these executives are appointed to their first outside directorship.

In models 2 and 4, the key independent variable is simply an indicator variable that equals one if an inside director acquires an outside directorship for the first time. The dependent variables are *changes* in the key performance variables. The change in operating performance is between the year prior and the year after the observation year. The change in the market-to-book ratio is from the year prior to the current year. Model 2 reveals there is no immediate change in operating performance when the inside director acquires an outside directorship. Thus, the outside directorship itself does not appear to be associated with an immediate improvement in operating performance. However, model 4 reveals that acquiring an outside directorship does appear to be associated with improved market-to-book ratios, which captures longer-term forecasts of firm performance and indicates the market anticipates that it ultimately does lead to reduced agency costs. This is consistent with inside directors having improved incentives once they obtain outside directorships.

5.3 Independent inside directors with board monitoring mechanisms

In Table 6, I examine the ability of independent inside directors to add incremental value to boards with a large majority of independent outsiders or a non-CEO chairperson by interacting independent insider board representation and indicators for these board monitoring mechanisms. The first proxy for boards with effective monitoring is a binary variable that equals one if independent outside representation on the board is 60% or greater, and is zero otherwise. The second proxy for effective board monitoring is a binary variable that equals one if the CEO and chairman of the board are separate positions. Reformers have long thought that it is beneficial for shareholders to separate these positions.

Nonetheless, a significant majority of publicly listed US companies today continue to have dual CEO and board chairpersons. Brickley, et al. (1997) argues that the cost of separation outweighs the benefits in large firms. One of the costs, which they highlight, is the cost of transferring critical firm-specific information to the chairperson. Thus, in larger firms where information is more complex there can be greater costs in separating these two roles. If independent inside directors help transfer specific information within the board, then I expect their presence to be associated with enhanced firm performance when separate individuals hold the positions of CEO and board chair.

Model 1 shows that a board with a substantial majority of independent outsiders is positively associated with firm performance. However, having a separate CEO and chairperson is not significantly associated with improved firm performance. In model 2, I test whether a separate chair or the presence of independent inside directors is more beneficial to a board with a majority of independent outside directors. Independent inside directors have the same positive association with better firm performance whether or not the board has a majority of independent outside directors. However, contrary to my hypothesis I find no evidence that independent insiders enhance a board with a majority of outside directors. I also do not find a positive association between a separate CEO and chairperson with a majority of independent outside directors and firm performance.

In model 3, I examine whether independent inside directors or a majority of independent outsiders enhances a board with a separate CEO and chairperson. I find no evidence that a majority of independent outsiders strengthens a board with a separate chair. However, I do find evidence consistent with the hypothesis that independent inside directors do strengthen boards with a non-CEO chair. Specifically, the coefficient on the interaction between the percentage of independent inside directors and the presence of a separate chairperson is positive and significant. The same result holds in model 4 when all interaction terms are included in the regression. This evidence suggests independent insiders do enhance the positive association of having a non-CEO chair and firm performance. Likewise, the independent inside directors have a slightly stronger relationship with performance when the CEO has less influence over the board. The evidence for the market-to-book regressions is also consistent with this

pattern of results. A non-CEO chair provides valuable independent oversight, but when information transfer to the chair is poor, the oversight can be less effective. One interpretation of the results of Table 6 is that independent inside directors enhance the information transfer to the non-CEO chair allowing their oversight to be more cost effective and therefore resulting in reduction of the agency conflict between managers and shareholders.

In all the models, the overall association of a majority of independent outside directors, plus a separate chairperson, and firm performance is statistically insignificant. This result is consistent with Adams and Ferreira's (2005) conjecture that greater monitor capability may not be sufficient to ensure effective boards if those boards are lacking proper information.

5.4 Independent inside directors with information-critical firms

5.4.1 Principle Component Analysis

In the following analysis, research and development expense, capital expenditures, and firms in high-tech industries serve as proxies for the importance of firm-specific information to the board. They each capture slightly different perspectives, but I am most interested in the common factor of *Information Importance*. I employ principle component analysis (PCA) to extract a single information importance factor captured by these three proxies. I use this to generate a factor score, *Information Importance*, for each observation in my sample. Then I classify firms with a factor score above the median as those in which information is particularly important and those below the median as those in which information is relatively less important.

In Table 7, I examine the relationship between independent inside directors and operating performance and market value in firms in which proprietary firm information is especially important and those in which it is relatively less important. I interact the indicator of high *Information Importance* with independent insider representation. Model 1 reveals a positive and significant relationship between independent inside directors and operating performance for firms in which information is more important. An increase of one independent inside director in high *Information Importance* firms is associated with a 225 basis point increase in industry-adjusted operating performance, or a 19.5% increase in the sample

average operating cash flow return on assets. In model 2, the market-to-book ratio is used to measure firm value. In high *Information Importance* firms, the relationship with independent insiders on the board is significant and positive. The coefficient estimate indicates that an increase of one independent inside directors is associated with an 8% increase in a firm's industry-adjusted market-to-book ratio.

5.4.2 R&D

The previous evidence suggests independent inside directors are most important when firm-specific information is most critical. However, PCA does not capture a directly observable variable and therefore the results may not be as useful in making governance reforms or evaluating existing corporate governance mechanisms. Therefore, for robustness, I focus on one of the proxies used in the PCA. Specifically, I look at R&D expenses (scaled by total assets) similar to the approach in Coles et al. (2006). I create a binary variable, High R&D, that equals one if the firm is in the top quartile of R&D expense, and zero otherwise. *Low R&D* is the complement of *High R&D*.¹⁹

Table 8 shows the associations of the market-to-book ratio²⁰ and firm operating performance and the interaction of inside director representation with the indicators of high and low R&D firms. Model 1 uses the percentage of dependent inside directors as the key measure of insider representation. These results are consistent with those found by Coles et al. (2006), in that greater board representation by inside directors (those without outside directorships) is associated with higher market-to-book ratios in high R&D firms. Model 2 uses board representation of independent inside directors as the key measure of insider representation. Again, the relationship is positive and significant for the market-to-book ratio. However, the interesting result is that the economic impact from independent inside directors is twice that of dependent inside directors. Replacing one board member with an inside director, equivalent to an 11% increase in insider representation, is associated with a 5.7% increase in market-to-book for an inside director without an outside directorship and a 12% increase for an independent inside director. In model

¹⁹ I use the complement of High R&D for Low R&D firms, because the bottom quartile observations of R&D for firms with inside directors are all zero.

²⁰ I include finance and utility firms in models 1, 2 and 3 to follow Coles et al. (2006). The results are qualitatively the same when excluding them.

3, I include both measures of inside directors. Although both types of inside directors have a positive association with firm market-to-book ratios, the relationship is much stronger for independent inside directors. The difference between independent inside directors and other more dependent inside directors is statistically significant at the 4% level in high R&D firms and at the 1% level for low R&D firms. I also extend this analysis by examining the links between independent and other inside directors and firm operating performance.

Model 4 reveals that dependent inside directors are not associated with better operating performance in high or low R&D firms. In contrast, model 5 reveals that independent insiders have a positive and significant relationship with better operating performance in high R&D firms, where firm-specific information matters the most. Finally, model 6 includes both types of inside directors and finds similar results, especially in high R&D firms where the difference in the positive association with operating performance is significant at the 1% level. These results suggest that independent inside directors are different from other more dependent inside directors and that they are associated with better firm performance in all firms, although the relationship is stronger in high R&D firms, where proprietary firm-specific information is most critical. I conclude that a very useful means of identifying differences among inside directors is to examine whether or not they have outside board seats, which reflects the competitive outcomes of the market for corporate directors.

6.0 Shareholder Wealth Effects from Firm Announcements – 2 Event Studies

6.1 Non-CEO Inside Directors Acquisition of Outside Directorship

The results of Table 5 revealed that top executives are positively associated with firm operating performance even before acquiring their first outside directorship. Thus, shareholders are aware of the executive's abilities and reflect this valuation in the stock price. Therefore, when an executive receives an outside directorship the stock price already reflects a portion of the value attributed to that directorship. However, if the exposure to this external labor market for directors potentially alters the directors' incentives in their own boardroom, allowing them to serve more independently of their CEO,

shareholders should respond favorably. The result in model 4 of Table 5 is consistent with this change of incentives lowering agency costs. I further explore this hypothesis by examining shareholder reaction to the announcement of a non-CEO inside directors' appointment to an independent outside board seat.

I identify non-CEO inside directors identified as independent inside directors within my sample period and then I searched for the earliest announcement of their appointment to an outside board seat, in a public firm, using firm SEC proxy statement filings to identify the receiving firm and Factiva to find the earliest press releases. I exclude any announcements dates in which the inside director's firm also revealed firm/board changes that may also influence shareholder reactions.²¹ I am able to find 111 announcements of director appointments with 98 of the appointments for an independent outside directorship. I compute the cumulative abnormal returns (CARs) over a 3-day window [-1,1], with the announcement occurring on day 0. I estimate the market model using the value-weighted CRSP index as a proxy for the market returns over days [-210,-10].

For the entire sample, the mean (median) announcement effect CAR is .85% (.46%) and marginally significant. This result is slightly different from Perry and Peyer (2005) who examine a similar announcement effect for all executives, including the CEO, and find the mean cumulative abnormal return is negative, but not significantly different from zero.²² Since the main difference in our samples is that my appointments exclude CEOs, this suggests shareholders are more concerned when their CEO obtains another directorship than they are with other non-CEO insiders. This is consistent with Fich (2005) who finds that shareholders experience a negative wealth effect when their CEO accepts an outside directorship if they are not of retirement age.

Because my main hypothesis is to examine whether or not outside directorships lead to greater independence of certain inside directors, I am most concerned with outside directorships that are

²¹ Excluded announcements included those in which the inside director's own firm also announced an M&A transactions, an earnings release or a director change on their own board.

²² Potential reasons for the slight difference include: 1) my sample of announcements focus only on non-CEO inside directors, whereas 55% of theirs are of CEOs, 2) my announcements are screened for additional extraneous information, unrelated to the appointment, that may increase the noise in the announcement effect, and 3) for the main results I focus on outside directorships at independent firms and exclude any appointments at affiliated firms.

independent of the officer's own firm. Table 9 panel A shows the mean (median) 3-day CAR for these 98 announcements is 1.07% (.6%) and statistically significant at the 5% (1%) level. These results indicate that an outside board appointment provides exposure to the labor market for directorships increasing insider independence from his or her own firm and if the executive is not near retirement and therefore still motivated by future career opportunities, then the outside directorships of inside directors do provide additional value to shareholders beyond simply certifying their talent.

I also examine the shareholder reaction to these announcements in the recent portion of the sample when firms have faced increased pressure to reduce the role of inside directors on their boards. This greater focus on board composition has made it more important for shareholders to identify the most valuable directors to have on their boards. Thirty-two of the announcements occurred in 2002 or later. The mean (median) 3-day CAR for these announcements is 2.1% (1%) (both have $p\text{-value} < .01$). Shareholders gain, especially in recent years, when inside directors on their firms' board acquire an independent outside directorship. The average market capitalization for the sample firms with non-CEO inside directors is approximately \$7.8 billion. An inside director's appointment to an outside board seat is equivalent to approximately \$78 million increase in shareholder wealth.

6.2 Multivariate analysis of 3-Day CAR of Inside Director Appointment to Outside Directorships

Panel B reveals other factors relate to shareholder reaction to the appointment of a non-CEO inside director to an outside directorship. Model 1 reveals that director age, prior outside directorships, and firm performance, influence the magnitude of the shareholder reaction. The positive coefficient on the indicator for directors younger than 60 years old suggests that shareholders benefit more from an independent inside director when that director is not near retirement and thus has stronger career incentives. Model 1 also reveals that shareholders are concerned with independent inside directors being too distracted by multiple directorships. When an executive receives their second outside directorship, the coefficient is negative, but not significant, suggesting that one directorship is sufficient to certify a director's talent and create incentives that improve governance in their own firm. Conversely, when a director becomes "busy" by being appointed to their third board (or greater) the shareholder reaction is

significantly lower than the mean reaction, suggesting that investors are concerned about time commitments outside the firm. This interpretation is consistent with Perry and Peyer (2005), who find a negative shareholder reaction to outside director appointments of inside executives (including the CEO). Lastly, model 1 reveals that investors may partially anticipate that the external labor market for directorships will recognize talented non-CEO inside directors of their firms. The negative coefficient for past operating performance reveals that better past performance leads to a lower market reaction to outside appointments. This suggests that part of the value shareholders attribute to the presence of an independent inside director is already reflected in the current market price.

In models 2 and 3, of panel B, I further examine the relationship with proxies for firm complexity and the importance of information transfer to the board. Model 2 reveals that both information complexity and board monitoring affect shareholders' reactions to an inside director appointment to an outside directorship. The F-tests in Table 9 reveal that firms with a majority of independent outside directors and firms with high levels of R&D are both associated with greater announcement effects. Moreover, the effect is greatest in firms with a majority of outside directorships *and* high R&D firms. In separate regressions, not shown, I also examined the effect of a separate CEO and Chair in high R&D firms but do not find any significant incremental effects.

In model 3, I examine a separate CEO and Chair in large firms. The F-test reveals that on average having a separate CEO and Chair does not significantly affect the size of the announcement effect. However, in larger complex firms, shareholders react favorably when the market certifies an officer to be an independent inside director, who is likely to be willing to and able to transfer proprietary firm specific information to the board's leadership. Thus, shareholders gain when the external labor market for directorships recognizes a non-CEO inside director. Consistent with the previous analysis, this gain is greater in larger firms or when board decision making is based on complex information and when greater transparency is more important, such as when the board has a non-CEO Chair or a majority of independent outside directors exist.

6.3 Departure of Independent Inside Directors

Because the market may partially anticipate the value of an inside director with an outside directorship, prior to their receiving that directorship, this announcement effect only captures the incremental benefit to shareholders of having a talented inside director recognized by the market. However, when an independent inside director leaves the firm/board, shareholders lose the full value attributed to that director. Thus, examining departures may allow us to examine the full impact independent inside directors have on shareholder wealth. On the other hand, when an executive's skills are more visible to the external labor market, other firms are more likely to hire the executive away. This greater demand may also lead to investors partially anticipating the departure of an independent inside director.

I conduct an event study on the departure announcements of firms with independent inside directors. From my sample, I identify firm-year observations that had fewer independent inside directors than the prior fiscal year. I then searched for the earliest news announcement of the independent inside director's departure. I excluded announcements indicating the inside director was departing to head a spin-off or if it revealed multiple board changes. The final sample consists of 123 announcements. I compute the cumulative abnormal returns (CARs) over a 3-day window $[-1,1]$ as above.

Table 10 reports the summary of the CARs for the departure announcements. The mean (median) 3-day CAR for the full sample is negative and significant at the 1% (10%) level. The mean (median) change in shareholder wealth is -1.1% (-.7%). This is comparable to the 1.1% increase reported in Perry and Peyer (2005) when executives with multiple directorships and high ownership receive an additional directorship. In addition, as expected, the magnitude is slightly larger than the positive wealth effect associated with inside director appointments to outside directorships because these announcements reflect the loss of *both* talented directors and their stronger incentives from holding outside directorships.

It is possible that investors are reacting to the departing executive's replacement, rather than the departure per se. To address this possibility I exclude announcements that simultaneously name the successor to the departing inside director. The mean and median CARs both remain negative at -1% and -.5%, respectively. I separately examine shareholder reactions to these announcements when the reason

for departure is given. Two frequent reasons for the departures are retirements or to “pursue other interests.” The mean (median) 3-day CAR for retirement announcements is -.8% (-.9%) and significant. One interpretation of this negative announcement effect is that the departure reflects a serious policy disagreement with the CEO. Announcements indicating the director is leaving to become a CEO or to start their own venture are negative, but not significant at traditional levels.

Finally, I examine whether shareholder reaction to departures of independent inside directors is less during the Sarbanes-Oxley era as firms face pressure to reduce the number of inside directors on their boards. Forty-seven announcements occurred during 2001 or later. The mean (median) CAR is -1.5% (-.7%) and significant. The negative impact on shareholder wealth when an independent inside director departs, especially in the midst of greater pressure to reduce inside representation on boards, underscores the important role of these directors on corporate boards.

7.0 Robustness

7.1 Alternative measure of complexity and firm-specific information importance: Firm Size

Boone, et al. (2007), and Cole et al. (2006) find that independent outsiders are more likely in larger, more complex firms, which they view as having greater advisory needs. In addition, due to the difficulty in processing complex information, the monitoring role of the board is likely to be more difficult, requiring the board to have insiders capable of providing greater information transparency and firm expertise. The analysis previously discussed reveals firms with independent insiders on their boards are more prevalent in larger firms. Considering the results in Tables 3 and 4 and the greater likelihood of independent outsiders in larger firms, I examine the same relationships conditioning on firm size. I use two interaction variables to examine the effects of *Large* firms and firms that are *Small*. *Large* is a variable that equals one if the firm is in the top quartile in sales and zero otherwise. *Small* equals one if the firm is in the bottom quartile in sales and zero otherwise.

In results not shown, I find independent inside directors have a positive relationship with firm performance in both large and small firms, but the statistical significance is much stronger in larger firms.

A one standard deviation in the percentage of independent inside director representation is associated with a 90 basis point increase in industry adjusted operating performance in large firms. Conversely, I find no such relationship with dependent inside directors in large or small firms. I also find that the presence of a majority of independent outsiders also has a stronger relationship with performance in larger firms, which is consistent with the finding of greater outside independence in larger firms.

Turning to the firm market-to-book ratios, I also find the same pattern. The individual association between independent inside director representation and firm performance is much stronger in larger firms. A one standard deviation in the percentage of independent inside director representation is associated with a 3.2% increase in firm market-to-book ratios. The effect of dependent inside directors is also positive in larger firms, but it is smaller in magnitude than the effect of independent insiders and statistically insignificant.

7.2 Alternative measures of independent inside representation

It is possible that firms only need one good inside director willing to reveal additional information to the board to improve monitoring and advising. Thus, I use an indicator for firms with at least one independent insider on the board. Alternatively, the number of other more dependent insiders on the board could affect the influence of independent insiders. If dependent inside directors merely echo the CEO's information and increase the CEO's influence, then independent insiders are most valuable when they are the only insiders on the board other than the CEO and become less valuable if there are more dependent inside directors. I use the ratio of independent inside directors to all other insiders including the CEO to capture this possible group dynamic. In both cases, the results are essentially unchanged and the implications remain the same. This suggests that other inside directors do not adversely affect independent inside directors' abilities to reveal information to outside directors.

7.3 Outliers in the data

One disadvantage of large data sets is the increased possibility of erroneous outliers skewing the data and biasing the results. For robustness, I estimate the firm valuation and performance specifications using a least absolute deviations (LAD) estimator, which is robust to outliers in the data. Separately, I

Winsorized the data at the 1% and 99% levels to address outliers. Both results suggest outliers in the data are not driving the findings, as the results are qualitatively the same.

7.4 Endogeneity

7.4.1 Self-Selection of different inside directors

Though firms choose to have inside directors, it is not clear that they choose independent inside directors. The external managerial labor market for directorships determines an independent inside director when it awards them an outside directorship. The inside directors a firm selects may be the most talented for the purposes of operating their company, but this does not necessarily translate into skills external firms' desire. However, if firms do have insight into whether a certain type of inside director eventually will or will not receive an outside directorship, then that private information could also affect firm performance. Thus, a selection bias may be different for different types of inside directors. I explore this by repeating the analysis in Table 4 using different selection models in the first stage.

First, I examine the selection of undiscovered inside directors, those who later become independent inside directors within my sample. In these regressions, the inverse mills ratio is not significant in either the operating performance or the market-to-book ratio regressions. This suggests that the private information firms have when selecting inside directors, who eventually receive outside directorships, does not significantly affect firm performance. Next, I consider firms appointing inside directors with pre-existing outside directorships. In these cases, firms are selecting a unique subset of independent inside directors known to be valuable in the labor market for directors. The inverse mills ratio, which now represents the private information associated with a firm's decision to select these unique independent inside directors to their board, is negative in the operating performance regression and not significant in the market-to-book ratio regressions. Again, the negative association with operating performance suggests that these firms are more difficult to operate. A possible reason for selecting some executives with prior directorships is that they were executives of acquired firms, who held other board seats, and following the merger became directors on the acquiring firm's board. Thus, these executives are more likely in larger firms, which are indeed more difficult to operate. Finally, I consider the private

information associated with firms appointing more dependent inside directors, those who do not currently have, nor do they obtain, another directorship within my sample period. I find the private information associated with these firms is not significantly related to firm operating performance, but it is negative and significantly related to the firm's market-to-book ratio. One interpretation of this result is that private information regarding a firm's decision to appoint a more dependent inside director to the board is associated with a higher level of agency cost, which is reflected in the market valuation.

7.4.2 Instrumental Variables

The use of the Heckman two-step procedure addresses self-selection and the endogeneity issue of omitted variable bias associated with the private information behind a firm's decision to have inside directors. However, other factors beyond their own private information may affect the percentage of independent inside directors and firm performance measures. Another technique for addressing the endogeneity issue is to regress the endogenous variable on a set of instruments correlated with this variable and yet uncorrelated with the error term in the performance regressions. We can make use of the determinants model used in Table 3 to derive an instrumented variable for the percentage of independent inside directors. As noted earlier, both CEO board tenure and the SOX indicator are correlated with the percentage of independent inside directors and yet are not correlated with firm performance. Using the remaining variables makes use of all available information within the system. The disadvantage of this approach is that it does not correct for the self-selection of inside directors and it forces all the control variables to have the same slope for firms with inside directors and those without inside directors.

Table 10 reveals the results of this two-stage least squares (2SLS) instrumental variable approach. Models 1 and 3 are consistent with the previous findings. Independent inside directors have a positive association with operating performance and market-to-book ratios. In models 2 and 4, I incorporate firm level fixed effects as another means for controlling for the endogeneity problem of omitted variable bias.²³ The disadvantage of this method is the greater reliance upon within-firm variation for its explanatory power and if the key explanatory variables do not vary much, the power of the test will be

²³ This assumes the unobserved factor is invariant over the sample period.

weaker. The results in models 2 and 4 reveal, that after controlling for the unobserved fixed factors, the 2SLS instrumental variable approach still reveals a positive and significant association with both firm operating performance and market-to-book ratios and independent inside directors. In other unreported results, I instrument for the percentage of dependent inside directors and find a negative relationship with these directors and both measures of firm performance. While no one technique is robust to all variations of the endogeneity problem, these results suggest endogeneity is not driving the primary results of this study.

7.4.4 Board equilibrium and the transaction costs of having independent inside directors

If firms optimally choose their board structures, then there should be no significant relationship between measures of board composition such as independent inside directors and firm performance. However, as previously noted, independent inside directors are largely a result of an external market mechanism and thus, largely outside the control of the firm. Nonetheless, if firms do influence the appointment of inside directors with outside directorships, two types of costs can arise. First, with the recent regulatory pressure for greater outside representation, firms can face criticism for even appointing an insider to the board. This criticism could lead to reduced access to outside sources of capital from institutional investors increasing the cost of capital. Second, it may take several years (see Table 1 Panel B) for the outside labor market to recognize the value of a newly appointed inside director and award them an outside directorship. These costs of appointing an independent inside director imply that some firms, for which such an appointment is optimal, may be slow to adjust their boards; as such, we can still find cross-sectional associations between the presence of independent inside directors and measures of firm performance.²⁴

8.0 Concluding Remarks

²⁴ See Coles et. al. (2007) for a nice discussion of other reasons boards may be slow to adjust to their optimal composition. For example, boards may want to delay board changes to coincide with annual shareholder meetings to minimize the negative impact on retiring director reputations.

This study examines the differences among inside directors in an attempt to reconcile two very different views of the role of these directors on corporate boards. One view of inside directors is they are merely reflections of CEO influence, thus reflective of greater agency costs. The opposing view recognizes the potentially valuable information-sharing role provided by inside directors. Until recently, researchers have largely ignored these varying roles of inside directors when examining firm performance and board composition and, at least implicitly, assumed all inside directors have similar effects. I introduce one simple mechanism, outside directorships, for identifying inside directors more likely to be associated with the board enhancing view and less likely to be associated with the entrenchment view. The main finding is that inside directors with outside directorships are associated with better firm operating performance and higher market-to-book ratios, after controlling for the self-selection in firms with inside directors. The evidence suggests that outside directorships serve to 1) identify the most talented officer-directors and 2) reduce the agency costs between shareholders and CEOs.

Moreover, the benefits of independent insiders are stronger in larger firms and in firms where firm specific information is most important, such as high-tech firms. On the other hand, I find no evidence that other inside directors are as valuable as independent inside directors. I also find evidence that independent inside directors improve the association between monitoring mechanisms of the board, specifically a separate CEO and chairperson, and firm performance. Stock market reactions to firm announcements of appointments and retirements of independent and dependent inside directors are also consistent with my other findings. Specifically, announcements of inside director appointments to unaffiliated, or independent, outside directorships are greeted positively by the market, while their retirements from boards are greeted negatively.

The recent corporate governance reforms, which strongly encourage increased outside representation on boards, have helped to highlight the differing benefits inside directors bring to a board. These reforms primarily resulted in reduced board representation by more dependent inside directors, while leaving most independent inside directors in place. These firm director decisions and the evidence in this study are consistent with inside directors varying significantly in the beneficial roles they play,

depending on whether they hold outside directorships. My evidence indicates that these are important distinctions, which researchers and practitioners should consider when evaluating firm governance structure and policy reform. Just as research has uncovered many varying degrees of independence among outside directors, it seems fruitful to examine the varying degrees of independence among inside directors. The research presented here provides some useful guideposts for future research on boards of directors. For example, I find in other research that independent inside directors pose a serious threat to a sitting CEO as a potential replacement and thus provide their boards with a valuable option should they need to replace the current CEO.

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Appendix: Variable Definitions

Cash Flow from Operations (operating performance)
= (Cash Flow from Operations) / Beginning-year Total Assets

$Q = (\text{Total Assets} - \text{Book Equity} + \text{Market Value of Equity}) / \text{Total Assets}$

Independent Insider = non-CEO operating officer and director who holds an outside directorship

Firm Age = Number of years the firm has been listed in CRSP

Founder = 1 if the founder is on the board

Founder Family Member = 1 if a relative of the founder is on the board

Leverage = (Long-term Debt + Debt in Current Liabilities) / Total Assets

R&D/Assets = Maximum of data46 from Compustat or Zero / Total Assets

Volatility = Standard deviation of most recent 3 years of monthly returns from CRSP

SOX = 1 if the observations occurs in fiscal year 2002 or later

Recent M&A = 1 if the firm engaged in M&A activity within the current or previous year

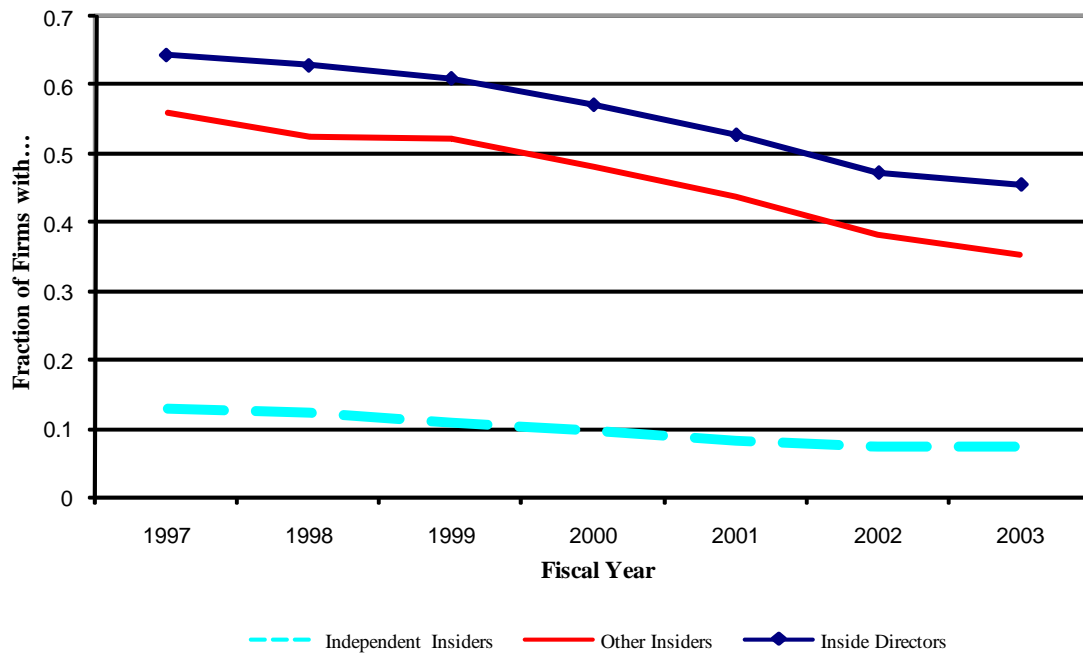
Information Importance = Factor score from PCA using R&D/Assets, Capital Expense/ Sales, and Technical Industries

Technical industries = 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).

Figure 1. Firms with Inside Directors during 1997-2003

The figure illustrates the trends in the portion of firms within the sample period of 1997-20003 with inside directors. Panel A reports the trend in the percentage of firms with at least one inside director, those with at least one independent inside director and those with at least one other insider. Panel B reports the change in the percentage of firms with various inside directors during the years following the passage of the Sarbanes-Oxley Act of 2002. The passage of the Sarbanes-Oxley Act of 2002 occurred in July 2002, which is the end of the 2001 fiscal year for many firms.

Panel A: Trends in Firms with Inside Directors



Panel B: Changes Surrounding Sarbanes-Oxley

	<u>2001</u>	<u>2003</u>	<u>Change</u>	<u>p-value</u>
% Firms with Inside Directors	53%	45%	7%***	0.00
% Firms with Independent Inside Directors	8%	7%	1%	0.46
% Firms with Other Inside Directors	44%	35%	9%***	0.00

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

Table 1. Director Level Univariate Analysis

The sample consists of 7,559 director-year observations for 1,987 firms from fiscal year 1997 through 2003, excluding finance and utility firms. The director data comes from the IRRC director database. Inside directors are listed as employees of the firm who are not the CEO. Independent insiders are operating officers on the board who hold at least one additional outside directorship. Dependent inside directors do not sit on another board. Outsiders are indicated within the IRRC data set as either affiliated with the firm ("Linked") or independent.

<i>Panel A: All Directors</i>	Insiders			Outsiders	
	Others	Independent	Difference	Affiliated	Independent
Number of Inside Director Observations	6693	866			
Percent of sample	89%	11%			
Number of Outside Director Observations				11487	46860
Percent of sample				20%	80%
<u>Director Characteristics</u>					
Age	54.5	54.9	-0.46	59.3	59.9
Board Tenure	12.0	7.8	4.18**	11.3	7.6
Ownership (%)	3.0	1.4	1.64***	2.6	0.3
Founder	0.11	0.05	0.06***	0.05	0.001
Founder Family Member	0.08	0.04	0.04***	0.06	0.004
Owns more than 5%	0.14	0.06	0.08***	0.10	0.01
Total number of insiders on the board	2.3	2.0	0.3***		
Percent Independent Outsiders on the board	50	58	-7.6***	49	68

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

Panel B: Outside directorships of Independent Insiders

	<u>Mean</u>	<u>Median</u>
Board Tenure Prior to Gaining Outside Directorship	4.01	2
Board Tenure on Outside Boards	5.12	3
Outside directorship prior to own board	27%	0
% Ownership in Outside Firm	0.23%	0.02%
Different Fama-French Industry	83%	1
Percent Independent Outsiders	67%	70%
Separate CEO & Chair	88%	1
Recognized as an Independent director	83%	1
Recognized as Affiliated director	17%	0

Table 2. Descriptive Statistics of Sample Firms

The sample consists of 7,455 firm-year observations for 1,987 firms from fiscal year 1997 through 2003, excluding finance and utility firms. The ownership variables are winsorized at the 1% and 99% levels. *Assets* is the total assets of the firm as listed in Compustat. *Number of Business Segments* is the total number of business segments in which the firm operates. *Firm Age* is the number of years the firm has 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* is the percentage of outstanding shares owned by the CEO. *Board Ownership* is the percentage of outstanding shares owned by the non-CEO board members. *Founder on Board* equals one if at least one of the directors is the founder. *Founding 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 percentage of the respective directors on the board. *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 operating officer and director who holds an outside directorship.

Panel A: Firm Level					
	N	Mean	Median	P25	P75
<i>Firm Characteristics</i>					
Assets (\$1,000,000)	7437	4,731	995	427	2,907
Number of Business Segments	7445	3	2	1	4
Firm Age	6734	21	15	7	30
Leverage	7412	0.2	0	0	0
Capital Expenditure / Sales	7337	0.14	0.05	0.03	0
Depreciation / Sales	7402	0.09	0.04	0.03	0
R&D / Assets	7437	0.04	0.00	0.00	0.0
Volatility	7440	0.15	0.13	0.10	0.18
<i>Ownership and Board Characteristics</i>					
CEO ownership (%)	7444	3.84	1.27	0.48	3.26
Board Ownership (excluding CEO) (%)	7444	7.00	1.89	0.52	6.64
Founder on board	7445	0.20	0	0	0
Founding family member on board	7445	0.12	0	0	0
Board Size	7445	8.9	9.0	7.0	10.0
Percent Independent board (%)	7445	63.3%	66.7%	50.0	77.8%
Percent Affiliated Directors (%)	7445	15%	12.5%	0	23.1%
Separate CEO and Chair	7445	0.37	0	0	1
Independent Insider Present	7445	0.09	0	0	0

Table 2. continued

Panel B: Sub-Sample Univariate Analysis

	Means		Difference
	Firms without Independent Insiders	Firms with Independent Insiders	
<i>Firm Characteristics</i>			
Assets (\$1,000,000)	4,039	12,076	-8036.39***
Number of Business Segments	2.57	2.95	-0.37***
Firm Age	21	30	-9.46***
Leverage	0.23	0.25	-0.01*
Capital Expenditure / Sales	0.14	0.12	0.02
Depreciation / Sales	0.09	0.07	0.02
R&D / Assets	0.04	0.03	0.01***
Volatility	0.15	0.12	0.03***
<i>Ownership Characteristics</i>			
CEO Ownership (%)	3.92	2.97	0.95***
Board Ownership (excluding CEO) (%)	7.09	6.02	1.06**
Founder on board	0.20	0.22	-0.02
Founding family member on board	0.11	0.18	-0.07***
Board Size	9	11	-2.25***
Percent Independent board (%)	64	60	3.46***
Percent Affiliated Directors (%)	15.19	13.20	2***
Separate CEO and Chair	0.39	0.23	0.15***

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

Table 3. Determinants of Inside Director Board Representation

This table presents a multivariate regression analysis of the determinants of inside operating officer representation on corporate boards. The dependent variable in Model 1 (2) uses the percentage of all non-CEO inside directors (independent inside directors). Independent Inside directors are non-CEO operating officers who are also directors in other firms. Models 3 and 4 use binary indicator variables as the dependent variables in Logit regressions. In Model 3 the dependent variable equals one if the firm has at least one non-CEO insider on the board and zero otherwise. In Model 4, the dependent variable equals one if the firm has at least independent inside director on the board and zero otherwise. *Operating CF* is the cash flow from operations (data308) scaled by beginning year assets. *Recent M&A* is a binary variable that equals one if the firm was involved in any merger or acquisition within the previous or current year. *Sox* is a binary variable that equals 1 if the observation occurred in fiscal year 2001 or later. All models include year and industry fixed effects. The p-values are reported beneath each coefficient estimate. Standard errors are robust to heteroscedasticity (White 1980) and they are clustered by firm.

	% Independent		Presence of	Presence of
	% Insiders	Insiders	Insiders	Independent Insiders
	Model 1	Model 2	Model 3	Model 4
	OLS	OLS	Logit	Logit
<u><i>Firm Complexity</i></u>				
R&D/Assets	-6.22* (0.059)	1.87* (0.055)	-0.038 (0.961)	1.47 (0.352)
Capex/Sales	-0.048*** (0)	0.012*** (0)	-0.0076*** (0.009)	0.016*** (0.008)
Ln(Sales)	0.043 (0.814)	0.44*** (0)	0.13*** (0.001)	0.56*** (0)
Leverage	-2.37 (0.107)	-0.46 (0.22)	-0.368 (0.209)	-0.17 (0.752)
Number of Business Segments	-0.107 (0.287)	-0.028 (0.378)	-0.041* (0.078)	-0.023 (0.537)
Ln(Firm Age)	-0.803*** (0.003)	0.085 (0.214)	-0.096* (0.093)	0.051 (0.575)
<u><i>CEO Characteristics</i></u>				
Ln(CEO Tenure)	1.2*** (0)	0.31*** (0)	0.22*** (0)	0.41*** (0)
Ln(CEO Age)	-3.25 (0.13)	0.94 (0.103)	-0.28 (0.51)	0.84 (0.328)
CEO Percent Ownership	0.18*** (0)	-0.01* (0.064)	0.02** (0.034)	-0.02 (0.136)
Founder Present	5.15*** (0)	0.3* (0.078)	0.86*** (0)	0.37* (0.067)
Founder Family Present	2.31*** (0.004)	0.18 (0.436)	0.55*** (0.001)	0.294 (0.164)
<u><i>Firm Performance & Activity</i></u>				
Volatility	-4.62 (0.142)	-0.41 (0.607)	-1.23* (0.077)	-2.9 (0.16)
Operating CF _(t-1)	0.29 (0.835)	0.24 (0.474)	0.05 (0.854)	0.39 (0.526)
Operating CF _(t-2)	-0.16 (0.127)	0.03 (0.444)	-0.09 (0.108)	0.3 (0.619)
Recent M&A	0.95*** (0.005)	0.33*** (0.002)	0.15** (0.038)	0.303*** (0.008)
SOX	-4.58*** (0)	-0.561*** (0.001)	-0.908*** (0.000)	-0.751*** (0.000)
Number of Observations	6314	6314	6297	6225
Adjusted(Pseudo)-R ²	18.91%	7.69%	10.16%	16.11%

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

Table 4. Performance Regressions

The table presents the results from a multivariate Heckman (1979) two-stage regressions analysis of firm performance. The first stage regression estimates the likelihood of firms selecting to have non-CEO inside directors on the board. The second stage is a multivariate regression analysis of performance for firms selecting inside directors. The dependent variables are industry adjusted (Fama-French) profitability and the natural logarithm of market-to-book ratio. Firm profitability is measured as cash flow from operations (data308) scaled by beginning of year assets. The market-to-book ratio is measured as the yearend market value of equity plus the book value of assets less the book value of equity all scaled by total assets. The inverse mills ratio from the first stage is included as a control variable in the second stage. Both models include year and industry fixed effects. The p-values are reported beneath each coefficient estimate. Standard errors are Heckman's efficient estimates.

	CF	ln(MtB)
	Model 1	Model 2
% Independent Insiders	0.0013*** (0.002)	0.005*** (0.007)
Ln(Assets)	-0.0076*** (0)	0.0186** (0.013)
Number of Business Segments	-0.0022* (0.067)	-0.007 (0.11)
Ln(Firm Age)	-0.005* (0.073)	-0.033*** (0.001)
CF		1.737*** (0)
CF _(t-1)		0.696*** (0)
CF _(t-2)		-0.0437*** (0.005)
CEO Percent Ownership	-0.0018** (0.043)	-0.01324*** (0)
CEO Percent Ownership ²	0.00001 (0.558)	0.0004*** (0)
Board Ownership	0 (0.981)	0.00085 (0.202)
Depreciation Expense/Sales	-0.01*** (0)	
Volatility	-0.22*** (0)	
Capital Expense/Sales		0.0493** (0.017)
R&D / Assets	-0.37*** (0)	2.13*** (0)
Founder Present	-0.036*** (0)	0.0212 (0.506)
Founder Family Present	-0.03*** (0)	-0.118*** (0)
Inverse Mills Ratio	-.127*** (0)	-0.123 (0.163)
Number of Observations	6302	6312
Censored	3002	3002
Firms with Inside Directors	3300	3310
Prob > χ^2	0.00	0.00

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

Table 5. Performance Regressions and Undiscovered Independent Insiders

This table presents a multivariate regression analysis within the Heckman (1979) two-stage framework to examine the affect of independent inside directors on firm performance prior to, and at the time of, their receiving their first outside directorship. The dependent variables are industry adjusted (Fama-French) profitability and the natural logarithm of market-to-book ratio in models 1 and 3. The dependent variables in models 2 and 4 are changes in these variables. % *Undiscovered Independent Insiders* is the percentage of non-CEO operating officers on the board who later receive outside directorships, but currently have none. *Inside Director Acquires a directorship* is a binary variable that equals one if the board has an inside director who acquired their first outside directorship in the present year. All models include year and industry fixed effects. The p-values are reported beneath each coefficient estimate. Standard errors are Heckman's efficient estimates

	CF	Δ CF	ln(MtB)	Δ ln(MtB)
	Model 1	Model 2	Model 3	Model 4
% Undiscovered Independent Insiders	0.002*** (0.005)		0.0028 (0.348)	
Inside director acquires a directorship		0.00812 (0.577)		0.062* (0.083)
Ln(Assets)	-0.0073*** (0)	-0.0004 (0.872)	0.0211*** (0.005)	-0.0108 (0.102)
Number of Business Segments	-0.0021* (0.085)	-0.0001 (0.928)	-0.007 (0.125)	-0.001 (0.849)
Ln(Firm Age)	-0.005* (0.098)	0.002 (0.632)	-0.032*** (0.001)	0.031*** (0)
CF			1.744*** (0)	0.374*** (0)
CF _(t-1)			0.697*** (0)	-0.546*** (0)
CF _(t-2)			-0.0432*** (0.006)	0.0439*** (0)
CEO Percent Ownership	-0.0019** (0.032)	0.0002 (0.862)	-0.01346*** (0)	-0.00024 (0.935)
CEO Percent Ownership ²	0.00001 (0.519)	0.00001 (0.618)	0.0004*** (0)	0 (0.818)
Board Ownership	0 (0.95)	-0.0005** (0.027)	0.00078 (0.242)	0.00048 (0.418)
Depreciation Expense/Sales	-0.01*** (0)	-0.01** (0.029)		
Volatility	-0.22*** (0)	-0.07 (0.151)		
Capital Expense/Sales			0.0498** (0.016)	-0.0531*** (0.001)
R&D / Assets	-0.37*** (0)	-0.2*** (0)	2.15*** (0)	0.04 (0.751)
Founder Present	-0.038*** (0)	0.041*** (0)	0.0169 (0.596)	0.0031 (0.91)
Founder Family Present	-0.03*** (0)	0.02* (0.083)	-0.12*** (0)	0.016 (0.482)
Inverse Mills Ratio	-.132*** (0)	0.093*** (0.001)	-0.139 (0.117)	0.044 (0.531)
Number of Observations	6302	5719	6312	5536
Censored	3002	3002	3002	3002
Firms with Inside Directors	3300	2717	3310	2534
Prob > χ^2	0.00	0.00	0.00	0.00

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

Table 6. Performance Regressions and other Board Monitoring Mechanisms

This table presents a multivariate regression analysis within the Heckman (1979) two-stage framework to examine the interactive effect of independent inside directors and other board monitoring mechanisms on firm performance. The dependent variables are industry adjusted (Fama-French) profitability in models 1 through 4 and the natural logarithm of market-to-book ratio in models 5 through 8. *>60% Independent Outsiders* is a binary variable equal to one if the board has at least 60% independent outside directors. *Separate CEO and Chair* is a binary variable that equals one if the CEO is not also the Chairman. All models include year and industry fixed effects. The p-values are reported beneath each coefficient estimate. Standard errors are Heckman's efficient estimates

	CF	CF	CF	CF	ln(MtB)	ln(MtB)	ln(MtB)	ln(MtB)
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
% Independent Inside Directors	0.0013*** (0.002)	0.0013** (0.034)	0.0009* (0.071)	0.0007 (0.263)	0.0049*** (0.008)	0.0046* (0.06)	0.0031 (0.144)	0.0024 (0.383)
>60% Independent Outsiders	0.00652* (0.096)	0.00692 (0.195)	0.00757 (0.127)	0.00674 (0.207)	0.0065 (0.701)	0.0065 (0.774)	0.0092 (0.661)	0.0057 (0.802)
Separate CEO and Chair	-0.0004 (0.923)	0.0004 (0.94)	-0.002 (0.765)	-0.002 (0.736)	-0.0069 (0.693)	-0.0053 (0.814)	-0.0141 (0.538)	-0.0151 (0.514)
% Independent Inside Directors X 60% Independent Outsiders		0.00017 (0.841)		0.00035 (0.679)		0.0007 (0.841)		0.0015 (0.676)
Separate CEO and Chair X 60% Independent Outsiders		-0.002 (0.813)	-0.002 (0.735)	-0.002 (0.786)		-0.0033 (0.916)	-0.0063 (0.841)	-0.0043 (0.892)
% Independent Inside Directors X Separate CEO and Chair			0.0017* (0.08)	0.0018* (0.074)			0.0073* (0.076)	0.0075* (0.07)
Ln(Assets)	-0.0078*** (0)	-0.0078*** (0)	-0.0076*** (0)	-0.0076*** (0)	0.018** (0.014)	0.0184** (0.014)	0.019** (0.011)	0.019** (0.011)
Number of Business Segments	-0.0023* (0.064)	-0.0023* (0.063)	-0.0023* (0.056)	-0.0024* (0.053)	-0.007 (0.105)	-0.007 (0.104)	-0.007* (0.088)	-0.008* (0.085)
Ln(Firm Age)	-0.005* (0.056)	-0.005* (0.055)	-0.005* (0.056)	-0.005* (0.055)	-0.034*** (0.001)	-0.034*** (0.001)	-0.034*** (0.001)	-0.034*** (0.001)
CF					1.736*** (0)	1.736*** (0)	1.733*** (0)	1.733*** (0)
CF _(t-1)					0.6962*** (0)	0.696*** (0)	0.696*** (0)	0.696*** (0)
CF _(t-2)					-0.04386*** (0.005)	-0.0438*** (0.005)	-0.0442*** (0.005)	-0.0441*** (0.005)
CEO Percent Ownership	-0.0017* (0.056)	-0.0017* (0.059)	-0.0017* (0.057)	-0.0017* (0.058)	-0.0134*** (0)	-0.01337*** (0)	-0.01338*** (0)	-0.01335*** (0)
CEO Percent Ownership ²	0.00001 (0.596)	0.00001 (0.607)	0.00001 (0.596)	0.00001 (0.606)	0.00043*** (0)	0.0004*** (0)	0.0004*** (0)	0.0004*** (0)
Board Ownership	0.0001 (0.709)	0.0001 (0.722)	0.0001 (0.729)	0.0001 (0.733)	0.0009 (0.167)	0.00094 (0.171)	0.00093 (0.175)	0.00093 (0.176)

Table 6. *continued*

	CF	CF	CF	CF	ln(MtB)	ln(MtB)	ln(MtB)	ln(MtB)
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Depreciation Expense/Sales	-0.01*** (0)	-0.01*** (0)	-0.01*** (0)	-0.01*** (0)				
Volatility	-0.22*** (0)	-0.22*** (0)	-0.22*** (0)	-0.22*** (0)				
Capital Expense/Sales					0.05** (0.018)	0.0491** (0.017)	0.0488** (0.018)	0.0488** (0.018)
R&D / Assets	-0.37*** (0)	-0.37*** (0)	-0.37*** (0)	-0.37*** (0)	2.1312*** (0)	2.13*** (0)	2.13*** (0)	2.13*** (0)
Founder Present	-0.035*** (0)	-0.035*** (0)	-0.035*** (0)	-0.035*** (0)	0.025 (0.451)	0.0249 (0.445)	0.0255 (0.433)	0.0259 (0.426)
Founder Family Present	-0.03*** (0)	-0.03*** (0)	-0.03*** (0)	-0.03*** (0)	-0.1162*** (0)	-0.116*** (0)	-0.117*** (0)	-0.117*** (0)
Inverse Mills Ratio	-.127*** (0)	-.126*** (0)	-.126*** (0)	-.126*** (0)	-0.119 (0.185)	-0.118 (0.118)	-0.113 (0.206)	-0.112 (0.21)
F-Test for % Independent Insiders & Board Monitoring		0.0014** (0.021)	0.0026*** (0.002)	0.0028*** (0.005)		0.005* (0.051)	0.01*** (0.004)	0.011*** (0.008)
Number of Observations	6302	6302	6302	6302	6312	6312	6312	6312
Censored	3002	3002	3002	3002	3002	3002	3002	3002
Firms with Inside Directors	3300	3300	3300	3300	3310	3310	3310	3310
Prob > χ^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

Table 7. Performance Regressions: Information Importance

This table presents a multivariate regression analysis within the Heckman (1979) two-stage framework to examine the interactive affect of independent inside directors and an indicator of firm-specific information importance on firm performance. The dependent variables are industry adjusted (Fama-French) profitability in model 1 and the natural logarithm of market-to-book ratio in model 2. Principle component analysis is used to extract an information importance factor from capital expenditure to sales, R&D to assets, and an indicator for being in a high tech industry. The factor score is then estimated for each observations using the outcomes of this analysis. *High (Low) Information Importance* is a binary variable that equals one if the factor score for the observations is above (below) the median. Both models include firm and industry fixed effects. The p-values are reported beneath each coefficient estimate. Standard errors are Heckman's efficient estimates.

	CF	ln(MtB)
	Model 1	Model 2
% Independent Insiders X High Information Importance	0.002*** (0)	0.0071*** (0.006)
% Independent Insiders X Low Information Importance	0.00011 (0.863)	0.0048* (0.07)
High Information Importance	0.0131* (0.098)	0.2619*** (0)
Ln(Assets)	-0.006*** (0.003)	0.008 (0.314)
Number of Business Segments	-0.002* (0.063)	-0.011** (0.018)
Ln(Firm Age)	-0.0056*** (0.049)	-0.045*** (0)
CF		1.516*** (0)
CF _(t-1)		0.6552*** (0)
CF _(t-2)		-0.04444*** (0.005)
CEO Percent Ownership	-0.0012 (0.177)	-0.0146*** (0)
CEO Percent Ownership ²	0 (0.898)	0.00046*** (0)
Board Ownership	0 (0.469)	
Depreciation Expense/Sales	-0.01*** (0)	
Volatility	-0.27*** (0)	0.0001 (0.843)
Founder Present	-0.038*** (0)	0.05 (0.16)
Founder Family Present	-0.03*** (0)	-0.103*** (0)
Inverse Mills Ratio	-.125*** (0)	-0.083 (0.354)
Number of Observations	6302	6312
Censored	3002	3002
Firms with Inside Directors	3300	3310
Prob > χ^2	0.00	0.00

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

Table 8. Performance Regressions: High R&D Firms

This table presents a multivariate regression analysis within the Heckman (1979) two-stage framework to examine the interactive affect of independent inside directors and an indicator of firm-specific information importance on firm performance. The dependent variables are industry adjusted (Fama-French) natural logarithm of market-to-book ratio in models 1 through 3 and profitability in models 4 through 6. % *Dependent Insiders* is the percentage of non-CEO inside directors, who do not hold outside directorships, on the board. *High (Low) R&D* is an indicator variable that equals one if the firm's R&D/assets ratio is in the top (bottom) quartile of the industry. Models 1 through 3 include finance and utility firms. All models include year and industry fixed effects. The p-values are reported beneath each coefficient estimate. Standard errors are Heckman's efficient estimates.

	ln(MtB) Model 1	ln(MtB) Model 2	ln(MtB) Model 3	CF Model 4	CF Model 5	CF Model 6
%Dependent Insiders X High R&D	0.0052*** (0)		0.007*** (0)	0.0005 (0.18)		0.001** (0.016)
% Dependent Insiders X Low R&D	0.0003 (0.687)		0.0014* (0.084)	-0.0004* (0.057)		-0.0002 (0.27)
% Independent Insiders X High R&D		0.0109*** (0.001)	0.014*** (0)		0.005*** (0)	0.005*** (0)
% Independent Insiders X Low R&D		0.0045** (0.014)	0.0061*** (0.002)		0.0002 (0.704)	0.0001 (0.86)
R&D / Assets	2.04*** (0)	2.17*** (0)	1.98*** (0)	-0.403*** (0)	-0.388*** (0)	-0.43*** (0)
Ln(Assets)	0 (0.977)	-0.006 (0.329)	-0.003 (0.608)	-0.007*** (0)	-0.0077*** (0)	-0.0076*** (0)
Number of Business Segments	-0.004 (0.239)	-0.004 (0.247)	-0.005 (0.204)	-0.002* (0.072)	-0.002* (0.069)	-0.002* (0.058)
Ln(Firm Age)	-0.019** (0.037)	-0.021** (0.017)	-0.02** (0.024)	-0.0051* (0.073)	-0.0054* (0.051)	-0.0058** (0.036)
CF	1.816*** (0)	1.795*** (0)	1.791*** (0)			
CF _(t-1)	0.7623*** (0)	0.7564*** (0)	0.752*** (0)			
CF _(t-2)	-0.03634** (0.018)	-0.03514** (0.02)	-0.03835** (0.011)			
CEO Percent Ownership	-0.0141*** (0)	-0.0135*** (0)	-0.0141*** (0)	-0.00156* (0.08)	-0.00157* (0.071)	-0.00139 (0.112)
CEO Percent Ownership ²	0.00043*** (0)	0.00043*** (0)	0.00043*** (0)	0 (0.763)	0 (0.679)	0 (0.846)
Board Ownership	0.0007 (0.282)	0.0008 (0.219)	0.0007 (0.27)	0 (0.965)	0 (0.891)	0 (0.943)
Depreciation Expense/Sales				-0.01*** (0)	-0.01*** (0)	-0.01*** (0)
Volatility				-0.23*** (0)	-0.23*** (0)	-0.24*** (0)
Capital Expense/Sales	0.05** (0.01)	0.05** (0.011)	0.05** (0.011)			
Founder Present	0.0101 (0.7)	0.021 (0.422)	0.0163 (0.532)	-0.038*** (0)	-0.035*** (0)	-0.035*** (0)
Founder Family Present	-0.11*** (0)	-0.11*** (0)	-0.11*** (0)	-0.03*** (0)	-0.03*** (0)	-0.03*** (0)
Inverse Mills Ratio	-0.155** (0.032)	-0.129* (0.074)	-0.117 (0.105)	-.132*** (0)	-.119*** (0)	-.119*** (0)
Number of Observations	7327	7327	7327	6302	6302	6302
Censored	3493	3493	3493	3002	3002	3002
Firms with Inside Directors	3834	3834	3834	3300	3300	3300
Prob > χ^2	0.00	0.00	0.00	0.00	0.00	0.00

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

Table 9. Shareholder Wealth Effects: Non-CEO Insider Directorship Appointments

This table reports the analysis of the cumulative abnormal return (CAR) for the event window [-1,1] of 98 announcements of non-CEO inside director appointments to outside directorships of non-affiliated independent firms. Day 0 is the first announcement of the outside appointment. I estimate the market model using the value-weighted CRSP index as a proxy for the market returns over days [-210,-10]. The abnormal return is computed for each day in the event window by subtracting the expected return (market model) from the actual return. Panel A reports the mean and median 3-day CAR with p-values from two-tailed tests, using a *t*-test for means and sign test for medians, are reported below each estimate. The last column reports tests of the hypothesis that the fraction of positive CARs is 50% using a binomial test. *SOX* equals 1 if the announcement occurs in 2002 or later. Panel B reports the results of regression analysis. *Age <60* equals 1 if the director's age is < 60 years. *2nd Directorship* equals 1 if the appointment is the directors 2nd appointment. *Busy* equals 1 if the appointment is the 3rd or greater appointment. *Large Firm* equals 1 if the total assets are greater than the sample median.

<i>Panel A</i>		CAR		
	N	Mean	Median	%>0
Independent Appointment Announcements	98	.0107** (0.03)	.006*** (0.01)	63%*** (0.006)
SOX	32	.021*** (0.002)	0.010*** (0.002)	78%*** (0.001)
<i>Panel B</i>		Model 1	Model 2	Model 3
High R&D			-0.024* (0.066)	-0.031** (0.026)
>60% Independent Outside directors			-0.013 (0.235)	-0.0171 (0.1)
High R&D X >60% Independent Outsiders			0.05** (0.037)	0.05** (0.016)
Separate CEO and Chair				-0.0523*** (0.009)
Separate CEO and Chair X Large Firm				0.05** (0.029)
Age < 60 Dummy		0.029* (0.074)	0.032 (0.103)	0.036* (0.09)
2 nd Directorship		-0.005 (0.669)	-0.007 (0.559)	-0.007 (0.555)
Busy (>2 Directorships)		-0.019** (0.036)	-0.015* (0.089)	-0.022* (0.095)
Large Firm		0.004 (0.768)	0.008 (0.548)	0.004 (0.769)
Leverage		0.0297 (0.549)	0.0598 (0.229)	0.031 (0.47)
Capital Expenditure		0.035 (0.251)	0.031 (0.322)	0.035 (0.296)
CF _(t-1)		-0.002*** (0.003)	-0.002*** (0)	-0.001** (0.011)
SOX		0.017 (0.196)	0.021 (0.155)	0.017 (0.208)
Constant		-0.0334* (0.095)	-0.0435 (0.104)	-0.03 (0.242)
Number of Observations	96	96	96	96
R ²	10.6%	14.6%	19.8%	
F-Test for >60% Indep + High R&D X >60% Indep=0			0.04* (0.1)	0.04* (0.08)
F-Test for High R&D + High R&D X >60% Indep=0			0.02* (0.1)	0.02* (0.1)
F-Test for Separate CEO/Chair + Separate CEO/Chair X Large Firm=0				-0.01 (0.64)

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

Table 10. Shareholder Wealth Effects from Departures of Independent Inside Directors

This table reports the mean and median cumulative abnormal returns (CAR) for the event window [-1,1] of announcements of independent inside director departures. Day 0 is the date of the first announcement of the departure of an independent inside director of the firm. I estimate the market model using the value-weighted CRSP index as a proxy for the market returns over days [-210,-10]. The abnormal return is computed for each day in the event window by subtracting the expected return (market model) from the actual return. There are 123 events. p-values from two-tailed tests, using a *t*-test for means and sign test for medians, are reported below each estimate. The last column reports tests of the hypothesis that the fraction of positive CARs is 50% using a binomial test. *No Succession* reports the CARs only for the announcements that did not simultaneously announce a replacement. *Retirement* reports the CARs only for the announcements indicating the executive is departing due to retirement. *Outside Firm Promotions* reports the CARs only for the announcements indicating the executive is leaving to become CEO of another firm or start their own firm. *SOX* reports the CARs only for the 47 announcements occurring in 2002 or later.

	N	CAR		
		Mean	Median	%<0
All Departure Announcements	123	-0.011*** (0.01)	-0.006* (0.1)	58%* (0.1)
No Succession Announcements	84	-0.010* (0.07)	-0.005 (0.196)	56% (0.16)
Retirement Announcements	70	-.008* (0.1)	-0.009 (0.18)	59%* (0.09)
Outside Firm Promotions	22	-0.026 (0.11)	0.003 (0.83)	45% (0.74)
SOX	47	-0.015** (0.04)	-0.007 (0.14)	62%* (0.07)

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

Table 11. 2SLS Instrumental Variables Performance Regressions

This table presents a multivariate regression analysis using a two-stage least squares instrumental variable framework to examine the effect of independent inside directors on firm performance. The dependent variables are industry adjusted (Fama-French) profitability in models 1 and 2 and the natural logarithm of market-to-book ratio in models 3 and 4. All models include year and industry fixed effects. The p-values are reported beneath each coefficient estimate. Standard errors are robust to heteroscedasticity (White 1980) and they are clustered by firm, except in Models 2 and 4 that use firm fixed effects.

	CF	CF	ln(MtB)	ln(MtB)
	Model 1	Model 2	Model 3	Model 4
% Independent Insiders	0.0538*** (0)	0.0093** (0.031)	0.0681** (0.012)	0.0296** (0.044)
Ln(Assets)	-0.0282*** (0)	-0.0125*** (0.007)	-0.0081 (0.624)	-0.2446*** (0)
Number of Business Segments	-0.0027 (0.155)	0.0006 (0.583)	-0.015*** (0)	0 (0.932)
Ln(Firm Age)	-0.014*** (0.002)	-0.037*** (0)	-0.045*** (0)	-0.152*** (0)
CF			1.542*** (0)	0.831*** (0)
CF _(t-1)			0.535*** (0)	0.202*** (0)
CF _(t-2)			-0.0395*** (0.004)	-0.1071*** (0.006)
CEO Percent Ownership	-0.001 (0.585)	-0.0012 (0.301)	-0.00581 (0.226)	0.00025 (0.949)
CEO Percent Ownership ²	0.00002 (0.743)	0.00002 (0.487)	0.0003* (0.066)	-0.0002 (0.193)
Board Ownership	0 (0.883)	-0.0005** (0.025)	0.0008 (0.369)	-0.00204*** (0.007)
Depreciation Expense/Sales	-0.01*** (0)	0.01*** (0)		
Volatility	-0.57*** (0)	-0.36*** (0)		
Capital Expense/Sales			0.0039*** (0)	-0.0003 (0.801)
R&D / Assets	-0.22*** (0.006)	-0.15*** (0)	2.31*** (0)	0.15 (0.325)
Founder Present	-0.013 (0.239)	-0.01 (0.211)	0.0384 (0.194)	-0.0785*** (0.002)
Founder Family Present	-0.02 (0.161)	0.01 (0.173)	-0.082** (0.012)	0.115*** (0.001)
Number of Observations	6285	6285	6311	6311
Prob >F	0.00	0.00	0.00	0.00

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