INCENTIVES VS. ENTRENCHMENT: A COMPARISON OF COMPETING GOVERNANCE MECHANISMS

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Abstract

This study explores the relationships between firm performance and the incentive and entrenchment effects of corporate governance structures. It analyzes whether the benefits of providing stock ownership to directors are greater than the potential costs of entrenching officers and directors. Using the dollar amount of stock owned by various classes of directors, the results suggest that the incentive effect dominates any costs related to entrenchment: firms with greater stock ownership outperform other firms, regardless of the degree of managerial entrenchment that may be present. This result is robust to firm size, growth opportunities, time period, and other controls. The implication for policy-makers is that providing directors with incentives through stock ownership remains a very effective corporate governance mechanism.

Keywords: Corporate governance, agency problems, boards, directors, incentive alignment, entrenchment, ownership

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1. Introduction

Over the past ten years, corporate governance has come under considerable scrutiny due to corporate failures such Enron, to investor frauds such as Bernie Madoff, and to systemic panics such as the global financial crisis. Regulators, practitioners, and academics have been searching for ways to improve the relationship between managers of firms and the ultimate stakeholders, in hopes of finding a 'best' corporate governance structure. The Sarbanes-Oxley Act was passed in 2002 in the United States, and it stipulated new requirements for independent audits and new responsibilities for boards of directors. The major U.S. stock exchanges required listed firms to have a majority of independent directors in 2003, moving all firms towards a standard corporate governance structure. "Say on Pay" practices are widespread in Europe and are becoming more common in the U.S., allowing shareholders more input into the corporate governance process. And, in the wake of the U.S. financial crisis, regulators are considering a broad range of new initiatives, such as limiting executive compensation and outlining new requirements for boards of directors[124].

All of these initiatives presuppose that there is an optimal corporate governance structure. Policies attempting to regulate and standardize how firms and their corporate governance environments are structured are intended to improve shareholder rights and to improve the agency costs inherent in the corporate form. If there is one structure that is indeed optimal, then all firms should (would) move towards it. Prior academic literature has focused on the ownership of the firm. In theory, if the managers own 100% of the firm then there is no agency conflict. When managers own less than 100%, which is the case in most if not all public corporations, agency conflicts arise. The goal of any corporate governance policies should be to minimize these agency conflicts and, thus, to maximize the benefits to external stakeholders.

While firm ownership has been the primary focus of the academic literature, recent work has moved beyond ownership to explore whether or not there can be an optimal corporate governance structure. In general, the research suggests that there is no single 'best' model for corporate governance that can be applied to all firms[125]. In general, the work analyzing complex indices composed of many corporate governance factors have failed to show that these

[124] In May 2009, U.S. senators Charles Schumer and Maria Cantwell introduced a "Shareholder Bill of Rights." Among other items, this "Bill" would require firms having 'Say-on-Pay' measures, having an independent board chair, and eliminating classified boards. See http://schumer.senate.gov/new_website/record.cfm?id=313468..

[125] See, for example, Gillan, Hartzell and Starks (2006), Wintoki (2007), and Bhagat, Bolton and Romano (2008).

indices can measure the quality of a firm's corporate governance environment. Each firm is a unique and nuanced set of factors, preferences, and incentives. As such, it makes sense that complex indices do not seem to be reliable measures of the complete environment. In equilibrium, each firm should choose its structure and unique features because they are optimal for that firm. In this sense, it is possible that the quality of a firm's corporate governance environment may best be measured by concentrating on individual characteristics.

With this in mind, recent strands of the literature have focused on two firm characteristics that should be directly related: director ownership and officer entrenchment. Providing directors with the same incentives as common stockholders should better align the interests of the principals and agents, but allowing the officers and directors to become too entrenched might impose significant costs on shareholders. In their seminal work, Morck, Shleifer and Vishny (1998) identified this inherent conflict. They found that firm value increases when officers and directors have some incentives, but value decreases when they own 'too much,' presumably because they become too entrenched and are not necessarily always representing the interests of shareholders.

Previously, most of the corporate governance research has focused on these two effects separately. The purpose of this paper is to directly compare the potential benefits of directors owning common stock with the potential costs of officers and directors becoming too entrenched. That is, it directly compares the incentive effect with the entrenchment effect. Firms do not necessarily choose whether the directors have incentives or are entrenched. In most firms, both effects will be present: there will be incentives provided to directors – through compensation, stock ownership, or non-monetary benefits – and there will be a certain amount of entrenchment – through tenure, charter provisions, or organizational structure. The effects are not mutually exclusive. There will be trade-offs between these two effects. This study attempts to identify how these trade-offs ultimately effect firm performance and firm value. The primary research question in this study is which governance mechanism is more dominant in large U.S. firms: director ownership or management entrenchment? It is possible that the incentive-related benefits of director ownership dominate the negative effects of entrenched mangers; likewise, the opposite is possible. By directly comparing these two effects, and by considering any dynamic interactive effects between the two variables, this study will attempt to clarify how each of these factors influences a firm's performance.

Using the dollar value of stockholdings owned by various classes of directors as the measure of the incentive effect, and using two different measures of entrenchment – the *G-Index* from Gompers, Ishii and Metrick (2003) and whether or not the CEO is also the chair – the results suggest that the incentive effect dominates. In a variety of specifications and methodological approaches, director ownership is almost universally associated with better firm performance and with higher firm value, while the entrenchment measures rarely have any significant effect on either performance or value. This result is robust to a number of different specifications, approaches, and controls. It is economically significant, as well. This suggests that the benefits of providing directors and officers with the appropriate incentives outweigh the potential costs associated with directors and officers becoming entrenched. Firms that have greater ownership by directors outperform those with lower ownership, regardless of any institutional costs of entrenchment. This result suggests that efforts to improve corporate governance should focus on ways to increase stock ownership by directors to better align their incentives with the incentives of the firm's stakeholders.

The balance of this paper is organized as follows. The next section provides a literature review and the motivation for this study. Section 3 describes the data and the methodology. Section 4 presents the empirical results. Section 5 provides a discussion of the results and their implications. And, Section 6 concludes.

2. Motivation

The study of corporate ownership forms has a long history in the corporate finance literature. Berle and Means (1932) were among the first to recognize the inherent conflict between the owners of a corporation and the managers of the managers of that corporation. They warned that too much power in the hands of managers, or a board of directors that is controlled by the managers, could present serious problems. This conflict between principals and agents was further elucidated 40 years later by Jensen and Meckling (1976), who showed that agents acting in their own rational self-interest might not always be acting in the owners' best interest. The solution to this conflict was to better align the interests of agents and principals, which might be best addressed by giving the mangers of the firm ownership of the firm. Morck, Shleifer and Vishny (1988) studied this empirically and found that firm value – and, therefore, shareholder value – does indeed increase when the managers and directors own up to 5% of the outstanding common stock. However, this benefit is not monotonic: value decreases when managers own between 5% and 20% of the firm, but increases again at ownership levels greater than 20%. The benefit to firm value suggests that there is an incentive effect to managerial ownership; the detrimental effect at certain levels of ownership suggests that too much ownership can entrench managers and directors. The purpose of this study is to compare these incentive effects and entrenchment effects. Using the most recent standards for measuring ownership and entrenchment, the effects that each has on firm and shareholder value are analyzed.

In studying firm ownership, the corporate governance literature has identified countless measures of ownership. As mentioned above, Morck, Shleifer and Vishny (1988) use the percentage of common stock owned by officers and directors. Among others, McConnell and Servaes (1990, 1995) consider the percentage of stock owned by blockholders and institutions. Denis and Denis (1994) consider majority stock ownership by insiders. Hermalin and Weisbach (1991) focus on the percentage of stock owned by just the CEO. Much like Morck, Shleifer and Vishny (1988), they find a non-monotonic relationship between ownership and Tobin's *Q*. And, most recently, Bhagat and Bolton (2008) studied the dollar value of stock ownership by directors and found that greater ownership of stock is indeed related to superior firm performance.

This study relies on the approach taken in Bhagat and Bolton (2008) and considers the dollar value of stock ownership of various classes of directors. The argument for focusing on dollar value of ownership rather than percentage ownership is simple. Imagine two directors of different companies. Director A owns a 0.10% stake in a $1 billion firm; Director B owns a 1.00% stake in a $100 million firm. The value of each stake is exactly $1,000,000. As rational economic agents, both directors have the same incentives. Thus, we would expect both directors to devote the same time and expertise to their work. If we focused on the percentage ownership, we would say that Director B has greater incentives, which is likely not the case. Bhagat and Bolton (2008) consider only the *median* director because that individual may have the swing vote; the current study will consider this variable and two other variations of it.

While ownership by officers and directors is observable, entrenchment is not. As such, researchers have had to use a number of proxies to measure entrenchment, with varying levels of effectiveness. Jensen (1993) argues that it is important to separate the roles of CEO and board chair positions. Lipton and Lorsch (1992) take a similar perspective, but advocate appointing an independent lead director. Gompers, Ishii and Metrick (GIM, 2003) take a more general, firm-wide view of entrenchment. They analyze the relationship between firm value and an equally-weighted index of 24 corporate charter provisions and find that firms with fewer provisions, or fewer restrictions, have higher Tobin's *Q* and stock returns. Core, Guay and Rusticus (2007) show that GIM's *G-Index* is also associated with superior operating performance. And, most recently, Bebchuk, Cohen and Ferrell (2009) show that a specific subset of 6 of the 24 provisions in the GIM *G-Index* are the only provisions that matter. They create an *Entrenchment Index* made up of these 6 provisions, and show that they alone are responsible for the superior valuations observed by GIM. Regardless of the measure, the story is the same: entrenchment is harmful and poses a significant cost to shareholders.

The purpose of this study is to compare the costs and benefits of these two effects: incentive alignment and entrenchment. Firms do not *choose* one effect over the other. All firms have some degree of incentive alignment and all firms have some degree of entrenchment. Using the latest measures of incentive alignment and entrenchment – director ownership and the *GIM G-Index* – I compare these two effects to see which dominates (if either does). Ex ante, either effect could dominate. Morck, Shleifer and Vishny (1998) observed that the incentive effect dominates at lower and higher levels of ownership, while the entrenchment effect dominates at moderate levels of ownership. In fact, by studying the two effects simultaneously, it is possible that they cancel each other out. As Wintoki (2007) explains, a firm's corporate governance environment is both nuanced and unobservable. If, as he suggests, each firm has a unique, but different, optimal corporate governance structure, we might actually expect to see the two effects cancel each other out.[126] Because it is impossible to actually observe the costs and benefits of corporate structures and corporate governance, empirically estimating these relationships is the best way to better understand the relevant dynamics.

3. Data and Methodology

The primary database for this study is the RiskMetrics database (formerly the Investor Responsibility Research Center, IRRC). This database tracks governance data for approximately 1,500 of the largest firms in the United States from 1998-2007[127]. The corporate charter provisions and director ownership data are all taken from RiskMetrics. Compustat's annual database, Compustat's Execucomp database, and the Center for Research in Security Pricing (CRSP) database are used for the financial and stock market variables. In all, the sample consists of more than 12,000 firm-year observations, with more than 2,200 unique firms tracked during the 10 year sample period.

The primary relationship studied is the relationship between firm performance and different corporate governance mechanisms. Specifically, we compare the effects that director ownership and managerial entrenchment have on firm performance. The primary equation is:

(1) $Performance_t = DirectorOwnership_t + Entrenchment_t + Performance_{t-1} + IndustryPerformance_t + FirmSize_t + Leverage_t + CEOOwnership_t + MarketBook_t + Volatility_t + BoardSize_t + Independence_t$

[126] To be sure, finding either significantly related to performance would not negate the claims in Wintocki (2007).

[127] Select data is available for more years, but all of the variables used in this study are only reliably tracked beginning in 1998.

Two different measures of *Performance* are used: return on assets and Tobin's *Q*. Three different measures of *DirectorOwnership* are used: stock ownership of the median director, stock ownership of the median independent director, and stock ownership of all independent directors. These variables are derived from Bhagat and Bolton (2008) who use the stock ownership of the median director because they believe it is the best measure of incentive alignment. This study adds the two measure of independent director ownership to explicitly contrast the measures of entrenchment. Of all directors, the independent directors should be the least entrenched because their only tie to the firm is through their board duties. Thus, their ownership incentives should work to directly offset any institutional entrenchment in the firm.[128] Two measures of *Entrenchment* are used: Gompers, Ishii and Metrick's (2003) *G-Index* and CEO-Chair duality.[129] *FirmSize* is the natural log of total assets. *Leverage* is the firm's long-term debt to assets ratio. *CEOOwnership* is the percentage of stock owned by the CEO. *MarketBook* is the firm's market value of equity to book value of equity ratio[130]. *Volatility* is the standard deviation of the firm's stock returns over the preceding 60 months.[131] And finally, two other measures of corporate governance are used: *BoardSize* is the number of directors on the board, and *Independence* is the percentage of directors who are neither employees nor related to the firm in some manner.[132] All regressions also include intercepts and year dummy variables, and standard errors are corrected for clustering at the firm level (Petersen, 2005).

However, as discussed above, while they may be able to control the degrees, firms do not choose between having incentive effects and entrenchment effects; all firms have both effects, to some extent. Thus, it is possible that the two effects work in combination with each other. If the combination is indeed the dominant effect, then it would be the interaction of the two effects, rather than either effect independent of the other, that would be dominating the corporate governance environment. To investigate this possibility, equation (1) is modified to include an interactive term composed of *DirectorOwnership* and *Entrenchment*.

(2) $Performance_t = DirectorOwnership_t + Entrenchment_t + (DirectorOwnership_t \times Entrenchment_t) + Performance_{t-1} + IndustryPerformance_t + FirmSize_t + Leverage_t + CEOOwnership_t + MarketBook_t + Volatility_t + BoardSize_t + Independence_t$

Since both *DirectorOwnership* and *Entrenchment* are continuous variables (except for *CEO Duality*), the coefficients on the interactive terms may be difficult to interpret. Thus, indicator variables are created to identify 'good' levels of *DirectorOwnership* and *Entrenchment*. For the *DirectorOwnership* variables, if the amount of ownership is greater than the sample median, it is defined as 'good' and the indicator variable is equal to 1; if the amount of ownership is less than the sample median, the indicator is equal to 0. Similarly, if the *G-Index* score is less than the sample median, it is considered 'good' and the indicator variable is equal to 1; if the *G-Index* score is more than the sample median, the indicator variable is equal to 0. For *CEO Duality*, which is already an indicator variable, the scores are reversed to be consistent with the other definitions of 'good' governance; that is, if the CEO is also the board chair, then the indicator variable is equal to 0; it is equal to 1, otherwise. If the effects of *DirectorOwnership* and *Entrenchment* only work in combination with each other, then we would expect to see a significant coefficient on the interactive terms but not on the individual governance variables.

It is also possible that firms may be uniquely different based on certain characteristics. If so, we may expect to observe different relationships between *Performance*, *DirectorOwnership*, and *Performance* for different types of firms. To investigate the possibility that various firm characteristics may be driving the results, the above analyses are performed on sub-samples sorted based on *FirmSize, MarketBook* and *Independence*. As is shown in Table 2, there is a small positive correlation between the size of the firm and director ownership. It is possible that larger, more mature firms have more well-established incentive policies that are much different than those of smaller firms (restricted stock grants instead of stock option grants, for example). Similarly, a firm's growth opportunities may influence its corporate governance environment. More mature firms with fewer growth opportunities may feel the need to entrench directors and officers because they cannot compensate them

[128] As is suggested in Table 1, insider directors own more stock than independent directors. On average, CEOs own about $18 million in common stock. However, if we focus on CEO dollar ownership rather than independent director ownership, it may be difficult to distinguish between the incentive and entrenchment effects. That is, the CEO may actually be entrenched by the size of their ownership stakes.

[129] The correlation between the GIM *G-Index* and Bebchuk, Cohen and Ferrell's (2009) *Entrenchment Index* is over 0.70. As such, the results from using the *Entrenchment Index* are qualitatively very similar to using the *G-Index*.

[130] *MarketBook* and *Tobin's Q* are mechanically similar variables. However, Table 2 shows that their correlation is very low. Even so, all regressions on *Tobin's Q* are performed without *MarketBook* as a control, and the results are qualitatively similar.

[131] If 60 months of data is not available, a minimum of 36 months is used.

[132] Including 4 different measures of governance as explanatory and control variables raises the concern of multi-collinearity. Table 2 shows that the correlations across the different governance variables are relatively low, with all coefficients less than 0.30. In all cases, the variance inflation factors are less than 6, suggesting than multi-collinearity is not a serious concern.

through additional incentives related to growth. And, because board independence has been such a focus of both corporate and regulatory initiatives[133], it is possible that *Independence* is a dominating characteristic. *Independence* increased from about 60% in 1998 to about 70% in 2007. As board independence has become a focus of corporate governance for firms, it may control the firms' structures with respect to *DirectorOwnership* and *Entrenchment*. Thus, studying the relationships between *DirectorOwnership, Entrenchment* and *Performance* at different levels of *Independence* is necessary. Equation (1) is estimated on each quartile to assess the impact the firm differences have on the incentive and entrenchment effect relationships.

Finally, to see if the results are time specific, the above analyses are performed by year. The 1998-2007 time period has been a unique period with respect to corporate governance, during which we observed many high-profile corporate governance failures, the introduction of the Sarbanes-Oxley Act in 2002, and governance regulations mandated by the major U.S. stock exchanges. It is possible that individuals' and firms' attitudes with respect to various corporate governance mechanisms have changed over time. If so, we might expect to see the relationships from the above analyses change over time. Equation (1) is estimated by year to assess how consistent these relationships are over time.

Ex ante, the expected results are uncertain. From Morck, Shleifer and Vishny (1988) and others, we know that greater director and officer stock ownership can lead to greater firm performance and value. From Gompers, Ishii and Metrick (2003) and others, we know that firms with entrenched directors and officers experience lower firm performance and value. But, we do now know how these two effects necessarily work in combination with each other. And that is precisely the purpose of this study: to uncover whether the incentive effect and the entrenchment effect work together, if they offset each other, or if one effect dominates the other.

4. Results

Table 1 presents the descriptive statistics for the full sample in Panel A, with sub-samples sorted based on the dollar value of the median director's ownership stake and the GIM *G-Index* in Panels B and C. In Panel A, we note that the median director owns stock worth approximately $900,000. The median independent director owns stock worth approximately $500,000 and the sum of the holdings of all independent directors is $5.7 million.[134] Based on the *G-Index*, the average firm has about 9 (out of 24) anti-takeover provisions. The sample firms are generally larger firms, with about 9 board members, 6 of whom are independent. The CEO is also the board chair in about 60% of the firms. The *Performance* and control variables are comparable to other similar studies for this time period.

In Panel B we see that there are noticeable differences between the types of firms with low director ownership and those with high director ownership. Directors have greater stock ownership in larger firms, in firms with less debt, in firms with higher growth opportunities and in better performing firms. Firms with more independent boards also have directors with large stakes, which is interesting considering that CEOs and chairs frequently have the largest ownership stakes. We see similarly interesting relationships in Panel C where the sample is divided into quartiles based on GIM *G-Index*. Larger firms, more levered firms, firms with larger boards, firms with more independent boards and less volatile firms appear to be more entrenched as they have higher GIM *G-Index* scores.

Table 2 presents the correlation coefficients for the primary variables. With the exception of the director ownership variables which should be highly correlated by construction, there are few correlations greater than 0.20. The *DirectorOwnership* variables do not appear to be systematically correlated with either the *Performance* variables or the control variables. Similarly, the two *Entrenchment* variables appear to be uncorrelated with the other primary variables. Untabulated analysis of the variance inflation factors suggests that multi-collinearity is not a serious concern in this analysis.

The primary relationship that is analyzed is from equation (1). The results from estimating equation (1) with both measures of *Performance*, three measures of *DirectorOwnership*, and two measures of *Entrenchment* are presented in Table 3. Panel A presents the results with *ROA* as the dependent variable, and Panel B presents results with *Tobin's Q* as the dependent variable. Three different measures of *DirectorOwnership* are considered and two different measures of *Entrenchment* are used. The results are striking: in all cases, the *DirectorOwnership* variables are positive and highly significant (p-values < 0.01), while none of the measures of *Entrenchment* are significant. In fact, only about half of the coefficients on the *Entrenchment* variables are even negative[135]. These results suggest that the incentive effect of director ownership leads to greater firm performance and valuation, despite any costs associated with directors and officers being entrenched. This result is

[133] The Sarbanes-Oxley Act of 2002 required firms to have an audit committee comprised entirely of independent directors. In November 2003, both the New York Stock Exchange and the NASDAQ issued regulations requiring all listed firms to have a majority of independent directors on their board..

[134] The CEO and chair each average owning about $18 million in stock; dual CEO-chairs own about $30 million.

[135] Note that both the *GIM G-Index* and *CEO Duality* variables are descending, so lower levels are 'better.'

in contrast to Gompers, Ishii and Metrick (2003), who did not control for director ownership in their finding that firms with low entrenchment outperform firms with higher entrenchment.

However, it is possible that these two effects impact firms through some combination of the effects. To control for this, equation (2) allows *DirectorOwnership* and *Entrenchment* to interact to affect *Performance*. Table 4 presents the results estimating equation (2). For conciseness, while the entire equation (2) is estimated, only the coefficients and *t*-statistics for the three variables of interest are presented. Further, only the results considering *ROA* as the measure of *Performance* are presented.[136] However, three different specifications are included. Dummy variables for 'good' levels of *DirectorOwnership* and *Entrenchment* are assigned. If the firm's *DirectorOwnership* is above the sample median, it is assigned a value of 1; firms with *DirectorOwnership* less than the median are assigned a value of 0. If the firm's *G-Index* is less than the sample median, it is assigned a 1, and if the CEO and chair positions are separate, the firm is assigned a 1. This applies a structure such that all measures of 'good' governance have a value of 1 and measures of 'weak' governance have a value of 0. Three variations of interactive terms are considered: dummy for *DirectorOwnership* with continuous value of *Entrenchment*, dummy for *Entrenchment* with continuous value of *DirectorOwnership*, and dummy variables for both effects. In Panel A we see that *DirectorOwnership* is still positively and significantly related to *ROA* while *Entrenchment* is not. These results generally persist in Panels B and C under different specifications. The interaction term in Panel A includes the continuous value of *DirectorOwnership* interacted with whether or not *Entrenchment* is better than the median; in all specifications, the interaction term is not significant. This suggests that 'good' levels of *Entrenchment* are not critical to leading to better firm performance through director ownership. In Panel B, the interaction term includes the continuous value of *Entrenchment* and an indicator variable for whether or not the firm has 'good' levels of director ownership. In this case, the interaction term is negative and significant in all specifications. Because the continuous measures of *Entrenchment* are descending variables, this suggests that 'good' *DirectorOwnership* combined with better levels of *Entrenchment* do lead to superior performance. Taken with Panel A, this suggests that the *DirectorOwnership* effect dominates the *Entrenchment* effect. Finally, in Panel C the interaction term includes the two indicator variables. When *DirectorOwnership* is 'good' and *Entrenchment* is 'good,' the firm experiences better operating performance, suggesting that analyzing the two effects in combination with each other can provide important inferences.

It is possible that certain other firm characteristics may influence a firm's corporate governance structure, and thus may influence the relationships between *DirectorOwnership*, *Entrenchment* and *Performance*. To allow for this possibility, equation (1) is estimated by quartiles based on three different firm characteristics: firm size, market-to-book ratio, and independence of board directors.[137] Because the number of possible combinations of variables is extremely large, this section only focuses on two governance variables: *Median Director Stock Ownership* and *GIM G-Index*. In Panel A, we see that *FirmSize* does not seem to affect the results from Table 3: higher levels of *DirectorOwnership* lead to superior *ROA* for firms of all size, while the negative effects of *Entrenchment* do not seem to adversely affect the firm's operating performance, regardless of firm size. Similarly, neither a firm's growth opportunities, measured through *MarketBook*, nor the *Independence* of the board seem to affect this relationship. In Panel B, these relationships to persist when *Tobin's Q* is the measure of *Performance*: higher levels of stock ownership by directors lead to superior firm valuations, while higher *G-Index* scores do not adversely affect performance, regardless of the size of the firm, its growth opportunities, or the relative independence of its board members. In untabulated analyses, the findings from using the other measures of *DirectorOwnership* and *Entrenchment* are qualitatively similar.

The final analysis considers the results with respect to the sample time period. It is possible that the relationships identified above are time varying. The sample years, 1998-2007, were certainly a time of heightened sensitivity on firms' corporate governance environments, and these relationships may have changed during this period. To allow for this possibility, equation (1) is estimated by year for the relationship between *Median Director Stock Ownership* and *GIM G-Index*. In addition, Fama and MacBeth (1973) analyses are performed over the 10-year period. Again, we see the primary results persist when we focus on the analyses on a year-by-year basis. With the exception of 1999, *DirectorOwnership* is positively and significantly related to superior *ROA*; in all 10 years it is positively and significantly related to *Tobin's Q*. The *Entrenchment* variable – *GIM G-Index* – is not significantly related to either measure of firm *Performance* in any of the 10 years (in 2007, the *p*-value in the *Tobin's Q* equation is 0.0502). Given that the sample sizes are much smaller in several years,

[136] The results using *Tobin's Q* as the dependent variable measure of *Performance* are qualitatively very similar to those for *ROA* and are available upon request.

[137] The only reason for estimating equation (1) rather than equation (2) is for conciseness. In untabulated results, including the interactive term in the firm characteristics regressions does not qualitatively alter the results. All untabulated results are available upon request.

the strength of the *DirectorOwnership* result is striking. Finally, a Fama-MacBeth (1973) analysis is performed on the annual coefficients on *DirectorOwnership* and *Entrenchment* to determine the relative constancy of the relationships. Again, the Fama-MacBeth coefficient for *DirectorOwnerhip* is positive and significantly related to both measures of *Performance*, despite only having a sample size of 10 years. The coefficient for *Entrenchment* is not significantly related to either measure of *Performance*. Of course, this could be due low power of only having a 10-year sample period (or the low power within each year), but the result is nonetheless consistent with all prior analyses.

4.1 ***Sensitivity Tests***

In untabulated results, we consider a variety of issues which may be driving or complicating the above results, as well as some alternative specifications. First, to address the possibility that earnings management may be driving the results including operating income, we include a measure of abnormal accruals using the modified Jones model introduced by Dechow, Sloan and Sweeney (1995). When a measure of *non-discretionary accruals* is included in the models, this variable is usually insignificant and its inclusion does not qualitatively alter the results related to the *DirectorOwnership* and *Entrenchment* variables.

Next, to address the possibility that our *DirectorOwnership* variables are merely a mechanical result of better past performance leading to higher stock prices, which leads to greater ownership, a variable for *past stock return* is included as an explanatory variable. Again, while this variable is periodically positively associated with better firm performance, its inclusion does not alter the main predictions concerning the *DirectorOwnership* and *Entrenchment* variables.

The analysis in Table 6 considers the relationship between *Performance* and the two governance effects for each of the 10 years in the study. In further tests, rather than considering each year individually, two sub-periods are considered: 1998-2002 and 2003-2007. Given that the Sarbanes-Oxley Act was passed in 2002 and the exchange listing requirements were instituted in 2003, it is possible that corporate governance relationships were different in the earlier part of the sample compared to the later part. The empirical results suggest that they were not. *DirectorOwnership* was positively and significantly related to *Performance* during both time periods and *Entrenchment* did not show any relationship with *Performance* in either time period, which is consistent with the other results. This result maintains if we allow 2003 to be a 'transition' year and only include 2004-2007 in the second time period.

Finally, Palia (2001) and Agrawal and Knoeber (1996), among others, note that the relationship between governance mechanisms and firm performance or valuation may be simultaneously determined. That is, the econometric estimation may be biased due to endogeneity. To address this possibility, the above equations are estimated as part of a system of equations using two-stage least squares analysis (2SLS). In the first stage, instrumental variables are used to obtain predicted values of *DirectorOwnership*, *Entrenchment* and *Performance*. As in Bhagat and Bolton (2008), we use a variable calculated as the percentage of directors who are CEOs as the instrument for the *DirectorOwnership* variables, we use the tenure of board members as an instrument for the *Entrenchment* variables, and we use the ratio of treasury stock to assets as the instrument for the *Performance* variables. After obtaining fitted values in the first stage regression, we then use these predicted values of the potentially endogenous regressors in the second stage structural equations estimated above. In some cases, the relationship between *DirectorOwnership* and *Tobin's Q* weakens a bit. But, this is in a minority of cases. And, in all cases including *ROA* as the *Performance* variable, the relationships between *ROA, DirectorOwnership* and *Entrenchment* are qualitatively identical to the relationships discussed above. While these variables may be simultaneously determined, that endogeneity does not affect the results.

5. Discussion

The primary finding of this study is that providing boards of directors with properly aligned incentives through the use of stock ownership leads to better firm performance and higher firm values. This benefit exists despite any potential costs associated with managers and directors being too entrenched to function in the shareholders' interests. This is a novel finding, and has significant implications for both future corporate governance regulation and research. First, it suggests that regulators should proceed with caution in attempting to mandate standardized corporate governance regulations. While there have certainly been notable corporate failures that are likely due to some degree of corporate governance failure – such as Enron and Lehman Brothers – in equilibrium, firms should and do appear to understand that shareholders are better off when directors have the proper incentives to act on their behalf. Second, it suggests prior results showing the significance of entrenched officers and directors may be overstated. That result largely disappears when *DirectorOwnership* is included as a control. Finally, these results show the importance of considering the dollar value of stock ownership of officers and directors as a corporate governance mechanism. When the incentives of officers and directors are best aligned with those of outside shareholders, firms perform better. This is not to say that other measures of corporate governance should not be considered; but, it does suggest that director ownership is an essential

element of any firm's corporate governance environment.

As an econometric study, these findings are limited to the statistical construct and to the interpretations. While certain relationships have been identified as statistically significant, of more importance to practitioners and regulators (and possibly even academics) is whether or not these results are economically significant. It seems that they are. Measuring the elasticity of effects at the means, a 1.00% increase in *Median Director Ownership* leads to a 0.33% increase in *Return on Assets* and a 1.65% increase in *Tobin's Q* (using the analysis in Table 3). This is quite meaningful as it suggests that increasing *Median Director Ownership* by less than $10,000 can yield substantial benefits to shareholders. In contrast, a 1.00% increase in the *G-Index* leads to a 0.10% decrease in *Return on Assets* and a 0.14% decrease in *Tobin's Q*. Small efforts to improve the incentives to directors seem to provide benefits that far outweigh any associated costs related to directors becoming too entrenched.

6. Conclusion

The purpose of this study was to directly compare the benefits associated with providing properly aligned incentives to directors with the costs of directors and managers becoming entrenched. Prior research has identified managing these two corporate governance effects as critical to providing returns to suppliers of capital. The primary research purpose of this study was to identify how incentives and entrenchment affect the performance of firms, and to assess whether one effect dominates the other. The results from this study clearly suggest that the incentive effect dominates the entrenchment effect. That is, the benefits to firm performance and firm value associated with directors owning more stock seem to outweigh the costs of systematic entrenchment by the boards of directors or executive officers. This result is robust to a number of control variables, specifications and time periods. Further, this result is economically significant. From a policy perspective, this suggests that efforts to improve corporate governance environments by mandating shareholder access or board structure may be misguided. Providing directors and managers with greater stockholdings may make them more entrenched, but the benefits of these agents having their incentives at least partially aligned with those of external suppliers of capital seem to far outweigh any costs associated with entrenchment. From an academic research perspective, this suggests that the dollar value of stock owned by directors should continue to be a proxy for governance. And, from a practitioner perspective, this suggests that efforts to improve corporate governance relationships between firms and their stakeholders should focus on providing the board of directors with properly aligned incentives through greater stock ownership. The benefits seem to far outweigh the costs and shareholders seem to be better off because of it.

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Appendix A:
Description of Variables

Median Director Own	The natural log of the dollar value of common stock held by the median director on the board. If the board has an even number of directors, then the average of the two middle directors is used.
Median Outsider Own	The natural log of the dollar value of common stock held by the median independent director on the board. If the board has an even number of independent directors, then the average of the two middle directors is used.
All Outsiders Own	The natural log of the dollar value of common stock held by all independent directors on the board.
GIM G-Index	From Gompers, Ishii and Metrick (2003), this is the sum of 24 anti-takeover provisions in place at the firm (0 to 24 scale)
CEO Duality	Equal to 1 if the CEO also serves as the board chair, 0 otherwise
Board Size	The number of directors on the board
Independence	The percentage of directors on the board who are independent of the firm; that is, those directors who are neither employees of the firm or linked to the firm in some way (former employee, consultant, counsel, etc.)
DumOwnership	Equal to 1 if director ownership is greater than the sample median; 0 otherwise
DumEntrenchment	Equal to 1 if the *GIM G-Index* is less than the sample median, 0 otherwise; or, equal to 1 if *CEO Duality* is equal to 0, 0 otherwise
ROA	Operating income before depreciation to total assets ratio
Q	Tobin's Q - Market value of assets to book value of assets ratio
Industry Performance	The average ROA or Tobin's Q for all firms in the sample firm's 4-digit SIC code, excluding the sample firm
Firm Size	The natural log of the total assets of the firm
Leverage	The ratio of long-term debt to assets
CEO % Ownership	The percentage of common stock owned by the CEO
Market Book	The ratio of market value of equity to book value of equity
Volatility	The standard deviation of the monthly stock returns over the preceding 36-60 months

Table 1
Descriptive Statistics

This table presents the descriptive statistics for the primary variables in the analysis. The variables are as defined in Appendix A. In Panel A, the number of observations, and the mean, median, 5th percentile and 95th percentile values are presented for all firms in the full sample. Panel B presents the median values for each variable within four quartiles sorted by *Median Director Ownership*. Panel B presents the median values for each variable within four quartiles sorted by the Gompers, Ishii and Metrick (2003) *G-Index*.

Panel A: Full sample

	# of observations	Mean	Median	5th percentile	95th percentile
Median Director Own ($)	12,410	$887,739	$925,929	$82,485	$9,876,762
Median Outsider Own ($)	12,321	$492,974	$585,409	$42,955	$4,699,252
All Outsiders Own	12,321	$5,713,580	$5,799,675	$335,256	$118,277,226
GIM G-Index	11,616	9.18	9.00	5.00	14.00
CEO Duality	13,135	59.55%	100.00%	0.00%	100.00%
Board Size	13,135	9.25	9.00	5.00	14.00
Independence	13,135	67.03%	70.00%	33.33%	90.00%
ROA	12,885	12.55%	12.38%	0.07%	28.79%
Q	10,603	2.00	1.52	0.89	4.73
Firm Size ($m)	13,135	$2,144	$1,822	$181	$40,764
Leverage	12,436	18.56%	16.14%	0.00%	48.04%
CEO Ownership (%)	13,135	1.54	0.00	0.00	9.09
Market Book	12,404	2.36	2.18	0.07	6.59
Volatility	12,681	11.20%	9.32%	3.96%	24.57%

Panel B: Full sample, median values of quartiles based on *Median Director Ownership*

Sorted by *Median Director Ownership*, median values				
	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Median Director Own ($)	$185,109	$593,495	$1,374,425	$4,113,323
Median Outsider Own ($)	$136,455	$438,154	$1,015,771	$2,298,857
All Outsiders Own	$1,300,677	$3,807,925	$8,559,210	$20,084,975
GIM G-Index	9.00	9.00	9.00	9.00
CEO Duality	61.64%	61.78%	61.02%	53.93%
Board Size	9.00	9.00	9.00	9.00
Independence	75.00%	72.73%	71.43%	62.50%
ROA	10.62%	11.63%	13.31%	14.23%
Q	1.17	1.40	1.66	2.00
Firm Size ($m)	$1,433	$1,742	$2,209	$2,629
Leverage	21.85%	17.48%	14.85%	11.75%
CEO Ownership (%)	0.00	0.00	0.00	0.00
Market Book	2.36	2.36	2.36	2.36
Volatility	9.89%	9.29%	8.37%	8.77%

Panel C: Full sample, median values of quartiles based on *GIM G-Index*

Sorted by *GIM G-Index*, median values				
	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Median Director Own ($)	$1,091,788	$1,004,897	$831,646	$751,847
Median Outsider Own ($)	$571,095	$646,509	$560,277	$550,292
All Outsiders Own	$5,255,086	$5,944,029	$5,432,688	$6,636,202
GIM G-Index	6.00	9.00	10.00	13.00
CEO Duality	52.54%	60.39%	63.83%	67.70%
Board Size	8.00	9.00	10.00	10.00
Independence	62.50%	70.00%	72.73%	76.92%
ROA	12.45%	12.53%	11.98%	12.48%
Q	1.56	1.54	1.42	1.43
Firm Size ($m)	$1,283	$1,756	$2,576	$3,328
Leverage	12.51%	16.22%	18.72%	18.25%
CEO Ownership (%)	0.00	0.00	0.00	0.00
Market Book	2.36	2.36	2.36	2.36
Volatility	10.48%	9.22%	8.30%	8.08%

Table 2
Correlation Coefficients

This table presents the correlation coefficients between the primary variables used in the analysis. The variables are as defined in Appendix A. The Pearson correlation coefficients are presented below the diagonal and the Spearman rank correlation coefficients are presented above the diagonal.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1)	*Median Director Own*	-	0.836	0.664	-0.101	-0.054	-0.055	-0.200	0.169	0.103	0.124	-0.153	0.097	0.196	-0.066
(2)	*Median Outsider Own*	0.731	-	0.739	-0.027	-0.006	-0.017	0.038	0.129	0.024	0.183	-0.122	0.034	0.102	-0.128
(3)	*All Outsiders Own*	0.589	0.685	-	0.051	-0.008	0.027	0.028	0.098	0.050	0.129	-0.080	-0.030	0.168	-0.233
(4)	*GIM G-Index*	-0.053	0.029	0.065	-	0.026	0.253	-0.273	0.106	0.053	0.174	-0.094	0.106	0.166	-0.168
(5)	*CEO Duality*	-0.042	0.006	0.010	0. 21	-	0.123	0.061	0.019	0.024	0.160	-0.075	0.220	0.148	-0.167
(6)	*Board Size*	-0.013	0.038	0.299	0.226	0.089	-	0.142	-0.004	-0.079	0.196	0.121	-0.106	-0.017	-0.193
(7)	*Independence*	-0.175	0.085	0.258	0.240	0.069	0.127	-	-.010	-0.051	0.143	0.057	0.044	0.001	-0.048
(8)	*ROA*	0.119	0.082	0.098	0.005	0.001	0.006	0.009	-	0.154	0.101	0.189	-0.181	0.000	-0.172
(9)	*Q*	0.106	0.050	0.026	-0.100	-0.035	-0.145	-0.065	0.164	-	0.188	0.070	-0.157	0.030	-0.207
(10)	*Firm Size*	0.105	0.151	0.310	0.154	0.143	0.600	0.184	-0.002	0.154	-	-0.054	0.051	0.463	-0.072
(11)	*Leverage*	-0.098	-0.068	-0.068	0.068	0.034	0.083	0.012	-0.021	-0.212	-0.053	-	-0.010	0.028	0.001
(12)	*CEO % Ownership*	0.051	-0.013	-0.056	-0.118	0.070	-0.113	-0.173	0.050	0.038	-0.119	-0.059	-	0.031	-0.114
(13)	*Market Book*	0.010	0.012	0.013	0.002	0.011	-0.003	0.012	0.020	0.048	-0.007	0.024	0.000	-	-0.087
(14)	*Volatility*	-0.032	-0.082	-0.179	-0.108	-0.046	-0.138	-0.192	-0.191	0.102	-0.133	-0.024	0.064	0.006	-

Table 3
***Performance*, *DirectorOwnership* and *Entrenchment* Relationship**

This table presents the results from estimating equation (1), the impact of *DirectorOwnership* and *Entrenchment* on *Performance*. Ordinary Least Squares estimation is used. In Panel A, *Return on Assets* (*ROA*) is the dependent variable; in Panel B, *Tobin's Q* is the dependent variable. All other variables are as defined in Appendix A. Intercept terms and year dummy variables are included but not presented. Standard errors are adjusted for clustering at the firm level. Coefficients are presented with *p*-values below in parentheses.

Panel A: *Return on Assets*

	Dependent Variable: Return on Assets$_t$					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
ROA$_{t-1}$	0.756	0.758	0.760	0.759	0.757	0.757
	(0.00)	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*
Industry ROA$_t$	0.194	0.194	0.197	0.197	0.195	0.196
	(0.00)	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*
Firm Size$_t$	-0.002	-0.002	-0.001	-0.001	-0.002	-0.002
	(0.07)	*(0.06)*	*(0.12)*	*(0.12)*	*(0.09)*	*(0.08)*
Leverage$_t$	-0.005	-0.004	-0.007	-0.007	-0.005	-0.005
	(0.38)	*(0.41)*	*(0.18)*	*(0.20)*	*(0.32)*	*(0.33)*
CEO % Ownership$_t$	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.45)	*(0.55)*	*(0.63)*	*(0.69)*	*(0.55)*	*(0.61)*
Market Book$_t$	0.000	0.000	0.000	0.000	0.000	0.000
	(0.01)	*(0.02)*	*(0.01)*	*(0.02)*	*(0.01)*	*(0.02)*
Volatility$_t$	-0.084	-0.101	-0.086	-0.102	-0.085	-0.101
	(0.00)	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*
Board Size$_t$	0.000	0.000	0.000	0.000	-0.004	-0.001
	(0.61)	*(0.33)*	*(0.91)*	*(0.76)*	*(0.15)*	*(0.30)*
Independence$_t$	-0.004	-0.004	-0.010	-0.010	-0.015	-0.015
	(0.34)	*(0.30)*	*(0.01)*	*(0.01)*	*(0.00)*	*(0.00)*
Median Director Own$_t$	0.003	0.003	-	-	-	-
	(0.00)	*(0.00)*	-	-	-	-
Median Outsider Own$_t$	-	-	0.002	0.001	-	-
	-	-	*(0.00)*	*(0.00)*	-	-
All Outsiders Own$_t$	-	-	-	-	0.002	0.002
	-	-	-	-	*(0.00)*	*(0.00)*
GIM G-Index$_t$	-0.001	-	-0.001	-	0.001	-
	(0.98)	-	*(0.88)*	-	*(0.81)*	-
CEO Duality$_t$	-	0.001	-	0.000	-	0.001
	-	*(0.67)*	-	*(0.83)*	-	*(0.63)*
R-squared	0.710	0.704	0.708	0.703	0.709	0.704
# of observations	9,251	9,824	9,236	9,791	9,236	9,791

Panel B: *Tobin's Q*

	Dependent Variable: Tobin's Q_t					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Q_{t-1}	0.750	0.684	0.759	0.693	0.755	0.689
	(0.00)	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*
Industry Q_t	0.002	0.002	0.001	0.002	0.001	0.002
	(0.18)	*(0.14)*	*(0.22)*	*(0.17)*	*(0.31)*	*(0.27)*
Firm Size$_t$	-0.041	-0.044	-0.037	-0.037	-0.035	-0.036
	(0.00)	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*
Leverage$_t$	-0.358	-0.386	-0.376	-0.403	-0.355	-0.379
	(0.00)	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*
CEO % Ownership$_t$	-0.003	-0.003	-0.002	-0.002	-0.003	-0.002
	(0.19)	*(0.28)*	*(0.33)*	*(0.56)*	*(0.25)*	*(0.41)*
Market Book$_t$	0.001	0.001	0.001	0.001	0.001	0.001
	(0.11)	*(0.13)*	*(0.11)*	*(0.13)*	*(0.10)*	*(0.13)*
Volatility$_t$	-0.417	-0.552	-0.526	-0.662	-0.469	-0.591
	(0.16)	*(0.06)*	*(0.08)*	*(0.03)*	*(0.12)*	*(0.05)*
Board Size$_t$	-0.001	-0.001	-0.034	-0.003	-0.017	-0.018
	(0.84)	*(0.99)*	*(0.48)*	*(0.53)*	*(0.00)*	*(0.00)*
Independence$_t$	0.106	0.074	-0.096	-0.170	-0.246	-0.339
	(0.10)	*(0.27)*	*(0.13)*	*(0.02)*	*(0.00)*	*(0.00)*
Median Director Own$_t$	0.088	0.103	-	-	-	-
	(0.00)	*(0.00)*	-	-	-	-
Median Outsider Own$_t$	-	-	0.065	0.075	-	-
	-	-	*(0.00)*	*(0.00)*	-	-
All Outsiders Own$_t$	-	-	-	-	0.071	0.084
	-	-	-	-	*(0.00)*	*(0.00)*
GIM G-Index$_t$	-0.004	-	-0.004	-	-0.002	-
	(0.37)	-	*(0.34)*	-	*(0.71)*	-
CEO Duality$_t$	-	0.029	-	0.013	-	0.026
	-	*(0.16)*	-	*(0.52)*	-	*(0.20)*
R-squared	0.664	0.612	0.662	0.609	0.663	0.611
# of observations	7,605	7,993	7,592	7,964	7,592	7,964

Table 4
***Performance*, *DirectorOwnership* and *Entrenchment* Relationship, with Interactive Term**

This table presents the results from estimating equation (2), the impact of *DirectorOwnership* and *Entrenchment*, plus a (*DirectorOwnership* x *Entrenchment*) interactive term, on *Performance.* OLS estimation is used. In all regressions, *Return on Assets* (*ROA*) is the dependent variable. All variables are as defined in Appendix A. Only the coefficients on *DirectorOwnership*, *Entrenchment* and the interactive term; all other terms in equation (2) are included in the estimation but are not presented for conciseness. Intercept terms and year dummy variables are included but not presented. In Panel A, the interactive term is the continuous value of *DirectorOwnership* x a dummy variable equal to 1 if the *Entrenchment* value is below the sample median. In Panel B, the interactive term is the continuous value of *Entrenchment* x a dummy variable equal to 1 if *Median Director Ownership* is above the sample median. In Panel C, the interactive term is the product of the *Median Director Ownership* and *Entrenchment* dummy variables. Standard errors are adjusted for clustering at the firm level. Coefficients are presented with *p*-values below in parentheses.

Panel A: Continuous value of *DirectorOwnership* x Dummy for *Entrenchment* interactive term

	Dependent Variable: Return on Assets$_t$					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Median Director Own$_t$	0.003	0.002	-	-	-	-
	(0.00)	*(0.00)*	-	-	-	-
Median Outsider Own$_t$	-	-	0.002	0.001	-	-
	-	-	*(0.00)*	*(0.02)*	-	-
All Outsiders Own$_t$	-	-	-	-	0.002	0.002
	-	-	-	-	*(0.00)*	*(0.00)*
GIM G-Index$_t$	-0.001	-	-0.001	-	-0.001	-
	(0.70)	-	*(0.85)*	-	*(0.89)*	-
CEO Duality$_t$	-	0.021	-	0.004	-	0.004
	-	*(0.13)*	-	*(0.74)*	-	*(0.76)*
Ownership$_t$ x *DumEntrenchment$_t$*	-0.001	0.001	-0.001	0.001	0.001	0.001
	(0.64)	*(0.13)*	*(0.90)*	*(0.75)*	*(0.72)*	*(0.79)*
R-squared	0.710	0.704	0.708	0.703	0.709	0.704
# of observations	9,251	9,824	9,236	9,791	9,236	9,791

Panel B: Dummy for *DirectorOwnership* x Continuous value of *Entrenchment* interactive term

	Dependent Variable: Return on Assets$_t$					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Median Director Own$_t$	0.002	0.002	-	-	-	-
	(0.00)	*(0.00)*	-	-	-	-
Median Outsider Own$_t$	-	-	0.001	0.001	-	-
	-	-	*(0.17)*	*(0.13)*	-	-
All Outsiders Own$_t$	-	-	-	-	0.002	0.002
	-	-	-	-	*(0.00)*	*(0.00)*
GIM G-Index$_t$	-0.001	-	-0.001	-	-0.001	-
	(0.43)	-	*(0.25)*	-	*(0.42)*	-
CEO Duality$_t$	-	-0.001	-	-0.002	-	-0.001
	-	*(0.55)*	-	*(0.22)*	-	*(0.49)*
DumOwnership$_t$ x *Entrenchment$_t$*	-0.001	-0.003	-0.001	-0.004	-0.000	-0.004
	(0.01)	*(0.10)*	*(0.00)*	*(0.01)*	*(0.00)*	*(0.04)*
R-squared	0.710	0.704	0.709	0.703	0.710	0.704
# of observations	9,251	9,824	9,239	9,791	9,236	9,791

Panel C: Dummy for *DirectorOwnership* x Dummy for *Entrenchment* interactive term

	Dependent Variable: Return on Assets$_t$					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Median Director Own$_t$	0.002	0.002	-	-	-	-
	(0.00)	*(0.00)*	-	-	-	-
Median Outsider Own$_t$	-	-	0.001	0.001	-	-
	-	-	*(0.07)*	*(0.09)*	-	-
All Outsiders Own$_t$	-	-	-	-	0.002	0.002
	-	-	-	-	*(0.00)*	*(0.00)*
GIM G-Index$_t$	0.000	-	0.000	-	0.000	-
	(0.12)	-	*(0.09)*	-	*(0.15)*	-
CEO Duality$_t$	-	0.004	-	0.004	-	0.004
	-	*(0.04)*	-	*(0.07)*	-	*(0.07)*
DumOwnership$_t$ x *DumEntrenchment$_t$*	0.005	0.006	0.006	0.006	0.004	0.006
	(0.01)	*(0.01)*	*(0.00)*	*(0.01)*	*(0.02)*	*(0.01)*
R-squared	0.710	0.704	0.709	0.703	0.709	0.704
# of observations	9,251	9,824	9,236	9,791	9,236	9,791

Table 5
***Performance*, *DirectorOwnership* and *Entrenchment* Relationship, by firm characteristics**

This table presents the results from estimating equation (1), the impact of *DirectorOwnership* and *Entrenchment* on *Performance*. In Panel A, *Return on Assets* (*ROA*) is the dependent variable; in Panel B, *Tobin's Q* is the dependent variable. Within each panel, the analysis is performed on each quartile based on *FirmSize, MarketBook* and *Independence*. All variables in equation (1) are included in the analysis, but only the *DirectorOwnership* and *Entrenchment* variables are presented for conciseness. OLS estimation is used. All variables are as defined in Appendix A. Intercept terms and year dummy variables are included but not presented. Standard errors are adjusted for clustering at the firm level. Coefficients are presented with *p*-values below in parentheses.

Panel A: *Return on Assets*

	Dependent Variable: Return on Assets$_t$			
	Low *FirmSize* Firms <----------> High *FirmSize* Firms			
	Quartile 1	**Quartile 2**	**Quartile 3**	**Quartile 4**
Median Director Own$_t$	0.007	0.005	0.001	0.002
	(0.00)	*(0.00)*	*(0.05)*	*(0.00)*
GIM G-Index$_t$	-0.001	0.000	0.000	0.000
	(0.25)	*(0.49)*	*(0.95)*	*(0.19)*
R-squared	0.646	0.712	0.730	0.833
# of observations	1,693	2,328	2,566	2,664

	Dependent Variable: Return on Assets$_t$			
	Low *MarketBook* Firms <----------> High *MarketBook* Firms			
	Quartile 1	**Quartile 2**	**Quartile 3**	**Quartile 4**
Median Director Own$_t$	0.002	0.001	0.001	0.001
	(0.06)	*(0.04)*	*(0.06)*	*(0.07)*
GIM G-Index$_t$	0.000	0.001	0.000	0.000
	(0.31)	*(0.16)*	*(0.73)*	*(0.35)*
R-squared	0.618	0.625	0.698	0.716
# of observations	2,124	2,355	2,400	2,372

	Dependent Variable: Return on Assets$_t$			
	Low *Independence* Firms <----------> High *Independence* Firms			
	Quartile 1	**Quartile 2**	**Quartile 3**	**Quartile 4**
Median Director Own$_t$	0.002	0.002	0.004	0.003
	(0.00)	*(0.03)*	*(0.00)*	*(0.00)*
GIM G-Index$_t$	0.000	0.000	0.000	0.000
	(0.50)	*(0.95)*	*(0.18)*	*(0.71)*
R-squared	0.675	0.737	0.788	0.663
# of observations	1,973	2,334	2,379	2,565

Panel B: *Tobin's Q*

	Dependent Variable: Tobin's Q$_t$			
	Low *FirmSize* Firms <----------> High *FirmSize* Firms			
	Quartile 1	**Quartile 2**	**Quartile 3**	**Quartile 4**
Median Director Own$_t$	0.210	0.079	0.076	0.041
	(0.00)	*(0.00)*	*(0.00)*	*(0.00)*
GIM G-Index$_t$	-0.006	-0.002	-0.002	-0.008
	(0.76)	*(0.76)*	*(0.68)*	*(0.16)*
R-squared	0.479	0.704	0.752	0.772
# of observations	1,492	2,038	2,123	1,952

	Dependent Variable: Tobin's Q$_t$			
	Low *MarketBook* Firms <----------> High *MarketBook* Firms			
	Quartile 1	**Quartile 2**	**Quartile 3**	**Quartile 4**
Median Director Own$_t$	0.017	0.012	0.022	0.151
	(0.00)	*(0.04)*	*(0.00)*	*(0.00)*
GIM G-Index$_t$	0.001	-0.003	-0.006	-0.007
	(0.53)	*(0.09)*	*(0.07)*	*(0.63)*
R-squared	0.699	0.696	0.737	0.556
# of observations	1,717	1,920	1,985	1,983

	Dependent Variable: Tobin's Q$_t$			
	Low *Independence* Firms <----------> High *Independence* Firms			
	Quartile 1	**Quartile 2**	**Quartile 3**	**Quartile 4**
Median Director Own$_t$	0.070	0.092	0.153	0.060
	(0.00)	*(0.00)*	*(0.00)*	*(0.00)*
GIM G-Index$_t$	-0.002	-0.009	0.010	-0.009
	(0.80)	*(0.41)*	*(0.15)*	*(0.03)*
R-squared	0.689	0.636	0.735	0.736
# of observations	1,644	1,962	1,929	2,070

Table 6
***Performance*, *DirectorOwnership* and *Entrenchment* Relationship, by Year**

This table presents the results from estimating equation (1), *Median Director Ownership* and *GIM G-Index* on *Performance*, year-by-year from 1998-2007. OLS estimation is used. In Panel A, *Return on Assets* (*ROA*) is the dependent variable; in Panel B, *Tobin's Q* is the dependent variable. All other variables are as defined in Appendix A. Intercept terms and year dummy variables are included but not presented. Standard errors are adjusted for clustering at the firm level. Coefficients are presented with *p*-values below in parentheses. A Fama-MacBeth (1973) analysis is also performed on the annual coefficients for both *Median Director Ownership* and *GIM G-Index*, with the FM coefficient and *t*-statistic presented in each Panel.

Panel A: *Return on Assets*

	Median Director Own$_t$		*GIM G-Index*$_t$			
YEAR	Coefficient - β	*t*-Stat	Coefficient - β	*t*-Stat	*R*-squared	*# of observations*
1998	0.0021	*(0.06)*	-0.0004	*(0.56)*	0.552	661
1999	0.0020	*(0.15)*	0.0004	*(0.59)*	0.583	695
2000	0.0007	*(0.08)*	-0.0009	*(0.35)*	0.675	741
2001	0.0056	*(0.03)*	-0.0004	*(0.67)*	0.585	708
2002	0.0039	*(0.03)*	-0.0001	*(0.91)*	0.730	663
2003	0.0067	*(0.00)*	-0.0005	*(0.37)*	0.840	1,091
2004	0.0030	*(0.01)*	0.0002	*(0.74)*	0.784	1,209
2005	0.0031	*(0.01)*	0.0009	*(0.14)*	0.818	1,146
2006	0.0041	*(0.00)*	0.0009	*(0.16)*	0.777	1,208
2007	0.0038	*(0.01)*	0.0004	*(0.43)*	0.757	1,129
FM β	0.0035		0.0001			
FM *t*-Stat	2.007		0.087			

Panel B: *Tobin's Q*

	Median Director Own$_t$		*GIM G-Index*$_t$			
YEAR	Coefficient - β	*t*-Stat	Coefficient - β	*t*-Stat	*R*-squared	*# of observations*
1998	0.0926	*(0.00)*	-0.0054	*(0.68)*	0.699	535
1999	0.0894	*(0.02)*	-0.0483	*(0.11)*	0.649	521
2000	0.1072	*(0.00)*	0.0148	*(0.49)*	0.680	584
2001	0.0683	*(0.00)*	-0.0001	*(0.99)*	0.773	589
2002	0.0625	*(0.01)*	-0.0013	*(0.91)*	0.714	531
2003	0.0891	*(0.00)*	-0.0143	*(0.13)*	0.824	895
2004	0.0630	*(0.00)*	0.0071	*(0.24)*	0.808	981
2005	0.0526	*(0.03)*	-0.0018	*(0.73)*	0.820	962
2006	0.0573	*(0.01)*	0.0053	*(0.28)*	0.851	1,021
2007	0.0605	*(0.00)*	0.0131	*(0.05)*	0.728	986
FM β	0.0743		-0.0031			
FM *t*-Stat	3.991		-0.170			