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Insider Entrenchment and CEO Compensation in Entrepreneurial Firms: An Empirical Investigation

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Insider Entrenchment and CEO Compensation in Entrepreneurial Firms: An Empirical Investigation

A Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business at Virginia Commonwealth University

by

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To Jill

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Abstract

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A Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business at Virginia Commonwealth University.

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This study investigates the effects of insider entrenchment on Chief Executive Officer (CEO) compensation in firms conducting an initial public offering (IPO). The sample comprises 220 US firms that went public between 1996 and 2002. Corporate governance choices regarding entrenchment are captured by six provisions in the corporate charter and bylaws, as well as five anti-takeover statutes, which may or may not be in effect in the state of incorporation. Firm-level items are supermajority requirements for charter amendments, bylaws amendments, and merger approvals, along with the presence or absence of a staggered board of directors, poison pills, and golden parachute agreements. The anti-takeover laws examined are Business Combination,

Control Share Acquisition, Fair Price, Poison Pill Endorsement, and Constituencies Statutes. A factor analysis reveals three distinct components of entrenchment: firm- and state-level external entrenchment and firm-level internal entrenchment. External entrenchment is related to market control over management by means of corporate takeovers; internal entrenchment relates to shareholder control over management by means of their voting power.

Evidence is found for a positive association between entrenchment at IPO and subsequent CEO cash and total compensation. These relationships are driven by firm-level external entrenchment. Firm-level external entrenchment is also significantly and positively associated with CEO stock-based compensation. The positive effects of entrenchment at IPO on CEO compensation appear not to be transitory and remain constant for at least five years post-IPO. Furthermore, entrenchment at IPO is shown to affect CEO pay-for-performance sensitivity. On balance, entrenchment reduces the sensitivity of CEO compensation to stock returns and returns on assets.

The results of this study underscore the crucial importance of insiders' governance decisions made at the time of the IPO. Little support is found for a re-balancing of components of the CEO's compensation contract in response to entrenchment as predicted under the optimal contracting theory of compensation contracts. The findings of this study are almost entirely consistent with the managerial power theory, according to which entrenchment at IPO causes a permanent shift in bargaining power, which enables CEOs to influence compensation contracts in their favor.

Chapter 1

Introduction

I investigate the effect of insider entrenchment in firms conducting an initial public offering (IPO) on contemporaneous and prospective Chief Executive Officer (CEO) compensation. My study thus is located at the point where the compensation and governance literatures intersect. Although executive compensation and corporate governance constitute two of the largest areas of accounting research, studies examining the juncture of the two domains are relatively scarce. My study sets out to add to these bodies of literature, which I will review in the following chapter, primarily in three ways.

Firstly, I introduce a comprehensive measure of insiders' "total" entrenchment, which is based on two distinct dimensions of shareholder's legal rights: the dimensions of internal and external entrenchment. In my framework, internal entrenchment reflects the efficacy of shareholder control over management due to shareholders' voting rights, while external entrenchment primarily concerns the effectiveness of market control over management as reflected in provisions affecting the ease of corporate takeovers. No existent study that I am aware of has assessed the joint and separate effects of these underlying components of entrenchment on executive compensation.

Secondly, my focus on IPO firms enables me to assess the long-term effects of crucial governance decisions at IPO on CEO compensation. While other widely studied

governance characteristics, such as board characteristics or ownership structure (e.g., Core, Holthausen and Larcker, 1999; Cyert, Kang, and Kumar, 2002), are subject to continuous change, legal determinants of governance, particularly those affecting shareholder voting rights—the prime example being a dual-class structure of stock—are essentially determined at IPO and rarely, if ever, change over the course of a corporation's life. Furthermore, "going back in time" and considering firms' governance posture adopted at IPO also helps address endogeneity concerns that plague any study of the contemporaneous relationship between corporate governance characteristics and executive compensation in established firms.

Thirdly, I go beyond ascertaining a relationship, if any, between entrenchment at IPO and levels of CEO compensation. Specifically, I study *how* entrenchment at IPO affects the design of CEO compensation contracts and assess the effect of entrenchment on CEOs pay-for-performance sensitivity. The focus is on determining to what extent entrenchment moderates the relative use of accounting- and/or market-based performance measures in the design of the CEO's compensation contract.

Considering the first contribution of this study in more detail, from the universe of factors contributing to a firm's corporate governance posture, I focus on insider entrenchment. According to Merriam-Webster's Dictionary, entrenchment is "the act of establishing so solidly or strongly as to make dislodgment or change extremely difficult." Thus, my understanding of entrenchment is different from studies such as Gul and Wah (2002), who equalize entrenchment and inside ownership. My focus is on *legal* actions that insiders may take at IPO to make their replacement post-IPO difficult if not

impossible. In this context, I consider determinants of shareholders' versus insiders' rights at the firm level contained in the firm's corporate charter and bylaws, as well as in the statutory law of the state of incorporation. Furthermore, I differentiate between external and internal entrenchment.

The notion that corporate governance is a combination of external and internal governance mechanisms has been put forward by Cyert et al. (2002), Cremers and Nair (2005), and Davila and Penalva (2006). In the framework of all of these studies, legal provisions adopted at the firm-level relating to the market for corporate control constitute external governance characteristics, whereas direct monitoring of management by the board of directors or influential shareholders (blockholders) contribute to internal governance. Thus, external governance is based on the legal environment of the firm, while internal governance is based on firms' board characteristics or ownership structure with a bearing on monitoring quality. I believe that monitoring quality and internal entrenchment are distinct constructs, however. Holding constant monitoring quality, i.e., board structure or ownership characteristics, the exercise of shareholder control over corporate insiders may still be more or less difficult due to differences in shareholder's legal rights. Therefore, while I borrow these studies' terminology and conceptualization, my measures of external and internal entrenchment are constructed to *parallel* each other. *Both* focus on legal determinants with a direct bearing on the ease of dislodgment. I consider a total of eleven legal determinants of entrenchment: six provisions that insiders may adopt at the firm level and five state laws.

The firm-level components of my entrenchment measure are the items forming the entrenchment index proposed by Bebchuk, Cohen, and Ferrell (2005). Their entrenchment index combines a parsimonious set of six firm-level governance provisions with strong entrenching effects. Four of these six items concern internal entrenchment due to restrictions on shareholders' voting power: staggered boards, supermajority requirements to approve bylaws, supermajority requirements for charter amendments, and supermajority requirements for approving a merger. The two remaining items are two prominent takeover defenses—poison pills and golden parachutes—which contribute to external entrenchment by increasing the cost of corporate takeovers and, thus, reducing the effective exercise market control over management. Bebchuk et al. (2005) demonstrate that these six items fully drive the correlation between the G-Index, the most widely used aggregate corporate governance index combining a total of twenty-four items (Gompers, Ishii, and Metrick, 2003), and firm value and stock returns. Their finding that in the presence of these six provisions, no other indicators of shareholder rights contained in the G-Index have a discernible effect on firm value or stock returns, strongly supports my design of an entrenchment measure based on shareholder voting rights and takeover defenses.

Furthermore, firms self-select into legal environments at IPO by choosing their state of incorporation. During the period 1991 to 2000, around 70% of IPO firms chose not to incorporate in their home state but rather to seek out-of-state incorporation (Bebchuk and Cohen, 2003). Bebchuk and Cohen show that firms' decisions where to incorporate can be explained by the presence or absence of five standard types of state

anti-takeover statutes: control share acquisition statutes, fair price statutes, business combination statutes limiting freeze-outs, poison pill endorsement, and statutes allowing the interests of non-shareholders to be wagered against takeover bids. Since the efficacy of the market for corporate control is affected not only by steps taken at the firm-level but also by the friendliness (or hostility) of the legal environment for corporate takeovers, I also include these five takeover statutes in my measure of external entrenchment.

Strong theoretical and empirical support exists for the relevance of all of these eleven items affecting entrenchment at IPO, as will be discussed in detail in the variable measurement section of the methodology chapter. The combined effect of these items on executive compensation has not been studied to date. Moreover, the differential effects of entrenchment due to restrictions on internal versus external control over management have also not yet been explored. Instead, the few existing studies on shareholder rights and compensation have used composite measures of a large number of governance characteristics (e.g., Fahlenbrach, 2008; Davila and Penalva, 2006; Jiraporn, Kim, and Davidson, 2005). The specific effects of these characteristics, if any, on either management-shareholder relations or market control over management are not always unambiguous. To conclude, the measure of insider entrenchment used in this study improves upon other proxies for entrenchment in multiple ways. It is more parsimonious and more specific due to its focus on legal determinants but at the same time more detailed, as it differentiates between two distinct aspects of total entrenchment: limitations on shareholder voting rights (internal entrenchment) and restrictions on the market for corporate control (external entrenchment).

This study is furthermore unique in its focus on firms conducting an initial public offering. I specifically focus on IPO firms to provide for a unique testing ground for agency-theoretical predictions. The initial public offering is a key event in separating ownership from control; pre-IPO firms tend to feature high inside ownership. Consequently, agency issues of the type considered by Berle and Means (1932) and Jensen and Meckling (1976) are not of general concern in the pre-IPO period. The initial sale of shares to the public, however, forces firms for the first time to consider how to mitigate owner-manager, i.e., principal-agent, conflicts. Corporate governance decisions at the time of the IPO are therefore crucial (Baker and Gompers, 2003).

Few studies, however, focus on how corporate governance characteristics of IPO firms affect CEO compensation. Conyon and He (2004) examine the effect of compensation committee characteristics on CEO compensation in entrepreneurial firms. Engel, Gordon, and Hayes (2002) find that differences in IPO firms' information environment are associated with differences in the use of accounting and stock-based performance measures in the determination of CEO pay. Field and Karpoff (2002) study IPO firms' use of anti-takeover measures finding that high CEO cash compensation prior to the IPO explains the adoption of antitakeover measures at IPO. Their study informs the current one since it draws attention to the relevance of governance decisions at IPO, but it is discernibly dissimilar in that its focus is on CEO compensation as a potential antecedent, rather than a consequence, of entrenchment. No previous study of which I am aware of specifically investigates the long-term effects on compensation stemming from a firm’s governance posture taken at IPO. The ability to assess how governance

decisions, which have been exogenously determined by the firm's insiders at IPO, contribute to principal-agent problems, and how compensation contracts are used over time to address these problems, constitutes a primary advantage of studying IPO firms. The theoretical framework of the aforementioned studies, however, did not always take advantage of the unique ability to test agency-theoretical predictions in a sample of firms where agency problems have only just been created, and thus may only have been imperfectly remedied.

In addition, my focus on IPO firms also facilitates one further improvement over previous studies: a more effective control of endogeneity. Empirical work on the influence of any given corporate governance characteristic on executive compensation is generally plagued by the problem of joint endogeneity of variables. Results may therefore be equally consistent with an unobserved, firm-specific variable driving both governance and compensation (Core et al. 1999; Bertrand and Mullainathan, 1999). The retrospective approach of my study, tracing back to the beginning of a firm's timeline, the IPO, considerably mitigates concerns of simultaneous determination: a firms' entrenchment score at IPO cannot itself be the result of CEO compensation several years after IPO.

Finally, moving beyond determining whether entrenchment at IPO and/or its sub-components, internal and external entrenchment, affect components of CEO pay, I plan to assess *how* entrenchment affects the efficacy of performance measures in the design of the CEO's compensation contract. Most studies on the effects of particular corporate governance characteristics on executive compensation test whether the variable of interest has an effect on components of compensation. However, relatively little attention

is given to considering how the observed effect comes about. A notable exception is Davila and Penalva (2006) who find that compensation contracts in firms with inferior governance are associated with increased use of accounting-based performance measures. Their composite measure of "total" governance does not allow one to assess the specific mechanism at work, however, which makes it difficult to interpret the results. In a related study, Kren and Kerr (1997) appraise how the percentage of outside directors and board ownership affects the relationship between CEO compensation and performance measures. Their findings again lack a good explanation, in part because their theoretical framework runs contrary to standard agency theoretical predictions. Their study nevertheless informs my methodological approach.

Along the lines of this group of studies, I will present analyses exploring the effect of entrenchment at IPO on the sensitivity of CEO compensation to changes in market- and accounting based performance measures, i.e., CEO pay-for-performance sensitivity. While certain expectations can be formulated in this respect, I consider the exact relationship, if any, between levels of entrenchment and pay-for-performance sensitivity an open research question: Does entrenchment strengthen or weaken the connection between performance and compensation? Are accounting- or market-based performance measures more prone to being affected by entrenchment? It may not be possible to answer all of these questions fully in this study alone, but even partial answers will enrich the interpretation of the primary results.

The remainder of this study is organized as follows: Chapter 2 reviews the relevant literature focusing on studies that relate firms' corporate governance

characteristics to executive compensation. Particular attention is thereby given to those studies that consider this relationship in the context of entrepreneurial firms. In chapter 3 I outline the theoretical basis of the study and formulate my research hypotheses. Chapter 4 identifies the data sources, defines the variables and addresses variable measurement issues. It also contains the research methodology and empirical models. Chapter 5 presents the result of executing my research approach. The concluding Chapter 6 summarizes the study and its results, takes note of inevitable limitations, and delineates its contributions.

Chapter 2

Literature Review

This study is motivated by the literature on executive compensation and corporate governance, specifically shareholder rights and takeover defenses, and fits best with existent research assessing the effect of firms' governance characteristics on the compensation contracts of executives.

CEO compensation has become a popular area of research in accounting, finance, economics, and organizational behavior over the past two decades, in part due to the increased availability of data in machine-readable form. Business research on CEO compensation has grown from about 1-2 published papers per year prior to 1985 to sixty published papers in 1995 (Murphy, 1999). The contemporaneous debate whether CEO compensation is excessive (Bebchuk and Grinstein, 2005) or justified, either because of company performance (Murphy, 1999) or specifics of the labor market for CEOs (Himmelberg and Hubbard, 2000), continues to fuel academic interest in this area.

Accounting research on CEO compensation focuses predominantly on the relationship between CEO compensation and company performance (Murphy, 1985; Jensen and Murphy, 1990; Abowd, 1990), including comparisons of the relevance of accounting-based versus stock-based performance measures for CEO pay, e.g., Baiman and Verrecchia (1995), Sloan (1993), Lambert and Larcker (1988). Early on, accounting

research also explored whether accounting-based bonuses lead managers to manipulate earnings (Healy, 1985; Holthausen, Larcker, and Sloan, 1995).

The second stream of research motivating my study is corporate governance. Corporate governance mechanisms may be defined as economic or legal institutions that can be altered through the political process (Shleifer and Vishny, 1997). Contributions to the study of firms' corporate governance are not limited to accounting, but also come from finance, economics, law, and other disciplines. The financial scandals of the early 2000s and the subsequent passage of the Sarbanes-Oxley-Act continue to fan the research interest in governance issues. Accounting research on corporate governance is predominantly concerned with two topics: the relationship between governance and either firm value or firm performance, and the effect of governance on incidents of fraud, accounting restatements, or abnormal accruals. Measures for firms' corporate governance quality have been based on a large spectrum of distinct concepts such as board characteristics (Hermalin and Weisbach, 1991; Beasley, 1996; Core, et al., 1999), audit committee characteristics (Abbott, Park, and Parker, 2000), compensation committee characteristics (Conyon and He, 2004), director characteristics (Core and Guay, 1999), inside ownership (Kren and Kerr, 1997), institutional ownership (Hartzell and Starks, 2003), broad-based indices of charter and bylaw provisions affecting shareholder rights (Gompers et al., 2003), and takeover defenses (Daines and Klausner, 2001; Field and Karpoff, 2002). Most recently, Larcker, Richardson, and Tuna (2007) show that the prolificacy of inconsistent results between firms' corporate governance characteristics and accounting and economic outcomes can be attributed to the generally modest levels of

reliability and lack of construct validity of the various measures of "governance quality" employed in existent literature. Their paper motivates my extended analysis exploring the incremental effects of components of entrenchment vis-à-vis the effects of my composite measure of total entrenchment.

The pertinent literature at the intersection of corporate governance and executive compensation research can be categorized roughly into three groups according to the specific governance characteristics hypothesized to affect executive compensation. The largest group of studies focuses on how characteristics of the board of directors affect executive compensation (e.g., Core et al. 1999). Another equally dominant research stream centers on the efficacy of ownership structures in the design of executive compensation contracts (e.g., Cyert al., 2002). Relatively few studies make up the third group, which addresses the impact of legal characteristics such as shareholder rights or takeover protection on compensation contracts (e.g., Fahlenbrach, 2008). It is within this third research stream that my study fits best, and it is this group of studies that constitutes the core of the relevant literature surveyed in this section. However, since studies on the effect of board characteristics or ownership structure form the preponderance of published research on the effect of governance characteristics on executive compensation, I briefly review key studies from these two domains to the extent that I draw on them for motivation, theoretical underpinnings, and methodological approach.

Studies on the link between board characteristics and executive compensation have shown that compensation is higher when the board is relatively weak or ineffectual. Core et al. (1999), who present the landmark study, show that, controlling for economic

determinants of compensation, CEO compensation is higher: (1) when the board is large; (2) when more of the outside directors have been appointed by the CEO; (3) when outside directors serve on three or more boards; (4) when a higher percentage of "gray" directors serves on the board; (5) when directors are older; and (6) when the CEO is also the chairman of the board. Interestingly, however, Core et al. do not find evidence that outside directors are better monitors of management than inside directors. Similarly, Yermack (1996) and Cyert et al. (2002) also find no evidence of an association between CEO compensation and the fraction of outside directors on the board, while Mehran (1995) demonstrates that the percentage of annual compensation that is equity-based increases with the fraction of outside directors. Hermalin and Weissbach (2003) present a general overview of the literature on board characteristics and point out two primary weaknesses of this stream of literature: joint determination (endogeneity) of the board characteristics and the variable of interest, which is not always taken into account, and the frequently unclear stance on whether the findings represent equilibrium or out-of-equilibrium phenomena. The research on board characteristics provides important motivation for my study. Specifically, the relationship between the quality of board monitoring and executive compensation has been a primary testing ground of agency theoretical predictions, which also form the core of my theoretical framework delineated in Chapter 3. I also draw heavily from this research stream with respect to my model specifications and choice of control variables as discussed in Chapter 4.

The effect of governance on executive compensation has also been studied with a focus on ownership characteristics. With respect to insider ownership, CEO

compensation has been found to be a decreasing function of the equity held by the CEO, and CEO compensation is lower when there is a member on the board other than the CEO who owns at least 5% of the shares (Core et al., 1999). With respect to outside ownership, Cyert et al. (2002) find a negative correlation of the equity ownership of the largest shareholder and the level of salary, equity, and discretionary compensation. Doubling the percentage ownership of the outside shareholder reduces non-salary compensation by about 12-14 percent. Bertrand and Mullainathan (2001) find that the CEO in firms that lack a 5 percent (or larger) external shareholder tend to receive more "luck-based" compensation, i.e., compensation associated with profit due to factors outside of the manager's control, such as changes in oil prices and exchange rates. Similarly, Hartzell and Starks (2003) present evidence that concentrated institutional ownership is associated with lower executive compensation. These results are consistent with closer monitoring of executives' actions in the presence of a large outside shareholder.

Kren and Kerr (1997) study how board members' stock ownership and the proportion of outsiders on the board moderate the weight of accounting- and market-based performance measures in CEO compensation contracts. This study provides my primary impetus for considering how entrenchment affects the design of the CEO's compensation contracts as reflected in pay-for-performance sensitivity. Kren and Kerr find that firms with higher equity ownership of board members tie CEO compensation more closely to both accounting and market returns. This finding runs contrary to standard agency theory, which predicts that weaker (and not stronger) governance is associated with increased use of performance measures in the design of compensation

contracts of executives. However, they also find that the proportion of outside directors serving on the board was associated with significantly decreased use of market returns in CEO compensation. Thus, results on the effect of governance characteristics on pay-for performance sensitivity are mixed in this study. As Kren and Kerr, I use the interaction term of entrenchment with accounting- and market-based performance measures as a primary test of the effect of entrenchment on pay-for-performance sensitivity.

Finally, a limited number of studies have examined the relationship between corporate governance and executive compensation with a focus on legal determinants of governance. My measure of entrenchment at IPO is based on state-level takeover statutes and firm-level charter provisions with an arguable effect on levels of takeover protection and shareholder rights. Accordingly, studies on the effect of takeover legislation or entrenching charter provisions on executives' compensation contracts are of primary importance for my study. Only a few studies have explored this connection.

Bertrand and Mullainathan (1998) present the primary study exploring the effect of anti-takeover legislation on executive compensation. Drawing on a sample of 611 firms during the years 1984-1991, they assess how the adoption of three typical anti-takeover laws in certain states (namely, control share acquisition statutes, fair price statutes, and business combination statutes[1]) affected CEO compensation. They find that mean CEO total pay and CEO pay-for-performance sensitivity increased following the passage of the three statutes under consideration. However, their results on CEO pay-for-

[1] See Appendix A for an explanation of these anti-takeover statutes.

performance sensitivity must be interpreted with caution due to their uncommon model specification, which is based on levels rather than changes in CEO total compensation. Bertrand and Mullainathan argue that the effect of takeover measures on CEO compensation may support both an optimal contracting model of CEO pay, as well as a "skimming model" in which reduced takeover fears enable executives to extract excess rents. Based on supplemental analyses they conclude that increases in mean pay surpass levels that would be expected under the optimal contracting view thus lending more credence to a skimming explanation for their results.

Similarly, Cheng, Nagar, and Rajan (2005) show that CEOs reduced their share holdings by an average of 15 percent, when their firms were protected by state anti-takeover legislation. Their study was based on Forbes 500 firms and considered takeover legislation enacted during the period from 1984 to 1991. The results corroborate Bertrand and Mullainathan's findings. Together, these two studies provide conclusive evidence for the relevance not only of measures adopted at the firm level, but also of state-level regulation with a bearing on the ease of corporate takeovers.

I include all three statutory provisions considered by Bertrand and Mullainathan in my entrenchment measure. A priori, however, the exact effect of these laws on executive compensation is not clear, however, for my sample period 1996 to 2002. Specifically, fair price and business combination statutes were deemed important in the late 1980s (Bebchuk et al., 2005). However, Delaware courts began legalizing the poison pill in a series of cases starting with the 1985 landmark decision Moran v. Household

International.[2] Currently, firms' ability to maintain a pill indefinitely may render the incremental effect of share acquisition statutes, fair price statutes, and business combination statutes on takeover protection insignificant. On the other hand, Bebchuk and Cohen (2003) show that the presence or absence of these statutes continues to be an appreciable factor in firms' decision where to incorporate.

Borokhovich, Brunarski, and Parrino (1997) study executive compensation in firms that adopt two types of charter provisions with entrenching effects in the period from 1979 to 1987: supermajority requirements for the approval of mergers and fair price provisions. Using a matched sample of 129 firms, they find that firms adopting these provisions display higher CEO cash compensation in the year of adoption and the subsequent three years when compared with companies that did not adopt these provisions. Furthermore, they show that CEOs of firms with these charter amendments consistently receive compensation in excess of market compensation as measured by the difference between actual compensation and compensation predicted by a regression model including various known determinants of executive compensation. They interpret these results as evidence for the entrenching effect of charter provisions enabling CEOs to extract excess compensation.

Aggarwal and Knoeber (1998) study the effect of takeover threats on CEO compensation. They proxy for the threat of a takeover using the actual industry incidence of takeovers as well as the actual incidence of the firm being taken over within a predetermined time period. They argue that increased takeover threats exercise two

[2] Moran v. Household International, 490 A.2d 1059 (Del., 1985).

opposing effects on CEO compensation: a labor market competition effect, which reduces levels of compensation because more competitive environment restrains managers' ability to extract excess rents, and a risk of lost compensation effect, which increases compensation because managers may need to be compensated for the increased risk of forfeiting components of long-term pay in a high takeover threat environment. Using cross-sectional data, Aggarwal and Knoeber do not find that their proxies for takeover threats are associated with CEO compensation (salary plus bonus). However, when assessing the differential impact of their takeover threat measures on CEO compensation in firms where the CEO is protected by a golden parachute agreement, they find that both effects are present but that the risk of lost compensation effect dominates such that higher takeover threats are associated with increased compensation. Aggarwal and Knoeber's results are difficult to interpret since the proclivity for corporate takeovers in a given industry may not be a good proxy for the actual takeover threat faced by an individual firm within the given industry. Their study nevertheless provides important evidence of the relevance of takeover threats in the design of compensation contracts. Specifically, they show that the presence of golden parachute agreements, one of the firm-level provisions considered in this study, affects levels of CEO cash compensation.

Research on statutory law and firms' charter provisions affecting corporate governance received a significant boost through the work of Gompers et al. (2003). Gompers et al. construct a corporate governance index (the G-index) to measure the overall balance between shareholder and insider rights. The G-Index is based on data reported by the Investor Responsibility Research Center (IRRC). The IRRC reports data

on twenty-four governance provisions that are rooted in the state legal environment, corporate charter, or bylaws, and that appear advantageous to management. Gompers et al. show that a broad index of the IRRC provisions,[3] giving each provision equal weight, is negatively correlated with firm value (Tobin's Q) and stockholder returns.

In a related study, Bebchuk et al. (2005) develop an entrenchment index (the E-Index), which is based on a selective subset of six out of the twenty-four IRRC governance provisions. Four of the six provisions are charter or bylaw stipulations affecting shareholders' voting rights (staggered boards, limits to shareholder bylaw amendments, supermajority requirements for mergers, and supermajority requirements for charter amendments). The remaining two are "takeover readiness" provisions that boards put in place to protect themselves in case of a hostile takeover (poison pills and golden parachutes). Bebchuk et al. show that the provisions contained in the E-Index fully drive the correlation between the G-Index and reduced firm value and lower stock returns. In addition, they find no evidence that any of the other eighteen IRRC provisions excluded from their E-Index are negatively correlated with either firm value or stock returns. They therefore conclude that any entrenching effect of charter provisions must be entirely due to takeover defenses and restrictions on shareholder voting power.

Both the G-index and E-index have recently been used to study the effects of shareholder rights on executive compensation. Fahlenbrach (2008) finds that firms with

[3] These provisions are: anti-greenmail, blank check preferred stock, business combination laws, bylaw and charter amendment limitations, classified board, compensation plans with change in control provisions, director indemnification contracts, control share, cash-out laws, cumulative voting requirements, director's duties, fair price requirements, golden parachutes, director indemnification, limitations on director liability, pension parachutes, poison pills, secret ballot, executive severance agreements, silver parachutes, special

weaker shareholder rights as measured by the G- Index have CEOs who are paid more and have less pay-for-performance sensitivity. These results hold if the G-Index is replaced with the E-Index or a sub-index of the G-Index containing takeover defenses only. Based on supplemental analysis, Fahlenbrach concludes that his results are consistent with an optimal contracting view of executive compensation. In a closely related study, Jiraporn, Kim, and Davidson (2005) confirm that CEOs of firms where shareholder rights are weak (per the G-Index) obtain more favorable compensation. They also find that when shareholder rights are weak, CEOs are able to demand higher pay when shareholder wealth increases, but when shareholder wealth decreases there is no corresponding decline in CEO compensation. Accordingly, they interpret their results as confirming rent expropriation rather than optimal contracting. While significant differences in models and methodology exist between these two studies, the difference in findings is striking given that both studies are based on ExecuComp and IRRC data, use virtually the same sample, and focus on the same variable of interest, the G-Index.

The G-Index is also used in the study of Davila and Penalva (2006), who assess how governance affects the implicit weights on accounting- and market-based performance measures in CEO compensation contracts. Thus, their study is related to Kren and Kerr (1997). Davila and Penalva discuss the importance of internal and external governance measures for total governance but employ a single composite measure of governance based on the G-Index, an indicator variable for CEO/Chairman of the board identity, the proportion of inside directors, and the number of board meetings per year.

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meeting requirements, supermajority requirements, unequal voting rights and limitations on action by

They report a positive and significant interaction effect of their governance variable with accounting performance (ΔROA). Davila and Penalva infer that weaker governance enables CEOs to influence their compensation contracts such that increased weight is based on accounting performance. I do not concur with this interpretation. Increased use of performance-based compensation in the presence of weak governance is in keeping with standard agency theoretical predictions of optimal contracting. Their explanation of managerial rent seeking through increased use of accounting performance measures thus warrants additional analysis. Specifically, Davila and Penalva do not establish that the increased use of accounting performance measures results in higher pay for the executive and do not present evidence *why* CEO would want to tilt their compensation contracts towards increased use of accounting performance measures.

All of the studies in this last group are important, since they highlight the relevance of shareholder rights in the design of compensation contracts. However, "shareholder rights" as captured in the G-Index may be too broad (or vague) of a concept to serve as a starting point for a compelling story of the relationship between managerial power and executive compensation. While these studies greatly inform the theoretical underpinnings, hypotheses development, and methodological approach of my study, they also differ from mine in the following ways. I move away decisively from "lumped" governance measures of various shareholder rights, such as the G- or E-Index, and use a comprehensive measure for a much tighter concept "entrenchment." I examine the long-term effects of entrenching measures at IPO on CEO compensation, while existing

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studies focus on the contemporaneous relationship between some governance measure and executive pay in established firms. As well, I explore the effect of entrenchment more deeply by differentiating incremental effects of external and internal entrenchment and by assessing the effect of entrenchment on the weighting of performance measures in CEO compensation.

Chapter 3

Hypotheses Development

I posit that entrenchment at IPO has long-ranging effects on the severity of principle-agent problems in a firm as evidenced by systematic long-term effects on levels of CEO compensation as well as on CEOs' pay-for-performance sensitivity.

As Gompers et al. (2003) have put it: corporations are republics. The ultimate responsibility in all affairs of the firm rests with the owners, i.e., the shareholders. The shareholders elect representatives, a Board of Directors, to exercise oversight over the corporation in their place. The directors in turn hire the firm's executives to run the day-to-day business. The balance of power between the insiders of the corporation, i.e., the directors and executives of the firm, on the one hand, and the shareholders, on the other hand, depends on the specific rules governing the internal relations of the corporation. These rules are contained in the firm's corporate charters and bylaws and also depend on the corporate laws of the state of incorporation.

All rules relevant to the governance of the firm are initially determined at IPO. Prior to going public, firms review and revise their choice of general legal environment and select a state of incorporation. The percentage of IPO firms incorporating in a state other than their home state was 67% and 75% for the periods 1991 to 1995 and 1996 to 2000, respectively (Bebchuk and Cohen, 2003). The low percentage of home-state

incorporations suggests that firms optimize their legal environment prior to going public. Furthermore, when going public, firms adopt new charters to facilitate the transition from a privately owned, closely controlled entity to a public firm with dispersed ownership. The corporate charter prior to going public is drafted by the majority of the original owners of the firm at the time. The firm's pre-IPO insiders are therefore in the unique position to affect the future effectiveness of shareholder and market control over management by setting charter provisions and selecting state anti-takeover protection at a level consistent with their own preferences. These considerations support a measure of entrenchment at IPO that is based on a combination of firm-level charter provisions affecting shareholder rights and takeover probability and state-level anti-takeover protection attained through incorporation into a particular state.

Furthermore, while changes to the rules governing shareholder-insider relations could be made with the majority vote of the shareholders, evidence exists that there is little year-to-year variation in firms' charter provisions affecting shareholder rights after IPO. Gompers et al. (2003) observe a mean change of only 0.60 for individual firms in the twenty-four provisions that constitute their G-Index between publication dates of governance data in the IRRC database (e.g., 1990, 1993, 1995, and 1998). The reported median change of the G-Index between publication dates is zero. Since there are generally three years between each publication of governance data by the IRRC, a 0.60 mean change in governance provisions in between publication dates indicates that firms on average add or drop one of the twenty-four items that make up the G-index every five years. The median firm does not change its governance posture at all. Additional

evidence comes from Field and Karpoff (2002), who focus on IPO firms' use of takeover defenses. In their sample of 1,019 firms going public between 1988 and 1992, they find an estimated unconditional rate of change in takeover defenses for the first five years after IPO of 2.2 percent. Specifically, they find that the average number of new poison pills or staggered boards, two primary items of importance included in my entrenchment measure, adopted during the first five years after IPO is very low (0.04). Taken together, this evidence indicates that there is a meaningful amount of stability in firms' governance posture taken at IPO.

To date, no previous study of which I am aware assesses the effect of entrenchment at IPO on CEO compensation. This is surprising because existing evidence on firms' corporate governance decisions at IPO is ambiguous. Based on standard agency-theoretical predictions (Jensen and Meckling, 1976) firms going public should be expected to adopt optimal governance structures, designed to minimize agency costs thereby maximizing firm value. This expectation is convincing because the existing shareholders, i.e., the pre-IPO corporate insiders, bear the cost of suboptimal governance and therefore should have a strong incentive to optimize the governance structure when going public (Baker and Gompers, 2003). Easterbrook and Fischel (1991) express this expectation as a statement of fact, albeit without presenting evidence: "Firms go public in easy to acquire form: no poison pill securities, no supermajority rules or staggered boards."

By contrast, Brennan and Franks (1997) argue that firms' insiders opportunistically take steps at IPO to ensure that they will maintain their private benefits

of control after the firm's stock is publicly traded. Daines and Klausner (2001) examine whether IPO firms' use of anti-takeover measures is consistent with two primary efficiency explanations of takeover protection. Stein (1988) argues that takeover defenses decrease managerial myopia because a reduced threat of replacement may reduce managements concern about short-term goals and facilitate optimal investment in long-term projects. Stulz (1988) posits that takeover defenses improve firms' bargaining power in takeover situations and enable management to negotiate higher takeover premiums. Daines and Klausner do not find that the pattern of adoption of takeover defenses by IPO firms is consistent with either of these two alternative explanations and conclude that firms adopt takeover measures for purposes of insider entrenchment, thus, confirming Brennan and Frank's proposition. Field and Karpoff (2002) present similar evidence. Taken together, the findings on IPO firms' adoption of entrenching provisions, particularly anti-takeover measures, appear consistent with insiders' desire to protect their private benefits of control post-IPO. Thus, studying the effect of entrenchment at IPO on post-IPO CEO compensation is a logical extension.

Two conflicting theories predict the effect of entrenchment at IPO on the design of executive compensation contracts: the "optimal contracting" theory and the "managerial power" theory. Both theories are grounded in principle-agent theory. Principal-agent theory was first put forward by Berle and Means (1932) and formalized by Jensen and Meckling (1976) and Fama (1980). According to agency theory, the managers of a corporation run the business as "agents" for the owners of the corporation, i.e., shareholders. The "agency problem" stems from the potential for management to

serve its own self-interest in managing the business at the expense of the owners. So far, the optimal contracting and managerial power view of compensation are in agreement. The two views differ, however, in their assessment of the role of executive compensation contracts with reference to agency problems.

According to the optimal contracting view, executive compensation arrangements serve as a remedy to agency problems. Shareholders (the principal) will alleviate agency problems by designing an optimal compensation contract, which includes an appropriate incentive pay structure to align management's (the agent's) interest with their own. Analytical papers have demonstrated that components of compensation contracts are substitutes (e.g., Almazan and Suarez, 2003; Gibbons and Murphy, 1992). Specifically, incentive pay and the principal's direct monitoring of the agent's performance work as substitute mechanisms, which jointly contribute to the alleviation of the agency problem. If one dimension of incentives is weak, then the principal must increase the proportion of other incentive devices to establish an overall optimal level of incentives. Monitoring strength and incentive pay are, thus, inversely related, so that even if direct monitoring of the agent's effort is weak, the overall compensation package is still set at the optimal level with higher proportions of performance-based pay compensating for the lower quality of direct monitoring (Beatty and Zajac, 1994; Hermalin and Weisbach, 1991; Murphy, 1985).

Entrenchment insulates firms' insiders from the disciplinary threat of intervention or removal by shareholders and reduces the probability of an ouster through a successful corporate takeover. Thus, under the optimal-contracting view of compensation contracts,

the reduced effectiveness of corrective action by shareholders or the market for corporate control should be offset by increased pay-for-performance sensitivity. As the threat of termination becomes a less feasible device to motivate management to act in the best interest of shareholders, higher proportions of executive pay must be tied to the achievement of performance goals to address the principal-agent problem. This "optimal contracting" or "substitution" perspective of compensation contracts is the prevalent view held by financial economists and often represents a maintained hypothesis (see, e.g., Core, Guay and Verrechia, 2003).

In contrast, proponents of the alternate "managerial power" view (Bebchuk and Fried, 2003) argue that entrenchment enables managers to influence their compensation contracts so that these contracts do not reflect optimal incentive levels, but rather managerial preference. According to this view, entrenchment leads to a permanent shift in bargaining power over the rents of the company. Thus, on the basis of the managerial power view, executive compensation is not only regarded as a remedial instrument for addressing agency problems but also as part of an agency problem, i.e., an agency cost.

A number of studies support this view. Ljungqvist and Habib (2003) examine the effect of option grants on shareholder value and find that CEOs receive too many options; the marginal incentive benefit of the last option is less than the cost to shareholders. In other words, shareholder value would increase if the number of options held by CEOs were reduced, holding everything else constant. This finding is difficult to reconcile with optimal contracting but is consistent with the presence of managerial power and rent extraction. Other studies documenting evidence of features of executive compensation

contracts consistent with the managerial power view include Yermack, 1995 and 1997, and Bertrand and Mullainathan, 2001.

To summarize, both the optimal contracting and managerial power views of executive compensation contracts are based on standard agency theory. The two views conflict but represent complements rather than alternatives (Jiraporn et al., 2005). Market forces, emphasized by optimal contracting, drive compensation toward value-maximizing, optimal outcomes, whereas managerial self-interest exercises a force toward sub-optimal outcomes favored by management. As such, the managerial power view recognizes that these forces are significant and that compensation contracts cannot be explained adequately by optimal contracting alone (Bebchuk and Fried, 2003).

The optimal contracting and managerial power perspectives lead to different expectations about the effect of insider entrenchment at IPO on CEO compensation as discussed in the context of each of the following hypotheses. Considering the evidence presented by Bebchuk and Fried (2003), Daines and Klausner (2001), and Field and Karpoff (2002), who find that managers take steps at the time of the IPO to ensure the continuation of their private benefits of control, I believe a priori that the relationship between entrenchment at IPO and CEO compensation is more consistent with the managerial power perspective. Therefore, I formulate my hypotheses consistent with the managerial power view. Table 1 contains a summary of the expected effects adopting either the optimal contracting or the managerial power view.

Effect of Entrenchment at IPO on CEO Compensation

The managerial-power theory asserts that entrenchment will increase the CEO's bargaining power and influence over his or her compensation contract and, thus, enable the extraction of excess rents. Assuming risk-aversion, CEOs will prefer cash compensation to riskier performance-based compensation. The managerial power perspective therefore suggests that entrenchment at IPO will enable CEOs to demand a larger portion of their pay in cash. Conversely, the optimal-contracting theory posits that firms will react to the reduction in direct monitoring effectiveness by substituting away from fixed components of compensation. Thus, the managerial power and optimal contracting theories predict opposite effects on the levels of cash compensation. In accordance with the managerial power view, I expect entrenchment at IPO to be associated with higher levels of CEO cash compensation.

H1a: Insider entrenchment at IPO is positively related to CEO cash compensation.

Optimal contracting predicts increased use of performance-based pay in response to the reduction in shareholders' direct control over management. Accordingly, under optimal-contracting, increased grants of stock-based compensation are expected to facilitate alignment of shareholder and management interests. The effect of entrenchment on the levels of stock-based compensation under managerial-power, however, is less clear. It is possible that insiders use their increased influence over their compensation contracts to reduce their compensation risk by substituting higher cash compensation for riskier stock-based compensation. In this case, reduced or unaffected levels of stock-

based compensation would accompany increased levels of cash pay. On the other hand, extreme managerial power may enable insiders to demand higher cash pay without sacrificing levels of stock-based compensation. While a negative or non-significant relationship between entrenchment and stock-based compensation would not contradict managerial power, a positive and significant effect in the presence of an also positive and significant effect on cash compensation would strongly support the managerial power perspective. Bebchuk and Fried (2003) supply evidence consistent with the latter expectation.

H1b: Insider entrenchment at IPO is positively related to CEO stock-based compensation.

H1b is an important building block to assess the effects of entrenchment at IPO. However, since a positive effect of entrenchment on stock-based compensation may be consistent with either the optimal-contracting or managerial power perspectives, hypothesis H1b cannot by itself serve as a test to discriminate between the two competing explanations. It must be interpreted in context with the results for the other hypotheses.

The expected effect of entrenchment on levels of total compensation is straightforward. Executives' influence over their own compensation contracts should result in higher levels of total compensation. Under optimal contracting, however, no such one-dimensional expectation exists. The optimal contracting view predicts that entrenchment will trigger increased emphasis of performance-based components in the compensation contract to substitute for the reduced effectiveness of direct monitoring. However, firms may have to compensate risk-averse CEOs with higher compensation for

the increase in firm-specific risk borne by the executives as a consequence of the increased proportion of stock-based pay. Thus, from the perspective of managerial power, the effect of entrenchment at IPO on the level of total compensation is predictably positive. From the perspective of optimal contracting, the effect is ambiguous. A positive effect on levels of total compensation may or may not exist. Therefore, the level of total compensation again cannot serve as a test to differentiate between the two viewpoints unless interpreted in context. Based on the managerial power perspective, I expect a positive relation between entrenchment at IPO and total CEO compensation.

H1c: Insider entrenchment at IPO is positively related to CEO total compensation.

Effect of Entrenchment at IPO on CEO Compensation over Time

To assess the long-term effects of entrenchment at IPO on CEO compensation contracts, I examine the differential effect of the entrenchment posture taken at IPO on CEO compensation for five years post-IPO. The primary objective of this set of hypotheses is to establish the importance of governance decisions at IPO as reflected in their long-term effect on executive pay. The question of interest is whether the effect of entrenchment at IPO on CEO compensation (if any) is consistent, decreasing, or even increasing over time. Based on the managerial-power perspective, entrenchment causes a permanent increase in insiders' influence over their compensation contracts. If entrenchment bears out as a permanent shift in bargaining power over the rents of the corporation, then the effect of entrenchment at IPO on cash, stock-based, and total CEO

pay in the post-IPO years should be constant. Basing my expectations again on the managerial-power perspective, I thus conjecture:

H2a: The positive association of insider entrenchment at IPO with CEO cash compensation is constant over time.

H2b: The positive association of insider entrenchment at IPO with CEO stock-based compensation is constant over time.

H2c: The positive association of insider entrenchment at IPO with CEO total compensation is constant over time.

Studying a possible time-effect in entrenchment may also provide additional evidence enabling differentiation between the managerial power and optimal contracting views. Under optimal contracting, levels of entrenchment at IPO, which have been exogenously determined by the corporate insiders prior to going public, should be incorporated over time into an optimal contract structure such that the effect of entrenchment at IPO on CEO compensation, if any, should not persist. Accordingly, substitution of pay components should show in a decreased use of cash-based compensation and an increased use of stock-based compensation over time. As discussed in the context of hypothesis H1c above, the effect of entrenchment on total compensation over time, however, is ambiguous because of the potential need to compensate the executive for increased sharing of the firm's idiosyncratic risk. It will be necessary to consider the results for all hypotheses jointly to assess whether the evidence is more consistent with one or the other theory.

Effect of Entrenchment at IPO on CEO Pay-for-Performance Sensitivity

Optimal contracting theory predicts increased use of market or accounting-based performance measures in the design of the executive's compensation package in the presence of entrenchment. More of the executive's compensation should be tied to the attainment of performance goals to substitute for the relative weakness of direct monitoring. I assess the strength of the tie between pay and performance by investigating the degree to which changes in compensation are driven by changes in firm performance. A stronger association between changes in CEO's total and cash compensation and market- and accounting-based performance measures should be observable in the presence of entrenchment. No such prediction exists based on the managerial-power view. On the contrary, extreme managerial power suggests a negative effect of entrenchment on the relationship between accounting- and market-based performance measures and changes in CEO compensation consistent with an increased ability of entrenched executives to disconnect their pay increases (or decreases) from increases or decreases in firm performance. Accordingly, based on the managerial-power perspective and the preceding argument, I hypothesize:

H3a: Insider entrenchment at IPO is associated negatively with the pay-for-performance sensitivity of CEO cash compensation.

H3b: Insider entrenchment at IPO is associated negatively with the pay-for-performance sensitivity of CEO total compensation.

Summary of Hypotheses

The following table summarizes the hypotheses and respective expectations under the managerial power and optimal contracting views of executive compensation contracts.

[Insert Table 1 about here]

Chapter 4

Research Methodology

In this section, I first discuss my data sources and sample selection criteria. Next, I present variables and variable measurement separately for the dependent variables (compensation variables), the independent variables of primary interest (entrenchment variables), and other independent variables (control variables). Appendix C contains a summary of the variable descriptions. I conclude by outlining my estimation methodology and introducing the statistical models.

Data Sources

To test the hypotheses on the effect of insider entrenchment at IPO on CEO compensation, I use data from a sample of US firms completing an initial public offering in the years 1996 to 2002. Data availability and the necessity to combine data from a number of different sources put restrictions on the construction of the sample and also dictate the time frame of 1996-2002.

Data on entrenchment at IPO are primarily collected from the corporate charters and bylaws. These documents are included as an appendix to the firm's S-1 registration statement filed with the SEC prior to the initial public offering of shares. Additional data on entrenchment and firm and executive characteristics prior to IPO come from the firms' IPO prospectus. Registration statements and IPO prospectuses are available on EDGAR.

Companies were phased into filing on EDGAR over a three-year period ending on May 6, 1996. My sample is, therefore, restricted to firms going public in the year 1996 or later. Furthermore, since I assess the effect of entrenchment at IPO on future CEO compensation for a time period of five years post-IPO, I cannot include firms going public after 2002 to ensure the availability of data for at least five years after IPO.

Compensation information comes from companies' annual proxy statement (SEC form DEF14A). Standard and Poor's maintains a machine-readable database, ExecuComp, which contains compilations of compensation data and related information from the annual proxy statements. I rely on ExecuComp data to the extent possible and require availability of compensation data in this database for at least some years. If compensation data is not available for the entire first five years post-IPO, I supplement with hand-collected data from the DEF14A forms. Firm financial information is extracted from Compustat; stock price information comes from the CRSP monthly data files. Thus, coverage in three databases is required for firms to be included in my sample: ExecuComp, Compustat, and CRSP. Details of my sample construction, the sample description, and analysis addressing potential concerns of sample selection bias are included in the Sample Selection and Description section in the Empirical Results and Analysis chapter.

Dependent Variables: CEO Compensation

Following studies such as Core et al. (1999), Engel et al. (2002), or Bebchuk and Grinstein (2005), I analyze annual total CEO compensation (TCOMP) and, separately, its two key components cash compensation (CASHCOMP) and stock-based compensation

(STOCKCOMP). Data for the computation of these variables come from the ExecuComp database or from the company's annual DEF14A proxy statement.

My primary operationalization of CEO cash compensation is based on the sum of the CEO's annual salary and bonus (CASHCOMPb) (Core, Guay, and Verrecchia, 2003; Sloan, 1993). However, for a test of robustness, I define cash compensation alternatively as the sum of salary, bonus, and other annual cash pay (CASHCOMPc) (Murphy, 1999), and salary only (CASHCOMPa). STOCKCOMP equals the sum of the value of annual grants of stock options and restricted stock. The value of restricted stock grants is as reported by the company in its annual DEF14A proxy statement. I determine the value of annual stock option grants using a modified Black-Scholes (1973) option valuation methodology. Modifications relate to simplifying assumptions with respect to the grant date and holding term of options and adjustments to account for extreme volatilities and dividend yields. Details on my modified Black-Scholes option valuation methodology, which parallels the methodology on which Black-Scholes values reported in ExecuComp are based, are contained in Appendix B. TCOMP is the sum of salary, bonus, other annual (cash) pay, restricted stock grants, stock options grants, long-term incentive plan payouts, and all other pay. All compensation variables are adjusted to 1996 dollars using the Consumer Price Index (CPI) published by the U.S. Bureau of Labor Statistics to control for inflation and log transformed to correct for skewness.

Independent Variables: Entrenchment at IPO

My measure of entrenchment at IPO combines six firm level and five state law provisions. The selection of these eleven items is based on the premise that entrenchment

of insiders comes about by a reduction in the effectiveness of monitoring by the company's shareholders, i.e., internal entrenchment, and by a reduction in the effectiveness of market monitoring, i.e., external entrenchment. In addition, I see entrenchment arising from a combination of legal provisions contained in the corporate charter and in the corporate laws in effect in the state of incorporation.

At the firm level, there are six items that prior empirical evidence suggests are relevant in aiding insider entrenchment. These are the items that comprise the entrenchment index (E-Index) as described by Bebchuk et al. (2005). The E-Index is a shorter set of the governance index, the "G-Index," developed by Gompers et al. (2003). The G-Index contains twenty-four corporate governance provisions relating in the widest sense to shareholder rights. Bebchuk et al. find, however, that the results of previous studies that employed the G-Index are driven entirely by a sub-set of six items relating to entrenchment including: (1) staggered boards, (2) limitations on shareholders' ability to amend bylaws, (3) supermajority requirements for mergers, (4) supermajority requirements for charter amendments, (5) poison pills, and (6) golden parachutes. These provisions restrict shareholder rights and contribute to insider entrenchment as follows:

Staggered Boards: When the board is staggered, directors are divided typically into three classes with only one class of directors coming up for reelection each year. As a result, shareholders are unable to replace an ineffective board at any given shareholder meeting. In the most typical case of the three classes of directors, it will take at least two annual shareholder meetings to replace a majority of the directors.

Supermajority Requirements for Bylaw Amendments: Shareholders have the power to vote to change the company bylaws, which contain various governance arrangements. In some companies, shareholders' power to amend the bylaws is constrained by limits included in the corporate charter or in the bylaws themselves. Such limits usually take the form of supermajority requirements that can make it difficult, if not impossible, for shareholders to amass enough votes to pass a bylaw amendment opposed by management. Supermajority requirements are very effective in constraining shareholders' voting power, because not all non-management shareholders are likely to participate in a vote, and management commonly commands or influences at least some votes.

Supermajority Requirement for Charter Amendments: Shareholders have the power to vote to approve charter amendments. Some companies, however, limit the ability of shareholders to pass charter amendments by requiring a supermajority. In the presence of such provisions, management might be in a position to defeat or impede charter amendments, even if it loses control of the board.

Supermajority Requirements for Mergers: Shareholders have the power to vote to approve mergers. Some companies, however, require a supermajority for the approval of mergers. As in the case of supermajority requirements for charter amendments, such provisions put management in a position to defeat mergers, even if control of the board is lost.

Poison Pills: Poison pills, also known as shareholder rights plans, are warrants or rights which entitle their holders to receive significant value from the firm. Typically,

such plans allow shareholders to purchase shares at a discount without board approval. These rights are triggered and become exercisable in the event that a buyer obtains a significant block of shares beyond a predetermined threshold. Poison pills make hostile takeovers without the approval and collaboration of the incumbents prohibitively costly. Therefore, once issued by the company, poison pills preclude a hostile bidder as a practical matter from buying shares as long as the incumbents remain in office and refuse to neutralize the pill. Poison pills, thus, provide considerable protection against replacement.

Golden Parachutes: Golden parachutes are terms in executive compensation agreements that provide executives with substantial monetary benefits in the case of termination due to a change in control. The effect of such arrangements is twofold. First, golden parachutes increase the cost of a takeover and, thus, decrease takeover probability. Second, golden parachute payouts provide incumbents with substantial insulation from the economic costs that they would bear otherwise as a result of losing control.

The first four of these provisions infringe on shareholder control over management by restricting the effective exercise of voting rights. Shareholder voting power is ultimately the source of all of their power. Limitations on shareholder voting power over the affairs of the corporation, therefore, directly bear on the effectiveness of shareholder control and contribute to insider entrenchment by making it difficult to replace incumbent directors and to change the balance of power between shareholders and insiders determined at IPO.

The other two provisions, poison pills and golden parachutes, are important takeover readiness provisions that boards put in place in preparation for hostile takeover attempts. These provisions strongly affect takeover probability and, thus, contribute to entrenchment by reducing the effectiveness of market control over management. In this context, golden parachute agreements warrant a more detailed discussion. It has been argued that golden parachute agreements serve the interests of shareholders by inciting incumbents to readily accept acquisition attempts (Lambert and Larcker, 1985). However, I view golden parachute agreements, particularly those that have been drafted at IPO by the insiders of the firm, as being motivated by the desire to reduce the effects of market discipline for corporate control. The typical golden parachute agreement is quite unsophisticated and promises a substantial lump-sum payment and immediate vesting of options in the case of any change of control. If such agreements were part of an incentive scheme, I would expect parachute payouts to be tied more purposefully to the creation of shareholder value. Depending on the specific situation, of course, it is possible that golden parachute arrangements may incite management to take a positive stance towards takeovers as has been suggested by Lambert and Larcker. However, this does not contradict that such arrangements take the "threat" out of "termination threat" and thereby decrease the effectiveness of market control over management.

In addition, varying degrees of takeover protection exist, depending on the state of incorporation. Evidence of the entrenching effect of state anti-takeover laws comes from the event study of Bertrand and Mullainathan (1998), who show that the adoption of state anti-takeover statutes results in increased executive compensation. Furthermore, Bebchuk

and Cohen (2003) show that states, which offer stronger anti-takeover protection, are substantially more successful in retaining in-state firms and in attracting out-of-state incorporations. This finding strongly suggests that a firm's decision of where to incorporate is a conscious choice to avail itself of the legal regime in a particular state. Thus, if takeover likelihood and takeover cost depend on the state of incorporation's stance as being friendly or unsympathetic towards hostile takeovers, then total external entrenchment is a joint function of firm-level and state law takeover protection.

To capture differences in levels of state anti-takeover statutes, I rely on the items that make up the state anti-takeover protection index (API, Bebchuk and Cohen, 2003). The API is based on five standard takeover laws which any given state may or may not have adopted and includes: (1) control share acquisition statutes, (2) fair price statutes, (3) business combination statutes limiting freeze-outs, (4) poison pill endorsement, and (5) statutes allowing the interests of non-shareholders to be taken into account in the consideration of takeover bids. These provisions are explained in more detail in Appendix A.

Some states allow firms to opt out of certain takeover protection statutes. For instance, Delaware law permits corporations to decline coverage under its business combination statute by electing to do so in their articles of incorporation. In determining whether firms are covered under a State's statutory provisions, I take such opt-out decisions into account.

In sum, thus, I consider eleven items, which arguably contribute to entrenchment at IPO: six firm-level measures and five state takeover laws. Each of these items is coded

one if the provision is present, and zero otherwise. The entrenchment variable total entrenchment (ENT) is then computed based on the total number of firm or state-level entrenching provisions present in a given firm at IPO. The range of the entrenchment measures, therefore, is zero to eleven.

Independent Variables: Control Variables

My models include a set of commonly used variables from the empirical executive compensation literature to control for expected CEO compensation. One group of control variables captures characteristics of the environment in which the firm operates, while a second group of variables controls for certain CEO characteristics with a potential effect on compensation. All control variables representing dollar amounts are adjusted to 1996 dollars using the CPI index to control for inflation.

Larger firms have more complex operations requiring more skilled executives, which may be paid more (Baker and Hall, 2004). Furthermore, the more complex environment of larger firms may make direct monitoring more difficult such that higher levels of equity incentives are needed to address agency problems (Demsetz and Lehn, 1985). I control for firm size effects (SIZE) by including the natural logarithm of previous year's total assets in the regressions.[4]

Smith and Watts (1992) argue that firms with dynamic growth have more complex operations and may need more skilled managers with higher pay. Furthermore, Himmelberg, Hubbard, and Palia (1999) stress that performance signals in a dynamic

[4] As a test of robustness, I also use the natural logarithm of previous year's net sales and of previous year's market value of equity as proxies for firm size.

growth environment are likely to be noisier. Their study suggests that monitoring in high-growth firms is more difficult and implies that firms will resort to increased equity incentives to align shareholder and management interests (Demsetz and Lehn, 1985). As in previous literature, I use the book-to-market ratio (B_to_M) as a proxy for growth opportunities and operation complexity (e.g., Core et al., 1999; Engel et al., 2002). The book-to-market ratio is the ratio of the book value of common equity to the market value of common equity measured at the end of the previous fiscal year. It is important to control for expected compensation using predetermined variables (Core, 2002). I follow Core (2002) and measure both SIZE and B_to_M at the end of the previous year as a predetermined control for expected compensation.

Firm risk is an additional important control as firm risk bears both on the firm's information environment and the risk of its operating environment. No exclusive prediction exists as to the exact effect of firms' idiosyncratic risk on the compensation contract of executives (Aggarwal and Samwick, 1999; Himmelberg et al., 1999; Demsetz and Lehn, 1985). I control for the effect of firm risk (VOLATILITY) on the compensation contract by including the standard deviation of monthly stock returns for the fiscal year obtained from the CRSP monthly stock files (Engel et al., 2002). Furthermore, the firm’s capital structure can affect the CEO’s pay-for-performance sensitivity in multiple ways. For instance increased debt may mitigate agency problems by inducing closer monitoring by creditors of the corporation and by reducing the available free cash flow (Ortiz-Molina, 2007). I control for firm’s capital structure

(LEVERAGE) by including the debt-to-asset ratio defined as total liabilities divided by total assets as of fiscal year end.

Drawing on Palia (2001) and Himmelberg et al. (1999), I also include capital intensity (CAP), i.e., the ratio of net property, plant, and equipment to net sales for the fiscal year as a control variable. Long-term tangible assets can be monitored more easily than more discretionary "soft capital" inputs (e.g., R&D spending or advertising spending). Accordingly, capital intensity serves as proxy for the extent of agency problems. A specific control for levels of managerial discretion through levels of soft-capital spending is difficult to implement due to limited reporting of the necessary data items. Inclusion of the fixed-capital-to-sales ratio, however, also entails an inverse control for soft capital.

Standard agency theory suggests that compensation is an increasing function of firm performance. Consistent with Sloan (1993), Core (2002), Core et al. (1999), as well as the majority of compensation research, I include market- and accounting based measures of firm performance in the models: stock returns (RETURN) and the change in return on assets (ΔROA). RETURN is the annual stock return of the firm for the fiscal year compounded from CRSP monthly stock files; ΔROA is the difference in earnings before extraordinary items divided by total assets from the year prior to the fiscal year to the fiscal year. Including ΔROA rather than ROA takes into account that ROA is persistent and uses lagged ROA as a proxy for expected ROA (Lambert and Larcker, 1987). Core (2002) demonstrates that the results of regressions of levels of compensation on ROA are sensitive to the exclusion of a control for expected ROA. The use of ΔROA

accomplishes this control. RETURN and ΔROA are also the dominant performance measures used in the literature to assess pay-for-performance sensitivity.

In addition to the above controls for firms' economic parameters, I control for the presence of a dual class of shares, incorporation in Delaware, and the adoption of a "zero cash" compensation policy. Some firms have more than one class of stock and unequal voting rights among the various classes of shares exist. In the typical dual-class company, there is a publicly traded "inferior" class of stock with one vote per share and a non-publicly traded "superior" class of stock with ten votes per share usually owned mostly by the insiders (managers, directors, or founders) of the firm. Field and Karpoff (2002) report that 6% of firms in their sample of 1,042 firms going public between 1988 and 1992 had a structure of unequal voting rights due to the existence of multiple classes of stock.

Firms with more than one class of stock are virtually immune to a hostile takeover (Gompers, Ishii, and Metrick, 2007). Therefore, if a dual-class voting structure exists in a firm, there may be no need for insiders of such firms to add any additional entrenching provisions to the corporate charter or to give the anti-takeover laws of the state of incorporation particular consideration. I control for the extreme entrenching effect of unequal voting rights by including an indicator variable (DUAL_CLASS), which is equal to one if the corporation has at least one class of shares with superior voting rights, and zero otherwise. Furthermore, I control for incorporation in the state of Delaware by including an indicator variable (DELAWARE), which is equal to one if the firm is incorporated in Delaware, and zero otherwise. Incorporation in Delaware may be driven

by other factors than just the state's levels of takeover protection. Delaware by far attracts the most out-of-state incorporations (Bebchuk and Cohen, 2003). Delaware features a very well developed system of corporate law. Accordingly, incorporation in Delaware minimizes the risk associated with legal uncertainty associated with incorporation in other states that do not have as well-defined legal systems. Including an indicator variable for Delaware incorporation, thus, controls for a Delaware effect in the choice of the state of incorporation other than takeover protection.

Finally, some firms may have adopted a "zero cash" compensation policy according to which no cash salary is paid to the executive. It is important to control for the presence of such compensation policies due to the large effect exercised by these "zero" observations in the regressions of cash compensation. I include an indicator variable (ZERO_CASH), which is equal to one if the firm has adopted an explicit policy not to pay cash compensation, and zero otherwise.

Turning to the group of control variables reflecting CEO characteristics, I include CEO age (AGE) and the CEO's length of tenure with the firm (TENURE) based on Gibbons and Murphy's (1992) study of executive career concerns. Their study suggests that younger executives work harder, and thus need fewer incentives, due to their long-term career concerns. With increasing tenure, the executive's ability becomes known, career concerns become less important, and motivation requires larger incentives. Yermack (1997) suggests that agency problems are larger when the CEO is also the chairperson of the board. I, thus, include an indicator variable CHAIR, which is equal to one in the case of CEO-chairperson identity and zero otherwise. A particularly important

control, especially considering my particular sample of IPO firms, is CEO founder status. I include an indicator variable FOUNDER, which is equal to one if the CEO is the founder or one of the co-founders of the company, and zero otherwise. Conyon and He (2004) find that founder-CEOs receive lower total compensation and higher equity incentives, which is consistent with the importance of other private benefits of control for founder-CEOs not captured in compensation.

Furthermore, I control for the CEO's ownership stake in the firm (OWN), which is defined as the percentage of outstanding shares owned by the CEO and his or her immediate family. Core et al. (1999) find that CEO ownership has a significant negative association with levels of compensation. This negative relationship is consistent with the expectation that annual compensation plays a less important role for executives who derive a substantial part of their wealth from their shareholdings in the firm. Controlling for CEO ownership is particularly important in my sample of IPO firms. Demsetz and Lehn (1985) show that firms' display a value-maximizing ownership structure consistent with, among other aspects, the optimization of monitoring effectiveness. However, this may not hold for firms immediately after their IPO. Aggarwal and Samwick (2002) note that CEOs of recent IPOs, particularly founder-CEOs, own large fractions of the company, but that this fractional ownership is not due to optimal contracting in a principal-agent setting. Similarly, Field and Hanka (2001) show that executives' ownership positions remain very high one year after the IPO, falling from 27.5% at the time of the IPO to 25.3% one year later, in part due to lockup provisions. Since higher

retained CEO ownership indicates a decreased need for the grant of equity-based pay to align shareholder and management interests, controlling for CEO ownership is crucial.

I incorporate an indicator variable for a change of the CEO in the fiscal year (NEW_CEO), which is equal to one if the CEO has changed from the year prior to the fiscal year, and zero otherwise. If a new CEO takes office, large equity incentives may be required to immediately align shareholder-management interests (Engel et al., 2002). This variable, thus, controls for unusual patterns in compensation due to a change in the office holder. Data for all variables capturing CEO characteristics (AGE, TENURE, CHAIR, FOUNDER, OWN, and NEW_CEO) come from ExecuComp and have been supplemented with information from firms' registration filings and annual proxy statements. Finally, I control for year effects by including calendar year indicator variables (YEAR) and for industry effects by including indicator variables for the 48 Fama-French industries (INDUSTRY) (Fama and French, 1997). Table 26 summarizes the Fama-French industry classifications.

[Insert Table 26 about here]

Empirical Methodology

My data are characterized by repeated observations for a sample of firms over time, and, thus, represent a panel. I therefore expect the observations for each firm to be serially and cross-sectionally correlated. The structure of my data dictates that the common assumption of OLS regression (errors are both homoskedastic and uncorrelated

across observations) may be predictably violated. Firstly, I expect the presence of firm effect in my data, i.e., I expect the 1999 residual for firm A to be correlated with the 2000 residual for firm A. This effect may be temporary only. Specifically, the 1999 residual for firm A may be more highly correlated to the 2000 residual for firm A than to the 2005 residual. In addition, the possibility of a time effect exists in my data. This means the year 1 post-IPO residual of firm A may be correlated to the year 1 post-IPO residual of firm B. However, my sample contains firms that went public during the period 1996 to 2002. Therefore, the year 1 after IPO is not the same calendar year for all firms. This considerably mitigates the concern that a macroeconomic shock, e.g., a September 11 effect, influences variables, such as net income, sales, stock returns etc, across all firms and, thus, causes observations to be correlated across time. My concern, therefore, lies primarily with an estimation approach that reliably corrects for the firm effect.

Petersen (2007) and Gow, Ormazabal and Taylor (2008) review frequently used estimation techniques for correcting cross-sectional and time series dependence in finance and accounting panel data sets. Both studies find that the performance of the approaches varies considerably and depends on the structure of the data. Comparing the standard methodologies employed in the literature, Petersen (2007) finds that in the presence of a firm effect, standard errors are biased when estimated by OLS, White, Newey-West, Fama-MacBeth, or Fama-MacBeth corrected for first-order autocorrelation. In addition, one frequently used econometric method used for the analysis of panel data, a firm-fixed effects model (e.g., Bertrand and Mullainathan, 2000; Himmelberg et al., 1999), produces unbiased standard errors only when the firm effect is permanent rather

than temporary. A firm fixed effects approach would be problematic if used for my study for other reasons, as well. The fixed-effects approach eliminates the unobservable time-invariant firm-fixed effects by differencing sample observations around the time-series sample means. Since my variable of interest, entrenchment at IPO, is time-invariant, differencing the observations would eliminate the variable. A firm fixed-effects model is, therefore, not a feasible approach for my research question.

To address the econometric issues presented by the structure of my data set, I use a two-way fixed effects regression model with both year and industry dummy variables. To control for time-series dependence, i.e., the fact that firm-level observations are expected to be correlated over time that is the "firm" effect, I avoid the aforementioned approaches and use cluster robust standard errors, clustering on a firm-level as suggested by Petersen (2007) and Gow, Ormazabal, and Taylor (2008). Cluster-robust standard errors, also referred to as Huber-White or Rogers standard errors, represent an extension of the White (1980) heteroskedasticity robust standard errors. The Huber-White estimator consistently estimates standard errors if errors are uncorrelated across clusters, but allows for correlation within cluster. Thus, clustering by firm will reliably correct for time-series correlation, which is a primary concern given the structure of my data, but assumes that observations across clusters are independent. Based on simulated data, Petersen (2007) shows that standard errors clustered by firm are unbiased and produce correctly sized confidence intervals whether the firm effect is permanent or temporary.

To address remaining concerns of a time-effect in addition to a firm-effect in my data, I include calendar year dummies in the regressions to control for time-effects

parametrically. However, as indicated above, cross-sectional correlation, i.e., time effects, should be mitigated in my data set due to the selection of firms from different IPO years, such that no consistent year-effect should be observable across firms.

Effect of Entrenchment at IPO on CEO Compensation (H1a-c)

I will estimate the following model (1) to assess the effect of entrenchment at IPO on CEO compensation:

$$\ln(\text{CEO COMPENSATION})_{it} = \beta_{0it} + \beta_1 \text{ENT}_i + \beta_2 \text{SIZE}_{it-1} + \beta_3 \text{B\_to\_M}_{it-1} + \beta_4 \text{LEVERAGE}_{it} + \beta_5 \text{CAP}_{it} + \beta_6 \text{VOLATILITY}_{it} + \beta_7 \text{RETURN}_{it} + \beta_8 \Delta\text{ROA}_{it} + \beta_9 \text{DUAL\_CLASS}_{it} + \beta_{10} \text{DELAWARE}_{it} + \beta_{11} \text{ZERO\_CASH} + \beta_{12} \text{FOUNDER}_{it} + \beta_{13} \text{CHAIR}_{it} + \beta_{14} \text{NEW\_CEO}_{it} + \beta_{15} \text{TENURE}_{it} + \beta_{16} \text{AGE}_{it} + \beta_{17} \text{OWN}_{it} + \Sigma\beta_k \text{YEAR} + \Sigma\beta_l \text{INDUSTRY} + \varepsilon_{it} \quad (1)$$

In the above model (1), the subscript *i* refers to a firm and the subscript *t* refers to a year such that each *it* represents a firm-year observation for a variable. The dependent variable ln(CEO COMPENSATION) represents the natural log of one of three specifications of CEO compensation: cash compensation (CASHCOMP),[5] stock-based compensation (STOCKCOMP), or total compensation (TCOMP). The variable ENT represents entrenchment at IPO and, thus, is time-invariant. The variables SIZE and B_to_M are for the fiscal year prior to the fiscal year of the compensation grant, i.e., *t-1*. All other variables are measured for the fiscal year *t* of the compensation grant. The firm-

[5] My primary operationalization of CEO cash compensation is based on the sum of CEOs' annual salary and bonus (CASHCOMPb), (Core, Guay, and Verrecchia, 2003; Sloan, 1993). As a test of robustness, I also estimate the model for CASHCOMP using two alternative specifications: CASHCOMPa is annual salary only and CASHCOMPc is defined as the sum of salary, bonus, and other annual cash compensation.

year error term is denoted as ε_{it}. Variable definitions are summarized in Appendix C. Statistical significance tests on β_1 will inform on the effect of entrenchment at IPO on subsequent CEO compensation.

Effect of Entrenchment at IPO on CEO Compensation over Time (H2a-c)

I will test the long-term effect of entrenchment at IPO on CEO compensation by adding interaction terms of the entrenchment measure ENT with a time trend variable TIME (model 2a) and with a set of indicator variables for the years post-IPO (model 2b) to the model for testing H1a-c (model 1 above):

$$\ln(\text{CEO COMPENSATION})_{it} = \beta_{0it} + \beta_1 \text{ENT}_i + \beta_2 \text{SIZE}_{it-1} + \beta_3 \text{B\_to\_M}_{it-1} + \beta_4 \text{LEVERAGE}_{it} + \beta_5 \text{CAP}_{it} + \beta_6 \text{VOLATILITY}_{it} + \beta_7 \text{RETURN}_{it} + \beta_8 \Delta\text{ROA}_{it} + \beta_9 \text{DUAL\_CLASS}_{it} + \beta_{10} \text{DELAWARE}_{it} + \beta_{11} \text{ZERO\_CASH} + \beta_{12} \text{FOUNDER}_{it} + \beta_{13} \text{CHAIR}_{it} + \beta_{14} \text{NEW\_CEO}_{it} + \beta_{15} \text{TENURE}_{it} + \beta_{16} \text{AGE}_{it} + \beta_{17} \text{OWN}_{it} + \beta_{18} \text{ENT}_i\text{xTIME}_{it} + \Sigma\beta_k \text{YEAR} + \Sigma\beta_l \text{INDUSTRY} + \varepsilon_{it} \quad (2a)$$

In the above model, ln(CEO COMPENSATION) again represents the natural log of one of three specifications of CEO compensation: cash compensation (CASHCOMP), stock-based compensation (STOCKCOMP), or total compensation (TCOMP). All other variables are the same as those in the model (1), except for the inclusion of an interaction term of ENT with a variable TIME, which equals 1 in the first year post-IPO, 2 in the second year post-IPO etc. If the effect of ENT changes over the years, it should result in a positive (or negative) and significant result for β_{18}.

Alternatively, I test for a time trend in the effect of entrenchment on levels of CEO compensation by adding four interaction terms to model (1) which capture the

differential effects, if any, of ENT in the years 2, 3, 4, and 5 post-IPO, respectively. For each firm-year observation, the dummy variables YEAR2 to YEAR5 indicate whether the observation relates to the 2nd, 3rd, 4th, or 5th year post-IPO, respectively. These variables are coded one if the observation is for that particular year, and zero otherwise:

$$\ln(\text{CEO COMPENSATION})_{it} = \beta_{0it} + \beta_1 \text{ENT}_i + \beta_2 \text{SIZE}_{it-1} + \beta_3 \text{B\_to\_M}_{it-1} + \beta_4 \text{LEVERAGE}_{it} + \beta_5 \text{CAP}_{it} + \beta_6 \text{VOLATILITY}_{it} + \beta_7 \text{RETURN}_{it} + \beta_8 \Delta\text{ROA}_{it} + \beta_9 \text{DUAL\_CLASS}_{it} + \beta_{10} \text{DELAWARE}_{it} + \beta_{11} \text{ZERO\_CASH} + \beta_{12} \text{FOUNDER}_{it} + \beta_{13} \text{CHAIR}_{it} + \beta_{14} \text{NEW\_CEO}_{it} + \beta_{15} \text{TENURE}_{it} + \beta_{16} \text{AGE}_{it} + \beta_{17} \text{OWN}_{it} + \beta_{18} \text{ENT}_i \text{ x YEAR2}_{it} + \beta_{19} \text{ENT}_i \text{ x YEAR3}_{it} + \beta_{20} \text{ENT}_i \text{ x YEAR4}_{it} + \beta_{21} \text{ENT}_i \text{ x YEAR5}_{it} + \Sigma\beta_k \text{YEAR} + \Sigma\beta_l \text{INDUSTRY} + \varepsilon_{it} \quad (2b)$$

In this specification, the variable ENT only captures the effect of entrenchment in the first year after IPO. If the result of entrenchment at IPO is a constant shift in bargaining power, as suggested by the managerial-power theory, then the time passed since the IPO should not mitigate the effect of entrenchment on the levels of compensation. Hence, the coefficients on β_{18} to β_{21} should be non-significant, or, in the case of extreme power, positive and significant. In contrast, the optimal contracting view posits that contracting arrangements serve as substitutes. In the presence of entrenchment at IPO firms will react to the out-of-equilibrium situation by adjusting alternative governance components such as board effectiveness or ownership structure so that CEO compensation is set at optimal levels. Accordingly, from the optimal contracting perspective, any effect of entrenchment at IPO should be mitigated over time, suggesting that the coefficients on β_{18} to β_{21} display a negative trend.

Effect of Entrenchment at IPO on CEO Pay-for-Performance Sensitivity (H3a-b)

Following the majority of studies, which center on the "flow" of executive compensation, I employ the following model (3) for testing the effect of entrenchment at IPO on pay-for-performance sensitivity:

$$\Delta \ln(\text{CEO COMPENSATION})_{it} = \beta_{0it} + \beta_1 \text{RETURN}_{it} + \beta_2 \text{ENT}_i \text{ x RETURN}_{it} + \beta_3 \Delta\text{ROA}_{it} + \beta_4 \text{ENT}_i \text{ x } \Delta\text{ROA}_{it} + \Sigma\beta_k \text{ YEAR} + \Sigma\beta_l \text{ INDUSTRY} + \varepsilon_{it} \quad (3)$$

In the above model, $\ln\Delta$(CEO COMPENSATION), i.e., ln(CEO COMPENSATION)$_t$ – ln(CEO COMPENSATION)$_{t-1}$, represents the change in log cash compensation (ΔlnCASHCOMP) or total compensation (ΔlnTCOMP), respectively. In a basic model of pay-for-performance sensitivity, the estimated coefficients β_1 and β_3 indicate the sensitivities of CEO cash or total compensation with respect to the creation of shareholder value, either measured as stock or accounting performance. Pay-for-performance sensitivity represents the CEO's share of value creation and gives a direct indication of the severity of agency problems (Murphy, 1999). My test of hypotheses 3a and 3b is modeled after Kren and Kerr (1997) and Davila and Penalva (2006). I use the coefficients on the interaction terms β_2 and β_4 to draw inferences about the effect of entrenchment at IPO on pay-for-performance sensitivity. If one or both of the coefficients are positive and significant, then this result would suggest increased use of performance-based compensation in the presence of entrenchment at IPO and provide evidence consistent with the optimal contracting theory. However, if the coefficients were not significant, or negative and significant, then the effect of entrenchment at IPO on

executive pay-for-performance sensitivity would be consistent with the managerial-power perspective.

While I focus on changes in the annual grants of executive compensation to assess pay-for-performance sensitivity, a significant number of studies focuses alternatively on comprehensive changes in executive wealth, which includes wealth effects from CEO stock holdings and prior period stock-related compensation grants (e.g., Jensen and Murphy, 1990; Core and Guay, 1999). However, using a compensation measure which includes wealth effects from the "stock" of equity owned by the CEO assumes that the board of directors has full discretion in setting CEO pay-for-performance sensitivity. In particular, it assumes that CEO ownership is a choice variable controlled by the board (Ortiz-Molina, 2007). It can be argued, however, that CEO stock ownership, vested stock, and stock option holdings, may reflect the CEO's personal portfolio choices rather than incentive alignment decisions by the board (Ofek and Yermack, 2000). In my setting of IPO firms, it is particularly unlikely that CEO equity holdings are a consequence of board compensation choices. CEO equity holdings may be an artifact of the ownership structure prior to taking the firm public, particularly for founder-CEOs. Focusing on the flow compensation, i.e., the board's annual compensation grant decision, is, therefore, more appropriate in the context of this study.

Extended Analysis: Components of Entrenchment

While I believe that all eleven items included in my analysis contribute to entrenchment (ENT), I also believe that entrenchment is based on the two latent constructs of internal and external entrenchment. In my framework, internal

entrenchment stems from constitutional provisions that restrict the voting rights of shareholders and, thereby, hamper the ability of a majority of shareholders to impose its will on management. External entrenchment, in contrast, is the result of anti-takeover measures adopted at the firm level and of takeover protection provided under state law both affecting the effectiveness of market control over management.

The hypotheses concerning the effect of entrenchment at IPO on CEO compensation so far have been based on a measure of total entrenchment at IPO combining provisions detrimental to both internal and external control over management. Using multiple indicators for the variable of interest "entrenchment," as proposed in this study, is more reliable than using a single item measure and can alleviate measurement error. Similarly, pertinent studies on shareholder rights or takeover defenses have all employed composite measures of various charter provisions and legal takeover protection. Field and Karpoff (2002) consider ten (not counting subgroups) and Daines and Klausner (2001) consider eleven takeover defenses. Gompers et al. (2003) construct an index of 24 different governance provisions. Bebchuk et al. (2005) combine six measures into their entrenchment index. However, with respect to the use of multiple-item measures of corporate governance, Larcker, Richardson, and Tuna (2007) show that the prolificacy of inconsistent results between corporate governance and accounting and economic outcomes can be attributed to the generally modest levels of reliability and lack of construct validity of such composite measures of governance.

As part of an extended analysis I will, therefore, validate my entrenchment measure by conducting an exploratory factor analysis to ensure that the items combined

in my measure capture the same underlying governance construct (Larcker et al., 2007). Yet from the outset, two separate categories of entrenching provisions can be identified: entrenchment due to restrictions on shareholder voting power and entrenchment due to restrictions on the market for corporate control. *A priori*, I expect four of the firm-level provisions relating to shareholder voting rights to be reflective of internal entrenchment. The two remaining firm-level provisions and the five state laws arguably contribute primarily to external entrenchment. If the results of the factor analysis suggest that my composite measure of total entrenchment indeed captures distinct aspects of entrenchment, I will assess the separate effects of these components by repeating key analyses replacing ENT with its components in the models.

In general, I do not expect the direction of the effect of components of entrenchment, i.e., external and/or internal entrenchment, to be different from the effect of total entrenchment at IPO. I hypothesize, however, that both external and internal entrenchment has a unique and discernible effect on CEO compensation. Thus, I expect external and internal entrenchment to be complements rather than substitutes. Insiders determined to entrench themselves in their desire to maintain private benefits of control will put roadblocks along both potential avenues for replacement.

Chapter 5

Empirical Results and Analysis

Sample Selection and Description

The construction of my sample begins with the identification of IPO firms completing an initial public offering for common stock in the US market during the period from 1996 to 2002 from Thomson Financials' SDC Global New Issues database (n = 3,184). I eliminate foreign firms (n = 324) and firms operating in regulated industries, i.e., firms in the banking and insurance industry (n = 469) based on firms' primary SIC code in the 6000s. These selection criteria yield a set of 2,355 firms. A significant number of these firms lack matching data on Compustat (n = 774). These are probably small issuers with fewer than 500 investors and less than $10 million in total assets who are not required to file reports with the SEC.

The largest demand on the data stems from limited coverage of firms in ExecuComp. ExecuComp contains compensation and related data primarily for firms included in the S&P 1500 index. Some firms are covered continuously from the year of their IPO. However, the majority of firms appear in ExecuComp only some years after the IPO making it necessary to backfill missing information with hand-collected data from the firm's proxy statements (SEC form DEF14A). In total, ExecuComp provides full or partial annual compensation data for 224 of the firms identified in SDC as having gone

public between 1996 and 2002. Two of these firms lack matching data in CRSP. Finally, of the remaining 222 firms originally identified, 21 firms had to be eliminated due to various problems in the data. Several firms were misidentified in Thompson SDC as IPOs, but in fact were seasoned equity offerings. For some firms, which went public in early 1996, the IPO prospectus and registration statement were not available on EDGAR. To offset the shrinkage in sample size, I collected additional data for a set of 21 firms going public in 1997. My final sample, thus, still comprises 222 firms. The majority of these firms, 201, appear in the ExecuComp database within 5 years after their IPO, 21 additional firms are not covered in ExecuComp. In all of the regressions, inclusion or exclusion of these latter firms has no appreciable effect on the results. The sample selection process is summarized in Table 2.

[Insert Table 2 about here]

Some concern may exist whether relying on ExecuComp data to construct a sample of IPO firms introduces sample selection bias in the study. ExecuComp primarily covers firms included in the S&P 1500 index and, thus, the coverage is biased towards larger firms. Inclusion in the S&P 1500 within five years after IPO is not a typical outcome for the average IPO. Primarily drawing on a sample of IPO firms covered in ExecuComp raises the concern that such sample of IPO firms may not reflect the typical IPO in terms of its average size. The inclusion of twenty firms in the final sample that are not covered in ExecuComp partially addresses this concern.

To provide additional evidence that my sample of IPO firms is not materially different from average, i.e., smaller, IPOs with respect to entrenchment levels, I conduct a t-test comparing the entrenchment score of the smallest and largest ten percent of firms in my sample.[6] On average, firms in the lowest decile of total assets displayed a lower level of entrenchment at IPO (M = 3.28, SE = .205) than firms in the highest decile of total assts (M = 3.32, SE = .202). This difference is not significant (t = -0.150, p = .881). Arguably, in terms of size, the smallest IPO firms included in my sample are most similar to the IPO firms not included in my sample. Evidence, thus, exists that no material difference in levels of entrenchment is present between firms included in my sample and on average smaller IPO firms not included. This result is consistent with Bebchuk et al. (2005) who report no significant difference in their entrenchment index between S&P 500 and non-S&P 500 firms.

For each of the 222 firms, entrenchment information and up to five years of compensation data have been compiled. For various reasons, e.g., bankruptcies, mergers, going private etc., some firms disappear from the sample within five years post-IPO. The final data set, therefore, has 999 firm-year observations. The actual number of observations used in each of the regressions differs slightly due to elimination of outliers and missing information for individual variables.

[6] Size measure based on total assets.

Descriptive Statistics

Descriptive statistics on the entrenchment items provide insights about the average entrenchment posture taken by IPO firms during the time frame from 1996 to 2002. The mean entrenchment score for the firms in my sample is 3.64 (*SD* 2.147), ranging from 0 to 11 with a median of 4. Thirty-five percent of firms' CEOs are covered under Golden Parachute agreements, and 12% of firms have adopted a Poison Pill when going public. Staggered Boards are common as 64% of firms provide for a board of directors divided in several classes serving staggered terms. Many firms have adopted some supermajority requirements for changes to the corporate charter (56% of firms) or bylaws (55% of firms). Supermajority requirements for merger approvals are less frequent and have been adopted by 11% of IPO firms.

A significant majority of firms are covered under some form of statute restricting business combinations (92%). This high percentage is due to the fact that a substantial number of firms in my sample (74%) are incorporated in Delaware, which has passed a Business Combination Statute as its only significant piece of anti-takeover legislation. A considerable number of firms elected not to be governed under these laws, though, such that the actual percentage of firms governed under a Business Combination Statute is 82%. Business Combination Statutes provide for similar restrictions on majority rights in the case of a merger as could be accomplished by supermajority requirements contained in firms' corporate charters. Thus, the relatively low percentage of firms that have adopted merger restrictions in their corporate charter can be explained by widespread coverage of firms under Business Combination Statutes. The supplemental nature of

these two takeover restrictions accentuates that firm-level legal choices and state-level legislation are interwoven and must be considered jointly to achieve a complete picture of firms' anti-takeover protection.

Firms' coverage under the remaining State laws considered in this study, Control Share Acquisition, Fair Price, Poison Pill Endorsement, and Constituencies Statutes, is 6%, 14%, 15%, and 13% respectively. These percentages take firms' choices not to be covered under these statutes into account. For instance, 14% of sample firms are incorporated in states that adopted a Control Share Acquisition Statute, but a majority of firms elected not to be covered. Therefore, actual coverage of firms under such statute in the sample is only 6%. Firms' widespread use of options to tailor State anti-takeover protection according to their needs and preferences lends further credence to a comprehensive measure that combines firm-level and state-level measures with a bearing on insider entrenchment. Detailed descriptive information on the entrenchment items is shown in Table 3.

[Insert Table 3 about here]

Descriptive statistics on the compensation, firm, and CEO variables are presented in Table 4. This information is presented for the raw data, before adjusting to 1996 constant dollars or applying log transformations. Providing the descriptive table for the raw variables enables easier screening for data reasonableness and comparison to universally reported metrics.

[Insert Table 4 about here]

Large differences between reported medians and means, particularly for the compensation variables and SIZE (total assets), indicate the presence of substantial skewness. The log transformation was applied to all strongly skewed variables to achieve an approximately normal distribution. The largest annual compensation package received by an individual CEO, Thomas M. Siebel of Siebel Systems Inc. in fiscal year 2001, was in excess of $317 million. I verified by double-checking the source documents, proxy statements etc., that these and other extreme observations in fact are legitimate. I opted against winsorizing the data set. While these and other observations in the tails of their respective distributions are extreme in magnitude, they are nevertheless genuine and contribute important information. However, to address the concern of undue influence of extreme observations on the regression equations, I conduct model-specific influence diagnostics on all observations and eliminate high influence points. All regression results reported in this study are, thus, based on samples cleared of any observations displaying values of the studentized residual larger than |2| and leverage (hat diagonals) larger than a cut-off point of twice the average leverage value defined as the number of parameters in the regression divided by the number of observations (Hoaglin and Welsch, 1978).

A potential problem in any multivariate regressions analysis is the presence of multicollinearity. Multicollinearity exists when one or more of the predictors are linear combinations of one another as evidenced by a strong correlation. In the presence of

multicollinearity, coefficient estimates are unstable and may change unpredictably in response to minor changes in the model specifications. An initial assessment concerning potential multicollinearity can be based on the presence of significant correlation between any pair of the predictor variables. The Pearson correlations for all primary dependent and independent variables are displayed in Table 5.

[Insert Table 5 about here]

None of the predictor variables displays a very high correlation with another predictor variable except the interaction terms of ENTxRETURN with RETURN, r = .860, p (two-tailed) < .01, and ENTxΔROA with ΔROA, r = .910, p (two-tailed) < .01. Accordingly, there is reason for initial concern that multicollinearity may affect the regression results in the pay-for-performance models, which contain both of these variables. For all models, results of specific multicollinearity diagnostics based on Variance Inflation Factors and Condition Indices are discussed in the context of the presentation of results for each model. Summarizing the results briefly, in none of the models did multicollinearity appear to pose an appreciable problem based on these more sophisticated diagnostic tools.

The correlation matrix, furthermore, shows a positive and significant correlation of entrenchment at IPO, ENT, with levels of cash compensation regardless of specification (CASHCOMPa, b, and c) in all cases (two-tailed test, $p < 0.01$). Also, some significant correlations exist between the interaction terms of ENT with RETURN as well

as ΔROA and some of the changes-in-compensation specifications. These correlations provide initial evidence that a significant association exists between entrenchment at IPO and CEO compensation and pay-for-performance sensitivity.

Effect of Entrenchment at IPO on CEO Compensation (H1a-c)

I employ model (1) to ascertain the effect of entrenchment at IPO on CEO cash, stock-based, and total compensation, respectively, and to test hypotheses H1a through H1c. For all of the specifications of model (1), I first conduct comprehensive multicollinearity diagnostics. Collinearity exists when there is a strong correlation among two or more predictor variables in the regression model. Since multicollinearity, thus, is a function of the predictor variables only, the results of the collinearity diagnostics are irrespective of the specific component of executive compensation included as the dependent variable in model (1). Results, thus, can be presented here jointly for all models specifications discussed next.

Myers (1990) proposes that Variance Inflation Factors (VIFs) larger than 10 give reason to suspect multicollinearity. In model (1), the variable SIZE displays the largest VIF with a value of 2.361,[7] which is considerably below the suggested threshold value. The VIF of no other variable exceeds 2. Similarly, values of the tolerance statistics, defined as the reciprocal of the VIFs, are all well above the .2 cut-off points for potential

[7] Reported values of the multicollinearity diagnostics are based on model (1) with lnTCOMP as the dependent variable. Multicollinearity diagnostics for all of the regressions of levels of CEO compensation on ENT produce very similar results. Any slight differences in the results of the collinearity diagnostics in the models for lnCASHCOMPa, lnCASHCOMPb, lnCASHCOMPc, lnSTOCKCOMP, and lnTCOMP are due entirely to slight differences in the sample composition. Results of the collinearity diagnostics are not included in tabulated form.

problems suggested by Menard (1995). Finally, the largest condition index (CI) is 39.88. The next highest CI value is 21.87. No other but the single largest CI exceeds the threshold value of 30. Investigation of the variance proportions for this CI value indicates a possible dependency between the variables SIZE, AGE, and the intercept. Exclusion of the variable AGE from the analysis reduces the magnitude of the largest CI to a value below the threshold of 30 (CI = 28.51). However, there is no evidence that the exclusion of the variable AGE improves the model and removes instability in the coefficient estimates. The results of the regression analyses, i.e., the direction of the signs on the coefficients, the magnitude of the coefficient estimates etc., are not affected by the exclusion or inclusion of AGE in the analysis. In sum, I conclude that multicollinearity does not pose an appreciable problem in the models estimating the effect of entrenchment on levels of CEO compensation. I, thus, also opt not to exclude AGE from the analysis.

Effect of Entrenchment at IPO on CEO Cash Compensation (H1a)

Hypothesis H1, formulated in accordance with the managerial power theory of executive compensation contracts, predicts a positive association of entrenchment at IPO with levels of annual CEO cash compensation. The expected relation, however, would be negative under the optimal contracting view. My primary operationalization of CEO cash compensation is based on the log of CEO annual salary plus bonus (lnCASHCOMPb). Table 6 displays coefficient estimates and results of significance tests for model (1) with lnCASHCOMPb being the dependent variable. Column A displays results of a regression of lnCASHCOMPb on ENT and industry and calendar year control variables only.

Column B introduces firm economic variables and Column C adds CEO characteristics. Finally, Column D presents results for the full model including all control variables.

[Insert Table 6 about here]

All models are significant as indicated by F-test results that are significant at $p <$ .0001. Adjusted-R^2 for the four models included in Table 6 varies between .129 and .671, depending on the number and nature of control variables included. The statistical results provide strong evidence for a positive effect of entrenchment at IPO on CEO's annual cash compensation measured as the sum of salary and bonus. The coefficient on ENT is positive and significant across all model specifications (Columns) at the 5% respectively 1% confidence levels indicating that CEO of firms that adopted entrenching provisions when going public receive higher levels of salary and bonus in the years post-IPO. Inclusion or exclusion of the firm and CEO controls does not materially affect the result as shown in Columns B and C. The significance of ENT ($t = 3.43$, $p = .0007$) is strongest in the full model, controlling for determinants of compensation rooted in both firm and CEO characteristics. Firm size, stock returns, incorporation in Delaware and the length of the CEO's tenure with the firm exercise a discernible positive effect on cash compensation. Conversely, firms' capital intensity and stock volatility, CEO's founder status, newly hired CEO's, and CEO's percentage ownership decrease levels of cash compensation. Furthermore, the indicator variable for firms that explicitly disclose a policy not to pay cash compensation to their CEO has the expected strong negative effect

on CEO cash compensation. In this manner, the variable controls for the effect of observations with a zero value for the dependent variable (Engel et al., 2002). Zero cash policies are not common. Excluding the 12 firm-year observations for the firms that have adopted such a policy rather than controlling for the effect parametrically significantly reduces the adjusted-R^2 for the full model (Table 6, Column D) from .671 to .480. However, exclusion does not affect the significance tests for the remaining variables. While controlling for zero cash policies is important in regressions of CEO cash compensation, the indicator variable ZERO_CASH is not statistically significant in the models of CEO total compensation presented later.

As a test of robustness, I also assess the effect of entrenchment at IPO on CEO cash compensation using two alternative measures of cash compensation: the log of the sum of salary, bonus, and other annual cash compensation (lnCASHCOMPc) and the log of salary only (lnCASHCOMPa). Regression results for these models are presented in Tables 7 and 8.

[Insert Tables 7 and 8 about here]

Results for lnCASHCOMPc reported in Table 6 are virtually identical to the results for lnCASHCOMPb. In models of CEO salary only, ENT ($t = 1.62$, $p = .1073$) does not exercise a significant effect if only the control variables for CEO characteristics are included (Table 7, Column C). However, controlling for both firm and CEO

characteristics, ENT ($t = 2.18$, $p = .0306$) displays a positive and significant association with CEOs annual salary (Table 7, Column D).

Taken together, I find a positive and statistically significant association between entrenchment at IPO and CEO annual cash compensation. This result is irrespective of three alternative specification of CEO cash compensation. The positive association of entrenchment at IPO and CEO cash compensation confirms Hypothesis 1a.

Effect of Entrenchment at IPO on CEO Stock-based Compensation (H1b)

Hypothesis H1b, formulated in accordance with the optimal contracting theory of executive compensation contracts, predicts a positive association of entrenchment at IPO with levels of stock-based compensation. Under the managerial power perspective, there is no simple prediction as to the effect of entrenchment at IPO on levels of stock-based compensation. However, given the positive association of ENT with levels of cash compensation, a positive effect on stock-based compensation could be consistent with extreme managerial power.

Table 9 presents the results for regressions of the log of CEO annual stock-based compensation on ENT and controls. Again, Column A shows results of a regression of lnSTOCKCOMP on ENT and industry and calendar year control variables only. Column B introduces firm economic variables and Column C adds CEO characteristics. Finally, Column D presents results for the full model including all control variables.

[Insert Table 9 about here]

All models are significant as indicated by F-test results that are significant at $p <$ .001. Adjusted-R^2 for the four models included in Table 9 varies between .078 and .236 depending on the number and nature of control variables included. The sign on the coefficient of ENT is positive across all four models (Columns), indicating a positive direction of the effect of ENT of stock-based compensation. However, the effect of ENT is not statistically significant ($t = 1.18$, $p = .240$, Column D) in all models reported in Table 9. SIZE, RETURN, ΔROA, CHAIR and NEW_CEO are significantly and positively associated with levels of stock-based compensation, LEVERAGE, ZERO_CASH, and OWN reduce stock-based compensation.

A positive effect of entrenchment on stock-based compensation was to be expected under the optimal contracting theory. The absence of a statistically discernible effect of entrenchment on increased stock-based compensation violates the substitution hypothesis on which the optimal contracting theory rests. However, not finding statistical significance is not a valid hypothesis test in support of the competing managerial power perspective. Nevertheless, the results presented in Table 9 appear to be more consistent with a managerial power explanation. Results of an extended analysis (Table 21) show that one component of entrenchment, firm-level external entrenchment, in fact is positively associated with stock-based compensation. These findings will be discussed below in context with other results of the extended analysis. At this stage, I conclude that the lack of association between ENT and CEO stock-based compensation does not confirm hypothesis H1b formulated under the optimal contracting perspective but might be consistent with a managerial power explanation.

Effect of Entrenchment at IPO on CEO Total Compensation (H1c)

Hypothesis H1c, formulated in accordance with the managerial power theory, predicts a positive association of entrenchment at IPO with total CEO compensation. Again it is important to note that a positive association of ENT with total compensation would not contradict the optimal contracting perspective. Table 10 presents the results for regressions of CEO total compensation on ENT and controls.

[Insert Table 10 about here]

All models reported in Table 10 are significant as indicated by strongly significant F-statistics, $p < .001$. Adjusted-R^2 varies between .077 and .378 depending on the number and nature of control variables included. The coefficient on ENT is positive across all model specifications. However, ENT is significant ($t = 1.78$, p (two-tailed) = .077) only in the full model including both firm and CEO controls (Column D). Controlling for firm economic and CEO characteristics, evidence thus exists that CEOs receive larger total compensation packages post-IPO when entrenching provisions have been adopted at IPO. The majority of firm and CEO control variables have a statically significant effect on total compensation. SIZE, RETURN, DELAWARE, CHAIR and NEW_CEO are significantly and positively associated with levels of total compensation, while B_TO_M, LEVERAGE, FOUNDER, and OWN show a negative association. Unexpectedly, the book to market ratio, which is a proxy for firms' growth opportunities, displays a negative coefficient, i.e., the sign is in the opposite direction as established by previous research.

However, in hindsight it is likely that the book to market ratio is not a good proxy for growth opportunities considering this particular set of firms. IPO firms by their very nature operate in a dynamic growth environment. As a consequence, "book-to-market" may stand in as a proxy for firm risk, profitability, or other factors affecting price. Furthermore, the control for firms' with zero cash policies does not exercise a significant effect on total compensation. In fact, the coefficient is positive albeit not significant at conventional levels ($t = 1.35$, p (two-tailed) = 0.195). Nevertheless, a weak indication exists that zero cash policies are costly and are paid for with higher total compensation. The positive and significant effect of entrenchment at IPO on CEO total compensation confirms Hypothesis 1c, but by itself would also not be inconsistent with optimal contracting. All results will have to be interpreted jointly and in context to distinguish between the two possible explanations.

Effect of Entrenchment at IPO on CEO Compensation over Time (H2a – H2c)

I explore potential variations in the effects of entrenchment at IPO over time primarily with an eye on the substitution hypothesis, which follows from the optimal contracting theory. Under the optimal contracting perspective, the effect of entrenchment at IPO should not be permanent. Firms' will react to exogenously determined levels of entrenchment at IPO, adjust other governance mechanism and design the CEO's pay structure to set incentives at an optimal level. Unexpected compensation due to entrenchment at IPO, thus, should disappear over time. Results in Tables 6 to 10 show the mean effect of entrenchment at IPO on CEO cash, stock-based, and total compensation based on the execution of model (1). Model (1), however, does not control for a potential

time effect in entrenchment, which may bias the results against finding patterns consistent with optimal contracting. Thus, the time-trend analysis below not only presents evidence concerning the persistence of the effect of entrenchment at IPO on CEO compensations, but also serves as a robustness test for the evidence presented so far for hypotheses H1a through H1c.

Tables 11 to 15 display results of the analyses of the effect of entrenchment at IPO on CEO compensation over time based on the execution of models 2a and 2b. For ease of comparison, I repeat Column D from the corresponding Tables 6 to 10 as Column A in Tables 11 to 15. Column B, then, shows the results for model 2a adding an interaction term of ENT with a continuous variable TIME, which equals 1 in the first year post-IPO, 2 in the second year post-IPO etc. Finally, Column C, tests for a time effect of ENT by executing model 2b, which adds four interaction terms of ENT with indicator variables YEAR2, YEAR3, YEAR4, YEAR5 that equal 1 if the observation is from year 2, 3, 4, 5 post-IPO, and zero otherwise. In the latter specification, ENT captures the effect of ENT in the base year, year 1 post-IPO, only.

The results of the examination of a time trend in the effect of entrenchment on CEO cash compensation are summarized in Tables 11 to 13. Again, three different specifications for CEO cash compensation have been used.

[Insert Tables 11 to 13 about here]

The interaction term ENTxTIME is not significant in any of the regressions (Columns B of Tables 11 to 13) providing strong evidence that no consistent increasing or decreasing pattern in the effect of ENT exists. A constant effect of entrenchment at IPO – not affected by a time-trend – is consistent with the managerial power view, which argues that entrenchment causes a permanent shift in bargaining power.

Considering differences in the effect of entrenchment in individual years, some results warrant additional explanation. In the regression of salary plus bonus (lnCASHCOMPb, Table 11, Column C), the interaction term ENTxYEAR2 is negative and significant (t = -2.11, p = .036). The other ENTxYEAR interactions are not significant, however. This result is unchanged when using lnCASHCOMPc (Table 12, Column C) instead of lnCASHCOMPb. By contrast, none of the ENTxYEAR interactions is significant in the regression of salary (lnCASHCOMPa, Table 13, Column C). The results for lnCASHCOMPb and lnCASHCOMPc, nevertheless, indicate a pronounced "dip" in the effect of entrenchment on CEO cash compensation in year 2 post-IPO. The overall effect of entrenchment in year 2 post-IPO, however, is still positive. The base effect of ENT is positive (R = 0.068, t = 4.17, p < .0001; Table 11, Column C). Thus, the total effect of entrenchment in year 2 is 0.051 (0.068 -0.017).

More importantly, the results for the ENTxYEAR interactions are hardly representative of a time *trend*. When comparing the magnitudes of the t-statistics for the ENTxYEAR interactions over time, these are -2.11, -1.05, -1.55 and -0.22 (Table 11, Column C), and, thus, show an overall decreasing trend. Decreasing t-statistics indicate that trend in the effect of ENT on cash compensation (if any) becomes *less* discernible

over time. Based on the latter consideration and the insignificant result for the ENTxTIME interaction presented in Column B, I conclude that the effect of entrenchment at IPO on CEO cash compensation is not subject to an increasing or decreasing time trend.

Optimal contracting suggests a positive trend in the effect of entrenchment on stock-based compensation. Firms are expected to respond with increased use of performance-based compensation in the presence of entrenchment. Controlling for a time trend in the model for stock-based compensation, thus, also eliminates a potential alternative explanation for the results presented in Table 9. Specifically, the initial finding of no significant mean effect of ENT on stock-based compensation might have been due to potentially varying effects of ENT on stock-based compensation over time (as predicted by the optimal contracting theory) such that no mean effect is discernible absent a control for time effects. Table 14 presents results for this time trend analysis.

[Insert Table 14 about here]

In Column B, the interaction term ENTxTIME is not significant ($t = 0.78$, $p = .436$), suggesting that no time trend in the effect of entrenchment at IPO on stock-based compensation exists. In Column C, considering the effect of ENT across individual years, I find a discernibly different effect of ENT on levels of stock based compensation in year 4 post-IPO (ENTxYEAR4, $t = 2.00$, $p = .047$). Again, the result may be singular. A time trend is not supported by the general observable pattern in the other interaction terms.

Specifically, while it is consistent with optimal contracting and the substitution hypothesis that higher levels of stock based compensation are paid in year 4 as compared to year 1 post-IPO, there is no explanation that stock-based compensation in year 5 again is not different from year 1 (ENTxYEAR5, $t = 0.51$, $p = .607$).

Lastly, Table 15 displays the results of an examination of time trends in the effect of entrenchment on CEO total compensation.

[Insert Table 15 about here]

No time trend is discernible. The interaction term ENTxTIME is not significant, ($t = -0.68$, $p = .500$); none of the interaction terms of ENTxYEAR is significant.

In sum, controlling for potential time trends did not change the results of the analyses presented in Tables 6-10. Irrespective of the inclusion of time trend variables, ENT is positively and significantly associated with cash and total compensation, and no effect of ENT is discernible on stock-based compensation. The interaction term ENTxTIME is not significant in any of the models. Considering differential effects of ENT in individual years post-IPO, some interaction terms are significant. However, these results appear to be singular and not representative of a distinctive time trend. Taken together, the effect of entrenchment on CEO cash, stock-based, and total compensation appears not to change over time. These findings are consistent with Hypotheses H2a, H2b, and H2c formulated under the managerial power theory. At least for the first five years post-IPO, entrenchment exercises a constantly positive effect on CEO cash and

total compensation, suggesting that insiders' decision to adopt entrenching provisions at IPO results in long-term payouts for the CEO.

Effect of Entrenchment at IPO on CEO Pay-for-Performance Sensitivity (H3a – H3b)

Optimal contracting theory suggests increased used of performance-based compensation in the presence of otherwise weak governance mechanisms. This linkage can be directly assessed by an analysis of the effect of entrenchment on the pay-for-performance sensitivity of CEO compensation. In the models of pay-for-performance sensitivity, changes in cash or total compensation are regressed on annual stock returns and the annual change in ROA. The coefficients on RETURN and ΔROA give an indication of the "sharing rate," i.e., how much of the generated value will have to be paid out to the CEO. Under optimal contracting, the sharing rate should be larger as entrenchment increases because of increased use of performance-based compensation. Thus, empirically, optimal contracting suggests a positive and significant interaction of market or accounting based performance measures and ENT.

Inclusion of RETURN and ΔROA together with their interaction terms with ENT in one model raises the concern of multicollinearity due to the high empirical correlation of RETURN and ΔROA with their interaction terms (see Table 5, Pearson Correlations). The VIFs for RETURN, ENTxRETURN, ΔROA, and ENTxΔROA are 4.56, 4.26, 6.35, and 6.14 respectively.[8] The two largest Condition Indices are 6.43 and 6.58 and, thus, not

[8] Collinearity diagnostics for model (3) are based on the dependent variable ΔlnTCOMP. Results are not tabulated.

suggestive of multicollinearity. While the variance proportions confirm the expected dependency between RETURN and ENTxRETURN on the one hand, and ΔROA and ENTxΔROA on the other hand, the small magnitude of the Condition Indices indicates that dependencies are not a serious concern. Results of the execution of model (3) are presented in Table 16.

[Insert Table 16 about here]

All models are significant as indicated by their F-statistics. R^2 are low, in keeping with previous literature, and range from .038 to .090. The large number of control variables for calendar year and industry effects causes adjusted-R^2 to turn negative for the salary (lnCASHCOMPa) model. Nevertheless, in keeping with all analyses presented in this study, year and industry control variables have also been included in model (3). I verified that all models assessing pay-for-performance sensitivity are significant if year and industry controls were excluded.

In the models of lnCASHCOMPb (Column A) and lnCASHCOMPc (Column B), changes in CEO cash compensation are positively and significantly tied to market performance, i.e., stock returns (RETURN) and accounting performance (ΔROA). Salary (lnCASHCOMPa, Column C) is only tied to ΔROA. Changes in total compensation (Column D) are positively and significantly tied to RETURN only. These findings parallel the results by Sloan (1993) and Core (2002) who also find sensitivity of cash

compensation to stock returns and ΔROA, but sensitivity of total compensation to returns only.

One result stands out. In Table 16, Column C, ΔlnCASHCOMPa shows a positive association with ΔROA as to be expected. However, ENTxΔROA is negative and significant (t = -1.95, p = .052). This finding indicates that as ENT increases, the positive association between ΔROA and ΔlnCASHCOMPa decreases. Less of the changes in CEO salary can be explained with accounting performance as entrenchment at IPO increases. Earlier results presented in Table 8 show a positive and significant association of ENT with levels of CEO salary (lnCASHCOMPa). Entrenched CEOs receive higher salaries. However, the negative and significant interaction term ENTxΔROA in Table 16, Column C, suggests that entrenchment may enable CEOs to disconnect their salaries from accounting performance. Hence, increased levels of CEO salary may be "pay-without-performance." This result firmly contradicts optimal contracting.

None of the other interaction terms of performance measures with ENT are significant in Table 16. However, I find remarkable changes, i.e., several significant interactions, after dissecting ENT into its underlying components, as discussed in the following section. The analyses of the effect of entrenchment at IPO on CEO pay-for-performance sensitivity presented so far have produced no evidence in support of optimal contracting. Specifically, analyses did not discern an increase in the pay-for-performance sensitivity of CEO cash and total compensation in response to entrenchment at IPO as to be expected under optimal contracting.

Managerial power does not *per se* predict an effect of entrenchment on pay-for-performance. Nevertheless, a decrease in pay-for-performance sensitivity, as found for the explanatory power of ΔROA in ΔlnCASHCOMPa, supports an argument of extreme power. I, thus, interpret the evidence of being confirmatory of H3a and H3b formulated in accordance with the managerial power view.

Extended Analysis: Components of Entrenchment

Arguably two factors contribute to insiders' total entrenchment: internal entrenchment, reducing the efficacy of shareholder control over management, and external entrenchment, reducing the efficacy of market control over management by means of hostile takeovers. To unearth the underlying dimensions of entrenchment, I conduct a principal components analysis on the eleven items that make up my entrenchment measure. The Kaiser-Meyer-Olkin measure of sampling adequacy (Kaiser, 1970) is .712 indicating that the sample size (n = 222) is sufficient. Bartlett's test of sphericity is significant, X^2 (55) = 833.1, $p < .0001$, providing initial evidence that some relationship among the variables exists and that factor analysis is appropriate.

I employ the Kaiser (1960) criterion, retaining all factors with eigenvalues greater than 1 and use an oblique rotation (direct oblimin). Use of an orthogonal rotation (varimax) does not affect the result. The resulting factor matrix (pattern matrix) is reproduced in Table 17.

[Insert Table 17 about here]

Three factors with eigenvalues greater than 1 emerge, which capture 60.05% of the total variance in the entrenchment variables. The first factor combines the indicator variables for firms being covered under Constituencies, Fair Price, Poison Pill Endorsement, or Control Share Acquisition Statutes. This factor represents external entrenchment by means of state level anti-takeover protection. The second factor combines the variables for the percentage vote required to amend corporate charter or bylaws, staggered boards, and coverage under a business combination statutes. All of these variables represent restrictions shareholders influence by means of restricting shareholders' voting power. While the business combination variable is a state law, and not a firm-level item, it accomplishes restrictions by requiring an increased percentage of shareholder approval for mergers by law. Thus, its loading with other firm-level items that contain restriction on shareholder voting power is not unexpected. Taken together, the items comprising the second factor are representative of internal entrenchment due to restrictions on shareholder voting power. The third factor includes Golden Parachute agreements, the Poison Pill, and the percentage vote required for merger approvals contained in the corporate charter. All of these are firm level items, which are primarily directed towards restricting corporate takeovers.

To derive a composite measure for each firm on a particular factor, I compute factor scores using the regression method. In the following, I present the results of key analyses previously presented but replacing the general measure of entrenchment, ENT, with the factor scores for its three components. The variable ENT_F1 represents state

level external entrenchment, ENT_F2 represents internal entrenchment, and ENT_F3 represents firm-level external entrenchment.

Analysis of the Effect of Components of Entrenchment at IPO on CEO Compensation

In each of the Tables 18 to 22, Column A reproduces Column D from Tables 6 to 10, i.e., the result for the models of levels of compensation including ENT and all control variables, for ease of comparisons. Column A in Tables 18, 19, and 20, thus, again shows the positive and significant association of ENT with CEO cash compensation defined as salary plus bonus (lnCASHCOMPb, Table 18), salary, bonus and other annual cash compensation (lnCASHCOMPc, Table 19), and salary alone (lnCASHCOMPa, Table 20).

[Insert Tables 18 - 20 about here]

Column B, then, in each of the tables presents the results after replacing the composite measure of entrenchment at IPO, ENT, with its three underlying components, ENT_F1, ENT_F2, and ENT_F3. In all of the three regression models, ENT_F3, firm level external entrenchment, is positive and significant, while ENT_F1 and ENT_F2 are positive but not significant. Thus, the positive association between ENT and CEO cash compensation is driven entirely by anti-takeover measures adopted at the firm level, i.e., Golden Parachutes, Poison Pills, and increased percentage vote requirements for the approval of mergers. Results for hypothesis H1a are, thus, more refined, but unchanged.

A positive association between ENT_F3 and CEO cash compensation supports the managerial power perspective, but cannot be readily explained under optimal contracting.

Table 21 shows similar analysis for CEO stock based compensation. Again, Column A reproduces the results of the initial analysis based on the variable ENT (Table 8, Column D).

[Insert Table 21 about here]

The initial analysis did not establish a significant relationship between ENT (t = 1.18, p = .240) and lnSTOCKCOMP. After replacing ENT with its underlying components, components ENT_F1 and ENT_F2 show no significance, however, ENT_F3 has a positive and (marginally) significant (t = 1.83, p (two-tailed) = .068) association with levels of CEO stock-based compensation. Thus, levels of stock-based compensation increase in the presence of firm-level external entrenchment. This surprising result shows that use of composite measures of governance may disguise discernible effects of specific governance characteristics. The observed increase in pay-for-performance sensitivity as firm-level external entrenchment increases may lend credence to optimal contracting, as increased stock-based compensation, which is performance based, is expected in the presence of entrenchment. However, increased stock-based compensation under optimal contracting is expected as a consequence of its underlying substitution hypothesis. Increased stock-based compensation *on top of* increased cash compensation contradicts incentive substitution. Instead, a "double dipping" explanation is more plausible: extreme

entrenchment enables CEOs not only to obtain higher cash compensation, which they prefer all things being equal because it is less risky, but also to increase their stock-based compensation. Thus, I interpret the enhanced results as strong support for H1b formulated in accordance with the managerial power perspective.

Finally, Table 22 shows the results of the effect of components of entrenchment on CEO total compensation.

[Insert Table 22 about here]

Column A shows again the positive and (marginally) significant (t = 1.78, p (two-tailed) = .077) association of ENT with lnTCOMP, which had been established previously. Column B shows that state-level external entrenchment (ENT_F1) and internal entrenchment (ENT_F2) have no significant association with CEO total compensation. However, firm-level external entrenchment (ENT_F3) shows a positive and significant association (t = 1.99, p (two-tailed) = .047). Thus, again the positive association of ENT with lnTCOMP is driven entirely by one component of total entrenchment, firm-level external entrenchment. After separating out the various components, ENT_F3 is more strongly associated with lnTCOMP than ENT was associated with lnTCOMP as indicated by the increase in the t-statistics and the associated increase in the confidence levels. Thus, use of the composite measure ENT has mitigated the ability to discern the true (and stronger) effect of ENT_F3 on total compensation. The results for H1c are unchanged in substance.

Analysis of the Effect of Components of Entrenchment at IPO on CEO Pay-for-Performance Sensitivity

Initial results for the effect of entrenchment at IPO on CEO pay-for-performance sensitivity have been presented in Table 16. Table 23 presents the results of a replication of this analysis replacing the interaction terms of ENT with RETURN and ΔROA with three interactions terms each to capture the differential effects of the identified components of entrenchment on the link between RETURN and ΔROA and changes in CEO cash and total compensation.

[Insert Table 23 about here]

Splitting the entrenchment variables into its underlying factor, on balance, does not affect the established relation between RETURN and ΔROA and changes in CEO cash compensation. Market-based and accounting- based returns both continue to have the expected positive association with changes in CEO cash compensation in the ΔlnCASHCOMPb and ΔlnCASHCOMPc specifications (Table 23, Columns A and B). However, RETURN and ΔROA are not significant in the model for ΔlnCASHCOMPa (Table 23, Column C), i.e., the marginally significant association between ΔROA (t = 1.95, p = .052, Table 16, Column C) and ΔlnCASHCOMPa disappears if ENT is replaced with its components.

Turning to the interaction terms, none of the interaction terms of the entrenchment factors with RETURN are significant in any of the three specifications of CEO cash

compensations, (Table 23, Columns A, B, and C). This finding is in keeping with the earlier results presented in Table 16 in which no significant interaction between ENT and RETURN could be established.

The results for the interaction terms of the entrenchment factors with ΔROA change dramatically, however. A positive and significant interaction is discernible between ΔROA and ENT_F1, state level external entrenchment, in the ΔlnCASHCOMPb and ΔlnCASHCOMPc specifications (Columns A and B). A negative and significant interaction exists between ΔROA and ENT_F2, internal entrenchment, in all three specifications (Columns A, B, and C). And, finally, ΔROA and ENT_F3 show a marginally significant positive association in the ΔlnCASHCOMPc specification only (Column B). Thus, a complex picture of the effect of entrenchment on the use of accounting performance measures in the design of CEO compensation contracts emerges. State-level external entrenchment, i.e., anti-takeover statutes, is associated with increased use of accounting performance measures in setting CEO pay. Similarly, in the ΔlnCASHCOMPc specification, the ENT_F3xΔROA interaction is positive and marginally significant (t = 1.83, p (two-tailed) = .071). Thus, marginal evidence exists for increased sensitivity of CEO pay to ΔROA as state-level external entrenchment (ENT_F1) and firm-external entrenchment (ENT_F2) increases. At the same time, slightly stronger evidence exists that internal entrenchment (ENT_F2) reduces pay-for performance sensitivity of CEO cash compensation as indicated by the negative and significant interaction term ENT_F2xΔROA across all specification of cash compensation.

Turning to the analysis of CEO pay-for-performance sensitivity for total compensation, I again observe a positive and significant main effect of RETURN on ΔlnTCOMP as established by previous literature (Table 23, Column D). Including interaction terms for the entrenchment factors rather than for ENT changes the result for ΔROA reported in Table 16, Column D. ΔROA now displays marginal significance, (t = 1.66, p (two-tailed) = .097). Previous literature has generally not been able to establish the sensitivity of CEO total compensation to changes in accounting performance measures, specifically ΔROA (Core, 2002). While the result is marginal, it may point to an interesting avenue for future research. If inclusion of interaction terms of ΔROA with variables capturing governance characteristics turns the main effect of ΔROA significant, it may indicate that lacking controls for interaction effects with firms' governance posture might have been responsible for the consistent findings of non-significance. If firms' use of ΔROA in the determination of total pay differs depending on governance characteristics, the absence of effective controls for these interactions possibly overshadows the main effect.

Turning again to the interaction effects, none of the interaction terms for the factors of entrenchment with ΔROA are significant in the model exploring the pay-for-performance sensitivity of total compensation (Table 23, Column D). This is consistent with the insignificance of the result reported for the interaction term ENTxΔROA in Table 16, Column D. Nevertheless, their inclusion still may have controlled for some differences in use of ΔROA across levels of entrenchment that helped turning the coefficient on ΔROA significant.

Similarly, the interaction term ENTxRETURN was not significant at conventional levels initially. However, replacing ENT with its components again changes this result dramatically. Both, ENT_F1xRETURN (t = -1.76, p (two-tailed) = .079) and ENT_F3xRETURN (t = -1.72, p (two-tailed) = .088) now show a marginally significant, negative association with ΔlnTCOMP. Apparently, the decreasing effect of state and firm level external entrenchment on pay-for-performance sensitivity of total compensation to stock returns could not be detected using a composite measure of entrenchment. These results again support the notion that specific and well-defined measures of governance characteristics are preferable to broad-based measures of governance.

In sum, components of entrenchment affect CEO pay-for-performance sensitivity in distinctive and complex ways. A significant contribution of this extended analysis is its ability to discern the components of entrenchment that are truly important and to shed light on the mechanisms at work, i.e., how these components of entrenchment affect the design of CEO compensation contracts. State-level external entrenchment and, with weaker support, firm-level external entrenchment are associated with increased sensitivity of CEO cash compensation to accounting performance as proxied by ΔROA. Thus, evidence exists that firms increase pay-for-performance sensitivity of cash compensation in response to external entrenchment. This is consistent with an optimal contracting view of executive compensation contracts. At the same time, however, internal entrenchment, obstacles to the efficacy of shareholders' control over management by means of restricted voting rights, decreases the sensitivity of cash compensation to accounting performance. There is no explanation under optimal contracting for

decreasing pay-for-performance as internal entrenchment increases. Furthermore, highly entrenched insiders have adopted measures across the board combining internal and external entrenchment when going public. On balance, then, no incremental positive effect of entrenchment on pay-for-performance of cash compensation exists when both internal and external entrenchment measures are combined.

Furthermore, no evidence for increased pay-for-performance sensitivity of total compensation in response to entrenchment could be established. To the contrary, external entrenchment, state- and firm-level, reduces the sensitivity of CEO total compensation to stock returns. The results for H3a and H3b, thus, are materially unchanged. If anything, the extended analysis revealed additional support for the managerial power view by demonstrating a reduction of the sensitivity of CEO total compensation to returns as external entrenchment increases. The examination of the interaction term ENTxRETURN in the initial analysis did not discern this significant effect.

Chapter 6

Summary and Conclusion

In this study, I examine how corporate governance choices by firms' insiders prior to going public bear out in CEO salary in the post-IPO period. I focus on one specific aspect of firms' governance structure determined at IPO: legal provisions affecting insider entrenchment, i.e., legal provisions that make the replacement of firms' insiders in the post-IPO period difficult if not impossible. I introduce a new comprehensive measure of entrenchment, which is based on the statutory laws of the firm's state of incorporation and on provisions contained in the firm's corporate charter and bylaws. The eleven items that constitute my measure of total entrenchment have been selected to capture external and internal entrenchment. External entrenchment relates to obstacles to market control over management by reducing the efficacy of corporate takeovers. Internal entrenchment refers to limitations on shareholder voting power and thus the efficacy of shareholder control over management.

Regression results show that my composite measure of total entrenchment at IPO is positively and significantly associated with levels of CEO cash and total compensation post-IPO. This effect appears to be consistent. Exploration of a potential time trend in the effect of entrenchment on post-IPO compensation over a period of five years did not reveal significant differences over time.

As the basis for an extended analysis, I conducted a principal component analysis of the eleven items on which my measure of total entrenchment is based. Three distinct components appear to contribute to total entrenchment: State-level external entrenchment, internal entrenchment, and firm-level external entrenchment. Replacing the measure of total entrenchment with its three components, I find that the positive association between entrenchment and CEO cash and total compensation is driven by firm-level external entrenchment only. In addition, I identify a positive and marginally significant association between firm-level external entrenchment and CEO stock-based compensation. The latter positive relationship was not identified when using the total entrenchment measure in the regressions. These results underscore the importance of well-defined and "tight" conceptualizations of governance characteristics as opposed to broad based measures (Larcker et al., 2007).

Furthermore, the three components of entrenchment affect CEO pay-for-performance sensitivity in distinct ways. State- and firm-level external entrenchment reduces the sensitivity of CEO total compensation to stock returns. The sensitivity of CEO cash compensation to accounting performance (ΔROA) decreases in internal entrenchment, but increases in state-level and (with marginal results) for firm-level external entrenchment.

Two competing theories may explain the relationship between governance decisions concerning insider entrenchment at IPO and executive compensation: the managerial-power and optimal-contracting theories. This study presents two sets of hypotheses reflecting expectations that may be formulated under either theory. The

evidence gravitates strongly towards supporting the managerial power view of executive compensation. Entrenched managers appear to be able to influence their compensation contracts in ways not consistent with "optimal" formations of pay arrangements. Specifically, little evidence for the substitution hypothesis underlying optimal contracting exists, as entrenchment is associated with higher levels of "all of the above:" cash, stock-based, and total compensation. Furthermore, on balance, I find evidence for *reduced* and not increased pay-for-performance sensitivity of CEO compensation with respect to market and accounting performance measures. This finding suggests that entrenchment at IPO enables CEOs to at least partially disconnect their pay from firm performance. "Pay-without-performance," however, is in clear contradiction of standard agency theoretical predictions, which form the basis for optimal contracting.

Tests of Robustness

As a test of robustness of my results, I replicated my results after implementing alternative measures and/or estimation techniques. For the dependent variables, I use three different specifications of CEO cash compensation. Results for these three specifications have been tabulated. For stock-compensation I employ a total of four variants of the Black-Scholes valuation methodology to derive the value of stock options. I assume zero dividend payments for all firms, or average dividends over the last three years, and I employ or do not employ adjustments for extreme volatility and/or dividend payments as outlined in Appendix B. I also use four different methods for computing total compensation, basing stock option values on different option valuations and including or excluding compensation disclosed as "other" in the firm's annual proxy

statements. There were no material differences in the results for stock-based or total compensation regardless of the specifications used.

In all models, I control for firm size using the natural logarithm of lagged market value of equity and the natural logarithm of lagged sales (net) as an alternative to the natural logarithm of lagged total assets. Results using the market value of common equity are unchanged from the results based on total assets. In some specifications, use of net sales marginally affected the results. Specifically, the explanatory power of net sales was significantly weaker than total assets or market value of equity. Arguably, net sales, while a widely used control for firm size in established firms, may not be the most efficacious control for size in IPO firms. Controlling for size with contemporaneous rather than lagged total assets and market value of equity did not materially affect the results.

All significance tests presented in this study are based on White standard errors, which are homoscedasticity robust and robust to within cluster correlation (Rogers or clustered standard errors). As an additional test for robustness of the results to choice of estimation technique, I estimated all of the models using estimation techniques based on GEE (SAS procedure PROC GENMOD) rather than GLS (SAS procedure PROC SURVEYREG). Furthermore, I specified different structures for the working correlation matrix used to model the correlation of the observations from firms. Table 24 illustrates this analysis for model 1 with the dependent variable lnTCOMP.

[Insert Table 24 about here]

Specifying an independent structure of the working correlation matrix, the coefficient estimates for the results presented on the basis of GLS in Table 10, Column D, and the results based on GEE displayed in Table 24, Column A are identical. Only small marginal differences in the test statistics exist. Assuming an autoregressive, exchangeable, or unstructured correlation matrix has no material effect on the results (Table 24, Columns B – D).

Limitations and Contributions

The results of this study are subject to several limitations. First, data availability and the requirement for firms to be covered in three different databases (Compustat, CRSP, and ExecuComp) constrain the sample selection process. While the sample size is adequate, expanding the sample to include firms outside of the frame examined so far could further increase confidence in the findings. In the time-trend analysis only five years of data post-IPO were included. If a time-trend takes effect only at a later point in time, the present study was unable to discern it. Furthermore, because of the paucity of extant research on the effect of legal characteristics of governance on executive compensation in general, and in the context of IPO firms in particular, the scope of this study was necessarily broad. As additional relevant research is reported, identification and focus on more specific issues could be beneficial.

This study extends prior research regarding the association of firms' governance characteristics and CEO compensation in multiple ways. First, the present study is the first to focus on the effect of insider entrenchment at IPO on subsequent CEO compensation. The study introduces a comprehensive measure of entrenchment, which

draws from firm- as well as state-level legal provisions, and provides insights into the frequency of adoption of entrenching provisions by firms going public from 1996 to 2002. Second, the study, presents evidence for a strong positive association between entrenchment at IPO and increased subsequent CEO compensation. Additional evidence is presented that this effect is not transitory, but stable at least for up to five years post-IPO. Third, entrenchment at IPO is shown to affect the use of market- and accounting-based performance measures in the design of compensation contracts. On balance, entrenchment reduces the sensitivity of subsequent CEO compensation to stock returns and returns on assets. Fourth, the study identifies three distinct aspects of entrenchment and discerns their unique and incremental effect on the relationships identified above. Firm-level external entrenchment is the dominant factor displaying a strong positive association with levels of CEO compensation and a negative relation with the sensitivity of CEOs' total pay to stock returns. Fifth and finally, the focus on IPO firms overcomes a serious limitation to comparable studies of executive compensation, that of simultaneity, and provides for a unique testing for the competing managerial-power and optimal-contracting views of executive compensation contracts. Little support is found for increased CEO pay-for-performance sensitivity and a re-balancing of components of the CEO's compensation contract in response to entrenchment. Findings of this study are almost entirely consistent with a managerial power explanation according to which entrenchment at IPO causes a permanent shift in bargaining power, which enables CEOs to influence compensation contracts in their favor.

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Tables

Table 1

Summary of Hypotheses

Hypothesis	Effect on	Effect of Insider Entrenchment at IPO under Managerial Power	Optimal Contracting
H1a	Cash compensation	Positive	Negative
H1b	Stock-based compensation	Ambiguous; positive in the presence of increased cash compensation is indication of extreme power	Positive
H1c	Total compensation	Positive	Ambiguous
H2a	Cash compensation over time	Constantly positive	Decreasing
H2b	Stock-based compensation over time	Constantly positive	Increasing
H2c	Total compensation over time	Constantly positive	Ambiguous
H3a	Pay-for-performance sensitivity of cash compensation	Ambiguous; negative is indication of extreme power	Positive
H3b	Pay-for-performance sensitivity of total compensation	Ambiguous; negative is indication of extreme power	Positive

Table 2

Sample Selection

Initial public offerings of common stock in the US from 1996 to 2002	3,184
Foreign firms	(324)
Financial services firms	(469)
Subtotal:	2,355
No matching data on CompuStat	(774)
No partial data on ExecuComp	(1,357)
No matching data on CRSP	(2)
Subtotal:	222
Various data problems; misidentified as IPO in Thompson SDC, no coverage in EDGAR for IPO year 1996 etc.	(21)
Replacement observations	21
Total firms (clusters in analysis):	222
Firm-years (n):	999

Table 3

Descriptive Statistics for Entrenchment Data

	Min.	Max.	Mean	Median	Std. Dev.
Total entrenchment, ENT	0	11	3.64	4	2.147
Golden Parachute	0	1	.35	0	.478
Poison Pill	0	1	.12	0	.328
Staggered Board	0	1	.64	1	.480
Supermajority Charter	0	1	.56	1	.498
Supermajority Charter %	.50	.900	.62	.67	.120
Supermajority Bylaws	0	1	.55	1	.498
Supermajority Bylaws %	.50	1.00	.62	.67	.125
Supermajority Merger	0	1	.11	0	.311
Supermajority Merger %	.50	.800	.52	.50	.062
Business Combination Statute	0	1	.92	1	.267
Opt-out Business Combination	0	1	.10	0	.305
Net Business Combination	0	1	.82	1	.385
Control Share Acquisition Statute	0	1	.14	0	.352
Opt-out Control Share	0	1	.08	0	.274
Net Control Share	0	1	.06	0	.244
Fair Price Statute	0	1	.15	0	.361
Opt-out Fair Price	0	1	.01	0	.116
Net Fair Price Statutes	0	1	.14	0	.347
Poison Pill Endorsement Statute	0	1	.15	0	.357
Constituencies Statute	0	1	.13	0	.338

Descriptive statistics are based on N = 222 firms going public between 1996 and 2002.

Table 4

Descriptive Statistics for Compensation, Firm Economic, and CEO Characteristics Variables

	n	Min.	Max.	Mean	Median	Std. Dev.
CASHCOMPa	999	.00	3660.51	433.55	356.96	302.39
CASHCOMPb	999	.00	12961.65	778.05	535.25	884.60
CASHCOMPc	999	.00	13082.57	801.34	543.81	912.71
STOCKCOMP	999	.00	314605.14	3869.82	646.01	16835.02
TCOMP	981	.00	317107.60	4851.41	1440.00	17274.85
SIZE	998	4.70	73781.00	1760.64	264.54	6379.72
B_To_M	998	-32.64	11.78	.3563	.26	1.42
LEVERAGE	998	.02	24.03	.44	.37	0.80
CAP	996	.00	14.61	.36	.16	0.77
VOLATILITY	986	.03	1.34	.20	.17	0.11
RETURN	986	-2.91	4.15	.29	.24	0.78
ΔROA	995	-5.92	4.95	-.017	.00	0.47
DUAL_CLASS	999	0	1	.10	0	0.30
DELAWARE	999	0	1	.74	1	0.44
ZERO_CASH	999	0	1	.01	0	0.11
FOUNDER	991	0	1	.33	0	0.47
CHAIR	996	0	1	.62	1	0.49
NEW_CEO	995	0	1	.11	0	0.32
TENURE_FIRM	999	0	41	10.25	7	8.66
AGE	998	27	73	51.52	51	8.16
OWN	994	.00	.78	.0577	.0095	0.11

Variable definitions are provided in Appendix C. Descriptive statistics are based on the maximum number of useable observations (firm-years) per variable. Statistics are for raw variables before adjusting to 1996 constant dollars or applying log transformations.

Table 5

Pearson Correlations

	lnCASH COMPa	ΔlnCASH COMPa	lnCASH COMPb	ΔlnCASH COMPb	lnCASH COMPc	ΔlnCASH COMPc	lnSTOCK COMP	ΔlnSTOCK COMP	ln TCOMP	Δln TCOMP	ENT	SIZE	B_TO_M	LEVERAGE
lnCASHCOMPa	1													
ΔlnCASHCOMPa	.478*	1												
lnCASHCOMPb	.898**	.362**	1											
ΔlnCASHCOMPb	.337**	.781**	.407**	1										
lnCASHCOMPc	.899**	.359**	.997**	.402**	1									
ΔlnCASHCOMPc	.335**	.779**	.402**	.993**	.401**	1								
lnSTOCKCOMP	.249**	.039	.299**	.034	.302**	.035	1							
ΔlnSTOCKCOMP	-.015	.001	-.007	.016	-.010	.015	.554**	1						
lnTCOMP	.467**	.070*	.571**	.074*	.577**	.070*	.788**	.335**	1					
ΔlnTCOMP	-.009	.070*	.038	.169**	.035	.164**	.445**	.799**	.423**	1				
ENT	.083**	.000	.106**	-.002	.104**	.001	.037	-.045	.034	-.046	1			
SIZE	.317**	.012	.363**	-.016	.369**	-.017	.196**	-.059	.451**	-.097**	-.018	1		
B_TO_M	.130**	.127**	.125**	.157**	.124**	.156**	.036	-.016	.035	.017	.018	.050	1	
LEVERAGE	-.018	-.044	-.021	-.045	-.021	-.046	-.079*	-.063*	-.046	-.051	-.058	.107**	-.016	1
CAP	.029	.006	.004	.003	.005	-.002	.010	-.030	.020	-.041	-.061	.149**	-.006	.020
VOLATILITY	-.199**	-.034	-.235**	-.035	-.236**	-.037	.007	.056	-.057	.067*	.017	-.285**	.064*	-.062
RETURN	-.062*	-.004	-.002	.109**	-.005	.110**	.082**	.123**	.055	.215**	-.015	-.210**	.048	-.105**
ENTxRETURN	-.036	-.011	.024	.094**	.021	.094**	.064*	.079*	.033	.157**	.168**	-.180**	.069*	-.031
ΔROA	-.052	-.045	-.030	-.018	-.031	-.018	.054	.061	.035	.077*	.035	-.085**	-.087**	-.006
ENTxΔROA	-.067*	-.064*	-.045	-.040	-.046	-.039	.057	.083**	.027	.086**	-.011	-.074*	-.087**	.013
DUAL_CLASS	-.045	-.034	.030	.001	.031	.002	-.003	-.013	.121**	-.016	-.067*	.300**	.036	.015
DELAWARE	.083**	.009	.104**	.004	.104**	.004	.080*	.009	.169**	.009	-.285**	.178**	.020	.002
ZERO_CASH	-.741**	-.526**	-.587**	-.372**	-.584**	-.374**	-.090**	-.045	.005	-.071*	-.040	.090**	-.145**	.049
FOUNDER	-.230**	-.052	-.232**	-.029	-.235**	-.029	-.200**	.003	-.242**	.016	-.009	-.176**	.011	-.049
CHAIR	.049	-.036	.077*	-.036	.078*	-.038	.042	-.020	.105**	-.033	.051	.149**	-.001	-.029
NEW_CEO	-.055	-.063*	-.046	-.007	-.043	-.006	.126**	.186**	.098**	.139**	-.038	.034	.011	.033
TENURE	.118**	-.042	.131**	-.058	.130**	-.058	-.085**	-.035	-.056	-.063*	.110**	.095**	.022	-.041
AGE	.105**	-.057	.130**	-.076*	.134**	-.075*	-.045	-.089**	.043	-.121**	.140**	.162**	.050	.066*
OWN	-.241**	-.048	-.257**	-.036	-.259**	-.037	-.351**	-.027	-.355**	-.024	.038	-.251**	-.011	-.063*

Table 5 -- continued

	CAP	VOLATILITY	RETURN	ENTx RETURN	ΔROA	ENTx ΔROA	DUAL_CLASS	DELAWARE	ZERO_CASH	FOUNDER	CHAIR	NEW_CEO	TENURE	AGE	OWN
lnCASHCOMPa															
ΔlnCASHCOMPa															
lnCASHCOMPb															
ΔlnCASHCOMPb															
lnCASHCOMPc															
ΔlnCASHCOMPc															
lnSTOCKCOMP															
ΔlnSTOCKCOMP															
lnTCOMP															
ΔlnTCOMP															
ENT															
SIZE															
B_TO_M															
LEVERAGE															
CAP	1														
VOLATILITY	.000	1													
RETURN	-.069*	.267**	1												
ENTxRETURN	-.068*	.270**	.860**	1											
ΔROA	-.028	-.058	.186**	.114**	1										
ENTxΔROA	-.031	-.051	.126**	.107**	.910**	1									
DUAL_CLASS	-.042	-.097**	-.004	-.025	-.026	-.010	1								
DELAWARE	.023	-.086**	.012	-.047	.011	.009	.019	1							
ZERO_CASH	-.024	-.015	-.021	-.033	.019	.019	.209**	.023	1						
FOUNDER	-.085**	.006	-.018	-.016	-.012	-.012	.012	-.054	.061	1					
CHAIR	-.020	-.107**	-.034	-.028	-.014	-.009	.007	.098**	.068*	.203**	1				
NEW_CEO	.043	.098**	-.008	.004	-.060	-.030	.019	.009	.018	-.194**	-.240**	1			
TENURE	-.075*	-.239**	-.088**	-.053	.001	-.015	.124**	-.187**	-.046	.252**	.235**	-.211**	1		
AGE	-.029	-.212**	-.064*	-.017	.029	.012	.092**	-.069*	.119**	-.032	.183**	-.095**	.333**	1	
OWN	-.077*	.009	.001	-.004	.004	-.003	-.072*	-.139**	.055	.481**	.177**	-.159**	.299**	.047	1

Variable definitions are provided in Appendix C. ** and * denote significant correlations at the 1% and 5% levels, respectively (two-tailed tests).

Table 6

Analysis of the Effect of Entrenchment at IPO on CEO Salary and Bonus

	DV: lnCASHCOMPb								
		Column A		Column B		Column C		Column D	
Variables	Exp. sign	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value
Intercept:		5.822	44.68[a]	4.461	23.72[a]	5.917	14.88[a]	4.381	15.70[a]
Variable of primary interest:									
ENT	+	0.067	2.54[b]	0.065	3.36[a]	0.058	2.50[b]	0.058	3.43[a]
Firm controls:									
SIZE	+			0.279	9.89[a]			0.223	7.94[a]
B_TO_M	?			-0.122	-0.22			-0.018	-0.33
LEVERAGE	?			-0.321	-1.21			-0.303	-1.23
CAP	?			-0.071	-1.85[c]			-0.070	-1.75[c]
VOLATILITY	?			-1.064	-4.22[a]			-0.882	-3.69[a]
RETURN	+			0.142	4.18[a]			0.118	3.77[a]
ΔROA	+			-0.026	-0.64			-0.033	-0.90
DUAL_CLASS	?			-0.061	-0.42			-0.072	0.51
DELAWARE	?			0.219	2.31[b]			0.244	2.73[a]
ZERO_CASH	-			-6.586	-43.92[a]			-6.537	-43.28[a]
CEO controls:									
FOUNDER	-					-0.381	-3.27[a]	-0.266	-3.49[a]
CHAIR	+					0.062	0.73	0.050	0.80
NEW_CEO	?					-0.122	-1.04	-0.115	-1.85[c]
TENURE	+					0.025	3.33[a]	0.009	2.34[b]
AGE	+					-0.002	-0.21	0.008	1.48
OWN	-					-2.029	-4.78[a]	-1.154	-2.85[a]
Year & Industry controls:		Included		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant		Some significant	
Model F			32.10[a]		117.80[a]		99.89[a]		328.44[a]
Adjusted R^2			.129		.640		.245		.671
# of observations			998		979		980		960
# of clusters			221		219		219		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 7

Analysis of the Effect of Entrenchment at IPO on CEO Salary, Bonus, and Other Annual Cash Compensation

	DV: lnCASHCOMPc								
		Column A		Column B		Column C		Column D	
Variables	Exp. sign	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value
Intercept:		5.843	44.47[a]	4.496	22.46[a]	5.914	14.77[a]	4.318	15.31[a]
Variable of primary interest:									
ENT	+	0.062	2.52[b]	0.068	3.42[a]	0.057	2.44[b]	0.056	3.31[a]
Firm controls:									
SIZE	+			0.280	9.35[a]			0.233	8.12[a]
B_TO_M	?			0.006	0.112			-0.015	-0.27
LEVERAGE	?			-0.403	-1.31			-0.320	-1.30
CAP	?			-0.068	-1.85[c]			-0.069	-1.81[c]
VOLATILITY	?			-1.124	-3.96[a]			-0.844	-3.51[a]
RETURN	+			0.144	4.24[a]			0.117	3.70[a]
ΔROA	+			-0.047	-1.22			-0.033	-0.86
DUAL_CLASS	?			-0.004	0.03			0.070	0.49
DELAWARE	?			0.197	2.00[a]			0.231	2.59[b]
ZERO_CASH	-			-5.643	-8.22[a]			-6.585	-45.67[a]
CEO controls:									
FOUNDER	-					-0.392	-3.34[a]	-0.273	-3.50[a]
CHAIR	+					0.067	0.79	0.055	0.87
NEW_CEO	?					-0.114	-0.97	-0.096	-1.50
TENURE	+					0.024	3.33[a]	0.009	2.33[b]
AGE	+					-0.001	-0.16	0.009	1.60
OWN	-					-2.044	-4.82[a]	-1.166	-2.87[a]
Year & Industry controls:		Included		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant		Some significant	
Model F			32.40[a]		26.72[a]		43.72[a]		481.63[a]
Adjusted R^2			.131		.596		.245		.665
# of observations			998		982		980		962
# of clusters			221		219		219		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 8

Analysis of the Effect of Entrenchment at IPO on CEO Salary

	DV: lnCASHCOMPa								
		Column A		Column B		Column C		Column D	
Variables	Exp. sign	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value
Intercept:		5.591	51.76[a]	4.620	34.41[a]	5.665	16.21[a]	4.387	19.33[a]
Variable of primary interest:									
ENT	+	0.036	1.76[c]	0.037	2.59[a]	0.033	1.62	0.028	2.18[b]
Firm controls:									
SIZE	+			0.208	10.12[a]			0.171	7.72[a]
B_TO_M	?			0.005	0.14			0.003	0.07
LEVERAGE	?			-0.278	-1.30			-0.259	-1.29
CAP	?			-0.035	-1.63			-0.032	-1.53
VOLATILITY	?			-0.672	-3.25[a]			-0.505	-2.55[b]
RETURN	+			0.033	1.42			0.019	0.91
ΔROA	+			-0.023	-0.65			-0.031	-1.02
DUAL_CLASS	?			-0.054	-0.54			-0.044	-0.45
DELAWARE	?			0.127	1.89[c]			0.142	2.22[b]
ZERO_CASH	-			-6.028	-63.55[a]			-5.989	-46.34[a]
CEO controls:									
FOUNDER	-					-0.326	-3.27[a]	-0.215	-3.80[a]
CHAIR	+					0.012	0.16	0.025	0.49
NEW_CEO	?					-0.118	-1.21	-0.128	-2.98[a]
TENURE	+					0.022	3.49[a]	0.006	1.93[c]
AGE	+					-0.001	-0.16	0.010	2.05[b]
OWN	-					-1.656	-4.34[a]	-0.778	-2.41[b]
Year & Industry controls:		Included		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant		Some significant	
Model F			16.25[a]		287.07[a]		7.27[a]		169.32[a]
Adjusted R^2			.104		.744		.215		.766
# of observations			999		981		981		964
# of clusters			221		219		219		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 9

Analysis of the Effect of Entrenchment at IPO on CEO Stock-based Compensation

		DV: lnSTOCKCOMP							
		Column A		Column B		Column C		Column D	
Variables	Exp. sign	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value
Intercept:		5.134	11.34[a]	1.426	1.60	6.219	6.24[a]	3.460	3.01[a]
Variable of primary interest:									
ENT	+	0.063	0.78	0.068	0.87	0.091	1.27	0.084	1.18
Firm controls:									
SIZE	+			0.676	5.49[a]			0.535	4.28[a]
B_TO_M	+			-0.199	-0.96			-0.273	-1.11
LEVERAGE	?			-1.828	-2.84[a]			-1.983	-3.78[a]
CAP	?			0.025	0.19			-0.026	-0.20
VOLATILITY	?			0.713	0.48			0.692	-0.50
RETURN	+			0.539	3.72[a]			0.487	3.35[a]
ΔROA	+			0.338	1.71[c]			0.424	2.51[b]
DUAL_CLASS	?			-0.602	-1.09			-0.388	-0.69
DELAWARE	?			0.444	1.05			0.150	0.41
ZERO_CASH	-			-3.853	-4.06[a]			-3.812	-5.48[a]
CEO controls:									
FOUNDER	-					-0.269	-0.66	-0.119	-0.29
CHAIR	+					0.829	2.80[a]	0.597	2.09[b]
NEW_CEO	+					1.014	2.93[a]	1.370	4.49[a]
TENURE	+					0.023	0.43	-0.001	-0.07
AGE	+					-0.027	-1.29	-0.020	-0.97
OWN	-					-9.872	-6.36[a]	-8.959	-5.96[a]
Year & Industry controls:		Included		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant		Some significant	
Model F			78.98[a]		13.97[a]		44.69[a]		15.11[a]
Adjusted R^2			.078		.149		.179		.236
# of observations			997		980		979		961
# of clusters			221		219		219		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 10

Analysis of the Effect of Entrenchment at IPO on CEO Total Compensation

Variables	Exp. sign	DV: lnTCOMP Column A Coeff. est.	Column A t value	Column B Coeff. est.	Column B t value	Column C Coeff. est.	Column C t value	Column D Coeff. est.	Column D t value
Intercept:		7.233	35.71[a]	4.121	13.03[a]	7.236	15.51[a]	4.655	10.69[a]
Variable of primary interest:									
ENT	+	0.023	0.64	0.050	1.65	0.023	0.75	0.048	1.78[c]
Firm controls:									
SIZE	+			0.516	10.55[a]			0.448	8.67[a]
B_TO_M	?			-0.306	-2.80[a]			-0.356	-3.67[a]
LEVERAGE	?			-0.932	-2.47[b]			-0.983	-2.99[a]
CAP	?			-0.013	-0.29			-0.026	-0.65
VOLATILITY	?			0.784	1.47			0.523	0.96
RETURN	+			0.286	4.87[a]			0.265	4.55[a]
ΔROA	+			0.027	0.39			0.045	0.79
DUAL_CLASS	?			-0.136	-0.58			-0.106	-0.44
DELAWARE	?			0.376	2.57[b]			0.267	2.09[b]
ZERO_CASH	-			0.063	0.25			0.544	1.35
CEO controls:									
FOUNDER	-					-0.357	-2.07[b]	-0.249	-1.73[c]
CHAIR	+					0.046	3.85[a]	0.236	2.44[b]
NEW_CEO	+					0.238	1.75[c]	0.460	4.55[a]
TENURE	+					0.004	0.40	-0.001	-0.11
AGE	+					-0.002	-0.16	0.001	0.13
OWN	-					-3.366	-5.24[a]	-2.492	-3.97[a]
Year & Industry controls:		Included		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant		Some significant	
Model F			16.88[a]		19.04[a]		56.15[a]		17.56[a]
Adjusted R^2			.077		.326		.245		.378
# of observations			992		970		975		954
# of clusters			221		219		219		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 11

Analysis of the Effect of Entrenchment at IPO on CEO Salary and Bonus over Time

	DV: lnCASHCOMPb					
		Column A		Column B		Column C	
Variables	Expected sign	Coeff. estimate	t value	Coeff. estimate	t value	Coeff. estimate	t value
Intercept:		4.381	15.70[a]	4.383	15.62[a]	4.359	15.38[a]
Variables of primary interest:							
ENT	+	0.058	3.43[a]	0.060	3.31[a]	0.068	4.17[a]
ENTxTIME	?			-0.001	-0.19		
ENTxYEAR2	?					-0.017	-2.11[b]
ENTxYEAR3	?					-0.013	-1.05
ENTxYEAR4	?					-0.023	-1.55
ENTxYEAR5	?					-0.004	-0.22
Firm controls:							
SIZE	+	0.223	7.94[a]	0.224	7.95[a]	0.227	8.13[a]
B_TO_M	?	-0.018	-0.33	-0.018	-0.32	-0.013	-0.24
LEVERAGE	?	-0.303	-1.23	-0.303	-1.23	-0.319	-1.30
CAP	?	-0.070	-1.75[c]	-0.070	-1.75[c]	-0.072	-1.76[c]
VOLATILITY	?	-0.882	-3.69[a]	-0.880	-3.68[a]	-0.864	-3.63[a]
RETURN	+	0.118	3.77[a]	0.118	3.76[a]	0.114	3.71[a]
ΔROA	+	-0.033	-0.90	-0.034	-0.89	-0.031	-0.80
DUAL_CLASS	?	-0.072	0.51	-0.071	0.50	0.081	0.57
DELAWARE	?	0.244	2.73[a]	0.244	2.72[a]	0.235	2.61[a]
ZERO_CASH	-	-6.537	-43.28[a]	-6.558	-45.21[a]	-6.558	-45.89[a]
CEO controls:							
FOUNDER	-	-0.266	-3.49[a]	-0.266	-3.49[a]	-0.262	-3.42[a]
CHAIR	+	0.050	0.80	0.050	0.80	0.051	0.81
NEW_CEO	?	-0.115	-1.85[c]	-0.115	-1.83[c]	-0.087	-1.38
TENURE	+	0.009	2.34[b]	0.009	2.34[b]	0.009	2.38[b]
AGE	+	0.008	1.48	0.008	1.48	0.008	1.49
OWN	-	-1.154	-2.85[a]	-1.154	-2.86[a]	-1.160	-2.87[a]
Year & Industry controls:		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant	
Model F			328.44[a]		417.31[a]		557.26[a]
Adjusted R^2			.671		.664		.665
# of observations			960		961		961
# of clusters			217		217		217

Table 12

Analysis of the Effect of Entrenchment at IPO on CEO Salary, Bonus, and Other Annual Cash Compensation over Time

	DV: lnCASHCOMPc					
		Column A		Column B		Column C	
Variables	Expected sign	Coeff. estimate	t value	Coeff. estimate	t value	Coeff. estimate	t value
Intercept:		4.318	15.31[a]	4.319	15.23[a]	4.322	15.11[a]
Variables of primary interest:							
ENT	+	0.056	3.31[a]	0.058	3.10[a]	0.067	4.06[a]
ENTxTIME	?			-0.001	-0.12		
ENTxYEAR2	?					-0.018	-2.18[b]
ENTxYEAR3	?					-0.013	-1.05
ENTxYEAR4	?					-0.022	-1.46
ENTxYEAR5	?					-0.004	-0.21
Firm controls:							
SIZE	+	0.233	8.12[a]	0.233	8.13[a]	0.234	8.14[a]
B_TO_M	?	-0.015	-0.27	-0.015	-0.26	-0.011	-0.20
LEVERAGE	?	-0.320	-1.30	-0.321	-1.30	-0.331	-1.34
CAP	?	-0.069	-1.81[c]	-0.069	-1.81[c]	-0.071	-1.82[c]
VOLATILITY	?	-0.844	-3.51[a]	-0.846	-3.50[a]	-0.838	-3.49[a]
RETURN	+	0.117	3.70[a]	0.117	3.70[a]	0.112	3.63[a]
ΔROA	+	-0.033	-0.86	-0.033	-0.86	-0.032	-0.83
DUAL_CLASS	?	0.070	0.49	0.070	0.48	0.069	0.48
DELAWARE	?	0.231	2.59[b]	0.231	2.59[b]	0.228	2.54[b]
ZERO_CASH	-	-6.585	-45.67[a]	-6.584	-45.12[a]	-6.577	-45.66[a]
CEO controls:							
FOUNDER	-	-0.273	-3.50[a]	-0.273	-3.50[a]	-0.271	-3.47[a]
CHAIR	+	0.055	0.87	0.055	0.87	0.054	0.85
NEW_CEO	?	-0.096	-1.50	-0.096	-1.49	-0.080	-1.27
TENURE	+	0.009	2.33[b]	0.009	2.33[b]	0.009	2.32[b]
AGE	+	0.009	1.60	0.009	1.59	0.008	1.59
OWN	-	-1.166	-2.87[a]	-1.166	-2.87[a]	-1.171	-2.88[a]
Year & Industry controls:		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant	
Model F			481.63[a]		422.45[a]		571.55[a]
Adjusted R^2			.665		.664		.665
# of observations			962		962		961
# of clusters			217		217		217

Table 13

Analysis of the Effect of Entrenchment at IPO on CEO Salary over Time

	DV: lnCASHCOMPa					
		Column A		Column B		Column C	
Variables	Expected sign	Coeff. estimate	t value	Coeff. estimate	t value	Coeff. estimate	t value
Intercept:		4.387	19.33[a]	4.380	19.27[a]	4.380	19.24[a]
Variables of primary interest:							
ENT	+	0.028	2.18[b]	0.022	1.54	0.024	1.91[b]
ENTxTIME	?			0.002	0.73		
ENTxYEAR2	?					0.001	0.11
ENTxYEAR3	?					0.008	0.92
ENTxYEAR4	?					0.004	0.38
ENTxYEAR5	?					0.010	0.79
Firm controls:							
SIZE	+	0.171	7.72[a]	0.170	7.72[a]	0.170	7.70[a]
B_TO_M	?	0.003	0.07	0.002	0.05	0.003	0.07
LEVERAGE	?	-0.259	-1.29	-0.257	-1.27	-0.256	-1.27
CAP	?	-0.032	-1.53	-0.032	-1.53	-0.032	-1.52
VOLATILITY	?	-0.505	-2.55[b]	-0.499	-2.52[b]	-0.505	-2.58[b]
RETURN	+	0.019	0.91	0.020	0.92	0.020	0.93
ΔROA	+	-0.031	-1.02	-0.031	-1.03	-0.031	-1.04
DUAL_CLASS	?	-0.044	-0.45	-0.041	-0.42	-0.041	-0.42
DELAWARE	?	0.142	2.22[b]	0.143	2.24[b]	0.143	2.24[b]
ZERO_CASH	-	-5.989	-46.34[a]	-5.996	-45.85[a]	-5.996	-45.44[a]
CEO controls:							
FOUNDER	-	-0.215	-3.80[a]	-0.217	-3.82[a]	-0.217	-3.81[a]
CHAIR	+	0.025	0.49	0.025	0.48	0.025	0.49
NEW_CEO	?	-0.128	-2.98[a]	-0.129	-3.00[a]	-0.130	-2.98[a]
TENURE	+	0.006	1.93[c]	0.006	1.93[c]	0.006	1.93[c]
AGE	+	0.010	2.05[b]	0.010	2.05[b]	0.010	2.05[b]
OWN	-	-0.778	-2.41[b]	-0.778	-2.40[b]	-0.778	-2.40[b]
Year & Industry controls:		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant	
Model F			169.32[a]		165.43[a]		156.93[a]
Adjusted R^2			.766		.767		.766
# of observations			964		964		964
# of clusters			217		217		217

Table 14

Analysis of the Effect of Entrenchment at IPO on CEO Stock-based Compensation over Time

	DV: lnSTOCKCOMP						
		Column A		Column B		Column C	
Variables	Expected sign	Coeff. estimate	t value	Coeff. estimate	t value	Coeff. estimate	t value
Intercept:		3.460	3.01[a]	3.407	2.95[a]	3.450	2.97[a]
Variables of primary interest:							
ENT	+	0.084	1.18	0.040	0.44	0.035	0.42
ENTxTIME	?			0.016	0.78		
ENTxYEAR2	?					0.068	0.99
ENTxYEAR3	?					0.035	0.47
ENTxYEAR4	?					0.150	2.00[b]
ENTxYEAR5	?					0.046	0.51
Firm controls:							
SIZE	+	0.535	4.28[a]	0.534	4.26[a]	0.550	4.23[a]
B_TO_M	+	-0.273	-1.11	-0.280	-1.13	-0.306	-1.22
LEVERAGE	?	-1.983	-3.78[a]	-1.964	-3.76[a]	-2.013	-3.81[a]
CAP	?	-0.026	-0.20	-0.026	-0.20	-0.026	-0.20
VOLATILITY	?	0.692	-0.50	0.735	-0.53	0.997	0.69
RETURN	+	0.487	3.35[a]	0.488	3.36[a]	0.473	3.26[a]
ΔROA	+	0.424	2.51[b]	0.420	2.50[b]	0.414	2.50[b]
DUAL_CLASS	?	-0.388	-0.69	-0.366	-0.65	-0.472	-0.82
DELAWARE	?	0.150	0.41	0.159	0.43	0.156	0.42
ZERO_CASH	-	-3.812	-5.48[a]	-3.856	-5.53[a]	-2.450	-1.90[c]
CEO controls:							
FOUNDER	-	-0.119	-0.29	-0.130	-0.32	-0.111	-0.27
CHAIR	+	0.597	2.09[b]	0.596	2.09[b]	0.582	2.05[b]
NEW_CEO	+	1.370	4.49[a]	1.360	4.45[a]	1.379	4.53[a]
TENURE	+	-0.001	-0.07	-0.001	-0.06	0.001	-0.05
AGE	+	-0.020	-0.97	-0.019	-0.97	-0.022	-1.10
OWN	-	-8.959	-5.96[a]	-8.960	-5.96[a]	-9.041	-5.98[a]
Year & Industry controls:		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant	
Model F			15.11[a]		15.32[a]		9.25[a]
Adjusted R^2			.236		.236		.233
# of observations			961		961		962
# of clusters			217		217		217

Table 15

Analysis of the Effect of Entrenchment at IPO on CEO Total Compensation over Time

	DV: lnTCOMP					
		Column A		Column B		Column C	
Variables	Expected sign	Coeff. estimate	t value	Coeff. estimate	t value	Coeff. estimate	t value
Intercept:		4.655	10.69[a]	4.670	10.66[a]	4.682	10.69[a]
Variables of primary interest:							
ENT	+	0.048	1.78[c]	0.061	2.03[b]	0.050	1.88[c]
ENTxTIME	?			-0.005	-0.68		
ENTxYEAR2	?					0.009	0.46
ENTxYEAR3	?					-0.008	-0.35
ENTxYEAR4	?					0.004	0.13
ENTxYEAR5	?					-0.021	-0.72
Firm controls:							
SIZE	+	0.448	8.67[a]	0.448	8.69[a]	0.450	8.70[a]
B_TO_M	?	-0.356	-3.67[a]	-0.353	-3.62[a]	-0.357	-3.63[a]
LEVERAGE	?	-0.983	-2.99[a]	-0.988	-3.01[a]	-0.994	-3.02[a]
CAP	?	-0.026	-0.65	-0.026	-0.65	-0.025	-0.63
VOLATILITY	?	0.523	0.96	0.511	0.93	0.513	0.93
RETURN	+	0.265	4.55[a]	0.265	4.54[a]	0.263	4.50[a]
ΔROA	+	0.045	0.79	0.045	0.80	0.047	0.80
DUAL_CLASS	?	-0.106	-0.44	-0.112	-0.47	-0.114	-0.56
DELAWARE	?	0.267	2.09[b]	0.264	2.06[b]	0.256	2.00[b]
ZERO_CASH	-	0.544	1.35	0.537	1.30	0.509	1.25
CEO controls:							
FOUNDER	-	-0.249	-1.73[c]	-0.245	-1.71[c]	-0.254	-1.77[c]
CHAIR	+	0.236	2.44[b]	0.236	2.45[b]	0.237	2.45[b]
NEW_CEO	+	0.460	4.55[a]	0.463	4.56[a]	0.458	4.47[a]
TENURE	+	-0.001	-0.11	-0.001	-0.11	-0.001	-0.09
AGE	+	0.001	0.13	0.001	0.13	0.001	0.09
OWN	-	-2.492	-3.97[a]	-2.492	-3.98[a]	-2.479	-3.94[a]
Year & Industry controls:		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant	
Model F			17.56[a]		17.06[a]		16.85[a]
Adjusted R^2			.378		.376		.379
# of observations			954		954		955
# of clusters			217		217		217

Table 16

Analysis of the Effect of Entrenchment at IPO on CEO Pay-for-Performance Sensitivity

Variables	Exp. sign	Column A ΔlnCASHCOMPb Coeff. est.	Column A ΔlnCASHCOMPb t value	Column B ΔlnCASHCOMPc Coeff. est.	Column B ΔlnCASHCOMPc t value	Column C ΔlnCASHCOMPa Coeff. est.	Column C ΔlnCASHCOMPa t value	Column D ΔlnTCOMP Coeff. est.	Column D ΔlnTCOMP t value
Intercept:		-0.146	-1.79[c]	-0.131	-1.60	0.038	0.56	0.068	0.62
Variables of primary interest:									
RETURN	+	0.085	2.12[b]	0.085	2.12[b]	0.012	0.35	0.514	3.57[a]
ENTxRETURN	?	-0.000	-0.00	-0.000	-0.01	-0.006	-0.82	-0.050	-1.62
ΔROA	+	0.122	1.67[c]	0.114	1.56[c]	0.123	1.95[c]	0.042	0.16
ENTxΔROA	?	-0.050	-1.51	-0.048	-1.44	-0.049	-1.95[c]	0.030	0.40
Year & Industry controls:		Included		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant		Some significant	
Model F			10.03[a]		3.45[a]		21.48[a]		12.32[a]
R^2			.060		.057		.038		.090
Adjusted R^2			.011		.008		-.013		.041
# observations			980		980		982		970
# clusters			219		219		219		219

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 17

Principal Component Analysis of Entrenchment Measure

	Component		
	1	2	3
Constituencies Statute	.920		
Poison Pill Endorsement Statute	.863		
Fair Price Statute	.871		
Control Share Acquisition Statute	.771		
Percentage Vote for Charter Amendments		.778	
Staggered Board		.759	
Percentage Vote for Bylaws Amendments		.752	
Business Combination Statute		.651	
Golden Parachute Agreement			.701
Poison Pill			.653
Percentage Vote for Merger Approvals			.517

Displayed is the pattern matrix. Extraction method is principal component analysis; rotation method is Oblimin with Kaiser normalization. Loadings < .4 have been suppressed in the table for readability.

Table 18

Analysis of the Effect of Components of Entrenchment at IPO on CEO Salary and Bonus

Variables	DV: lnCASHCOMPb				
		Column A		Column B	
	Expected sign	Coefficient estimate	t value	Coefficient estimate	t value
Intercept:		4.381	15.70[a]	4.611	15.48[a]
Variable of primary interest:					
ENT	+	0.058	3.43[a]		
ENT_F1	+			0.087	1.49
ENT_F2	+			0.051	1.26
ENT_F3	+			0.870	2.98[a]
Firm controls:					
SIZE	+	0.223	7.94[a]	0.213	7.61[a]
B_TO_M	+	-0.018	-0.33	-0.008	-0.15
LEVERAGE	+/-	-0.303	-1.23	-0.317	-1.29
CAP	+/-	-0.070	-1.75[c]	-0.068	-1.67[c]
VOLATILITY	+/-	-0.882	-3.69[a]	-0.827	-3.58[a]
RETURN	+	0.118	3.77[a]	0.112	3.47[a]
ΔROA	+	-0.033	-0.90	-0.028	-0.75
DUAL_CLASS	+/-	-0.072	0.51	0.056	0.39
DELAWARE	+/-	0.244	2.73[a]	0.327	1.96[b]
ZERO_CASH	-	-6.537	-43.28[a]	-6.535	-46.05[a]
CEO controls:					
FOUNDER	-	-0.266	-3.49[a]	-0.262	-3.38[a]
CHAIR	+	0.050	0.80	0.050	0.83
NEW_CEO	+/-	-0.115	-1.85[c]	-0.116	-1.88[c]
TENURE	+	0.009	2.34[b]	0.009	2.33[b]
AGE	+	0.008	1.48	0.007	1.37
OWN	-	-1.154	-2.85[a]	-1.156	-2.86[a]
Year & Industry controls:		Included		Included	
YEAR		Some significant		Some significant	
INDUSTRY		Some significant		Some significant	
Model F			328.44[a]		486.51[a]
Adjusted R^2			.671		.666
# of observations			960		961
# of clusters			217		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 19

Analysis of the Effect of Components of Entrenchment at IPO on CEO Salary, Bonus, and Other Annual Cash Compensation

	DV: lnCASHCOMPc				
		Column A		Column B	
Variables	Expected sign	Coefficient estimate	t value	Coefficient estimate	t value
Intercept:		4.318	15.31[a]	4.560	15.20[a]
Variable of primary interest:					
ENT	+	0.056	3.31[a]		
ENT_F1	+			0.094	1.61
ENT_F2	+			0.045	1.10
ENT_F3	+			0.088	2.98[a]
Firm controls:					
SIZE	+	0.233	8.12[a]	0.219	7.66[a]
B_TO_M	+	-0.015	-0.27	-0.005	-0.09
LEVERAGE	+/-	-0.320	-1.30	-0.331	-1.34
CAP	+/-	-0.069	-1.81[c]	-0.067	-1.73[c]
VOLATILITY	+/-	-0.844	-3.51[a]	-0.800	-3.43[a]
RETURN	+	0.117	3.70[a]	0.110	3.39[a]
ΔROA	+	-0.033	-0.86	-0.029	-0.75
DUAL_CLASS	+/-	0.070	0.49	0.043	0.30
DELAWARE	+/-	0.231	2.59[b]	0.337	2.04[b]
ZERO_CASH	-	-6.585	-45.67[a]	-6.553	-45.96[a]
CEO controls:					
FOUNDER	-	-0.273	-3.50[a]	-0.271	-3.44[a]
CHAIR	+	0.055	0.87	0.054	0.89
NEW_CEO	+/-	-0.096	-1.50	-0.108	-1.74[c]
TENURE	+	0.009	2.33[b]	0.009	2.29[b]
AGE	+	0.009	1.60	0.008	1.47
OWN	-	-1.166	-2.87[a]	-1.170	-2.89[a]
Year & Industry controls:		Included		Included	
YEAR		Some significant		Some significant	
INDUSTRY		Some significant		Some significant	
Model F			481.63[a]		492.59[a]
Adjusted R^2			.665		.666
# of observations			962		961
# of clusters			217		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 20

Analysis of the Effect of Components of Entrenchment at IPO on CEO Salary

Variables	DV: lnCASHCOMPa				
		Column A		Column B	
	Expected sign	Coefficient estimate	t value	Coefficient estimate	t value
Intercept:		4.387	19.33[a]	4.477	18.20[a]
Variable of primary interest:					
ENT	+	0.028	2.18[b]		
ENT_F1	+			0.063	1.59
ENT_F2	+			0.010	0.31
ENT_F3	+			0.053	2.36[b]
Firm controls:					
SIZE	+	0.171	7.72[a]	0.163	7.54[a]
B_TO_M	+	0.003	0.07	0.012	0.30
LEVERAGE	+/-	-0.259	-1.29	-0.271	-1.35
CAP	+/-	-0.032	-1.53	-0.032	-1.48
VOLATILITY	+/-	-0.505	-2.55[b]	-0.470	-2.45[b]
RETURN	+	0.019	0.91	0.015	0.67
ΔROA	+	-0.031	-1.02	-0.027	-0.88
DUAL_CLASS	+/-	-0.044	-0.45	-0.059	-0.62
DELAWARE	+/-	0.142	2.22[b]	0.232	2.12[b]
ZERO_CASH	-	-5.989	-46.34[a]	-5.968	-44.59[a]
CEO controls:					
FOUNDER	-	-0.215	-3.80[a]	-0.213	-3.71[a]
CHAIR	+	0.025	0.49	0.026	0.52
NEW_CEO	+/-	-0.128	-2.98[a]	-0.126	-2.91[a]
TENURE	+	0.006	1.93[c]	0.006	1.96[c]
AGE	+	0.010	2.05[b]	0.093	1.95[b]
OWN	-	-0.778	-2.41[b]	-0.783	-2.43[b]
Year & Industry controls:		Included		Included	
YEAR		Some significant		Some significant	
INDUSTRY		Some significant		Some significant	
Model F			169.32[a]		254.50[a]
Adjusted R^2			.766		.768
# of observations			964		964
# of clusters			217		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 21

Analysis of the Effect of Components of Entrenchment at IPO on CEO Stock-based Compensation

Variables	DV: lnSTOCKCOMP				
		Column A		Column B	
	Expected sign	Coefficient estimate	t value	Coefficient estimate	t value
Intercept:		3.460	3.01[a]	3.764	3.24[a]
Variable of primary interest:					
ENT	+	0.084	1.18		
ENT_F1	+			0.164	0.75
ENT_F2	+			-0.035	-0.21
ENT_F3	+			0.246	1.70[c]
Firm controls:					
SIZE	+	0.535	4.28[a]	0.507	4.04[a]
B_TO_M	+	-0.273	-1.11	-0.240	-0.99
LEVERAGE	+/-	-1.983	-3.78[a]	-2.023	-3.91[a]
CAP	+/-	-0.026	-0.20	-0.027	-0.20
VOLATILITY	+/-	0.692	-0.50	0.907	-0.65
RETURN	+	0.487	3.35[a]	0.466	3.11[a]
ΔROA	+	0.424	2.51[b]	0.438	2.58[b]
DUAL_CLASS	+/-	-0.388	-0.69	-0.446	-0.78
DELAWARE	+/-	0.150	0.41	0.441	0.82
ZERO_CASH	-	-3.812	-5.48[a]	-3.804	-5.64[a]
CEO controls:					
FOUNDER	-	-0.119	-0.29	-0.104	-0.25
CHAIR	+	0.597	2.09[b]	0.601	2.15[b]
NEW_CEO	+/-	1.370	4.49[a]	1.373	4.52[a]
TENURE	+	-0.001	-0.07	-0.001	-0.06
AGE	+	-0.020	-0.97	-0.021	-1.06
OWN	-	-8.959	-5.96[a]	-8.893	-5.96[a]
Year & Industry controls:		Included		Included	
YEAR		Some significant		Some significant	
INDUSTRY		Some significant		Some significant	
Model F			15.11[a]		14.30[a]
Adjusted R^2			.236		.237
# of observations			961		961
# of clusters			217		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 22

Analysis of the Effect of Components of Entrenchment at IPO on CEO Total Compensation

Variables	DV: lnTCOMP				
		Column A		Column B	
	Expected sign	Coefficient estimate	t value	Coefficient estimate	t value
Intercept:		4.655	10.69[a]	4.864	10.40[a]
Variable of primary interest:					
ENT	+	0.048	1.78[c]		
ENT_F1	+			0.065	0.80
ENT_F2	+			0.037	0.52
ENT_F3	+			0.091	1.96[b]
Firm controls:					
SIZE	+	0.448	8.67[a]	0.438	8.38[a]
B_TO_M	+	-0.356	-3.67[a]	-0.343	-3.32[a]
LEVERAGE	+/-	-0.983	-2.99[a]	-0.994	-3.03[a]
CAP	+/-	-0.026	-0.65	-0.025	-0.60
VOLATILITY	+/-	0.523	0.96	0.589	1.08
RETURN	+	0.265	4.55[a]	0.259	4.24[a]
ΔROA	+	0.045	0.79	0.051	0.88
DUAL_CLASS	+/-	-0.106	-0.44	-0.119	-0.50
DELAWARE	+/-	0.267	2.09[b]	0.332	1.50
ZERO_CASH	-	0.544	1.35	0.600	1.37
CEO controls:					
FOUNDER	-	-0.249	-1.73[c]	-0.242	-1.66[c]
CHAIR	+	0.236	2.44[b]	0.235	2.48[b]
NEW_CEO	+/-	0.460	4.55[a]	0.459	4.55[a]
TENURE	+	-0.001	-0.11	-0.001	-0.11
AGE	+	0.001	0.13	0.000	0.05
OWN	-	-2.492	-3.97[a]	-2.474	-3.94[a]
Year & Industry controls:		Included		Included	
YEAR		Some significant		Some significant	
INDUSTRY		Some significant		Some significant	
Model F			17.56[a]		39.97[a]
Adjusted R^2			.378		.378
# of observations			954		954
# of clusters			217		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 23

Analysis of the Effect of Components of Entrenchment at IPO on CEO Pay-for-performance Sensitivity

Variables		Column A ΔlnCASCOMPb		Column B ΔlnCASHCOMPc		Column C ΔlnCASHCOMPa		Column D ΔlnTCOMP	
	Exp. sign	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value	Coeff. est.	t value
Intercept:		-0.141	-1.71[c]	-0.123	-1.49	0.042	0.62	0.091	0.85
Variables of primary interest:									
RETURN	+	0.083	3.06[a]	0.078	2.92[a]	-0.007	-0.32	0.318	4.85[a]
ENT_F1xRET	+/-	0.002	0.08	-0.015	-0.91	0.007	0.50	-0.092	-1.76[c]
ENT_F2xRET	+/-	0.005	0.20	0.004	0.20	-0.020	-1.25	-0.017	-0.26
ENT_F3xRET	+/-	-0.018	-0.68	-0.005	-0.19	-0.000	0.01	-0.102	-1.72[c]
ΔROA	+	0.106	1.87[c]	0.122	2.19[b]	0.012	0.28	0.268	1.66[c]
ENT_F1xΔROA	+/-	0.178	1.86[c]	0.196	2.08[b]	-0.013	-0.12	0.048	0.17
ENT_F2xΔROA	+/-	-0.167	-3.01[a]	-0.168	-3.01[a]	-0.104	-2.02[b]	0.065	0.66
ENT_F3xΔROA	+/-	0.140	1.64	0.155	1.82[c]	0.066	1.07	0.193	1.07
Year & Industry controls:		Included		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant		Some significant	
Model F			2.90[a]		3.49[a]		25.40[a]		7.52[a]
R^2			.072		.068		.040		.097
Adjusted R^2			.019		.015		-.015		.044
# observations			979		978		981		969
# clusters			219		219		219		219

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors).

Table 24

Analysis of the Effect of Entrenchment at IPO on CEO Total Compensation using GEE Model Fitting

	DV: log of total compensation (lnTCOMP)								
		Column A Independent		Column B Autoregressive		Column C Exchangeable		Column D Unstructured	
Variables	Exp. sign	Coeff. est.	z value	Coeff. est.	z value	Coeff. est.	z value	Coeff. est.	z value
Intercept:		4.655	11.08[a]	5.180	13.63[a]	4.910	12.33[a]	4.785	13.02[a]
Variable of primary interest:									
ENT	+	0.048	1.84[c]	0.044	1.71[c]	0.047	1.83[c]	0.052	2.16[b]
Firm controls:									
SIZE	+	0.448	8.99[a]	0.405	8.84[a]	0.438	9.12[a]	0.416	8.73[a]
B_TO_M	+	-0.356	-3.80[a]	-0.299	-3.22[a]	-0.342	-3.89[a]	-0.291	-3.26[a]
LEVERAGE	+/-	-0.983	-3.10[a]	-0.674	-2.85[a]	-0.731	-2.75[a]	-0.550	-2.14[b]
CAP	+/-	-0.026	-0.67	-0.042	-1.28	-0.059	-2.30[b]	-0.041	-1.66[c]
VOLATILITY	+/-	0.523	0.99	0.236	0.49	0.334	0.70	0.419	0.88
RETURN	+	0.265	4.72[a]	0.202	3.68[a]	0.233	4.27[a]	0.200	3.60[a]
ΔROA	+	0.045	0.82	0.108	1.46	0.108	1.68	0.051	0.73
DUAL_CLASS	+/-	-0.106	-0.46	-0.003	-0.01	-0.073	-0.32	-0.012	-0.06
DELAWARE	+/-	0.267	2.17[b]	0.279	2.39[b]	0.263	2.21[b]	0.315	3.02[a]
ZERO_CASH	-	0.544	1.35	-0.142	0.95	0.122	0.53	-0.084	-0.58
CEO controls:									
FOUNDER	-	-0.249	-1.80[c]	-0.333	-2.49[b]	-0.355	-2.67[a]	-0.346	-2.66[a]
CHAIR	+	0.236	2.53[b]	0.250	3.05[a]	0.227	2.77[a]	0.219	2.89[a]
NEW_CEO	+/-	0.460	4.71[a]	0.519	5.16[a]	0.510	5.16[a]	0.433	4.25[a]
TENURE	+	-0.001	-0.11	0.001	0.16	-0.001	-0.14	-0.001	-0.13
AGE	+	0.001	0.14	-0.001	-0.66	-0.003	-0.39	0.001	0.02
OWN	-	-2.492	-4.11[a]	-2.130	-3.61[a]	-1.765	-2.89[a]	-1.751	-2.89[a]
Year & Industry controls:		Included		Included		Included		Included	
YEAR		Some significant		Some significant		Some significant		Some significant	
INDUSTRY		Some significant		Some significant		Some significant		Some significant	
# of observations			954		954		954		954
# of clusters			217		217		217		217

Variable definitions are provided in Appendix C. Letters a, b, and c denote significance at the 1%, 5% and 10% levels, respectively (two-sided test). Significance tests are based on White standard errors, which are robust to within cluster correlation (Rogers or clustered standard errors). Estimation method is GEE. Independent, autoregressive, exchangeable, and unstructured specify the structure of the working correlation matrix used to model the correlation of the observations from firms.

Table 25

Inputs for Black-Scholes Calculations

Year	Mean Volatility	Low Volatility	High Volatility	High Yield	Risk Free Rate
1995	0.331	0.157	0.599	5.851	5.49
1996	0.319	0.155	0.590	5.826	6.34
1997	0.319	0.163	0.590	5.51	5.77
1998	0.358	0.179	0.645	5.093	4.73
1999	0.395	0.198	0.706	4.582	6.55
2000	0.458	0.236	0.850	4.741	5.16
2001	0.486	0.245	0.913	5.048	4.84
2002	0.497	0.250	0.916	5.006	3.36
2003	0.471	0.229	0.881	4.796	3.77
2004	0.438	0.207	0.850	4.879	3.94
2005	0.384	0.172	0.73	4.748	4.36
2006	0.339	0.155	0.629	4.426	4.70

Reproduced from http://wrds.wharton.upenn.edu/ds/comp/execcomp/means.html

Table 26

Fama-French (1997) Industries

	Industry	SIC Codes
Agric	Agriculture	0100-0799, 2048-2048
Food	Food Products	2000-2046, 2050-2063, 2070-2079
Soda	Candy and Soda	2090-2095, 2098-2099
Beer	Alcoholic Beverages	2064-2068, 2086-2087, 2096-2097
Smoke	Tobacco Products	2080-2085
Toys	Recreational Products	2100-2199, 0900-0999, 3650-3652, 3732-3732, 3930-3949
Fun	Entertainment	7800-7841, 7900-7999
Books	Printing and Publishing	2700-2749, 2770-2799
Hshld	Consumer Goods	2047-2047, 2391-2392, 2510-2519, 2590-2599, 2840-2844, 3160-3199, 3229-3231, 3260-3260, 3262-3263, 3269-3269, 3630-3639, 3750-3751, 3800-3800, 3860-3879, 3910-3919, 3960-3961, 3991-3991, 3995-3995
Clths	Apparel	2300-2390, 3020-3021, 3100-3111, 3130-3159, 3965-3965
Hlth	Healthcare	8000-8099
MedEq	Medical Equipment	3693-3693, 3840-3851
Drugs	Pharmaceutical Products	2830-2836
Chems	Chemicals	2800-2829, 2850-2899
Rubbr	Rubber and Plastic Products	3000-3000, 3050-3099
Txtls	Textiles	2200-2295, 2297-2299, 2393-2395, 2397-2399
BldMt	Construction Materials	0800-0899, 2400-2439, 2450-2459, 2490-2499, 2950-2952, 3200-3219, 3240-3259, 3261-3261, 3264-3264, 3270-3299, 3420-3442, 3446-3452, 3490-3499, 3996-3996
Cnstr	Construction	1500-1549, 1600-1699, 1700-1799
Steel	Steel Works, Etc.	3300-3369, 3390-3399
FabPr	Fabricated Products	3400-3400, 3443-3444, 3460-3479
Mach	Machinery	3510-3536, 3540-3569, 3580-3599
ElcEq	Electrical Equipment	3600-3621, 3623-3629, 3640-3646, 3648-3649, 3660-3660, 3691-3692, 3699-3699
Misc	Miscellaneous	3900-3900, 3990-3990, 3999-3999, 9900-9999
Autos	Automobiles and Trucks	2296-2296, 2396-2396~3010-3011, 3537-3537, 3647-3647, 3694-3694, 3700-3716, 3790-3792, 3799-3799
Aero	Aircraft	3720-3729

Ships	Shipbuilding, Railroad Eq.	3730-3731, 3740-3743
Guns	Defense	3480-3489, 3760-3769, 3795-3795
Gold	Precious Metals	1040-1049
Mines	Nonmetallic Mining	1000-1039, 1060-1099, 1400-1499
Coal	Coal	1200-1299
Enrgy	Petroleum and Natural Gas	1310-1389, 2900-2911, 2990-2999
Util	Utilities	4900-4999
Telcm	Telecommunications	4800-4899
PerSv	Personal Services	7020-7021, 7030-7039, 7200-7212, 7215-7299, 7395-7395, 7500-7500, 7520-7549, 7600-7699, 8100-8199, 8200-8299, 8300-8399, 8400-8499, 8600-8699, 8800-8899
BusSv	Business Services	2750-2759, 3993-3993,7300-7372, 7374-7394, 7397-7397, 7399-7399, 7510-7519, 8700-8748, 8900-8999
Comps	Computers	3570-3579, 3680-3689, 3695-3695, 7373-7373
Chips	Electronic Equipment	3622-3622, 3661-3679, 3810-3810, 3812-3812
LabEq	Measuring and Control Equip	3811-3811, 3820-3830
Paper	Business Supplies	2520-2549, 2600-2639, 2670-2699, 2760-2761, 3950-3955
Boxes	Shipping Containers	2440-2449, 2640-2659, 3210-3221, 3410-3412
Trans	Transportation	4000-4099, 4100-4199, 4200-4299, 4400-4499, 4500-4599, 4600-4699, 4700-4799
Whlsl	Wholesale	5000-5099, 5100-5199
Rtail	Retail	5200-5299, 5300-5399, 5400-5499, 5500-5599, 5600-5699, 5700-5736, 5900-5999
Meals	Restaurants, Hotel, Motel	5800-5813, 5890-5890, 7000-7019, 7040-7049, 7213-7213
Banks	Banking	6000-6099, 6100-6199
Insur	Insurance	6300-6399, 6400-6411
RlEst	Real Estate	6500-6553
Fin	Trading	6200-6299, 6700-6799

Appendices

Appendix A

Description of Anti-takeover Statutes

The anti-takeover statutes included in this study are the laws comprising the Anti-takeover Protection Index (API), Bebchuk and Cohen (2003). In the following, I give a brief description of their nature:

Control Share: A control share acquisition statute essentially requires a hostile bidder to put its offer to a vote of the shareholders before proceeding with it. If a bidder does not do so and purchases a large block of shares, it runs a very serious risk of not being able to vote these shares at all and thus will not be able to gain control despite its large holdings.

Fair Price: A fair-price statute requires a bidder who succeeds in gaining control and then proceeds to remove any remaining shareholders ("second-step freeze-out") to pay the remaining minority shareholders the same price it paid for shares acquired through its bid. This prevents bidders from using the threat of a second-step freeze-out at a low price as a mechanism for pressuring shareholders to sell.

Business Combination: Certain Business combination statutes prevent a bidder that gains control from merging the target with its own assets for a specified period of time (unless certain difficult-to-meet conditions are satisfied). Such constraints on second step freeze-outs might make it more difficult for successful bidders to realize synergies and might reduce the potential profits from a takeover, which could discourage takeovers.

Poison Pill Endorsement: Poison Pills are warrants or rights issued by the company that are triggered in the event that any buyer obtains a significant percentage of

shares. If triggered, the holder of the right is entitled to purchase shares at a discount or to otherwise receive significant value. As long as they are not redeemed poison pills make a takeover prohibitively costly. Delaware courts have approved the use of pills in a series of well-known cases, starting with *Moran v. Household International* in 1985 (490 A.2d 1059). Other states have found it necessary to ground the use of poison pills in legislation either because of the absence of such cases or in a few instances to reverse court rulings against poison pills.

Stakeholder Interests: Some states have passed legislation, which specifically allows managers to take into account interests of non-shareholders in defending against takeovers. Such statutes are regarded antitakeover statutes because taking into account how a takeover would affect employees or debt holders etc. provides managers with extra reasons for opposing the takeover. As a result, it is very difficult for shareholders to have courts scrutinize management's decision to reject a takeover bid in the presence of such statute.

Appendix B

Stock Option Valuation Methodology

The basic instrument used for the determination of a stock option's estimated value at grant was the Black-Scholes Option Pricing Model. The model requires six inputs:

- The exercise price or strike price per share, i.e., the price the executive must pay to exercise the option.
- The market price per share at the time of grant.
- The term of the grant.
- The estimated risk-free rate of interest during the term of the grant.
- The estimated stock price volatility during the term of grant.
- The estimated dividend yield on the stock during the term of the grant.

In determining the model inputs, I followed the modified Black-Scholes option valuation methodology as employed in Standard & Poor's ExecuComp database.[9] Specifically: The strike price per share was that specified by the company in its proxy statement. The market price per share at the time of grant was assumed to be equal to the strike price per share, unless the company specified otherwise in its proxy statement. Since the vast majority of firms in my sample have a calendar year fiscal year, all options were assumed to be granted on July 1st of the particular year for which data were reported as a simplifying assumption. The nominal term of the option was calculated as the time span between July 1st of the year of grant and the actual expiration date, as

[9] http://wrds.wharton.upenn.edu/ds/comp/execcomp/blk_schol.html.

reported by the company in its proxy statement. Figures thus calculated were then rounded to the nearest whole year. Next, the term of the option was reduced by 30% to an amount of 70% of the actual term. This reduction in the option term was implemented to reflect that executives rarely wait until the expiration date to exercise their options.

The risk-free rate of interest used was the approximate average yield that could have been earned in the particular year by investing in a U.S. Treasury bond carrying a seven-year term. The use of a Treasury bond satisfies the Black-Scholes condition that the interest rate be free of risk and that the compounded rate of interest that may be earned on the risk-free security be known at the time of grant. Moreover, the use of a security with a seven-year term first recognizes the fact that the overwhelming majority of executive stock option grants carry ten year terms and then goes on to reflect the earlier-mentioned assumption that an executive will exercise his option 70% of the way into its nominal term.

I use a 60-month volatility based on the standard deviation of returns (adjusted for stock-splits etc.) using the CRSP monthly data file. If a stock has traded for less than 60 months, I use as many months as possible to do the calculation. If the stock has traded for less than one year, I input the average volatility value for the S&P 1500. If the firm's stock price volatility in a given year was higher than the 95th percentile of the volatility distribution of the S&P 1500 market volatility, I lowered it to the 95% percentile value. If the stock price volatility was lower than the 5th percentile of the volatility distribution, I increased it to the 5th percentile value. These two adjustments serve to avoid the

introduction of volatility figures, which, though currently correct, are so far outside the norm as to make it likely that they will be incorrect for the long-term future.

As with the stock price volatility, I strived to assure that the input dividend yield was not outside the range of reasonableness. To measure past yields, I averaged dividend yields over a three-year period. Then, if the dividend yield was higher than the 95th percentile of the distribution of dividend yields of the S&P 1500 companies, I reduced it to the respective 95th percentile value. The values so used for the various adjustments are summarized in Table 25.

[Insert Table 25 about here]

Appendix C

Variable Definitions

The following table lists the names and definitions of all variables used in this study. Dependent variables, variables of primary interest, and control variables are grouped together in the following table. Within each group, listing is in order of general appearance of variables in the models. All variables representing dollar amounts have been deflated to year 1996 constant dollars using the Consumer Price Index (CPI) published by the U.S. Bureau of Labor Statistics.

Variables	Definitions
Dependent Variables	
lnCASHCOMPa	Log of the salary paid to the CEO for the fiscal year.
ΔlnCASHCOMPa	Change in lnCASHCOMPa from the year prior to the fiscal year to the fiscal year.
lnCASHCOMPb	Log of the sum of salary and bonus paid to the CEO for the fiscal year.
ΔlnCASHCOMPb	Change in lnCASHCOMPb from the year prior to the fiscal year to the fiscal year.
lnCASHCOMPc	Log of the sum of salary, bonus, and other annual cash compensation paid to the CEO for the fiscal year.
ΔlnCASHCOMPc	Change in lnCASHCOMPc from the year prior to the fiscal year to the fiscal year.
lnSTOCKCOMP	Log of the sum of stock option grants and restricted stock grants to the CEO for the fiscal year.
ΔlnSTOCKCOMP	Change in lnSTOCKCOMP from the year prior to the fiscal year to the fiscal year.
lnTCOMP	Log of the sum of salary, bonus, and other annual cash compensation, stock option grants, restricted stock grants and all other compensation paid to the CEO for the fiscal year.
ΔlnTCOMP	Change in lnTCOMP from the year prior to the fiscal year to the fiscal year.
Variables of Interest:	
ENT	Entrenchment score for the firm ranging from 0 to 11.
ENT_F1	Entrenchment factor 1, “Anti-Takeover Statutes.”

ENT_F2	Entrenchment factor 2, "Firm-Level Internal Entrenchment."
ENT_F3	Entrenchment factor 3, "Firm-Level External Entrenchment."
ENTxTIME	Interaction term of ENT with a time trend variable equaling 1 in year one post-IPO, 2 in year two post-IPO etc.
ENTxYEAR2	Interaction term of ENT with an indicator variable equal to 1 if the observation is from year 2 post-IPO and zero otherwise. Year 1 post-IPO is base year.
ENTxYEAR3	Interaction term of ENT with an indicator variable equal to 1 if the observation is from year 3 post-IPO and zero otherwise. Year 1 post-IPO is base year.
ENTxYEAR4	Interaction term of ENT with an indicator variable equal to 1 if the observation is from year 4 post-IPO and zero otherwise. Year 1 post-IPO is base year.
ENTxYEAR5	Interaction term of ENT with an indicator variable equal to 1 if the observation is from year 5 post-IPO and zero otherwise. Year 1 post-IPO is base year.
ENTxRETURN	Interaction term of ENT and RETURN
ENTxΔROA	Interaction term of ENT and ΔROA
ENT_F1xRETURN	Interaction term of ENT_F1 and RETURN
ENT_F2xRETURN	Interaction term of ENT_F2 and RETURN
ENT_F3xRETURN	Interaction term of ENT_F3 and RETURN
ENT_F1xΔROA	Interaction term of ENT_F1 and ΔROA
ENT_F2xΔROA	Interaction term of ENT_F2 and ΔROA
ENT_F3xΔROA	Interaction term of ENT_F3 and ΔROA
Control Variables -- Characteristics of the Firm:	
SIZE	Log of total assets at the beginning of the fiscal year.
B_TO_M	Ratio of the book value of common equity to the market value of equity at the beginning of the fiscal year.
LEVERAGE	Ratio of total liabilities to total assets at the end of the fiscal year.
CAP	Ratio of fixed assets (net property, plant and equipment) to net sales at the end of the fiscal year.
VOLATILITY	Standard deviation of monthly stock returns for the fiscal year.
RETURN	Fiscal year stock return computed as the sum of monthly returns obtained from CRSP monthly stock files.
ΔROA	Difference in earnings before extraordinary items to total assets from the year prior to the fiscal year to the fiscal year.
DUAL_CLASS	Indicator variable equal to 1 if at least on class of shares with superior voting rights exists and zero otherwise.

DELAWARE	Indicator variable equal to 1 if the firm is incorporated in the state of Delaware and zero otherwise.
ZERO_CASH	Indicator variable equal to 1 if the firm discloses an explicit policy not to pay cash compensation to CEO and zero otherwise.
Control Variables -- Characteristics of the CEO:	
FOUNDER	Indicator variable equal to 1 if the CEO is the founder of the firm and zero otherwise.
CHAIR	Indicator variable equal to 1 if the CEO holds the position of chairperson of the board of directors and zero otherwise.
NEW_CEO	Indicator variable equal to 1 if the CEO is new during the fiscal year and zero otherwise.
TENURE	The number of years the CEO has been employed by the firm at the end of the fiscal year.
AGE	The age of the CEO at the end of the fiscal year.
OWN	Percentage of common shares of the firm owned by the CEO at the end of the fiscal year.
Other Control Variables:	
YEAR	Indicator variables for calendar year of observation; 2001 is base year.
INDUSTRY	Indicator variables for Fama-French industry sectors; Business Services industry is base industry. Industries are summarized in Table 26.

Vita

Arno Forst was born in Bonn, Germany, on September 30, 1967. He graduated from the University of Bonn with the German equivalent of a J.D. in 1996 and continued his legal studies with a fellowship at the University of Wisconsin-Madison, where he received a Masters in Legal Institutions in 1997. After passing the bar exam, Arno worked as an attorney in a law firm for corporate law and taxation based in Koblenz, Germany, where he held positions of increasing responsibility. In his most recent position, he headed the law firm's construction and real estate division, where he was the lead attorney in a large number of litigation cases and advised clients in turnaround situations from a business and legal angle. Moving to the United States enabled Arno to pursue his life-long goal of combining his legal education with a Doctorate in Business. In May 2009, Arno completed the program requirements for a PhD in Business with a major in Accounting and a minor in Statistical Science at Virginia Commonwealth University. He will join the accounting faculty at Kent State University in fall 2009.