

Corporate Governance and Strategic Behavior: A Study of Acquisitions and CEO Compensation Practices of Publicly-Owned and Family-Controlled Firms in S&P 500

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ABSTRACT

Recent research has suggested that interest alignment, i.e., the degree to which members of an organization are motivated to behave in line with organizational goals, is a source of competitive advantage that can generate rents for the firm (Gottschlag and Zollo, 2007). Drawing on agency theory, this dissertation tests whether the interest alignment premise manifests itself differently in the strategic behavior of family-controlled firms when compared to their nonfamily peers. In particular, for firms in the S&P 500, I evaluate the results of two important strategic policies; mergers and acquisitions, as well as CEO compensation practices.

In studying acquisitions made by family and nonfamily firms in the S&P 500 index from 1992-2006, I find that family firms are more careful when embarking on actions leading to mergers than non-family firms, as evidenced by their selection of smaller targets and targets who are in related businesses. I also find that there is a preponderance of cash purchases by family firms that does not vary with market movements and that completion times for merger transactions are shorter than for non family firms. The care and concern with which family-controlled firms choose their “mates” translates into higher stock returns when compared with non-family firms. Overall, I believe that family-controlled firms derive value from their merger and acquisition strategy.

With regard to CEO compensation practices, I find that family firms provide strong incentives to the CEO for superior performance but pay significantly lower than nonfamily firms

in terms of both salary and stock-based pay. The pay-for-performance sensitivity between annual stock returns and total compensation CEOs is significantly greater for family firms in general, and for family CEOs when compared with compensation of professional CEOs in nonfamily firms. The pay-for-performance sensitivity is in turn positively related to firm performance, suggesting that firms with greater pay-for-performance sensitivity (family controlled firms) also perform better.

The analyses in my thesis thus illustrate that family-controlled firms and non-family firms in the S&P 500 differ in their strategic decision-making. It would be fair to say that family firms have longer investment horizons and give deliberate thought to expending resources whether for acquisitions or for CEO pay, and may suffer lower agency costs than nonfamily firms due to family governance (and public monitoring) which may lead to their relative superior performance. This dissertation finds that each acquisition made by a family controlled firm generates an extra return of 0.50% when compared with a nonfamily firm, and family controlled firms earn 0.50% every year directly attributable to pay-for-performance sensitivity.

The study thus underlines and reiterates the importance of instilling the long-term view in the management of all firms, lowering agency costs, and aligning the interests of managers with those of stockholders for superior financial performance.

DEDICATION

This work is dedicated to my dear husband Vijay, without whose complete and steadfast emotional, intellectual, and financial support, this journey would never have been embarked upon, nor completed

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CHAPTER I: INTRODUCTION

“I have been privileged to know four generations of your family starting with Jane Cook and Jesse Cox. Over all those generations family values and company values have been one and the same.”

“By and large, the family has embraced the company’s 125-year-old history and independence.”

--- The first excerpt is from Peter Kann’s letter to the Bancroft family (May 7, 2007). Peter Kann worked at Dow Jones for 43 years, including 15 years as the chief executive. The second excerpt is from a Wall Street Journal article (Berman and Ellison, 2007) on the Bancroft family’s ownership of Dow Jones Co.

An understanding of the antecedents of performance among firms has long been the subject matter for strategy researchers and practitioners. I pursue a similar line of research in this thesis with particular reference to ownership and control. This study is motivated by an overarching research question: How does ownership and control affect strategic decision-making that impacts performance of publicly-held firms? I examine whether the long-term perspective and the congruence of personal and organizational goals in *family-controlled* firms sets them apart in their strategic decision-making from *nonfamily* firms.

In this dissertation, I advance a conceptual model delineating ownership along familial lines. Drawing on agency theory, I study the strategic decision of merging with or acquiring another firm by family-controlled and non family-controlled firms, and explain the effects of these decisions on firm performance. I further examine the internal interest alignment in these two sets of firms by evaluating the practices for compensation of their CEOs and the differential impact such compensation has on firm performance. Using a longitudinal and pooled research design, I empirically investigate the effects of acquisition behavior and CEO

compensation policies on the stock price indicators of large publicly traded family and nonfamily firms on the Standard and Poor's 500 index.

I.1. RESEARCH MOTIVATION AND QUESTIONS

Ownership and control broadly fall within the purview of corporate governance which has received attention from scholars in management strategy, entrepreneurship, law, economics, and sociology. Several corporate governance studies have examined how different ownership structures of firms have affected different aspects of firm performance: ownership structure and economic performance (Thomsen and Pedersen, 2000), ownership structure and R&D investments (Lee and O'Neill, 2003), family ownership and entrepreneurship (Zahra, Hayton, and Salvato (2004), etc. Despite prolific research in this area (see meta-analysis by Daily, Dalton, and Rajgopalan, 2003), there is no consensus on the one best form of ownership or governance that leads to superior firm performance. Grandori succinctly puts it as "in governance, as in organization, there is one solid law: there is no one best way of organization" (2004:23).

Recent research, however (Anderson and Reeb, 2003; Business Week, 2003; Lee 2006; Maury, 2006; Villalonga and Amit, 2006), has shown that family-controlled public firms outperform nonfamily-controlled public firms on both accounting and financial measures. But, little, however, is known regarding the sources of the competitive advantage, if any, of these family-controlled firms. While some scholars have conjectured that family and social relationships serve as non-imitable resources or 'family' capital (Habershorn and Williams, 1999) that confer advantages to the family firm, others have argued that family firms may suffer from lower agency costs than nonfamily firms due to closer alignment between owners and managers, and that the latter may even have a stewardship orientation

towards firm assets and constituents, in certain cases allowing for long-term investment and hence create a sustained advantage (Hoopes and Miller, 2006; Miller and Miller, 2005, 2006). Yet comparisons between family and nonfamily firms with respect to specific strategies and practices followed to isolate such differences are rare. This dissertation addresses this gap in the literature and attempts to answer the broad question: Do family-controlled publicly traded firms have a competitive advantage by virtue of their ownership and control structure such that these firms choose and follow strategies different from those of nonfamily-controlled firms and eventually achieve better overall performance? More specifically, I examine the merger and acquisition strategies of family and nonfamily-controlled firms in the S&P 500 evaluating whether family firms differ from nonfamily firms with respect to the frequency, the size, the relatedness, and the mode of payment when acquiring other firms. While mergers and acquisitions address the issue of growth of the firm, internal incentive systems like compensation structure of CEOs also need to be examined to check, whether family-controlled firms do incur lower agency costs that lead to their superior performance.

From these broad questions above, I systematically and empirically answer the following questions in the remaining chapters:

- Does the difference in acquisition strategy between family and nonfamily firms, if any, in terms of size, frequency, relatedness, and mode of payment lead to differential value-creation of mergers?
- How are CEOs compensated in family firms? More importantly, what are the specific components and the relative importance of the components of CEO compensation in family and nonfamily firms?
- Is there greater pay-for-performance sensitivity in family firms who have a CEO from within the family compared to an outside or professional CEO?

- How volatile is the CEO pay in a family firm versus a nonfamily firm?
- Is the pay for performance sensitivity in a family firm higher than in a non family firm, especially when you consider the total wealth of the CEO as measured by the equity ownership of the CEO in a family firm?
- Does this pay-for-performance sensitivity matter in explaining performance of the family firm?

The above questions are answered using a sample of firms in the S&P 500 over the 1992-2006 period. Each firm is categorized annually into a family firm or a nonfamily firm based on stock ownership of founding family members and their representation on the Board of Directors of the firm. Consistent with the hypotheses advanced in the dissertation, I find that family-controlled firms acquire smaller targets than nonfamily firms, pay cash more often than stock for acquisitions completed, and are more likely to acquire firms in the same industry when compared to nonfamily firms. I also find that announcement returns around mergers are generally positive for family firms, but consistently negative for nonfamily firms. On average, family firms create an additional \$85 to \$133 million per acquisition relative to acquisitions by nonfamily firms. Thus, family firms make smarter value-enhancing acquisitions.

Regarding compensation policy, I find that compensation provided by the firm is lower for family CEOs and for family firms in general: family CEOs and professional CEOs in family firms earn less compensation than professional CEOs in nonfamily firms in terms of salary, stock based pay, and direct compensation; and changes in salary and direct compensation are significantly smaller for family CEOs when compared with professional CEOs in the total sample. I further find that pay for performance sensitivity for CEO compensation has increased over the years. Interestingly, when changes in wealth that accrue due to prior stock ownership by the CEO are considered, pay for performance sensitivity

jumps from a few cents to a few dollars per \$1,000 of firm value, and the pay for performance sensitivity is much greater for family CEOs and family firms than for professional CEOs. More importantly, I find that the higher pay for performance sensitivity is positively related to performance as measured by stock returns.

I.2. CONTRIBUTION

The conceptual model developed and tested in this dissertation makes contribution to several streams of literature in Management.

Governance and Family Firm literature: My study empirically examines how agency costs affect strategic decision making in family firms contrasted with nonfamily firms. Although agency theory has been applied to governance in family firm literature, no study, to my knowledge, has attempted to directly or indirectly investigate the consequences of lower or higher agency costs suffered by family firms in the context of actual strategic behavior. By making direct comparisons between publicly held family and nonfamily-controlled firms within a given index, I contribute to a better understanding of family firm decision making, thus adding to the entrepreneurship and governance literatures.

Mergers and Acquisition literature: Secondly, this research systematically studies characteristics of mergers and acquisitions (M&A) made by family firms where agency costs are assumed to be lower than in nonfamily firms and evaluates the effect of M&A on firm performance. Since the meta-analysis by King, Dalton, Daily, & Covin, (2004) reiterated the findings of past research that had found that mergers and acquisitions do not add value to the acquiring firm, the results of this study throw light on the moderator variable of ownership to evaluate one more aspect of governance and its impact on firm growth strategy via mergers and acquisitions.

Compensation literature: Thirdly, this study contributes to the literature on CEO compensation. While CEO compensation has received considerable attention from academic researchers, practitioners, the media, and public policy makers, there are very few, if any, published studies that examine the role played by differing compensation structures in family and nonfamily firms in explaining firm performance. If compensation practices and pay-for-performance sensitivities are indeed different in these two sets of firms and the different incentive schemes impact firm performance differently, there are lessons to be learned from the design of compensation contracts in these firms.

The effectiveness of compensation contracts is measured by pay-performance sensitivity. I examine how agency costs translate into pay-performance sensitivity for family-controlled firms and nonfamily firms and whether pay is more sensitive to performance in family-controlled firms than in nonfamily-controlled firms. Higher pay-performance sensitivity will result in a stronger alignment of incentives, which should result in better firm performance. While studies have compared the compensation structure of family CEOs and professional CEOs in family-controlled firms (Gomez-Mejia, et al., 2003) and have compared the pay-performance sensitivity of professional CEOs in family and nonfamily firms (Ali and Chen, 2006), to the best of my knowledge, no work has been done that examines the pay-performance sensitivity in family and nonfamily-controlled firms. More importantly, past research has not examined whether compensation and pay-performance sensitivity can account for the differences in performance of family and nonfamily firms.

Another contribution of this study is the use of a measure of compensation that includes indirect compensation within the context of family and nonfamily firms. Few prior studies have used complete measures of compensation by including the return on the stock that the CEO (and her/his family) owns (Conlon, 2006). Many CEOs can be satisfied with a

salary of \$1 because they get compensation from their stock ownership. Herbst (2007) lists 8 firms in the S&P 500 whose CEOs draw \$1 as their annual salary. For example, Richard Morgan, CEO of Kinder Morgan, has drawn a salary of \$1 for more than a decade and does not get any bonus or stock-based pay. He considers the income from his ownership worth \$2.4 billion in the company as sufficient compensation. Not including indirect compensation from stock ownership in total compensation produces incorrect results relating to the effect of compensation on performance and pay-performance sensitivities. I present the differences in results when total compensation both includes and does not include indirect compensation. To arrive at valid conclusions and to thoroughly understand the performance impact of compensation, future research should consider stock ownership as a form of total compensation.

In terms of empirical testing, the sample in this study is much richer and more representative of the U.S. economy than samples used in prior studies that have examined compensation contracts in family firms. While past studies have used either cross-sectional samples (Ali and Chen 2006) or small private firms (Cole and Mehran, 2007; Wasserman, 2006), my sample consists of S&P 500 firms subdivided into family-controlled and nonfamily controlled firms, covering a period of 15 years from 1992-2006 and approximately 75% of the total US equities market thus enabling the results to be generalized.

I.3. OUTLINE

The rest of the dissertation is organized as follows. Chapter II presents the conceptual model and reviews the literature on governance, family firms, agency costs, and their relationship to performance of the firm. Chapter III develops and states the hypotheses to be tested and provides the rationale for studying the merger and acquisition strategy. Chapter IV

develops and states the hypotheses to be tested and provides the rationale for studying the CEO compensation strategy. Chapter V describes the research methodology that tests the conceptual model. Chapter VI explains and discusses the results of the analysis outlining caveats and limitations of the research study. Chapter VII summarizes the main conclusions, and outlines avenues for future research.

CHAPTER II: CONCEPTUAL DEVELOPMENT

The goal of this chapter is to lay a foundation for this dissertation by reviewing the relevant literature. I briefly review past research in the governance of firms by founding families, and agency costs and interest alignment differences in family versus nonfamily firms. Then I present the conceptual model which is developed in later chapters.

II.1. GOVERNANCE, OWNERSHIP, AND CONTROL

As early as 1932, Berle and Means predicted the demise of the corporation based on their conception of what would happen when separation of ownership and control occurred in a firm where managers who were not necessarily owners or shareholders controlled the firm by making strategic decisions that would affect firm financial outcomes and thus the owners of the firm. While their prediction did not come true, and public corporations continue to form a substantial part of the US economy, recent instances of malfeasance by executives of Enron, Tyco, Global Crossing etc. have substantiated these fears. In fact, corporate governance reform as evidenced by legislation like Sarbanes-Oxley is geared to mitigate some of the costs of the separation of ownership and control within the publicly-held firm.

If Berle and Means criticized the separation of ownership and control, Alfred Chandler passionately advocated it. In his substantial body of work, particularly “Strategy and Structure” (1962), “The Visible Hand” (1977) and “Scale and Scope” (1990), Chandler argued that it was “managerial capitalism” and not entrepreneurial families that ought to run large corporations to avail of scale and scope economies. In fact, Chandler argued that professional managers were essential to the success of the then emerging large multi-

divisional firms and that it would be the professional managers who would lead the firm towards long-term stability and growth.

Since these seminal works stating two divergent viewpoints of ownership and management were published, several articles have been written regarding the structure and ownership of firms and their relationship to firm performance (Ang, Cole, Lin, 2000; Demsetz, 1983, Demsetz and Lehn, 1985; Demsetz and Villalonga, 2001; Gedajlovic and Shapiro, 1998; Jensen and Meckling, 1976; Jensen, 1986; Li and Simerly, 1998; Morck, Shleifer and Vishny, 1988; Shleifer and Vishny, 1986, 1997; Thomsen and Pedersen, 2000).

While Demsetz and Villalonga (2001) provide some evidence that ownership structure is endogenous to firm performance, most other studies claim that firm performance is dependent upon ownership structure and management of the firm. The predominant theory used to explain differences in firm performance based on ownership is the agency theory, as first enunciated by Ross (1973) and then formalized by Jensen and Meckling (1976). According to agency theory, agency costs arise when managers (agents), who are not owners (principals), make decisions on behalf of the shareholders that are not in the latter's best interests. This situation arises due to the incongruent risk preferences of owners and managers. Dispersed owners are diversified and therefore more willing to take on risk that leads to high returns. Managers, on the other hand, are risk averse because their human capital is tied up in the firm. Thus managers need external rewards to motivate them to assume risks that will lead to projects that enhance shareholder value (Eisenhardt, 1989). Due to the ambiguous nature of the manager's duties, and the inherent asymmetry of information (managers have more information about the firm than do shareholders) it is difficult for owners to design the optimal contract (Hart, 1995) to ensure managerial behavior that will increase firm value. Corporate governance mechanisms are structured to minimize agency

costs and align the interests of managers and shareholders mainly through monitoring mechanisms like independent boards of directors, concentrated ownership, and incentive alignment via executive compensation.

Concentrated owners can assume several identities: individuals like Warren Buffet, and Carl Icahn; institutions like banks and retirement or pension funds for e.g. CALPERS; private equity; government; or founding families. Of these various forms, concentrated ownership by families is by far the most prevalent, even in developed countries like the United States, which has the largest participation of the public in stock markets (Becht & Mayer, 2001; Claessens, Simton, and Lang, 2000; Faccio and Lang, 2002; La Porta, Lopez-de-Silanes, and Shleifer, 1999).

II.2. FAMILY OWNERSHIP AND CONTROL

Family firm ownership is the most ubiquitous form of ownership in the world (La Porta, et al., 1999). Using a broad definition of a family firm i.e. that the family participates in the business and in setting and controlling its strategic direction, Astrachan and Shanker (2006) report that 24.2 million family businesses operate in the United States accounting for 89% of tax returns in the year 2000, contributing 64% of the GDP, and employing 62% of the US workforce. Hence the importance of family firms in the US economy cannot be overstated. While complete statistics for the rest of the world are not available, family firms are likely to be even more important outside of the U.S. due to less developed capital markets and lower shareholder protection (Shleifer and Vishny, 1997). Even in the S&P 500 index and in the Fortune 500 list, family firms account for one-third of the total number of firms (Anderson and Reeb, 2003; Villalonga and Amit, 2006). There is further evidence that in the S&P 1500 index family firms account for approximately 46% of the total number and hold

around 18% of the equity and 22% of directorships. Family members also hold the CEO position in 62% of their firms (Chen, Chen and Cheng, 2006). These large family firms are characterized by the founding family's concentrated ownership and the founding family members' active involvement in the firms' management, either as top executives or as directors.

While family firms constitute a major form of concentrated ownership, they are materially different from other types of concentrated owners (Dyer, 1988; Handler & Kram, 1988; Jones, 1983; Kanter, 1989). Miller and Miller (2005) identify the four Cs that characterize family firms: Command (through representation in top management teams), Continuity (through ownership across generations), Community (through close relationships among owner and manager members due to familial ties), and Connections (through long-term relations with all stakeholders that emerge from continuity in ownership). Tiaguri and Davis (1983) developed a model that portray the family and business as interlinking systems that explain the competitive tensions in strategy making.

As a modification to the three circles approach, Habershorn, Willaims, and McMillain offer a unified system approach performance model for the family-influenced firm. They describe the family business social system "as a 'metasystem' comprised of three broad subsystem components: 1) the controlling family unit: representing the history, traditions and life-cycle of the family; 2) the business entity: representing the strategies and structures utilized to generate wealth; and 3) the individual family member: representing the interests, skills and life stage of the participating family owners/ managers" (2006:69). It has also been pointed out that successful family businesses distinguish themselves from other businesses by the level of trust, altruism, commitment, and long-term planning, and by love of the firm (Davis, 1983). The paternalistic attitudes of the founding family members often extend to

nonfamily members, which can instill a sense of stability and dedication to the business among all employees (Chami, 2001). As Henry Mintzberg observes (c.f. Pervin, 1997: 187):

You're more likely to get creativity in a family business for a couple of reasons. One is there's a very deep commitment and also there's a deep rooting in the details of the business more frequently, which I think is a prerequisite. The emotion comes from commitment to a business. I sat in a S.C. Johnson conference business meeting, talking to a lot of the different people, and you could sense the energy, you could feel the culture of the place. When the chief executive gets up and speaks, there's a feeling of 'We really belong;' family and non-family alike. There's a sense that this place has a history, it has a soul. And when his children get up, it's not as if they look at them and say, 'Here are these young upstarts and they've got all this power and here I am working so hard and I don't have the power.' That wasn't the feeling. The feeling was 'This place has soul. It's got continuity. It's got feeling.'

II.3. DEFINITIONS AND TYPOLOGY OF FAMILY FIRMS:

“The trouble with the word ‘family business’ is that it spans everything from the corner grocery store to Ford.” (Henry Mintzberg c.f. Pervin 1997).

There are several ways in which family businesses are classified and categorized (Klein, Astrachan, and Smyrnios, 2005; Sharma, 2006). While the common denominator in all family firms is the involvement of the family in the business, Astrachan, Klein and Smyrnios (2002; 2005) have developed the F-PEC scale, which measures family influence through ownership-power, management-experience, and familiness-culture components. Gersick, et al. (1997) categorize family firms based on ownership patterns that that may develop over time: controlling owner, sibling partnership, and cousin consortium. In order to formalize these various categorizations to capture the heterogeneity of family firms and accommodate the large publicly listed and family-controlled firms mentioned earlier, Sharma and Nordqvist (2007) developed a comprehensive typology of family firms aligning family values, the extent of family involvement in business, and governance efficiencies. Their typology leads to sixteen categories, where the simplest form consists of a sole proprietor who

is also the sole manager, to the most complex where there is family and nonfamily ownership and control, as in the large publicly traded family-controlled firms--that form the sample of this dissertation.

It follows then that there cannot be one single definition of the family firm (see Steier, Chrisman, and Chua, 2004). Any firm that has the founder or any of his/her family members on the board of directors is a family firm according to Anderson and Reeb (2003). In their lead article *Family Inc.*, *Business Week* (November 10, 2003) uses a similar definition: any company where founders or descendants continue to hold positions in top management on the board or among the company's largest shareholders is considered a family firm. Morck and Yeung (2004), define a family firm as one in which the largest group of shareholders is a specific family and the stake of the family is at least 10% of the voting shares thus requiring family control of the firm. Shanker and Astrachan's (1996) definition of a family firm is broad and includes effective control of strategic direction and intent to keep the firm within the family in the future. According to Daily and Dollinger (1993), a firm is family-controlled if family members own or control at least 5% of the voting stock.

Common to these definitions is the family involvement along the dimensions of ownership, management, and succession, as pointed out by Chrisman, Chua, and Litz (2004). Even in a family firm, there may be outside ownership where the non family shareholding is larger than family equity in the firm. For example, Carl Ichan or a group of non family members can own a greater percent of the firm and steer the direction of the firm, especially as the firm gets larger or the founding family passes through several generations. The Family Firm Institute identifies family firms based on their "culture" and "feel" rather than only ownership! In this dissertation, I use a definition that combines the element of ownership and control in S&P 500 firms operationalized as at least 1% ownership of the voting shares and

presence of the family on the Board of Directors. Further details are discussed in the methodology section in chapter V.

II.4. INTEREST ALIGNMENT IN FAMILY FIRMS

In a recent theoretical article, Gottschlag and Zollo (2007) seek to explain how competitive advantage can be obtained in firms through the process of interest alignment, i.e., how a firm can best spark and harness motivation to generate a performance advantage over its competitors. The authors term the results of such motivation “interest alignment rents,” which they expect to be Ricardian or Schumpeterian. They proceed to define organizational interest alignment “as the degree to which the members of the organization are motivated to behave in line with organizational goals” (page 420) and break up the concept of motivation from its traditional dichotomy of intrinsic and extrinsic into three types: *Extrinsic motivation*, which is driven by external rewards like money, power, etc; *Hedonic intrinsic motivation*, which is derived from work and tasks that are self-determined and enjoyable; and *Normative intrinsic motivation*, which is driven by the goal of behaving in accordance with the norms and values of the organization.

Applying their trichotomy of motivation to family firms, I contend that family firms derive organizational interest alignment rents by using all levers of motivation. To the extent that family CEOs or representatives on the Board set the strategy for the firm and actively control its future direction, hedonistic intrinsic motivation will be at work. Socialization within the family business over long years will enable family member employees to be driven by the organization culture, norms and values, thus deriving normative intrinsic satisfaction from their work within the firm thus aligning their mutual interests. Intrinsic motivation then is tacit and casually ambiguous and more likely to apply to insider family CEOs, although

professional CEOs in family firms may also display intrinsic motivation after serving long tenures in family firms. It is of interest that while the average tenure of a CEO in the family firm tends to run 15-25 years, professional CEO tenures average less than 5 years. (Le-Breton Miller et al., 2004)

Extrinsic motivation is derived from monetary rewards. When family CEOs or members in top management positions enjoy residual property rights from their investment in the firm, (which is often inherited from their forefathers) they will experience a high level of extrinsic motivation. This is especially true when the firm is performing well, which will provide reinforcement of aligned interests. Professional CEOs can also be motivated when extrinsic rewards are provided and compensation is tied to performance. In Chapter IV, I study the compensation practices followed by family and nonfamily firms to gauge how extrinsic and intrinsic motivations can interact in formulating CEO remuneration policies for different types of CEOs.

II.5. AGENCY AND POTENTIAL COSTS IN FAMILY FIRMS

Since there is less separation of ownership and control in family firms, there is a general expectation that agency costs are lower in these firms compared to nonfamily firms (Jensen and Meckling, 1976). As a form of organization, the family firm is efficient as there will be a lesser need to institute costly governance mechanisms to align the goals of shareholders and managers than in nonfamily and dispersely-owned firms (Daily and Dollinger, 1992; Kang, 2000). In fact, Ang, et al., (2000) presume that in a sole owner managed firm, agency costs will be zero. Family governance is said to assure trustworthy and loyal performance because family managers expect a continuing relationship with the firm and they are less likely to be tempted to sacrifice long-run advantages for short run gains (Pollack, 1985). Demsetz and Lehn (1985) argue that founding family members have a

distinct incentive to monitor their firms effectively because of their undiversified and concentrated positions and therefore reduce agency costs even with an outside manager. Founding families effectively help mitigate myopic investment decisions by managers (James, 1999; Kwak, 2003; Stein, 1988, 1989).

Not only do scholars attribute low agency costs to family firms, but they believe that family firms exhibit a stewardship orientation. Davis, Schoorman, and Donaldson (1997) argue that family members act as stewards and view family wealth as an extension of their own well-being. Corbetta and Salvato (2004) also apply stewardship theory to family firms. First, the authors argue that when non-financial goals dominate, they will foster motivation based on higher level needs, favoring a steward-principal relationship. Second, organizational behavior will be affected by the degree of managerial altruism. While altruism can mitigate some agency costs, it can also lead to other costs such as the entrenchment of ineffective managers (Handler and Kram, 1988). However, Corbetta and Salvato (2004) maintain that the higher the degree of altruism, the stronger will be family bonds and the higher will be the commitment to the firm (Pierce, Kostava, and Dirks, 2001). Third, family firms are high trust organizations. The greater the degree of trust, the lower will be the need for formal agency-like arrangements, and the greater will be the congruence in an organization governed by stewardship theory (Gomez-Mejia, et al. 2001). Finally Corbetta and Salvato (2004), note that the embeddedness of social ties in a family firm builds a climate where collective goals are more important than individual goals.

The interaction of family and business can create a strong sense of identity and commitment within the firm, and there may be no agency costs incurred in the case of a single-owner-manager firm, due to complete unification of ownership and control. However,

there is ample evidence that larger family-owned firms (where not all owners are managers and vice versa) do incur agency costs, albeit of a different nature and to a different degree than nonfamily-owned firms (Fama and Jensen, 1983; Chrisman, Chua, and Litz, 2004). In fact, the nature of family relationships and an altruistic attitude can itself cause agency problems in family firms, and it is suggested that strategic planning and pay incentives should be used to increase economic performance (Schulze, Lubatkin and Dino, 2003; Schulze, Lubatkin, Dino, & Buchholtz, 2001). Minority shareholders in a public family firm can suffer from a principal-principal problem if the family is entrenched and nepotism prevails (Morck & Yeung, 2003).

Though agency costs related to manager-shareholder conflicts are smaller in family firms as compared to nonfamily, agency costs related to controlling shareholders and minority shareholders are potentially more important. To be sure, dominant shareholders are very effective monitors of the firm because they have an incentive to incur monitoring costs which small, atomistic shareholders do not (Shleifer and Vishny, 1986; Holderness and Sheehan, 1988). However, when dominant shareholders control the firm, several conventional corporate governance mechanisms that are used for mitigating manager-shareholder agency costs become much less effective (Barclay and Holderness, 1989). Gomez-Mejia, Larraza-Kintana, and Makri (2003), Shivdasani (1993), and Kole and Lehn (1998) find that the takeover market, institutional investors, and incentive compensation are potentially less prevalent governance mechanisms in family firms than in nonfamily firms.

There is a large body of literature that suggests that concentrated ownership gives dominant shareholders the power to pursue their private interests to the detriment of outside shareholders (see DeAngelo and DeAngelo, 2000; Barth, Gulbrandsen, and Schone, 2003). First, the family can use corporate funds for family altruism (Casson, 1999) and other

personal objectives (Steier, 2003). For example, Leon Hess, the late CEO of Amerada Hess, spent hundreds of millions of dollars on creating an art gallery, while his company underperformed other oil companies. Excessive compensation and perquisites for the family are partly paid for by the other shareholders, so family owners may overpay themselves (Gomez-Mejia, Larraza-Kintana, and Makri, 2003). In addition, free riding by family members is difficult to control or curb (Bruce and Waldman, 1990; Schultze, Lubatkin, Dino, and Buchholtz, 2001)). The board of Tyson Foods, as an example, will pay \$800,000 a year to Don Tyson, the CEO, until 2011 for consultancy services. The amount is more than what Mr. Tyson earned when he worked full time at Tyson Foods. Moreover, his estate will continue to receive his compensation if he dies before 2011.¹

Second, the family can expropriate funds from the minority shareholders by making decisions that are in the family's interest but not in the best interests of the company such as taking a disproportionate share of corporate earnings in the form of special dividends (DeAngelo and DeAngelo, 2000), by engaging in related-party transactions (Anderson and Reeb, 2003). Managerial entrenchment can also contribute to the firm's poor performance. This includes continued tenure of underperforming CEOs (Kets de Vries, 1993, Shleifer and Vishny, 1997; Schulze, et al., 2001). Morck, Shleifer, and Vishny (1988) suggest that there is an S-shaped relationship between insider ownership and firm performance and Anderson and Reeb (2003) show that performance of family firms gradually deteriorates after family ownership exceeds about 30%.

Third, family owners of family-controlled firms are not adequately diversified. That is, most of their wealth is invested in the firm. Over time, some family firms may become unwilling to take the risks associated with entrepreneurship and growth that may require

¹ Business Week, February, 2005.

seeking outside funding (Dertouzo, Lester, and Solow, 1997) in order to safeguard their wealth and retain decision-making control (Sharma, Chrisman, and Chua, 1997).

However, when families engage in private rent seeking or suboptimal firm governance, their activities may be revealed to the market and they may incur a substantial loss in the form of lower equity value and reputation. That is not desirable for the family because of their large ownership, legacy, and undiversified holdings. In addition, significant legal protection is provided to noncontrolling shareholders in the U.S. as opposed to other countries (Shleifer and Vishny, 1997; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998, 2000). These two factors act as disciplining mechanisms that mitigate excessive rent appropriation by family members.

Overall then, it is reasonable to assume that family firms may have lower agency costs than nonfamily firms when there is concurrence of family control and public monitoring and this is reflected in the findings of the considerable research comparing the performance of publicly traded family and nonfamily firms.

II.6. PERFORMANCE OF FAMILY-CONTROLLED FIRMS

Although several family firms may be subject to agency costs and problems of nepotism, parental altruism, and tunneling by insiders, recent comparisons of firm performance between family and nonfamily public corporations have demonstrated that family firms outperform their peers in several studies (Anderson & Reeb, 2003; McConaughy, Matthews, & Fialko, 2001; Miller, Le Breton-Miller, Lester, & Cannella, 2005; Lee, 2006; Villalonga & Amit, 2006).

Anderson and Reeb (2003) studied 141 firms from the S&P 500 that are founding-family owned and discovered that they outperformed 262 nonfamily owned firms in terms of

both accounting and financial measures. Business Week (2003) also reported that in their study of 177 family owned public firms versus 323 nonfamily owned public firms, family firms substantially outperformed nonfamily firms in terms of annual shareholder return, return on assets, annual revenue growth, and income growth. In both of these cases, family ownership was concurrent with family control either by the blockholding of shares or by the presence of family members on the Board of the firm. In a similar study of Fortune 500 firms, Villalonga and Amit (2006) found that founder-CEO managed family firms outperformed nonfamily firms, although this result did not hold when the founder was not the active manager. Similarly, McConaughy, Matthews, and Fialko (2001), determined that traded family firms have greater market value and carry less debt than nonfamily firms in the US, and Lee (2006) reported that in his sample of S&P 500 firms over 1992–2002, not only did family firms experience higher employment and revenue growth, but they were more profitable, especially when founding family members were involved in management. Furthermore, founding families played an important role in maintaining employment stability during temporary market downturns.

Not only are these family owned and managed firms successful in the U.S. but evidence exists that their performance surpasses their peers in other countries as well. For example, Maury (2006), using a sample of 1672 non-financial firms in Western Europe, found that active family control is associated with higher profitability and higher valuation compared to nonfamily firms in different legal regimes, and Sraer and Thesman (2004), using a sample of 750 corporations listed on the French stock market, found that in terms of profitability family firms significantly outperformed widely held firms whether the firm was founder managed, heir managed, or even professionally managed. Similarly, Martinez, et al. (2007) studied the impact of family ownership on firm performance by studying a sample of

175 firms listed on the Chilean stock exchange over a 10 year period. There the family-controlled firms outperformed nonfamily firms in three distinct measures of performance: ROA, ROE, and a proxy for Tobin's Q. Finally, Ehrhardt, et al. (2006) while studying matched family and nonfamily firms on the German stock exchange, discovered that while families are slow to give up ownership, control of family businesses remains strong even after several generation and family businesses outperformed nonfamily firms in terms of operating performance. These findings augur well for the business and larger community because family ownership is by far the most important and dominant form of firm ownership structure in the US and in the world, as mentioned earlier.

While the superior performance of the large publicly traded family firms² is well articulated in the literature detailed above, the mechanisms through which this superior performance is achieved is not very clear. Even if family firms do suffer from lower agency costs on average, the manner in which these lower agency costs manifest themselves in strategic decision-making like acquiring new firms, forging strategic alliances, engaging in diversification, and responding to competitor actions is absent in the literature. I fill this gap in the literature by examining whether lower agency costs in family firms play a role in their acquisition strategy and whether shareholder value can be derived from acquisitions made by family firms.

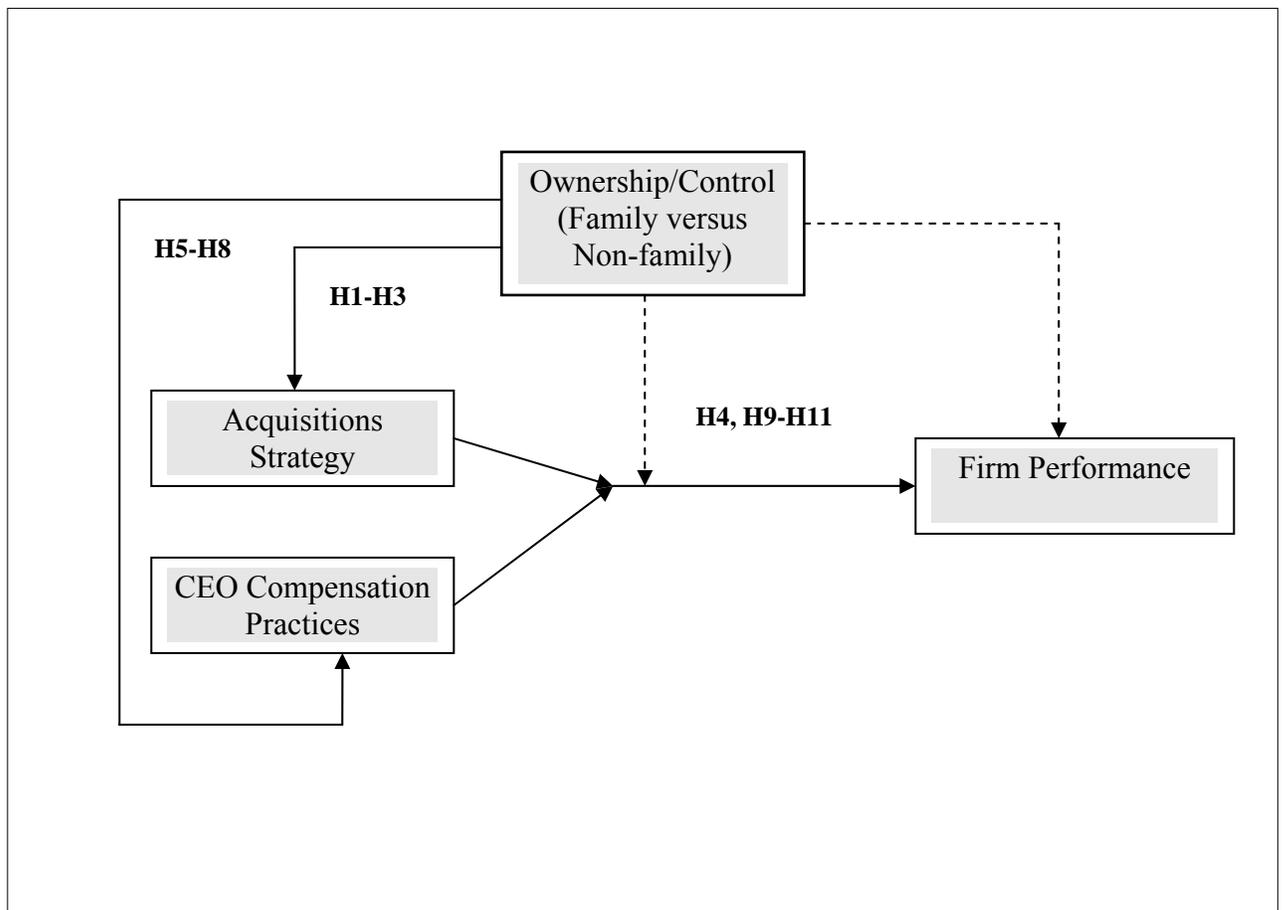
II.7. CONCEPTUAL MODEL

The following diagram depicts the conceptual model that is tested in this dissertation. The model captures the hypothesized acquisition strategies and CEO compensation practices in

² Miller et al (2007) contend that the superior performance of family firms is sensitive to the way in which family businesses are defined and to the nature of the sample used.

both family and nonfamily firms. The relationship between family firm and performance is shown by the dashed arrow which is based on prior literature (Anderson and Reeb, 2003; Lee, 2006; Villalonga and Amit, 2006). Both acquisition strategy and CEO compensation practice are evaluated within the context of family/nonfamily ownership and control as subgroup analysis. Hypotheses regarding the merger and acquisition strategy form the contents of chapter III, and hypotheses relating compensation strategy are developed in chapter IV.

Figure 1: Conceptual Model



CHAPTER III: MERGER AND ACQUISITION STRATEGY

In this chapter I outline the reasons for, and the importance of, studying the merger and acquisition strategy of both family and nonfamily firms. I then review the literature on the rationale for mergers and acquisitions and build on this rationale to develop my hypotheses regarding the differing acquisition strategies of family and nonfamily firms.

III.1. IMPORTANCE OF MERGERS AND ACQUISITIONS

I study the merger and acquisition strategy of the firm because whether, when, and how to acquire another firm is one of the most important strategic decisions that a firm can make. This decision inevitably results in changes in the internal dynamics of the organization due to the restructuring of the firm and the need for post merger integration. More importantly, a merger, especially between two large firms, changes the competitive landscape of the industry or industries and markets in which the firm operates and its own position within those markets. While there are subtle differences in the concept of mergers (where two relatively equal-sized firms agree to integrate), acquisitions (where the acquiring firm controls 100% equity of the acquired firm, generally but not necessarily smaller than itself), and takeovers (where the target firm does not solicit the acquiring firm's bid), I treat mergers, acquisitions, and takeovers termed M&A or acquisitions henceforth synonymously for the purpose of this dissertation.

While there is evidence that merger waves occur (Shleifer and Vishny, 1991), M&A continue to constitute an important component of economic activity. Mergerstat reports that in 2007, more than 10,000 M&A deals were completed valued at greater than \$1,300 billion, accounting for nearly 8% of the value of all publicly traded companies. Bank of America, in

a survey of CFO's conducted in 2006 to assess future outlook, reported that 30% of manufacturing company CFOs expect to participate in a merger or acquisition, which is the highest percent in the history of the survey. Hence from an academic and practical standpoint merger research has been and continues to be prolific in several disciplines, notably in, management, finance, industrial organization economics, and sociology.

III.2. DO MERGERS ADD VALUE TO ACQUIRING FIRMS?

Yet there is no clear evidence that M&A add value to the acquiring firm. Empirical studies have shown that, on average, acquiring firms generally lose value although the shareholders of the acquired firms reap abnormal returns (Andrade, Mitchell, and Stafford 2001; Datta, Pinches & Narayanan, 1992; Gugler, Mueller, Yurtoglu, and Zulehner, 2003; Haspeslagh and Jemison, 1991; Hayward and Hambrick, 1997; Jensen 1986; Jarrell, Brickley and Netter 1998; King, Dalton, Daily and Covin, 2004; Porter, 1987; Sirower, 1997). In their recent meta-analytic review of post-acquisition performance, King, Dalton, Daily, and Covin studied acquisitions by conglomerate firms, acquisitions of related and unrelated firms, acquisitions by cash or equity as method of payment, and acquisitions by novice or experienced acquirers, and finally stated that “after decades of research, the overwhelming conclusion must be that M&A activity, on average, does not positively contribute to an acquiring firm’s performance....; As a means to reap financial benefits often associated with large firm size, external growth through M&A activity may be a highly speculative undertaking with much less predictable results than may be assumed” (2004: 196-197).

III.3. RATIONALE FOR ACQUISITIONS

Firms undertake acquisitions for several reasons, notably when it is the most profitable means of enhancing capacity and acquiring or supplementing resources (Walter and Barney, 1986; Rumelt, 1982; Wernerfelt, 1984); obtaining new knowledge or skills (Harrison, Hitt, Hoskisson, and Ireland, 2001; Blonigen and Taylor, 2000), entering new product and geographic areas, obtaining multinational diversity (Anand, Capron and Mitchell, 2005); or reallocating assets into the control of the most effective managers/owners (Chang and Rosenzweig, 2001; Coff, 2003; Trautwein, 1990). Based on previous research, firms expect to realize three types of gains from acquisitions: efficiency gains, market power gains, and wealth transfer gains (Chatterjee, 1986; King et al., 2004; Hitt, et al., 2003; and Trautwein, 1990).

The efficiency gains accrue first due to operational synergies, economies of scale and scope, and improved resource allocation (Chatterjee, 1986). As such, related mergers are more likely to generate gains than unrelated mergers (Porter, 1987; Shelton, 1988). Second, efficiency gains accrue through superior managerial expertise of the combined firms, especially of the acquiring firm. A related explanation is based on the reduction of agency costs. If managers do not act in the interest of shareholders, the board of directors is expected to provide a disciplining force by replacing inefficient and ineffective managers. However, if the internal disciplining mechanisms (including the board of directors) become ineffective, then takeovers provide an external mechanism to control wayward managers (Manne, 1965; Jensen, 1986, Mitchell and Lehn, 1990; and Barber, Palmer, and Wallace, 1995). Third, efficiency gains accrue due to financial synergies in the form of reduction in the cost of capital due to the resultant larger size of the firm after the acquisition. Lower cost of capital

may also result if the internal capital market is more efficient at allocating capital than the external capital market (Trautwein, 1990).

Acquisitions also confer market power to the acquiring firms (Singal, 1996). Market power simply defined is the ability of the firm to control price. Stigler (1950) argues that market power was the key factor in the merger waves from 1887-1904 and from 1916-1929. Anti-trust regulations and the Federal Trade Commission have been quite active in challenging mergers between competing firms with significant market shares (mergers most likely to be anticompetitive), although research by Eckbo (1983), Fee and Thomas (2004) and Shahrur (2005), reveals no evidence of monopolistic collusion.

Wealth transfer gains can accrue to shareholders at the expense of other stakeholders, i.e., mergers can cause wealth transfers from the government through reduction in taxes, from bondholders by seeking leveraged purchases of targets to increase the surviving firms' risk-return profile, from employees through abrogation of implicit or unfavorable contracts, and from consumers through higher prices or market power. In addition, Peoples, Hekmat & Moini (1993) find that greater merger activity in an industry is associated with a lower wage for unionized workers, but no difference in wages for nonunion workers. Another study of hostile takeovers finds that the likelihood of being a target is unrelated to the wage structure of the industry, thus implying that mergers are not deliberately used as a means to expropriate rents from employees (Neumark and Sharpe, 1996).

The reasons mentioned above provide the rationale for undertaking acquisitions and the bases for gains by acquiring firms. These theoretical expectations explain the consistently increasing amount of M&A activity over the years. The next section evaluates the contextual conditions of realization of these gains.

III.4. ARE THE GAINS REALIZED?

Researchers have used both stock returns and accounting measures to evaluate whether the gains from acquisitions described above are realized or not (Andrade et al., 2001; King et al., 2004). One consistent piece of evidence from empirical studies of mergers is that, on average, acquiring firms lose value but the acquired firms gain about 20% in terms of returns to shareholders. The total value created as measured by stock returns is less than 2% of the combined firm and even that is not always statistically significant (Andrade et al., 2001). The gains from mergers occur almost entirely for cash mergers, but for equity mergers; the acquiring firm loses about 1.5% and the target firm gains about 13%. Loughran and Vijh (1997) note that the gains in acquisitions made via cash offers in hostile takeovers arise from management improvements that are not available in friendly stock mergers. Ravenscraft and Scherer (1987) found that firms acquired in the 1960s and early 1970s tended to have above-average profits before acquisition and experience profit declines following acquisition. The authors attributed the profit decline to a loss of managerial control by the acquiring firms (mostly conglomerates) or to the use of acquired firms as "cash cows." Ravenscraft and Scherer (1987) also compared the post-merger profitability of different types of mergers and found horizontal and related-business mergers tended to be more profitable than conglomerate mergers.

While there is some evidence that suggests that related, cash mergers generate gains for the acquiring firms, there is other evidence that is inconsistent with the notion that mergers are value creating events. In particular, gains in related mergers must derive from the resource based view of the firm (Wernerfelt, 1984; and Barney, 1986). However, tests by Barney (1988) and Seth (1990) did not find evidence that suggest a clear relationship between resource relatedness and performance. On the other hand, Anand and Singh (1997) found the

impact of relatedness on performance in declining industries. Zollo and Singh (2004) argued that the integration process is as important as relatedness. If firms are not integrated well, the merger will not be successful for the acquiring firm. Cannella and Hambrick (1993) and Krishnan, Miller, and Judge (1997) determined that managerial turnover is harmful to post-acquisition performance and efforts should be made to ensure that the two management teams are complementary. Zollo and Singh (2004), while confirming these results found that experienced acquiring firms do better when integrating new targets. The meta-analysis of post acquisition performance (King et al., 2004) revealed that post-acquisition performance is moderated by variables that are not specified in existing research. I believe that one of the variables that has not been researched in interaction with other variables and which may have an impact on the acquiring firms' performance is the ownership structure of the acquirer --one that minimizes agency costs and hubris of managers, namely family-owned and controlled public firms.

III.5. ROLE OF MANAGERIAL HUBRIS ON THE NUMBER, THE SIZE, AND THE TIME TO COMPLETION OF ACQUISITIONS

As seen above, many research studies have shown that agency and transactions costs eradicate the potential gains from acquisitions, as instead of maximizing shareholder value, managers maximize their own utility by acquiring other firms. Top executives may arrange mergers to facilitate immediate exercise of stock options leading to quick wealth gains, or to financially restructure and write off losses if the company is not performing well. Acquisitions also increase firm size, which is highly correlated with the compensation of managers. In other words, since larger firms pay more to their management, it is in the interest of the managers to increase the size of the firm through acquisitions in a manner of

empire-building (Kroll et al., 1997). Harding and Rovit (2004) in a study of multiple acquisitions find that the average annual excess return diminishes, as the size of the target firm increases. In addition to the cost of acquiring a larger firm, integration problems are also likely to be greater when combining large firms. Yet, managing larger firms gives managers a sense of power, confidence, and hubris. Morck, Shleifer, and Vishny (1990) present evidence consistent with the notion that managerial incentives can drive some mergers that ultimately reduce the long-run value of the firm. Thus managers may overemphasize growth, or simply make suboptimal acquisition decisions.

Avery, Chevalier, and Schaefer (1998), and Ravenscraft and Scherer (1987) also find support for the empire-building theory. Roll's (1986) hubris hypothesis suggests that managers are over-confident about their purchases and therefore end up paying too much. Hayward and Hambrick (1997), in their study of 106 large acquisitions, reported that CEO hubris resulted in high premiums paid for acquisitions and losses incurred in acquiring firms' shareholder wealth following an acquisition such that the greater the CEO hubris and acquisition premiums, the greater the shareholder losses. CEO hubris was exacerbated by lack of monitoring by weak governance by inside directors. On the other hand, in a family firm, since the family is the residual claimant, there is a clear incentive to minimize costs (Alchian & Demsetz, 1972) and to monitor managers so that resources are directed only to value-creating rather than value-destroying activities. Family owners and managers will have a strong desire to expand and add value to the firm they have inherited before passing it on to a new generation, putting corporate interests before personal ones, and hence will be more likely to acquire smaller and fewer targets. Moreover, once a deal is identified, family-firm managers tend to act with speed and decisiveness (Miller and Miller, 2005), seizing the opportunity before rivals step in. Since long-standing relationships among members on the

board of directors of family firms will allow for quick deliberations and decisions once a viable acquisition target is spotted, time to close the deal will likely be less for family firm acquirers.

Further, acquiring other firms is only one method of growth; family firms tend to reinvest heavily in their own businesses taking the path of internal organic growth. In 2002, the typical S&P 500 family company plowed \$617.8 million back into research and development, \$79 million more than its nonfamily counterpart (*Business Week*, 2003). Karim and Mitchell (2005), while studying acquisitions and internal growth at Johnson and Johnson found that internally developed resources and units were more likely to be retained and lead to innovations because business routines were best understood in internally developed units. The long-run orientation of family-controlled firms and their desire for steady growth will lead them to fund both internal growth and acquisitions with due care.

In sum, the incentive to ensure that capital is deployed sparingly and wisely termed ‘parsimony’ (Carney, 2005), will lead family firms to acquire fewer and smaller targets. Thus I posit that:

H1a: Family firms will acquire fewer firms than nonfamily firms, on average, ceteris paribus.

H1b: Family firms will make smaller acquisitions than nonfamily firms, on average, ceteris paribus.

H1c: Family firms, will complete acquisitions in a shorter time period than nonfamily firms, on average, ceteris paribus

III.6. MODE OF PAYMENT

The mode of payment for an acquisition, cash, or stock is important as a determinant of value creation because it affects the division of gains between the target and the bidder and conveys information about the perceived value of the two firms (Myers and Majluf, 1984). The difference in merger gains, depending on the mode of payment, has been explained by theoretical models based on asymmetry of information available to investors and the management. Hansen's (1987) model suggests risk sharing by target shareholders with a stock bid; Fishman's (1989) model asserts that over-valued bidders pay for a merger using stock; while Berkovitch and Narayanan (1989) believe that a cash bid implies a lower valuation of the target (than its inherent potential would suggest) by the market, representing a good deal to the bidder. Acquirers then would like to pay stock instead of cash because the value of the target firm to the bidding firm changes depending upon market conditions and the bidder's ability to pay (i.e., its own stock price). If, on the other hand, the bidder makes a cash bid, it signals confidence on the part of the bidder that the target is undervalued relative to its intrinsic value, as the price for the target is not dependent upon the bidder's ability to pay or on the contextual conditions of the industry or of the two firms involved. A cash bid is also likely to be consummated speedily, resulting in a lower transaction cost than a stock bid. Further, it is believed that stock financed mergers occur when managers of the target firm have short run horizons or are lured into accepting the acquirer's offer. While King, et al. (2004) find no difference in performance between stock or cash financed acquisitions, Datta, Pinches and Narayanan (1992) unequivocally state that both bidders and targets are likely to be better off in cash-financed rather than in stock-financed transactions.

There is considerable empirical evidence in favor of cash financed acquisitions. Loughran and Vjih (1997) find that in acquisitions by cash, acquirers realize, on average, a

positive 18.5% stock return, compared to negative 24.2% when stock is used even when overall acquirer returns are insignificantly negative. Andrade, et al. (2001) state that bidders tend to lose about 2% when they pay for the merger in stock, whereas the announcement return to the bidder is about 0% when bidders use cash to pay for the merger. Targets gain 13% with a stock deal and 20% with a cash deal. Hazelkorn, Zenner, and Shivdasani (2004) also demonstrate via regression analysis that transactions where the consideration for the acquisition was one-half or more in the form of cash outperformed stock transactions.

It thus appears that as an acquisition strategy, the preferred method of payment for a target should be predominantly cash. When firms are controlled by the family and are in business for the long haul, they are unlikely to undertake actions that make them falsely overvalued in the market. Therefore, the benefit of paying for acquisitions through their equity will not accrue to them as it would to a potentially overvalued non family-controlled firm, that is be run by outside managers who may have short-term wealth maximization objectives. Further, when the decision-making power is vested in a family-controlled firm that desires to act quickly in closing a deal when it spots a good opportunity, a cash transaction is more likely to occur. Moreover, as I have indicated earlier, due to the alignment of interests of managers and owners in family-controlled firms, self-seeking managerial motives are unlikely to be the reason for acquisitions. Since, as I have assumed, family-controlled firms incur lower agency costs, and an acquisition is made for the sole purpose of enhancing value for the firm as a whole, due diligence will be exercised in researching the target firm including its value, and this confidence will be reflected in a cash bid. Therefore, I contend that:

H2: Family-controlled firms will pay cash more often than equity when compared to nonfamily firms, ceteris paribus.

III.7. RELATED ACQUISITIONS

Although there is no consensus regarding the existence and source of the diversification discount (Amihud and Lev, 1999; Denis, Denis, and Sarin, 1999; Lane, Canella and Lubatkin, 1998), studies do show that agency costs are involved in many cases when firms follow a diversification strategy (Cronquist, Hogfeldt, and Nilsson, 2001). Amihud and Lev (1981, 1999) have found that management control is associated with conglomerate mergers and that managers diversify through unrelated acquisitions to reduce their employment risk. According to Jensen's (1986) free cash flow hypothesis, due to agency costs, managers will spend money on non positive NPV, diversifying, and unrelated projects instead of paying out dividends to shareholders. Following the early work of Rumelt (1974, and 1982: 359) which states "the highest level of profitability were established by those having a strategy of diversifying primarily into those areas that drew on some common core skill or resource. The lowest levels were those of vertically integrated businesses and firms following strategies of diversification into unrelated businesses", Singh and Montgomery (1984) in a study of 105 large mergers during 1975-79, found that stock holder value is created by related acquisitions. DeLong (2001) studied bank mergers and found that compared to other types of bank mergers, those mergers that occurred between banks in the same region or between banks involved in similar activities increased the bidder's value by 2% to 3% more than would otherwise be expected.

While reconsidering the relatedness hypothesis, Barney (1998) suggested that relatedness was not a sufficient condition for abnormal returns -- only when bidding firms enjoyed private, uniquely valuable, inimitable or unexpected synergistic cash flows with targets that shareholders of bidding firms enjoy abnormal returns. Related acquisitions also grant industry familiarity that facilitates integration and learning of the business of the target

firm (Hitt, Harrison and Ireland, 2001). Acquiring firms can productively leverage their existing resources, which are likely to be salient and relevant to the new firm, when there is relatedness in product and resource markets, thus making possible the realization of synergistic gains. Further, it has been shown that acquisition strategies that emphasize long-term strategic fit result in superior return on equity for acquiring firms (Hopkins, 1987). On the one hand, family firms tend to stick to their strengths and try to remain close to their area of expertise (Miller and Miller, 2005); on the other hand, owners of family firms are heavily invested in their own firms and would likely wish to diversify their risk by investing in unrelated industries. The loss in value by acquiring unrelated firms, both due to higher risk and due to difficulty in integration of unrelated firms, is assumed to be greater than the gain from unrelated diversification. Hence I expect that:

H3: Family-controlled firms will make more related acquisitions than nonfamily firms, on average, ceteris paribus.

III.8. OVERALL VALUE ENHANCEMENT

The cost of making a value-diminishing acquisition may not be high to hubris-infected managers who are not owners of the firm and who may impose agency costs on the stockholders. But in a family-controlled firm, due to the unification of ownership and control, even if it is only partial unification in large firms, the cost of a value-diminishing acquisition is much higher to the top management members than in nonfamily firms. Hence, the monitoring function will be taken seriously and given due importance in a family-controlled firm. Jensen (1983:306) states that “family members have many dimensions of exchange with one another over a long horizon and, therefore, have advantages in monitoring and

disciplining related decision agents.” De Angelo and De Angelo (1985) also conclude that family involvement serves to monitor and discipline managers -- because family welfare is tied to firm profitability via explicit and implicit contracts, there is considerable incentive for monitoring. Miller and Miller (2005) contend that family firms manage for the long run and a great deal of their success can be attributed to their being able to seal deals that leverage their ability to take “courageous risk” with careful capital expenditure, resulting in capturing value-enhancing opportunities. I therefore expect that as an overarching result of family firms’ acquisition strategy, acquisitions by family firms will be value-enhancing for the shareholders of the acquiring family firm.

I define value enhancing in terms of stock price performance. Stock returns are used extensively in the business literature to estimate the impact of an event such as an acquisition announcement (King et al., 2004; Datta et al., 1992; Jensen and Ruback, 1983; and Andrade et al., 2001) because they generate reliable estimates and are readily available. However, some academics are not convinced that stock returns provide an accurate measure of performance. For example, Harrison and Freeman (1999) assert that “we should not rely solely on an event study to determine its financial implications.” This assertion is based on the notion that investors are unable to evaluate complex events accurately and may sometimes behave in a non-rational manner. However, unless managers can consistently and systematically deceive shareholders, maximizing share price reflects maximized long-term performance, and thus I believe that stock price performance should be a good indicator of firm and managerial performance and hypothesize that:

H4: The abnormal returns around merger announcements will be greater for family-controlled firms than for nonfamily firms, on average, ceteris paribus.

CHAPTER IV: CEO COMPENSATION STRATEGY

We have created a cult of leadership that far exceeds anything that existed decades ago. We're sort of back in the middle ages with the great white knight having to come in and save everything. All that nonsense about executive bonuses, and that there is only one person in the organization who can do things. *Fortune* wrote about Lou Gerstner a few years ago, that since he joined IBM, Gerstner added \$40 billion to the share value of IBM. Wow. All by himself. That's pretty amazing. It's utterly childish, in fact.

---- Henry Mintzberg in the Academy of Management Executive, August 2000.

The cult of leadership and the attendant compensation packages including liberal bonuses for top executives frequently raises the question of the efficacy of corporate governance. While incentives constitute an important part of attracting the right leaders for corporations, compensation packages for CEOs do not seem to be in line with performance. Recently, Home Depot's CEO, Robert Nardelli, went home with an outrageous pay package of \$131.2 million for the year ending January 28, 2007. During his six-year tenure from 2001-06, Home Depot's stock fell by 7%, underperforming the broader market by more than 25%. Lowe's, its main competitor, generated a return of 185% for its shareholders in the same period. Based on the gross underperformance of Home Depot, Nardelli should have received only a small fraction of the compensation that he actually received. Not only did he receive an outlandish severance package, but he was promptly hired to take charge of Chrysler as Mr. Fix-it! This is not an isolated case. Employees often observe higher pay packages that in many cases come at the cost of their own pay. American Airlines recently awarded \$170 million in bonuses to the top 900 managers that the employees claim are the result of pay cuts that they suffered in 2003. And in this most recent saga, bank and financial company leaders were summoned on March 7, 2008 to testify before Congress regarding their

compensation and pay packages in the wake of huge losses to their organizations from the mortgage meltdown.

The high level of executive pay has been a cause for concern especially because the shareholders, as owners who foot the bill for ostentatious pay packages, have little say in the matter. Recently, the SEC expanded reporting requirements for executive pay so that all forms of compensation are revealed in annual financial statements. On April 21, 2007, the House of Representatives overwhelmingly approved a bill that gives shareholders a non-binding vote in executive compensation. The “Shareholder Vote on Executive Compensation Act” would require companies to allow a nonbinding vote on compensation disclosed in proxy statements, starting in 2009. The “say-on-pay” legislation also calls for a separate advisory vote if a company gives a new, not yet disclosed, “golden parachute” while simultaneously negotiating to buy or sell a company.

I discussed the consequences of agency costs arising out of separation of ownership and control (Berle and Means, 1932; Jensen, 1986; Jensen and Meckling; 1976; Fama and Jensen, 1980) with respect to expending free cash in non-productive investments, (Jensen, 1986), and empire building through overinvestment in acquisitions (Hayward and Hambrick, 1997; Cole and Mehran, 2007) in the previous chapter. In this chapter, I address the issue of reducing agency costs by providing incentives to CEOs in the form of compensation to better align the interests of shareholders and managers as agents. Interest alignment through compensation is an internal governance mechanism available to a firm when complete monitoring of the agent or writing an optimal contract is difficult (Hart, 1995). The question that I now attempt to answer is whether interest alignment in terms of CEO compensation

contracts differs structurally in family and nonfamily firms and whether this difference, if any, contributes to the performance of the family firms.

IV.1. ROLE OF AND POTENTIAL ABUSE OF COMPENSATION CONTRACTS

An understanding and study of CEO compensation practices of firms is important not only because huge remuneration packages of business leaders are frequently featured in the media and their magnitude often is anathema to our sense of social justice, but also because the CEO compensation contract is designed to align managerial and shareholder incentives, as mentioned earlier. Shareholders expect that by providing adequate incentives to the CEO in the form of salary (cash), equity (stock options), and security (golden parachutes), they can motivate the CEO to take on reasonable risks and investments that would maximize the expected value of the firm. This interest alignment is necessary because of the risk aversion on the part of the manager (Eisenhardt, 1989). Among governance mechanisms, compensation may be the most important mechanism to minimize agency costs. Dow and Raposo (2006) show theoretically that compensation contracts can influence the kinds of strategies that firms adopt and can align manager and shareholder goals by adjusting the level of pay of top executives. Empirical support for this is provided by Lowenstein (2000), and Perry & Zenner (2000) among others.

Over the past several decades, business practices have evolved to better align the goals of managers with those of the stockholders in an effort to reduce agency costs. Innovative compensation packages consisting of base salary and pay for performance have been successful in eliciting extra effort from the managers and in providing them incentives to accept risky but profitable projects. Thus, achievement of goals is generally a condition of the

compensation package of the top management team. Besides the normal rewards for performance, award of stock options increase the potential reward for achievement several fold.

On the one hand, the compensation packages are designed to provide a reward for achievement. Schweitzer, et al. (2004) report that goal setting elicits superior performance more than “do your best” expectations, and goals with rewards generate better performance than goals without rewards. This result is consistent with Locke and Latham (1990), who in a review of almost 400 goal setting studies find that people exert more effort to achieve difficult goals. On the other hand, these packages are also responsible for motivating the internal management team to resort to unethical behavior whenever there is a chance that goals will not be achieved (Bebchuk and Fried, 2003). For example, Schweitzer, Ordóñez, and Douma (2004) find that people with unmet goals are more likely to engage in unethical behavior, irrespective of whether or not the goals are accompanied by economic incentives, than people without specific goals. DeGeorge, Patel, and Zeckhauser (1999) also find goal setting to be associated with earnings management. The reliance on goals with financial incentives then may increase agency costs and is related to unethical behavior.

Compensation contracts are subject to even greater abuse because in addition to financial incentives related to attainment of goals, the contracts are renegotiable annually and adjusted over time with performance and strategic direction. Strategic direction includes increasing firm size through acquisitions, diversification, and other major investments. Moreover, the CEO is an active participant in his own contract through his influence on the board and through his ability to define future strategy (Dow and Raposo, 2005). Given the flexibility of the compensation contract and the ability of the CEO to affect the outcome, it is

not surprising that pay packages have grown over the last several decades. Thus, even though compensation contracts are designed to reduce agency costs, high agency costs can result in poor compensation contracts that may actually exacerbate the agency problem. Indeed, several studies document such a relationship. Core, Holthausen, and Larcker (1999) find that CEO compensation is higher when governance mechanisms are less effective, and that CEO compensation is lower when the CEO stake in the firm is higher. The authors further find that that CEO compensation is lower in the presence of external monitoring by an outside blockholder, and also via institutional ownership (Hartzell and Starks, 2003).

IV.2. COMPONENTS OF COMPENSATION CONTRACTS

In my discussion below, I distinguish among different forms of compensation. (For a comprehensive discussion see Conyon, 2006). Broadly, there are two sources of compensation: direct compensation (cash and non-cash) and indirect compensation. Direct compensation which is the payment made by the firm to the CEO and recorded as an expense, can be fixed as in salary or incentive as in, option grants or restricted stock that is connected to performance. Non-cash compensation, which is also an expense to the company is comprised of the perks that executives enjoy, like use of a corporate jet by family members, health-club memberships, and discounts at upscale establishments. New federal executive compensation rules require firms to disclose executive and director benefits valued at \$10,000 or more (lowered from \$50,000 earlier). In a recent article in WSJ (June 30, 2007), Lubin reported that in addition to use of corporate jets for travel by CEO relatives, companies paid for lavish cruise vacations for spouses, yearly medical check-ups worth \$5000 each, unlimited massages, and reimbursement to the executive for any tax that may have accrued to the executive while consuming such perks!

An important component of compensation that is not usually considered is the change in value of stock in the company owned by the CEO, a form of indirect compensation. While prior research has considered, options and stocks awarded by the company as compensation, very few studies account for a potentially very important part of the package that aligns the goals of shareholders and the management: the stock already owned by the CEO but not awarded by the company. In many cases, especially family firms, the gains through stock appreciation are potentially larger than any compensation provided by the firm. The larger the fraction of the company owned by the CEO, the greater is the value of this compensation, which I term “indirect compensation.” Another form of compensation is psychological. This type of compensation is derived by the CEO through reputation, prestige, challenge, and power, and it can surpass monetary compensation as a motivator to action (Finkelstein and Hambrick, 1988), especially if the CEO’s last name appears on the company building as is likely in founding family firm descendants. However, for the purpose of this dissertation, I focus only on measurable monetary rewards accorded to the CEO.

It should be noted that there is wide variance in the literature even regarding measurable financial compensation (Finkelstein and Hambrick, 1988; Tosi et al, 2000). As noted above, compensation has several components including salary, bonus, benefits, stock options, long-term contingent compensation, pension, and restricted stock grants, and different companies administer and account for these components differently, thus making the study of compensation complex and often not comparable across studies. For example, Wasserman (2006) in his study of private firms uses only cash salary and bonus and does not consider stock or option grants since they are difficult to value for private firms. Gomez-Mejia, et al. (2003) value options by multiplying them by 25% of the exercise price. This

valuation method would inadvertently assign higher values to options with higher exercise prices because the value of a call option falls with an increase in its exercise price.

For the purposes of clarity, I use the term “direct compensation” when I refer to salary and bonus in cash provided by the company. Direct compensation also includes noncash awards such as stock and option grants and long term incentives in addition to cash compensation provided by the company. I use the term “indirect compensation” to mean cash dividends or stock appreciation that accrues to the CEO due to prior ownership of stock of the firm that may have been purchased by the CEO or inherited as the case may be in a family firm. “Total compensation” includes both direct compensation and indirect compensation. As mentioned above, I do not consider psychological or non-monetary compensation.

Total Compensation = Direct Compensation + Indirect Compensation

Direct Compensation = Salary + Bonus + Stock-based pay

Indirect Compensation = Change in value of prior equity ownership in the firm

IV.3. CONTEXT: TYPES OF FIRMS AND CEOS

I consider three kinds of Chief Executive Officers. These are professional CEOs in nonfamily firms, professional CEOs in family firms, and family CEOs in family-controlled firms. Gomez-Mejia, et al. (2003) and McConaughy (2000) compare compensation characteristics of professional CEOs and family CEOs both in family-controlled firms. On the other hand, Ali and Chen (2006) compare professional CEOs in family-controlled firms with professional CEOs in nonfamily firms. All studies posit that the primary reason for the difference in compensation contracts is due to differences in agency costs. By making a three-way comparison of the compensation practices of CEOs, and doing this across a much

larger sample over a much longer period than previous studies, I hope to have a richer sample to use in conducting a robust analysis to understand how firms reward their top officers.

Figure 2: Types of CEOs

	Family CEO	Professional CEO
Family Firm	√	√
Nonfamily Firm	Null	√

Family CEOs can lead only family controlled firms
Professional CEOs can lead family and non-family firms
Family Firm CEOs can be family CEOs or professional CEOs

IV.4. CEO DISCOUNT IN FAMILY FIRMS

My first set of hypotheses relates to the level of compensation provided by firms to CEOs in family firms and nonfamily firms, and to a comparison of family CEOs and professional CEOs in family firms. There are several reasons why CEO compensation level and mix across these three groups should differ. The initial discussion centers around differences between family firms and nonfamily firms in general, and between family CEOs and CEOs in nonfamily firms in particular.

First, CEOs in nonfamily firms are likely to be powerful and effective in negotiating a favorable compensation package because dispersed shareholders cannot be as effective monitors of the firm as concentrated owners, and also because of the parsimonious way that cash is expended by family member owners in family firms (Carney, 2005; De Angelo and De Angelo, 1985). Fama and Jensen (1983) note that family members have advantages in

monitoring and disciplining related decision agents (whether as top executives or board members) because of the many dimensions of exchange they have with one another that occur over the long horizon, an advantage that nonfamily firms do not have. Therefore, compensation contracts can balloon out of control when there is a lack of oversight or when the agency costs are severe due to separation of ownership and control and lack of monitoring. Since the family-controlled firm will be more effective in controlling executive pay due to relatively better supervision, on average I expect that CEO compensation in family firms is likely to be lower than in nonfamily firms.

Second, the uncertainty of employment is much greater in nonfamily firms than in family firms because the control of the nonfamily firm can shift very quickly either through a takeover or the acquisition of a block of shares by individuals or institutions. Due to the relative stability of ownership in the family firm, the CEO of a family firm is likely to have better defined expectations and a strong working relationship with the board of directors. Consistent with this statement, Allen & Panian (1982), Gomez-Mejia, Nunez-Nickel, and Gutierrez (2001), and Schulze, Lubatkin, Dino, and Buchholtz (2001) find empirical evidence to suggest that incumbents with family ties to owners enjoy high employment security. The lower risk of turnover in family-controlled firms requires a lower level of compensation. As noted by Gomez-Mejia, et al. (2003) and argued by Beehr, et al. (1997), a family CEO performs two roles: a work role as a steward of the company and a non-work role as a fulfiller of family obligations. This dual role for the family CEO translates to a relatively assured job (Allen & Panian, 1982; Kets de Vries, 1993; Gomez-Mejia et al., 2001). Furthermore, as Cardy and Dobbins (1993) suggest, when there are close connections between evaluators and those being evaluated, there is likely to be lenient performance appraisals, and monitors make positive performance attributions to employees. So it is probable that CEOs in family firms

are given the benefit of the doubt for disappointing results, ensuring a longer tenure for the CEO. In fact, the ambiguous cause and effect relationship between managerial work and firm performance has been documented by several scholars in older studies (Lieberson and O'Connor, 1972; Mintzberg, 1973, 1984; Salancik and Pfeffer, 1977)

Third, family CEOs have an emotional link to the family firm (Gomez-Mejia, et al., 2001, 2003). They may have spent their formative years discussing the business at the dinner table and may have invested several years working for the firm. As a result, pay may not be the primary impetus for them to offer their services to the firm. For the same reason they may have developed very firm specific human capital and may have neither the desire nor the qualifications to seek alternative employment by entering the CEO labor market to secure a competitive wage. Consequently, the “loyal” family CEO should be willing to accept lower compensation for his services.

H5a: Salary and direct compensation of family CEOs in family firms will be lower than salary and direct compensation of CEOs in nonfamily firms, on average, ceteris paribus.

Similar logic applies to the compensation of professional CEOs in family firms and nonfamily firms. Professional or outsider CEOs in family firms will be more closely monitored than CEOs in nonfamily firms (Fama and Jensen, 1983), so the need for higher compensation to align incentives of the shareholders and the CEO is reduced, and thus strong monitoring by founding family members precludes CEO excessive pay (Core, Holthausen, and Larcker, 1999; Hartzell and Starks, 2003). Second, employment uncertainty in family firms is lower than in nonfamily firms even during uncertain economic periods (Lee, 2006). For example, Lee Scott continues as CEO of Walmart in spite of the stock's lackluster performance. The stock underperformed the S&P 500 by more than 50% over the 5-year

period ending in March 2008. A poor performance record such as this may not be tolerated by atomistic shareholders who likely would have voted to oust Lee Scott had Walmart not been a family firm. Since family firms invest in long-term relationships (Miller and Miller, 2005) there is a lower risk of CEO turnover in family-controlled firms, which in turn, results in a lower level of compensation.

While family CEOs may have familial ties to the controlling shareholders, professional CEOs will be more carefully selected and monitored than CEOs of nonfamily firms. The stability among the controlling shareholders will allow professional CEOs to develop closer working relationships with the owners. Consistent with the performance appraisal literature (Cardy and Dobbins, 1993), controlling shareholders on the board are less likely to discipline professional CEOs in their firms, just like the case with family CEOs. Applying logic derived from agency theory, family and professional CEOs in family-controlled firms will trade higher job security for lower earnings. However, unlike the family CEO who may have only firm-specific skills and may be emotionally attached to his family firm, a professional CEO will tend to be more rational and will offer his services to the family firm only if he receives a competitive wage, making allowances for the greater tenure security in the family firm. Therefore,

H5b: Salary and direct compensation of professional CEOs in family firms will be lower than salary and direct compensation of CEOs in nonfamily firms, but higher than salary and direct compensation of family CEOs in family firms, on average, ceteris paribus.

Extending the arguments presented for hypothesis 1(a), the CEOs of family firms become more specialized and invested in the firm with the passage of time. Therefore, as the tenure of a family firm's CEO increases, so does his inability to negotiate a more favorable contract. Because entrenchment is usually associated with rent-seeking behavior (Morck and

Yeung, 2003), it seems counterintuitive that an entrenched family firm CEO will be unable to obtain a better compensation contract. However, I believe that there are two mitigating factors that can explain this situation: first, the CEO's reputation within his immediate social and familial network may be jeopardized if he is perceived as seeking remuneration that is excessive; second, by under compensating himself, the family CEO will seek to set an expectation among the top management and the board of directors to act parsimoniously (Carney, 2005) and minimize unnecessary expenses. The reduction in overall expenses of the firm will generate higher profits, which will in turn flow to the family CEO by virtue of stock ownership in the firm. Since the family CEO in the family firm will derive indirect compensation, and if as a result of his stewardship of firm assets, he is able to increase his indirect compensation, he will be inclined to accept lower direct compensation. Hence, the next hypothesis can be stated as:

H6: Annual change in salary and direct compensation of family CEOs will be lower than that for professional CEOs, ceteris paribus.

IV.5. INCENTIVE PAY IN FAMILY FIRMS

The stock based pay component of CEO compensation, often referred to as pay-for-performance is designed to reduce agency costs by creating an incentive for the CEO to work in the best interests of the shareholders (Finkelstein and Hambrick, 1988). However, family firms are less likely to rely on equity-based compensation to align interests of CEOs with the shareholders because compared to nonfamily firms, they face less severe agency problems (Holmstrom, 1979). Second, since owners with controlling interest in family firms would not like to dilute their own stake in the firm, they are less likely to use equity-based compensation to motivate professional CEOs. Finally, if family CEOs in family-controlled firms, have a

significant part of their wealth already invested in the firm (through prior stock ownership along with their own human capital), stock-based incentives for family CEOs become less important than for professional CEOs in both family and nonfamily firms. Thus, if CEOs in family-controlled firms earn a smaller proportion of their compensation from stock based pay, it follows that their earnings are likely to be less volatile than the earnings of CEOs in nonfamily firms. Based on the foregoing, I hypothesize that:

H7a: Family firm CEOs (both family CEOs and professional CEOs) will get lower stock based pay and a lower proportion of their direct compensation in stock-based pay than CEOs in nonfamily firms, ceteris paribus.

H7b: Salary of family CEOs will be less volatile than salary of professional CEOs, ceteris paribus

In a study of 79 matched pair family and nonfamily firms on the S&P 500, Ali and Chen (2006) find that compared to CEOs of nonfamily firms, CEOs of family firms were significantly less likely to receive stock options during the years 1997-1999. Further, the authors note that compared to nonfamily firms, family firms were less likely to grant restricted stocks to their CEOs. One reason for the lesser use of equity based compensation in family firms, as mentioned earlier, is the likely dilution of control. However, the dilution of control may not be a concern for family firms that have dual class shares. Dual class shares are particularly popular among family firms that do not want to give up control (since voting rights do not accrue to these shares), yet want to promise equivalent cash flows to attract investor capital. Interestingly, more than 10% of U.S. companies listed on the NYSE have more than one class of common stock and the Investors Responsibility Research Center (IRRC)'s 2004 dataset contains 223 companies with dual class shares out of a total of 1,983 common stock companies. Since the threat of dilution of control is much reduced with dual

class shares, I expect the use of equity compensation to be higher for professional CEOs in family firms with dual class shares than for equity compensation in family firms without dual class shares. Therefore, I contend that:

H8: Professional CEOs in family firms with dual class stock will receive higher stock based pay and a higher proportion of their direct compensation in stock-based pay compared with CEOs in family firms without dual class stock, ceteris paribus.

IV.6. PAY-PERFORMANCE SENSITIVITY AND FIRM PERFORMANCE

Since the compensation contract is intended to align the goals of the principal and the agent, it is natural to link compensation to performance, such that if the firm outperforms its peers, the CEO is commensurately rewarded, and vice versa. Not only does this pay-performance sensitive contract align incentives and rewards with good performance, but such a contract will also motivate the CEO and keep him engaged in the firm. Indeed, during the 1990s academics and practitioners alike argued in favor of equity-based compensation (particularly stock options) as a mechanism for aligning the incentives of managers and shareholders (e.g. Jensen (1993)). Classic empirical work focusing on incentives derived from stock ownership include Morck, Shleifer, and Vishny (1985), Demsetz and Lehn (1985), and McConnell and Servaes (1990).

However, a performance based compensation structure has many unintended consequences that ultimately may not achieve the purpose of reducing the agency costs in a significant way. A CEO with a pay for performance contract will be concerned with quarterly earnings because any underperformance may severely impact the stock price and his bonus. Thus, pay for performance contracts will cause the CEO to have a short-term focus that may maximize short-term earnings at the expense of long-term earnings. For example, a CEO can

reduce important maintenance expenses in an effort to increase profits, and the resulting cutback in maintenance may shorten the life of the plant and equipment. Second, the focus on earnings and sales may provide strong incentives to cheat by inflating revenues, hiding or postponing costs, using aggressive accounting practices, or by pushing sales at deep discounts. None of these actions are in the best interests of the stockholders and will hurt the stock price when these irregularities are eventually discovered. Firms could be forced into bankruptcy if the manipulation is severe as in the case of Enron and Global Crossing. Research by Agrawal and Chadha (2005), Burns and Kedia (2006), Johnson, Ryan and Tian (2003), Denis, Hanouna, and Sarin (2005), and Peng and Roell (2005) has found that there is strong association between option-based compensation and the propensity of firms to restate earnings, commit fraud, or be subject to class action lawsuits. Third, a pay for performance contract can generate rewards for the CEO unfairly: for example, a firm's profitability can improve if the economy does well. In this case, the CEO gets rewarded not because of the firm's improved efficiency but due to an upturn in the economy. On the other hand, if the firm does poorly due to an underperforming economy, it is common for firms to reprice or reissue options at lower exercise prices (Acharya, John, and Sundaram, 2000; Brenner, Sundaram, and Yermack, 2000; Chance, Kumar and Todd, 2000; Coles, Daniel and Naveen, 2005b; Ferri, 2005). Thus, while the CEO reaps the rewards from an upswing in the economy, he may not incur the costs imposed by a downswing in the economy. While compensation contracts should be constructed such that the CEO is rewarded for his contribution, controlled for general economic and industry performance, such contracts are not common because they increase the compensation risk of the CEO significantly.

In spite of the limitations of performance based contracts discussed above, these contracts are generally preferred to fixed salary contracts because of their ability to reduce

agency costs. Not surprisingly, more than 90% of the firms have pay for performance compensation contracts. Equity-based compensation together with stock ownership has become the major component of incentives for the top management, including the CEO (Murphy, 1999, 2003; Hall and Murphy, 2002, 2003).

In line with hypothesis 7a, which predicts that CEOs of family firms will receive a lower portion of their pay as stock-based relative to CEOs of nonfamily firms, I anticipate that the pay-performance relationship with respect to direct compensation is less sensitive in family firms than in nonfamily firms. In an earlier study, Lippert and Moore (1995) found that firms with low pay-performance sensitivity had more independent boards and concluded that shareholders monitored the CEO in lieu of the contracting via incentive systems. Therefore, low pay-performance sensitivity did not necessarily imply poor corporate governance. Thus, given the expectation of smaller proportion of stock based pay in family firms, my next hypothesis can be stated as:

H9: Stock based pay and direct compensation will be less sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.

The above hypothesis as well as previous studies reach conclusions based only on executive compensation as reported in the proxy statements filed with the SEC i.e., monies paid by the firm to the CEO as part of a contractual agreement. However, to get a full picture of the incentive structure, it is necessary to consider the total compensation that also includes the change in the value of the CEO's stock holdings in the company, or the sum of monetary compensation and indirect compensation. Many CEOs can be satisfied with a salary of \$1 because they get compensation from their stock ownership. Herbst (2007) lists 8 firms in the S&P 500 whose CEOs draw \$1 as their annual salary. Richard Morgan, CEO of Kinder

Morgan, has drawn such a salary for more than a decade and does not get any incentive pay. His true compensation is not reported in the proxy statements. It is based on income from his stock ownership which is valued at \$2.4 billion. Any analysis that is based on the \$1 salary will clearly lead to incorrect conclusions. As Conyon (2006: 30) notes “The key to understanding financial incentives is recognizing that they arise from the entire portfolio of equity holdings and not simply from current pay. Equity incentives, then, are the incentives to increase the stock price arising from the managers’ ownership of financial securities in the firm.”

Therefore, my next hypothesis considers total (both direct and indirect) compensation to evaluate pay-performance sensitivity in family firms and nonfamily firms. Once total compensation is included, there is likely to be a much stronger pay-performance relationship for family firms than for nonfamily firms because the gains (losses) that will accrue to the CEO from his prior holdings of stock will get automatically linked to firm performance acting as incentive pay. Note, however, that this incentive pay is not provided by contractual agreement in the form of stock-options or stock grants negotiated as part of the pay-package for the CEO, but it nevertheless forms an important and indirect form of compensation to the CEO. While it is likely that a professional CEO in a family or a nonfamily firm may also have accumulated equity in his respective firm say due to long tenure (e.g. Hank Greenberg in AIG) the proportion of such equity ownership for a family CEO in a family firm is liable to be much higher. In other words, to understand the true nature of pay-performance sensitivity, the total wealth of the CEO tied to the firm is more important to consider than the annual flow of pay (Hall & Liebman, 1998, Core et al., 2003). In a related issue, Ali, Chen and Radhakrishnan (2006) find that due to direct monitoring, accounting earnings in family firms are less subject to opportunistic manipulations than in nonfamily firms, thus reducing the

measurement error of objective performance measures (Milgrom and Roberts, 1992) which would in turn lead to higher pay-earnings sensitivity. Thus,

H10: Total compensation (direct compensation plus indirect compensation) will be more sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.

My final set of hypotheses relates pay-performance sensitivity to firm performance. As I have asserted above and as documented in the literature (Murphy, 1999, 2003; Hall and Murphy, 2002, 2003, Finkelstein and Hambrick, 1988; Tosi et al, 2000), CEO compensation is an important corporate governance mechanism that is used almost universally for interest alignment of managers and shareholders. The component of compensation structure that is most effective in achieving interest alignment is naturally the incentive portion of the pay-package and the proportion of the incentive portion to the total compensation package. The increased reliance on equity-based forms of executive compensation has resulted in a stronger alignment between executives and shareholders, driven largely by stock options (e.g., Lowenstein, 2000; Perry & Zenner, 2000; Conyon, 2006). The limitations of a pay for performance contract discussed earlier (in paragraphs leading to hypothesis 9), and documented in Tosi, et al. (2000) and Dalton, et al. (2003), can be mitigated by close monitoring of executives by controlling shareholders such that strategic decisions lead to long-term value. Then again, indirect compensation which may form a substantial part of the total compensation is not transitory and any strategies that favor the short-term over the long-term would hurt the CEO as much as it would hurt the firm. Hence the degree of correlation between pay and performance should in turn lead to higher firm performance in all firms, in other words, a higher pay for performance sensitivity will in turn lead to higher firm

performance. Since incentive pay and indirect compensation is comprised of stock in the firm, my final hypothesis can be stated as:

H11: Pay-performance sensitivity of firms will be positively correlated with annual stock returns, ceteris paribus.

CHAPTER V: METHODOLOGY

In this dissertation, I examine the impact of ownership structure on acquisition and CEO compensation practices in family and nonfamily firms. In particular, I explore the antecedents for the superior performance of family-controlled firms documented in Anderson and Reeb (2003) and other research. The underlying rationale stems from the fact that superior monitoring in family firms leads to lower agency costs and better alignment of shareholder and managerial goals.

Mergers, on average, lead to negative abnormal returns for the acquiring firms, (King et al, 2004). However, careful selection of targets and superior integration of acquired firms can lead to firm growth in a positive way. This is more likely to occur in firms where stockholder value maximization is the primary criterion. Prior research has found that acquisitions with certain characteristics (paid with by cash, are in related industries) are more likely to be value enhancing than other acquisitions. In this section, I consider whether acquisitions by family firms (which is the first part of the dissertation) display these characteristics and therefore study the number of firms acquired, the size of acquisitions, the mode of payment employed, the extent of relatedness of merging firms, and finally the amount of abnormal stock returns around merger announcements as a metric of performance of the acquisition strategy.

The second part of the dissertation relates to CEO compensation, an important component of corporate governance. Ostensibly, compensation contracts are designed to reduce agency costs. However, whenever agency costs are high and the board of directors is weak, compensation contracts can be manipulated to unfairly reward the CEO. I believe that

this is less likely to occur in firms that are family-controlled because of lower agency costs and that family-controlled firms are likely to have greater pay-performance sensitivity. In addition, a stronger relationship will exist between pay-performance sensitivity and firm performance for family firms, which may contribute to better firm performance in family-controlled firms than for nonfamily firms. In the analysis below, the factors considered are direct compensation, stock based pay, total compensation, and pay-performance sensitivity.

The next section describes the sample, sources of data, and variables and the following section contains the methods for testing the hypotheses developed in chapters III and IV.

V.1. SAMPLE OF FIRMS

My sample consists of firms in the S&P 500 because this index is considered to be the best gauge of the U.S equities market, and it includes a representative sample of 500 leading companies in leading industries of the U.S. economy. While past research on family firms tended to concentrate on small family-owned and managed firms, recent research has examined large family controlled firms in Fortune 500 and S&P 500 indices (Anderson and Reeb 2003; Dyer and Whetten, 2006; Lee, 2006, Morck et al., 1988; Villalonga and Amit, 2006), which allows for greater generalizability of results.

The sample spans the 1992-2006 period. Both the starting date and the ending date are dictated by data limitations, particularly the Executive Compensation (ExecuComp) and Investor Responsibility Research Center (IRRC) databases. The data in ExecuComp begins in 1992 and in 1996 for IRRC. While ExecuComp is an important source of data for this study because all ownership and compensation data are drawn from ExecuComp, it is focused on the executive officers of the firm and does not include data on all members of the board of

directors. Since I need ownership data for officers as well as for directors of the board, IRRC serves as my secondary source of data for the ownership variable. It is opportune that Anderson and Reeb (2003) commence their classification of family firms as of 1992 and cover the period 1992-99, so I am able to compare my classification of firms with theirs. The 15-year period of the study is long enough to smooth trends arising from periods with high and low economic activity, and periods when the financial markets may be stable, high, or low. Overall, my sample consists of approximately 8,000 firm-years, representing firms in the S&P 500 during the 1992-2006 period.

The initial sample of firms is obtained from Compustat based on listing of firms in the S&P 500 from 1992 to 2006. Once firms enter the S&P 500, they remain part of the sample unless there are structural changes in the firm (i.e., it becomes private, bankrupt, spins-off, or is acquired). Further, since firms are added to the index only following above average performance, it is necessary to exclude periods surrounding their entry into the index because those periods capture abnormal performance and introduce a survivorship bias. I therefore exclude the 3-month period prior to the firm joining the index. This method of sample construction is consistent with Anderson and Reeb (2003). The last set of columns in Table 1 shows the number of firms in each year that are included in the sample based on criteria specified above. The number of firms included is less than the 500 firms in the index by Standard and Poor's due to the continuity screen used and the inclusion of foreign firms by Standard and Poor's until July 2002. Thus, I have a total of 8,213 firm-year observations, spanning 15 years, and 834 unique firms in the sample.

V.2. FAMILY-CONTROLLED AND NONFAMILY-CONTROLLED FIRMS

As pointed out earlier in section II.3, there are several conceptualizations of family firms and various operational definitions too. For example, Anderson and Reeb's (2003) very inclusive definition of a family-controlled firm is based on fractional ownership of the firm by the founding family or descendants and/or where one of the firm's founders or descendants is a member of the corporate board. In its lead article "Family Inc", Business Week (November 10, 2003) uses a definition similar to that of Anderson and Reeb (2003) for a family firm: any company where founders or descendants continue to hold positions in top management, on the board, or among the company's largest shareholders. The above definitions are rather liberal conceptualizations of family firms, although one can find stricter definitions also. (For a discussion of conceptual definitions of family firms, please see Chrisman, Chua, and Sharma, 2005; and for empirical operationalizations of family firms see Miller, et al., 2007).

Based on Chrisman, Chua, and Litz (2004), whose notion of family involvement in a business covers several dimensions like ownership, management, and succession, I define family firms in this sample as distinct from non family firms, as a function of different factors including:

i) *Ownership* by the founding families and their descendants; a measure of capital invested, and having a financial stake in the firm. Therefore, I require that the family own at least 1% of outstanding shares to be classified as a family firm.

ii) *Control* by the founding family which may be indirect or direct in nature; as a measure influencing strategic direction in the firm. Therefore, I require that at least one member from the founding family or a descendant serve as a director on the board of directors. A non family firm thus defined is one where there are no founding family members

on the Board of Directors or where the family does not own at least 1% of the outstanding shares.

Occasionally, a firm may have both family and nonfamily members with substantial ownership of the firm. For example, both Bill Gates (founder) and Steve Ballmer (nonfamily member) have significant stakes in Microsoft. Such firms are counted as family-controlled because the founding family member still controls the firm via membership on the Board.

In part, my definition of a family-controlled firm is guided by the availability of data with respect to ownership for the firms. Though I use several sources in identification of family control, there are two starting points: IRRC and ExecuComp. The IRRC database collects information from proxies filed with the SEC for all directors on the board. The Directors database of IRRC contains historical information for each director, including shares held and total voting power for the 1997-2006 period. For the earlier period, 1992-96, I use ExecuComp, although this database reports information only for full-time executive officers of a corporation. For example, ExecuComp data do not include Robson Walton, Chairman of Walmart, in its list of directors for Walmart. Nonetheless, I am able to backfill a lot of basic information from IRRC into ExecuComp data. The ExecuComp information is more useful in identifying CEOs of firms in the sample for the CEO compensation part of the analysis.

The initial sample of S&P 500 firms, obtained from Compustat, is merged with ExecuComp, and then combined with the IRRC database using GVKEY to match the initial sample with ExecuComp and then using CUSIP numbers from ExecuComp to match with IRRC. Since there is no common identifier except the ticker symbol between the initial sample and IRRC, a direct match is not possible. Ticker symbols often change, leading to errors. While CUSIP identifiers may change, they do so less frequently than ticker symbols, and old CUSIPs are almost never assigned to another firm. Within each firm, the directors are

matched by their first and last names. The availability of directors on the IRRC database is sufficient to categorize a firm as family-controlled and complete compensation data for CEOs is available on ExecuComp.

As a starting point, identification of firms that are family controlled is based on Anderson and Reeb, (2003) and *Business Week* (2003). Information is also obtained from Family Firm Institute lists in Family Business magazine of the largest family firms in the United States. Information about *all* directors and their family history, if any, is obtained and verified from many different sources in the following order:

(i) Business and Company Center of Gale group: gives history and background information for currently active firms. This source has limited information about firms that have ceased to exist;

(ii) Hoover's Online corporate database: gives the most reliable information for inactive firms. The historical information available here about firms that are currently trading is usually not sufficient for my evaluation of family relationships;

(iii) Corporate web sites; and

(iv) Proxy statements filed with the SEC: gives complete information whenever not available through the above sources.

These sources also assist in resolving the problem of family members having different last names from founding families. Based on the chronology and history available, directors of a firm are tagged as family and/or founders. If a firm is co-founded by unrelated persons, all of them and their descendants are considered to be members of the same family. Trustees of family trusts are considered members of the family.

There are a total of 8,213 firm-years. Of these, there are 1,753 family firm-years and 5,887 non-family firm-years. The remaining 573 firm years are excluded from most analyses

due to the stricter definition of the family firm i.e. in these 573 firm years, only one condition for family firm classification was met. Please see Table 1 for details. This sample is used for testing hypotheses related to the acquisition strategy.

The sample for examining CEO compensation is slightly different because I require compensation data from ExecuComp. Data limitations reduce the sample to 6,365 firm-years, which include 1,391 family firm-years, 4,456 nonfamily firm-years and 518 firm years that are not classified as either family firm-years or nonfamily firm-years. Table 11 contains the sample characteristics.

V.3. VARIABLES AND DATA SOURCES FOR ACQUISITION STRATEGY

Data on mergers is obtained from the SDC Platinum mergers and acquisitions database. Several screens are used to generate the final sample, which is homogeneous and meets the conditions for analysis. First, I construct the family-controlled firm dataset for the 1992-2006 period, the sample of mergers is restricted to mergers made between January 1, 1992, and December 31, 2007 allowing for an extra year for mergers to be completed. Second, only publicly traded U.S. bidder firms are retained because my sample of firms who are the potential acquirers are all publicly traded. A sample firm, however, could acquire a private or foreign target, and in later analysis I include only publicly traded U.S. target firms to estimate the gains from the merger. Third, since many listed mergers are partial acquisitions, I require that the acquiring firm seeks to own at least 95% of the shares of the target firm, and does not already own greater than 49% of the target firm prior to the announcement (Moeller, Schlingeman, and Stulz, 2004).

The merger sample is then matched with CRSP using CUSIPs obtained from the SDC Platinum database. I use both the ticker symbol and the CUSIP identifier of a firm to match with data from CRSP. My other screens include only successful mergers, and a transaction value of at least \$10 million, which is measured as the target's market capitalization as of the first trading day of the month prior to the month of merger announcement. If the market capitalization is unavailable because the target is not listed on CRSP, then the transaction value reported by SDC Platinum is used. I obtain information regarding the status of a merger (withdrawn, pending, or complete) from SDC Platinum. An acquisition is considered successful if the "status" field in SDC has "completed" as a keyword.

Industry (Control Variable): Industry is generally defined using SIC (Standard Industry Classification) codes of the Bureau of the Census. Most firms in this sample are large firms that operate in several sectors. When industry is used as a control variable, results are reported when a one digit SIC code is used because I have only 834 unique firms. Using more than 1 digit code would consume too many degrees of freedom for the analyses. However I do conduct analyses using 2 digit SIC codes, and the results obtained do not change or alter the statistical significance. When measuring "relatedness" of acquisitions, I use 4 digit SIC codes for robust analyses. Information about SIC codes is obtained from CRSP.

Firm Size (Control Variable): Firm size is defined as the log of market capitalization of the firm, which is the number of shares outstanding times the closing price on the last trading day of the previous year. Since market capitalization has a very wide range, from a few million dollars to tens of billions of dollars, I follow the approach of past work and use the natural log of market capitalization instead of its absolute value to dampen the variation (Hayward, 2002).

Number of Acquisitions (Dependent Variable): The number of acquisitions is counted by using all mergers for which identifiable targets are available, whether public or private. However, the screens of successful completion and transaction value are maintained here and throughout the analyses.

Relative Size (Dependent Variable): Relative size is used as a dependent variable and is defined as the ratio of the size of the target firm to the size of the acquiring firm. The sizes are measured as the market capitalizations of the merging firms as of the last trading day of the year prior to merger announcement.

Mode of Payment (Dependent Variable): I only consider mergers that use cash, common stock, or a combination of these two methods of payment. Mergers where warrants, preferred stock, or collars are part of the consideration are dropped because the valuation of such securities is difficult to measure. An acquisition is considered all-cash if the SDC database states that the bidder offered at least 95% of its consideration in cash. Similarly, I consider an acquisition as stock financed if the SDC database states that the bidder offered at least 95% of its consideration as stock. Actual percent paid in cash or stock is used where targets are acquired through a combination of cash and stock. Firms where the sum of cash, stock, and other is less than 95% are excluded from consideration.

Industry Relatedness (Dependent Variable): While industry was defined using a 1-digit SIC code to generate a large enough sample in each industry code to use as a control variable, as a dependent variable, I require a narrower industry definition for determining the relatedness of two firms. Therefore, I use the highest level of refinement, i.e., 4-digit SIC codes to define relatedness in mergers. Surprisingly, there is a large fraction of mergers where the 4-digit SIC codes are the same for both acquirer and target firms. It should be

noted here that while there are subjective measures, entropy measures, and product category measures of diversification, based on the high convergence of Rumelt's categorical measure of diversification and SIC codes (Rumelt, 1974; Montgomery, 1985), I use SIC codes as a measure of relatedness between acquiring and target firms.

Performance: Firm performance can be measured as a change from one period to the next (time series) or as a firm's valuation relative to other firms at any point in time (cross-sectional). Since the stock price of the firm is considered to be a forward looking metric of firm performance, I use abnormal stock returns as a measure of firm performance. Abnormal stock returns are estimated using equally-weighted market returns. The robustness of these results is tested with value-weighted returns which give the same results in the analyses.

Performance using Abnormal Stock Returns Around Mergers (Dependent Variable): Performance around mergers is measured by computing abnormal stock returns around the date of announcement. From the description given in SDC database, it is not clear whether the announcement is made before or after market close on the day of the announcement. I estimate the first trading day after announcement as the day on which the volume is the highest. If the volume for the target on the day of announcement is higher than the volume on the day after announcement, then the announcement day is the first day of trading. Otherwise, announcement day+1 is called the first day of trading.

Assuming markets are efficient in reflecting all new information, the market's assessment of the merger's impact on the merging firms will be subsumed in the market prices of the firms. The change in price adjusted for risk and market movements is the abnormal stock return. Following Brown and Warner (1985), abnormal returns are computed in a two step process. In the first step, parameters of the market model (α , β) are estimated.

In the second step, actual returns are compared with normal returns based on the estimated parameters to get the abnormal returns. Abnormal returns are estimated for observation windows (-1,0), (-1, +1), and (-1, +3), while normal returns are computed using the market model with the market defined as the equally-weighted return including distributions. I explain this further when I describe my method for testing hypothesis 4.

V.4. VARIABLES AND DATA SOURCES FOR CEO COMPENSATION STRATEGY

An examination of the CEO compensation policy in family-controlled and nonfamily-controlled firms begins with compensation data from Compustat's ExecuComp database. ExecuComp consists of several different databases but I use three of these databases: AnnComp contains annual compensation data for all officer-directors of the company. The November 2007 version has 161,275 records for 27,214 firm-years and 2,808 unique firms. CoDirFin contains financial information for 42,124 firm-years for 2,808 firms, and CoLev contains time-invariant information such as ticker symbols, cusips, SIC codes, and contact information for the 2,808 firms.

The sample of director-firm-years containing information on the nature of family relationship, amount of stock ownership, and categorization of the S&P 500 firm-years into family and nonfamily firms, created earlier for analyses of merger hypotheses, is combined with ExecuComp data. Since my focus is on the compensation policy for CEOs, I retain records for CEOs only. The matching process results in a sample of 6,365 firm-years or 6,365 CEO-year observations that is used for testing the hypotheses developed in Chapter IV.

The following variables are used in the analysis as control variables, independent variables or dependent variables unique to testing hypotheses related to CEO compensation

practices. Firm size and industry continue to be used as control variables and have already been defined in the previous section.

Adjustment for Inflation: All annual financial data are recomputed in year 2006 dollars based on the annual Consumer Price Index (Urban – All) as reported by the Department of Labor. Adjustments are made to salary, bonus, total compensation, assets, market capitalization, and sales. This is consistent with the methods of Jensen and Murphy, (1990) and Hall and Liebman, (1998).

Salary (Dependent Variable): The salary of the CEO includes both cash and noncash payments. Prior research normally includes salary and bonus in their definition of compensation (Gomez-Mejia, et al., 2003; Bebchuk, Cremers, Peyer, 2007; Core, Holthausen, and Larcker, 1999). However, salary is the fixed component of the CEO’s compensation and bonus is related to performance measures (Canyon, 2006; Core, Holthausen, and Larcker, 1999). Since I am interested in separating the fixed component from the variable component, I consider salary separately from bonus. The “Salary” variable on ExecuComp is used as salary in my definition.

Stock-based Pay (Dependent Variable): Stock-based pay is the sum of restricted stock grants, stock option grants, restricted stock, and long-term incentive plans (Bebchuk, Cremers, and Peyer, 2007) awarded by the firm to the extent that they are not included in salary or bonus. Stock options are priced using ExecuComp’s version of the modified Black-Scholes (1973) option valuation methodology. Stock-based pay is calculated from ExecuComp as Total Compensation (TDC1) minus salary, bonus, and all other special compensation (like signing bonus, cash for unused vacation, and other one-time payments) paid by the firm to the CEO or on behalf of the CEO. TDC1 is based on the valuation of

options granted. When TDC1 is not available, TDC2 is used that is based on valuation of options when they are exercised. It is not possible to directly compute stock-based pay from ExecuComp because the data relating to several components are not available, in particular fair values of stock awards and option awards. An alternative formulation of stock-based pay is also used, and is measured as the ratio of stock-based pay to direct compensation.

Direct Compensation (Dependent Variable): Direct compensation includes salary, bonus, and stock-based pay, and any other CEO-related expenses incurred by the firm that are usually considered as perquisites (Brick, et al, 2006). Bonus is a variable that is reported in ExecuComp, however, bonus is not included in stock-based pay. “TDC1” is reported on ExecuComp as the total direct compensation that includes the value of options granted. When TDC1 is unavailable, TDC2 is used. The absolute change in compensation is the difference between the current year’s direct compensation and the previous year’s direct compensation. The percent change in direct compensation is reported on ExecuComp (TDC1_PCT or TDC2_PCT).

Indirect Compensation (Dependent Variable): Indirect compensation is the total dollar return that accrues to the CEO from his stock holdings of any class at the beginning of the year under consideration. For example, family members in a family firm may own stock that was not awarded to them as compensation. The dollar return is the sum of capital appreciation and cash dividends after accounting for stock distributions for shares held for the entire year; plus capital appreciation and cash dividends up to the point of sale for shares not held through to end of the year. The CEO’s ownership is obtained from “Shrown_Tot.” The total return to shareholders is obtained from “TRS1YR.” Value of ownership times the return gives the indirect compensation earned by the CEO.

Total Compensation (Dependent Variable): Total compensation is the sum of Direct Compensation and Indirect Compensation. Change in total compensation is the sum of indirect compensation and the change in direct compensation.

Firm Risk (Control Variable): Firm risk can be calculated as the standard deviation of the firm's daily stock returns. However, to be consistent with other data being used in the thesis, I take the square root of stock volatility (BS_volatility) from ExecuComp to obtain an estimate of firm risk (Brick, et al., 2006).

Dual Class Stock (Independent Variable): Firms with dual class voting stock are identified with an indicator variable. Dual class stock firms have at least two kinds of stock that bestow greater voting powers to one class relative to the other while the cash flows are equally among all shareholders. Most of the dual class stocks are family-controlled firms with the family holding stock with greater voting power. Examples include the Dow Jones Company, Wrigley, and US Cellular. Data for dual class stock firms is obtained from the IRRC (Investors Responsibility Research Center) database.

Ownership by Directors (Control Variable): The board of directors monitors the managers on behalf of the stockholders. If the directors hold a significant amount of firm stock, they have an incentive to improve their oversight and ensure that CEO compensation is not excessive. Dummy variables for ownership are introduced. Own0_1 is 1 if the board owns less than 1% of the firm, zero otherwise; Own1_2 is 1 if the board owns between 1% and 2% of the firm, and zero otherwise; Own2_10 is 1 if the board owns between 2% and 10% of the firm, and zero otherwise; Own10_25 if the board owns between 10% and 25% of the firm, and zero otherwise; and Own25_100 is 1 if the board owns 25% or more of the firm, and zero otherwise.

Year, industry, and firm fixed effects: Compensation may vary due to time, industry, and firm characteristics, factors that need to be controlled for in order to isolate the differences in compensation due to ownership which is the focus of this research. For example, CEOs in health care may earn more than CEOs in industrial products due to the need for more specialized knowledge. Or the salaries may have been higher in the year 2000 because a large fraction of companies were doing well. Firm characteristics such as the number of office locations may affect a CEO's salary. All of these factors can be controlled for by using dummies for the year, industry, and firm. However, from a practical standpoint, an efficient and convenient way to control for such factors without the need for hundreds of dummies is to introduce them as fixed effects in the regression equation, a procedure that is commonly followed in the literature.

Change in Market Value (Dependent Variable): Performance is measured by the change in market capitalization of the firm. Generally, firm size as measured by market capitalization should increase when stock holders earn positive total returns. The change in market value is obtained by multiplying the market value at the end of the previous fiscal year by TRS1YR for the current year. The previous year's change in market value is obtained in a similar manner: by multiplying the market value at the end of year before last by last year's TRS1YR.

Pay-performance sensitivity (Independent Variable and Dependent Variable): The pay for performance sensitivity is measured by regressing pay on contemporaneous performance and lagged performance as in Jensen and Murphy (1990) and Conaughy (2000). Direct compensation consists of two parts: salary plus bonus pay and stock-based pay. I anticipate stock-based pay to be more sensitive than direct compensation. As mentioned above, performance is measured by change in firm value or stock returns. Control variables include

firm size, firm risk, and industry. The independent variable is the indicator variable for family-controlled firm in addition to performance. For the last hypothesis that estimates the relationship between performance and pay-for-performance sensitivity, pay-performance sensitivity becomes an independent variable.

V.5. METHODS

I create a dataset of all family and nonfamily firms in the S&P 500 for the period 1992-2006, as explained above, and combine it with the mergers, CRSP, Compustat, and ExecuComp databases. The hypotheses are tested by conducting two kinds of tests: univariate differences in means test and multivariate regression. Regression estimates are obtained using OLS and negative binomial regressions, as appropriate. The methods that apply to each hypothesis are detailed below.

Testing Hypothesis 1a:

H1a: Family firms will acquire fewer firms than nonfamily firms, on average, ceteris paribus.

In order to test H1a that family firms will make fewer acquisitions I compare the number of mergers per family-controlled firm year with the number of mergers per nonfamily firm year controlled for firm size and industry sector. Size quartiles are constructed based on the market capitalization of the firms as at the end of the year prior to the year of observation. By design, the number of firm-years in the size quartiles is approximately the same. Firm size is proxied by the natural log of market capitalization.

Since it is difficult to control for multiple variables using panel data, I supplement analysis with the regression models (5.1-5.4) below. The dependent variable in all models is the number of mergers for each observation, firm-year (*Mergers*). The independent variable of interest is the indicator for family firms (*FF*). It is set to 1 for a family-controlled firm, and zero otherwise.

$$Mergers = \alpha + \beta_1 \times FF + \sum_{i=1}^{29} \gamma_i \times (Ind \times SizeQ)_i + \varepsilon \quad (5.1-5.4)$$

Only one regression model is mentioned above because the other models are the same except for the control variables. The first model does not have any control variables, the second model has the four size quartiles (*SizeQ*) as control variables, the third model has the eight 1-digit industry codes (*Ind*) as control variables. In addition, I create an interaction control variable between size quartiles and industry codes (*SizeQ*×*Ind*). Theoretically, this would generate 32 (4 times 8 interaction) bins of firms. However, since the size quartiles and industry codes are independently created, there are 3 bins that are not populated. Therefore, there are 29 sub groups that simultaneously control for both size and industry.

The remaining hypotheses related to mergers, hypotheses 1b to 4, are tested in a manner similar to testing hypothesis 1a above.

Testing Hypothesis 1b and 1c:

H1b: Family firms will make smaller acquisitions than nonfamily firms, on average, ceteris paribus.

H1c: Family firms will complete acquisitions in a shorter time period than nonfamily firms, on average, ceteris paribus

The firm size (by market capitalization) of the target firms for acquisitions, and the time to completion of the acquisitions, by family-controlled firms and nonfamily firms is compared for testing these hypotheses. Absolute target sizes as well as the fraction of targets in each size quartile being acquired, and number of days to complete the acquisition transaction by family firms and nonfamily firms are compared for statistically significant differences.

The regression models for these hypotheses are similar to hypothesis 1a except that the dependent variable is the log of size of the target (*LogTgt*) and completion time. The same control variables and models as for equations 5.1-5.4 apply.

$$LogTgt = \alpha + \beta_1 \times FF + \sum_{i=1}^{29} \gamma_i \times (Ind \times SizeQ)_i + \varepsilon \quad (5.5-5.8)$$

Testing Hypothesis 2:

H2: Family-controlled firms will pay cash more often than equity when compared to nonfamily firms, ceteris paribus.

Firms can pay cash, stock, or a mixture of cash and stock for the target firm. Hypothesis 2 is designed to test whether family-controlled firms buy target firms with cash more frequently (and with stock less frequently) than nonfamily firms. The analysis is conducted using cash because the results for stock are almost a mirror image.

I repeat the process of estimating regression models so that multiple variables can be simultaneously controlled. The regression models are similar to those for the previous hypotheses. There are two differences. I now use two different dependent variables, one for stock payments and the other for cash payments. In this set of regression models, I introduce control variables that capture the sizes of bidding and target firms because the mode of

payment depends on the size of the target. Large targets are rarely purchased with cash whereas cash is the preferred mode of payment for smaller targets. The models are given below. *Mode* refers to the mode of payment, and *RSize*, is the relative size of target firm to bidder firm.

$$Mode = \alpha + \beta_1 \times FF + \sum_{i=1}^{29} \gamma_i \times (Ind \times SizeQ)_i + \varepsilon \quad (5.9-5.12)$$

$$Mode = \alpha + \beta_1 \times FF + \beta_2 \times RSize + \varepsilon \quad (5.13)$$

Testing Hypothesis 3:

H3: Family-controlled firms will make more related acquisitions than nonfamily firms, on average, ceteris paribus.

When the target and bidding firm have same 4-digit primary SIC code as reported by CRSP, I assume that the merger is a related merger. The dependent variable is an indicator variable that indicates whether the merger is related or not (*Related*).

$$Related = \alpha + \beta_1 \times FF + \sum_{i=1}^{29} \gamma_i \times (Ind \times SizeQ)_i + \varepsilon \quad (5.15-5.18)$$

Testing Hypothesis 4:

H4: On average, the abnormal returns around merger announcements will be greater for family-controlled firms than for nonfamily firms, ceteris paribus.

The abnormal returns are computed for acquiring and target firms around the announcement date of the merger. I follow Brown and Warner (1985) that uses a two step process. In the first step, parameters of the market model (α , β) are estimated. The market model is intended to provide estimates as a control for systematic risk (β) of the stock and any

excess return as given by α . Note that the beta (β) estimated in this manner is a measure of the market-related risk of the firm.

$$R_{it} = \alpha_i + \beta_i \times R_{mt} + \varepsilon_t \quad (5.19)$$

Regression parameters are estimated using daily returns for 240 trading days beginning 250 days before the merger announcement and ending 11 days prior to the merger announcement. R_{it} is the stock return and R_{mt} is the market return. For the market return, I use the equally-weighted return including distributions for all stocks as reported by CRSP. I also estimate the returns using value-weighted returns for comparison purposes and robustness check. Equation (5.19) is estimated for all target firms and bidder firms.

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i \times R_{mt}) \quad (5.20)$$

In the second step, abnormal return for firm i and day t is computed by using equation (5.20), where α and β are estimates from the market model given by equation (5.19). Daily abnormal returns for the observation period are accumulated to generate the cumulative abnormal return, as specified in equation (5.21). The observation period starts A days before the announcement day and ends B days after announcement making a total of $(A+B+1)$ days in the observation period with day 0 as the day of announcement.

$$CAR(-A,+B)_i = \sum_{t=-A}^B AR_{it} \quad (5.21)$$

Abnormal returns are computed over several observation windows where 0 is the announcement day. Window (0, +1) is used because from the description given in SDC database it is not known whether or not the announcement day is the first trading day after the merger announcement. If the announcement is made before 4 p.m. Eastern Time, then day 0

is the first trading day after merger announcement, otherwise day +1 is the first trading day. Window (-1, +1) is used to allow for leakage and some amount of insider trading. Abnormal return for (-1, +3) is estimated to take care of both leakage of information and lag in stock price response.

The cumulative abnormal returns (CAR) obtained in this way are compared for family-controlled firms and nonfamily firms with different observation windows. Positive differences will imply that CARs around merger announcements are larger for family-controlled firms when compared with nonfamily firms.

In addition to the t-tests, I also estimate regression models (5.22-5.25). The dependent variable is the CAR, separately for the 3 observation periods. Other than the change in the dependent variable, the regression models are identical to those employed for testing hypothesis 1a.

$$CAR = \alpha + \beta_1 \times FF + \sum_{i=1}^{29} \gamma_i \times (Ind \times SizeQ)_i + \varepsilon \quad (5.22-5.25)$$

Testing Hypothesis 5:

H5a: Salary and direct compensation of family CEOs in family firms will be lower than salary and direct compensation of CEOs in nonfamily firms, on average, ceteris paribus.

H5b: Salary and direct compensation of professional CEOs in family firms will be lower than salary and direct compensation of CEOs in nonfamily firms, but higher than salary and direct compensation of family CEOs in family firms, on average, ceteris paribus.

As with the tests for the first four hypotheses, I test the hypotheses relating to direct compensation first with panel data and second with regression analysis. In their meta analysis of determinants of CEO pay, Tosi, et al. (2000) find that firm size is the one consistent factor

in CEO pay. Therefore, all of my multivariate tests control for firm size as measured by market capitalization as of the last trading day of the previous year.

In order to compare the level of direct compensation of CEOs, I run a regression analysis for family firms and nonfamily firms. In addition, the direct compensation of family CEOs is compared with the direct compensation of professional CEOs in both family and non-family firms. This analysis is repeated separately for stock-based pay because family firms are likely to grant fewer stock-based incentives to their CEOs so that their ownership rights are not diluted.

Direct compensation among the three kinds of CEOs is compared by estimating regression models in equations (5.26-5.27). Model (5.27) is estimated only for family firms. FF is an indicator variable for family firms (=1). F_CEO is an indicator variable for family CEOs in family firms (=1) and zero otherwise. Industry sector and size of firm is defined as earlier, by 1 digit SIC code and log of market capitalization respectively. σ is the total risk of the firm. I expect β_1 and β_2 to be negative indicating that family firm CEOs earn less than other CEOs (5.26) and that family CEOs earn less than professional CEOs in family firms (model 5.27). Again, direct compensation and stock-based pay are used separately as dependent variables.

$$Pay = \alpha + \beta_1 \times FF + \beta_2 \times F_CEO + \sum_{i=1}^8 \gamma_i \times Ind_i + \beta_3 \times \sigma + \beta_4 \times Logsize + \varepsilon \quad (5.26)$$

$$Pay = \alpha + \beta_1 \times F_CEO + \sum_{i=1}^8 \gamma_i \times Ind_i + \beta_2 \times \sigma + \beta_3 \times Logsize + \varepsilon \quad (5.27)$$

Testing Hypothesis 6:

H6: Annual change in salary and direct compensation of family CEOs will be lower than that for professional CEOs, ceteris paribus.

Annual change in salary and direct compensation is measured as the change from one year to the next based on ExecuComp data. In case there is a change in the CEO for a firm then that particular data point is dropped from the sample because a new CEO may join the firm at terms that are substantially different from the terms of the previous CEO.

I estimate regression model (5.28) for evaluating hypothesis 6 with the change in pay (salary or direct compensation) as the dependent variable. Fixed effects and control variables are designed to control for firm, industry, time, and ownership by board members. Consistent with the hypothesis, I anticipate the coefficient on *FF* to be negative.

$$\Delta Pay = \alpha + \beta_1 \times FF + \sum_{i=1}^8 \gamma_i \times Ind_i + \varepsilon \quad (5.28)$$

Testing Hypotheses 7a:

H7a: Family firm CEOs (both family CEOs and professional CEOs) will get lower stock based pay and a lower proportion of their direct compensation in stock-based pay than CEOs in nonfamily firms, ceteris paribus.

Testing hypothesis 7a is similar to testing hypothesis 5 except that the dependent variables in the regression model are stock-based pay or the ratio of stock-based pay to direct compensation (5.29).

$$\begin{aligned} \text{Stock - based Pay or } \frac{\text{Stock - based pay}}{\text{Direct Compensation}} &= \alpha + \beta_1 \times FF + \beta_2 \times F_CEO \\ &+ \sum_{i=1}^{10} \gamma_i \times Ind_i + \beta_3 \times \sigma + \beta_4 \times Logsize + \varepsilon \end{aligned} \quad (5.29)$$

The fraction of direct compensation received as stock-based pay by CEOs of family firms and nonfamily firms is compared with the above regression model. I expect β_1 to be negative indicating that family firm CEOs earn less stock-based pay than nonfamily firm because of dilution of equity and control concerns.

Testing Hypothesis 7b:

H7b: Salary of family CEOs will be less volatile than salary of professional CEOs, ceteris paribus

Volatility of salary is estimated by the standard deviation of salary over the entire period for which the same person is the CEO of the firm with a minimum tenure of 5 years. The volatility of salary is compared for the two kinds of CEOs (family and nonfamily) in differences of means tests.

In the regression analysis, the standard deviation of salary is the dependent variable (model 5.30). The control variable also includes firm risk estimated over the period for which the dependent variable is estimated.

$$stddev(salary) = \alpha + \beta_1 \times F_CEO + \sum_{i=1}^8 \gamma_i Ind_i + \beta_2 \times Logsize + \beta_3 \times \sigma + \varepsilon \quad (5.30)$$

I expect β_1 to be negative indicating that the salary of family CEOs is less volatile than salary of other CEOs.

Testing Hypothesis 8:

H8: Professional CEOs in family firms with dual class stock will receive higher stock based pay and a higher proportion of their direct compensation in stock-based pay compared with CEOs in family firms without dual class stock, ceteris paribus.

It is likely that dilution of ownership is the main concern that family-owners have about stock-based pay. Since stock-based pay is useful in aligning goals of shareholders and managers, many firms have dual class stock. Voting stock is retained by family members but nonvoting stock or stock with minimal voting rights is used by the owners for stock-based pay. To test this hypothesis, the sample of family firms is divided into subsamples – one with dual class stock and the other without dual class stock.

In the regression analysis, the independent variable is *dual*, which is equal to one for firms with dual class stock and zero otherwise. Regression model 5.31 (below) is estimated for family CEOs and professional CEOs.

$$\text{Stockbased Pay or } \frac{\text{Stockbased pay}}{\text{Direct Compensation}} = \alpha + \beta_1 \times \text{Dual} + \sum_{i=1}^8 \gamma_i \times \text{Ind}_i + \beta_2 \times \sigma + \beta_3 \times \text{Logsize} + \varepsilon \quad (5.31)$$

I expect β_1 to be positive indicating that the proportion of stock-based pay is higher in firms that have dual class stock.

Testing Hypothesis 9:

H9: Stock based pay and direct compensation will be less sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.

Pay for performance is measured as the dollar change in pay for every dollar change in firm's value. Pay is defined in two ways: as stock-based pay and as direct compensation. Dollar change in firm's value is defined as the total stock return multiplied by the market capitalization of the firm at the beginning of the year (Jensen and Murphy, 1990)

Regression analysis provides a way of evaluating pay-performance sensitivity and allows us to use continuous variables in addition to including control variables (5.32).

$$\Delta Pay = \alpha + \beta_1 \times \Delta FirmValue_t + \beta_2 \times \Delta FirmValue_{t-1} + \sum_{i=1}^8 \gamma_i \times Ind_i + \beta_3 \times Logsize_t + \beta_4 \times \Delta risk + \varepsilon \quad (5.32)$$

Pay and change in firm value are defined as mentioned above. Control variables include firm size, ratio of current period risk to prior period's risk, and industry. I expect β_1 and β_2 to be positive indicating that there is greater pay-performance sensitivity for family firms and family CEOs in family firms. Following Jensen and Murphy (1990) and others, pay-performance sensitivity is measured as $(\beta_1 + \beta_2)$. I use this measure in testing hypothesis 11.

Testing Hypothesis 10:

H10: Total compensation (direct compensation plus indirect compensation) will be more sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.

The testing of hypothesis 10 is identical to that of hypothesis 5 except that indirect compensation is used instead of direct compensation or components thereof. Indirect compensation includes change in wealth of the CEO by virtue of prior ownership of shares of the firm. Two formulations of the dependent variable are used: Total Compensation and Change in total compensation, which is the sum of indirect compensation (change in wealth) and change in direct compensation. A separate hypothesis is proposed due to its importance in the conclusions of this paper. Model (5.32) is estimated with the new dependent variables.

The pay-performance sensitivity measured as $(\beta_1+\beta_2)$ with total compensation as the dependent variable is used for testing hypothesis 11.

Testing Hypotheses 11:

H11: Pay-performance sensitivity of firms will be positively correlated with annual stock returns, ceteris paribus.

A regression model (5.33) is estimated where the independent variable is pay-performance sensitivity (*pps*) obtained from (5.32) as explained in hypothesis 10. The dependent variable is change in firm value, measured as the total stock return times the market capitalization at the end of the previous year.

$$\Delta FirmValue = \alpha + \beta_1 \times pps + \sum_{i=1}^8 \gamma_i \times Ind_i + \varepsilon \quad (5.33)$$

I expect β_1 to be positive indicating that the higher the pay-performance sensitivity in a firm, the better is that firm's performance. I expect to find that the pay-performance sensitivity will be higher for family firms than for nonfamily firms, implying that performance of family firms is superior, and the superior performance may be derived from higher pay-performance sensitivity of CEO compensation.

V.6. SUMMARY OF HYPOTHESES

IV = Independent Variable, DV = Dependent Variable, CV = Control Variable, FE1 = Year fixed effects, FE2 = Industry fixed effects, FE3 = Firm fixed effects.

No	HYPOTHESIS	Variable	Measurement	Data Source	Hypothesis prediction
1a	<i>Family firms will acquire fewer firms than nonfamily firms, on average, ceteris paribus.</i>	DV: Number of firms acquired per year by each sample firm. IV: Family firm dummy (FF). CV1: Industry. CV2: Firm size; Interaction between industry and firm size.	DV: Completed deals. Transaction value > \$10 million. Acquirer seeks 95% of target. Acquirer does not own more than 49% of target prior to bid. IV: One or more family members on BOD and at least 1% ownership. Nonfamily firms are firms with dispersed ownership. CV1: One-digit SIC code. CV2: log of market capitalization of acquiring firm. Market cap is the number of shares times the price as of the last trading day of the previous year.	DV: SDC Mergers and Acquisitions database. IV: RiskMetrics' IRRC; Compustat's ExecuComp; Gale Business Histories; Hoovers online; Company websites; SEC proxy filings. CV1: Compustat. CV2: CRSP.	IV: Coefficient on FF is negative.
1b	<i>Family firms will make smaller acquisitions than nonfamily firms, on average, ceteris paribus.</i>	DV: Size of target firm. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	DV: Log of market capitalization of target firm. Market cap is the number of shares times the price as of the last trading day of previous year prior to merger announcement date. Size is measured in 2 ways: As absolute size and target size relative to acquirer's size. For this test, targets must be at least 1% of the acquirer in size. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	DV: CRSP. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	IV: Coefficient on FF is negative.

No	HYPOTHESIS	Variable	Measurement	Data Source	Hypothesis prediction
1c	<i>Family firms on average will complete acquisitions in a shorter time period than nonfamily firms, ceteris paribus</i>	DV: Time to completion. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	DV: Number of days from announcement to completion of merger. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	DV: SDC Mergers and Acquisitions database. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	IV: Coefficient on FF is negative.
2	<i>Family-controlled firms will pay cash more often than equity when compared with nonfamily firms, ceteris paribus</i>	DV: Mode of payment IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a. CV3: Relative Size. CV4: Target size.	DV: Percent of cash mergers minus percent of stock mergers. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a. CV3: Ratio of target size to bidder size. CV4: As for DV of hypothesis 1b.	DV: SDC Mergers and Acquisitions database. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a. CV3: SDC Mergers and Acquisitions database. CV4: CRSP.	IV: Coefficient on FF is positive.

No	HYPOTHESIS	Variable	Measurement	Data Source	Hypothesis prediction
3	<i>Family firms will make more related acquisitions than nonfamily firms, on average, ceteris paribus.</i>	DV: Relatedness – dummy variable. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	DV: The dummy variable, relatedness, is 1 if the 4-digit SIC codes of the acquirer and target are the same. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	DV: CRSP. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	IV: Coefficient on FF is positive.
4	<i>On average, abnormal returns around merger announcements will be greater for family firms than for nonfamily firms, ceteris paribus.</i>	DV: Abnormal returns for acquiring firms. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	DV: Abnormal returns are computed using the market model, equally-weighted market index, and a 240-day estimation period. Observation windows are 2-day, 3-day, and 5-day periods centered on the announcement date. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	DV: CRSP. IV: As for hypothesis 1a. CV1, CV2: As for hypothesis 1a.	IV: Coefficient on FF is positive.

No	HYPOTHESIS	Variable	Measurement	Data Source	Hypothesis prediction
5a	<i>Salary and direct compensation of family CEOs in family firms will be lower than salary and direct compensation of CEOs in nonfamily firms, on average, ceteris paribus.</i>	DV: Salary or direct compensation. IV1: Family firm dummy (FF). IV2: Dummy = 1 if CEO is from the family (F_CEO).	DV: Salary as reported by ExecuComp. Direct compensation is the sum of salary, bonus, and stock based pay given by the firm. Stock options are valued using Black-Scholes pricing formula. IV1: As for IV in hypothesis 1a. IV2: If the CEO is a member of the family that controls the firm. This variable is zero for nonfamily firms.	DV: ExecuComp. IV1: As for IV in hypothesis 1a. IV2: RiskMetrics' IRRC; Compustat's ExecuComp; Gale Business Histories; Hoovers online; Company websites; SEC proxy filings.	IV1: Coefficient on FF is negative. IV2: Coefficient on F_CEO is negative.
5b	<i>Salary and direct compensation of professional CEOs in family firms will be lower than salary and direct compensation of CEOs in nonfamily firms, but higher than salary and direct compensation of family CEOs in family firms, on average, ceteris paribus.</i>	CV3: Firm risk. CV4: Firm size. CV5: Ownership by the board. FE1: Year fixed effects. FE2: Industry fixed effects. FE3: Firm fixed effects.	CV3: Total risk of the firm is estimated as the standard deviation of returns, and directly obtained from ExecuComp. CV4: log of market capitalization of acquiring firm. Market cap is the number of shares times the price as of the last trading day of the previous year. CV5: Total stockholding of the board. Entered as dummy variables for different levels. FE1: Time is entered as year from 1992 to 2006. FE2: One-digit SIC code. FE3: Fixed effect for each unique firm.	CV3: ExecuComp. CV4: CRSP. CV5: ExecuComp; IRRC. FE1, FE2, FE3: ExecuComp; CRSP.	

No	HYPOTHESIS	Variable	Measurement	Data Source	Hypothesis prediction
6	<i>Annual change in salary and direct compensation of family CEOs will be lower than that for professional CEOs, ceteris paribus.</i>	DV: Change in salary (or change in direct compensation). IV: Family firm dummy (FF). CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	DV: Change in salary or direct compensation is the dollar change in salary or direct compensation from one year to the next. The change is calculated only for continuing CEOs. IV: As for IV in hypothesis 1a. CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	DV: ExecuComp. IV: As for IV in hypothesis 1a. CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	IV: Coefficient on FF is negative.
7a	<i>Family firm CEOs (both family CEOs and professional CEOs) will get lower stock based pay and a lower proportion of their direct compensation in stock-based pay than CEOs in nonfamily firms, ceteris paribus.</i>	DV: Stock-based pay DV: Stock-based pay divided by direct compensation. IV: Family firm dummy (FF). CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	DV: Stock based pay reported as on ExecuComp DV: The ratio is computed using component information. IV: As for IV in hypothesis 1a. CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	DV: ExecuComp. IV: As for IV in hypothesis 1a. CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	IV: Coefficient on FF is negative.

No	HYPOTHESIS	Variable	Measurement	Data Source	Hypothesis prediction
7b	<i>Salary of family CEOs will be less volatile than salary of professional CEOs, ceteris paribus</i>	DV: Standard deviation of salary. IV: Family firm dummy (FF). CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	DV: Standard deviation of salary is calculated for the entire period of tenure of a CEO, for CEOs with a minimum of 5 years tenure with the firm. IV: As for IV in hypothesis 1a. CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	DV: ExecuComp. IV: As for IV in hypothesis 1a. CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	IV: Coefficient on FF is negative.
8	<i>Professional CEOs in family firms with dual class stock will receive higher stock based pay and a higher proportion of their direct compensation in stock-based pay compared with CEOs in family firms without dual class stock, ceteris paribus.</i>	DV: Stock based pay DV: Stock-based pay divided by direct compensation. IV: Dual class voting stock (=1). CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	DV: As for Hypothesis 7a DV: As for hypothesis 7a. IV: Family Firms with at least two classes of common stock with different voting rights. CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	DV: ExecuComp. IV: IRRC. CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.	IV: Coefficient on dual is positive.

No	HYPOTHESIS	Variable	Measurement	Data Source	Hypothesis prediction
9	<p><i>Stock based pay and direct compensation will be less sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.</i></p>	<p>DV: Change in stock based pay or change in direct compensation.</p> <p>IV1, IV2: As for hypothesis 5a.</p> <p>IV4: Dollar change in firm value for current year.</p> <p>IV5: Dollar change in firm value for previous year.</p> <p>CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.</p> <p>CV6: Ratio of current year's firm risk to previous year's firm risk.</p>	<p>DV: As for hypothesis 5a.</p> <p>IV1, IV2: As for hypothesis 5a.</p> <p>IV4, IV5: Dollar change in firm value is measured as the stock return times the market capitalization of the firm at the beginning of the year.</p> <p>CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.</p> <p>CV6: Ratio of risks.</p>	<p>DV: As for hypothesis 5a.</p> <p>IV1, IV2: As for hypothesis 5a.</p> <p>IV4, IV5: Compustat; CRSP.</p> <p>CV3, CV4, CV5, FE1, FE2, FE3: As for hypothesis 5a.</p> <p>CV6: ExecuComp.</p>	<p>IV1, IV2, IV4-IV5: All four coefficients are positive.</p>

No	HYPOTHESIS	Variable	Measurement	Data Source	Hypothesis prediction
10	<i>Total compensation (direct compensation plus indirect compensation) will be more sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.</i>	DV: Total compensation and change in total compensation. IV1, IV2, IV4-IV5: As for hypothesis 9. CV4, CV5, CV6, FE1, FE2, FE3: As for hypothesis 9.	DV: Direct compensation and change in direct compensation are measured as for hypothesis 9. Indirect compensation is measured as the dollar change value of the CEO's ownership of stock including distributions and capital appreciation. IV1, IV2, IV4-IV5: As for hypothesis 9. CV4, CV5, CV6, FE1, FE2, FE3: As for hypothesis 9.	DV: As for hypothesis 9; ExecuComp; IRRC. IV1, IV2, IV4-IV5: As for hypothesis 9. CV4, CV5, CV6, FE1, FE2, FE3: As for hypothesis 9.	IV1-IV2, IV4-IV5: All four coefficients are positive.
11	<i>Pay-performance sensitivity of firms will be positively correlated with annual stock returns, ceteris paribus.</i>	DV: Annual stock return. IV: Pay-performance sensitivity (PPS). CV5, FE1, FE2, FE3: As for hypothesis 9.	DV: Total annual stock return for a firm including appreciation and distributions. IV: Sum of coefficients on IV4, IV5 from hypotheses 9 and 10. CV5, FE1, FE2, FE3: As for hypothesis 9.	DV: CRSP. IV: Coefficients in hypotheses 9 and 10. CV5, FE1, FE2, FE3: As for hypothesis 9.	IV: Coefficient on PPS is positive.

CHAPTER VI: RESULTS AND DISCUSSION

I create a dataset of all family and nonfamily firms in the S&P 500 for the period 1992-2006 as explained above and combine it with the mergers, CRSP, and ExecuComp databases. The year-wise details of the sample are presented in Table 1. In addition, I have 573 firm-years where the firms could not be clearly classified either as family-controlled or nonfamily-controlled as per definition of family firm used.

The sample of family-controlled firms is somewhat smaller in the 1992-95 period probably because of restricted availability of ownership data from IRRC and ExecuComp. The number of family-controlled firms increases significantly in 1996 once the IRRC ownership data become available. Since data from 1992-95 may be incomplete or inconsistent, I rechecked all of the results reported here without the 1992-95 period and find that the results remain unchanged and the conclusions drawn from the results are unaltered.

VI.1. ACQUISITION STRATEGY OF FAMILY-CONTROLLED FIRMS

Tables 2 and 3 report details of the sample used to test hypotheses 1 through 4. Table 2 shows summary statistics; sample mean, median, standard deviation, and maximum and minimum values. There are 8,213 firm-years consisting of approximately 21.3% firm-years with family-control. The sample firms make 3,558 mergers or 0.433 mergers per firm-year, with a minimum of 0 for most firm-years and a maximum of 23 mergers in a firm-year by Cisco in the year 2000. Cisco is the only firm that acquired more than 10 firms in a year and did it three times: in 1999, 2000, and 2005.

Table 1: Sample size in firm-years

Year	Family-controlled firms a	Nonfamily firms b	Unclassified c	Available S&P 500 firms	Total sample used a+b+c
1992	62	403	30	496	495
1993	64	404	33	494	501
1994	63	405	35	487	503
1995	65	417	37	485	519
1996	108	391	25	484	524
1997	122	380	37	483	539
1998	131	383	38	486	552
1999	148	380	35	487	563
2000	146	378	46	479	570
2001	158	362	44	482	564
2002	151	377	45	488	573
2003	144	382	48	495	574
2004	141	392	45	492	578
2005	134	408	38	489	580
2006	116	425	37	476	578
Total	1753	5887	573	7,303	8,213

Though there is a universe of 3,558 mergers, all information is not available for each of the targets since they include both public and private firms, and the data in SDC Platinum does not fully span all the target firms. For example, abnormal returns are available only for publicly traded targets, mode of payment is available for most but not all targets in the merger sample. Information about the mergers is summarized in Table 2 (panel B). Acquiring firms have a mean size of \$26.9 billion with a median value of \$8.2 billion, with a minimum value of \$23 million and a maximum value of \$602.4 billion. Thus there is variation in the size of the acquiring firms even though they are all part of the S&P 500 index. The median size of the target is \$160 million and the median relative size is a little under 2%. In this sample, 48.4% of the acquisitions were paid for by cash, 27.9% by equity and the balance were paid for by a combination of cash and stock. The cumulative abnormal return to bidders over a two day (-1,0) window had a mean of -0.20% with a median of -0.14%. Over a 5-day (-1, +3) window, the cumulative abnormal return to bidders was -0.12% and a median return of 0.01%. The negative CAR accruing to the bidders on average is consistent with extant literature that indicates that bidding firms generally face negative returns from acquisitions (King et. al., 2004). On the other hand, targets gained a mean abnormal return of 17.8% and a median return of 11.8% over a 3-day window and a mean return of 22.0% with a median of 18.1% over a 5-day window. As expected, on average the target shareholders gain significantly when being acquired.

The correlations in Table 3 provide a preview of the results presented in the paper. Each cell of the table contains the correlation coefficient along with its statistical significance. The correlations suggest that family firms have a greater fraction of related mergers (.09), and pay cash for mergers with greater frequency than stock (.07). Moreover, family-controlled

Table 2: Summary Statistics**Panel A: Sample Firms in Firm Years**

Variable	Mean	Median	Std. Dev.	Minimum	Maximum	N
Family-controlled firm (=1)	0.213					8,213
Nonfamily-controlled firm (=0)	0.717					8,213
Number of mergers per firm-year	0.433	0.00	0.930	0.00	23.00	8,213
Firm's Size quartile	1.501	2.00	1.117	0.00	3.00	8,213

Panel A contains information for sample firm-years for 1992 to 2006.

Panel B: Details of the Merger Sample

Variable	Mean	Median	Std. Dev.	Minimum	Maximum	N
Acquirer's market size (\$ mil)	26,865	8,231	54,575	23	602,433	3,558
Transaction Value or target's market cap (\$ mil)	948	160	4,014	10	85,280	3,558
Relative size	9.35%	1.94%	36.1%	0.00%	1222.9%	3,558
Cash mergers	48.4%	0	50%	0	1	2,589
Stock mergers	27.9%	0	44.9%	0	1	2,589
Related mergers	17.1%	0	37.7%	0	1	1,030
Bidder Return CAR (-1,0)	-0.20%	-0.14%	3.91%	-23.7%	29.3%	3,550
Target Return CAR (-1,0)	17.8%	11.8%	23.9%	-23.7%	259.5%	1,018
Bidder Return CAR (-1,+3)	-0.12%	0.01%	5.85%	-58.4%	47.8%	3,550
Target Return CAR (-1,+3)	22.0%	18.1%	25.1%	-38.6%	262.9%	1,018

Panel B contains information for mergers with a transaction value or target's market cap in excess of \$10 million. Differences in sample size are due to data availability. Data regarding target firms are not usually available.

Table 3: Correlations for the Mergers Sample

Variable	Relative Size	Percent Cash	Target Value	Relatedness	Bidder Return CAR (-1,0)	Bidder Return CAR (-1,+3)	Target Return CAR (-1,0)	Target Return CAR (-1,+3)
<i>Variable of Interest: Family-Controlled Firm</i>	-0.051**	0.072***	-0.061**	0.091***	0.039**	0.037**	0.032	0.045
Relative size		-0.116***	0.335***	0.063**	-0.074***	-0.003	-0.086***	-0.123***
Percent cash			-0.174***	-0.062**	0.136***	0.134***	0.201**	0.259***
Target Value				0.0869***	-0.124***	-0.121***	-0.091***	-0.133***
Related mergers					-0.048	-0.035	-0.039	-0.043
Bidder Return CAR (-1,0)						0.669***	-0.006	0.046
Bidder Return CAR (-1,+3)							0.058*	0.127***
Target Return CAR (-1,0)								0.845***

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$.

firms acquire smaller targets (-0.06). The bidder returns are significantly larger for acquisitions by family firms (0.04), but the target returns are not significantly different between family and nonfamily firms.

The hypotheses are tested by comparing family-controlled firms with non-family firms by conducting two kinds of tests: i) univariate difference in means test for the variables of interest for the two samples; ii) multivariate regression framework using size and industry as control variables to test the proposed relationships. The number of observations in each regression is equal to the number of acquisitions made by the sample firms and the coefficient on the indicator variable (1 for family-firm and 0 otherwise) and its significance allows us to evaluate the hypotheses. Both OLS and negative binomial regression approaches are used to estimate the models to predict the number of firms acquired by family firms versus nonfamily firms. Negative binomial regression is used to estimate count dependent variable models when the poisson estimation is inappropriate due to overdispersion (Greene, 1991). I find that results are similar using the two methods. Similarly to check robustness of results, I conducted analyses using both 1 digit and 2 digit SIC codes as a control variable for industry and found that results did not vary. In addition the dependent variable for firm performance was estimated using both equal-weighted and value-weighted market returns and no difference was found.

VI.1A Testing and Results for Hypothesis 1a:

H1a: Family firms will acquire fewer firms than nonfamily firms, on average, ceteris paribus.

In order to test hypothesis 1a that family firms will make fewer acquisitions than non-family firms I compared the number of mergers per family-controlled firm-year with the number

of mergers per non-family controlled firm-year. Univariate results are presented in Table 4, Panel A and the regression results are presented in Table 4, Panel B.

Table 4, Panel A contains the results for the complete sample of 1,753 family-controlled firm-years and 5,887 non-family firm-years. Mergers are divided into public targets and all targets. The average number of mergers per firm-year for family-controlled firms is 0.127 compared with 0.139 for non-family firms. Though the family-controlled firms acquire fewer publicly traded targets consistent with hypothesis 1a, the difference is not statistically different. On other hand, they acquire more privately held targets making the total of all acquisitions significantly greater for family firms than for nonfamily firms. I believe that the family firms' decision to acquire a larger number of privately held targets is due to the likelihood of procuring a better deal on account of limited liquidity and concentrated ownership in privately held firms. On the whole though, family-controlled firms acquire more firms than non family firms, which is inconsistent with the rationale for hypothesis 1a. The result is robust to subsamples of industry groups and size quartiles, and confirms that the overall result is not caused by a single industry or a single size quartile factor.

The regression results are presented in Table 4, Panel B. The variable of interest is the indicator variable for family-controlled firms. Consistent with the results in Table 4, Panel A, the coefficient on *FF* is negative but not statistically significant in all four models. Since the number of mergers is a count variable, in addition to the OLS regressions, results are presented for negative binomial regression. Both regression results are similar with the coefficient on *FF* being insignificantly negative for all four models. Thus, I do not find support for hypothesis 1a for my sample of family and non family firms.

Table 4: Number of Firms Acquired

Testing Hypothesis 1a: *Family-controlled firms will acquire fewer firms than nonfamily firms, on average, ceteris paribus*

Panel A: Univariate Test: All targets (value > \$10m)

Family-controlled Firm – Years	Target	Number of mergers	Average Number of mergers	Nonfamily Firm – Years	Number of mergers	Average Number of mergers	Difference between Family and Nonfamily firms	p-value
1,753	All	828	0.472	5,887	2,454	0.417	0.055**	0.03
1,753	Public	223	0.127	5,887	821	0.139	-0.012	0.30

Panel B: OLS Regression Models for publicly traded targets only

Dependent Variable: Number of mergers per year	<u>OLS Regressions</u>				<u>Negative Binomial Regressions</u>				
	Models	1	2	3	4	1	2	3	4
Constant		0.139***	0.226***	1.000***	0.122***	-1.970***	-1.484***	0.000	-2.109***
Hypothesized Effect									
Family-controlled firm		-0.012	-0.001	-0.012	-0.010	-0.092	-0.015	-0.087	-0.067
Controls:									
<i>Size Quartiles (SizeQ)</i>			√				√		
<i>1-digit Industry Dummies (Ind)</i>				√				√	
<i>SizeQ × Ind (Intersection term)</i>					√				√
Adj R ² / Log likelihood		0.00	0.02	0.02	0.04	-3021.89	-2925.36	-2952.64	-2855.51
Number of Observations		7,640	7,640	7,640	7,640	7,640	7,640	7,640	7,640

Only mergers where the transaction value exceeds \$10 million are considered. Transaction value is the target's market capitalization. If the market cap is unavailable, the transaction value reported by SDC Platinum is taken.

Both the ordinary least squares regression results and the negative binomial regressions are reported to better enable interpretation of the current results. The results are not sensitive to methods and are consistent for both random effects modeling and pooled data analysis.

Number of firm years = 7,640. *** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$.

VI.1B Testing and Results for Hypothesis 1b and Hypothesis 1c:

H1b: Family firms will make smaller acquisitions than nonfamily firms, on average, ceteris paribus.

H1c: Family firms will complete acquisitions in a shorter time period than nonfamily firms, on average, ceteris paribus

Hypotheses 1b and 1c are tested by comparing the sizes of firms being acquired by family-controlled firms and non-family firms, and by comparing the completion times. Firm size is proxied by the market capitalization. Where market capitalization is not available, I use the transaction value reported by SDC Platinum. Since market capitalization has a very wide range, from \$10 million to more than \$85 billion in this study, I use the natural log of market capitalization instead of its absolute value to dampen the variation. The results in Table 5 show that there are a total of 2,096 target firms including 800 publicly traded firms.

The univariate analysis in Table 5, Panel A depicts that the targets of family-controlled firms are statistically significantly smaller than the targets of family firms. In dollar terms, converted from log of target size numbers, the average size of targets of family-controlled firms is \$286 million, whereas it is \$362 million for non-family firms.³ The average size of public targets is \$589 million for family-controlled firms and \$767 million for nonfamily-controlled firms.

Table 5, Panel B, shows that the average size of the target firms acquired by family-controlled firms is smaller than the average size of the target firms acquired by non-family firms. This is due to the fact that family firms acquire more privately held firms, a result obtained from

³ Mean of target size for acquisitions made by 501 family-controlled firm observations and for 1,595 non-family firm observations.

testing hypothesis 1a. This result holds for all control groups: size, industry and an interaction combination of industry and size, though not statistically significant for size-related controls. The difference is economically important; the targets of non-family firms are approximately 25% larger than those of family-controlled firms.

Table 6 presents results for the relative size of the acquisitions. The relative size of targets of family-controlled firms is only 10%, compared to 16.1% for nonfamily-controlled firms. When only publicly traded target firms are considered, the relative size is 16.0% for family-controlled firms and 25.1% for nonfamily-controlled firms. In both cases, the relative sizes are significantly smaller for firms acquired by family-controlled firms than for non-family controlled firms. The regression results presented in Panel B of Table 6 bear out similar results.

The time to completion is the number of days between announcement and completion of the merger. Table 7 reports results for 3,246 mergers for whom completion information is available. The number of days for completion of acquisitions made by family-controlled firms is 63.9 days, which is much shorter than the 92.9 days required by nonfamily-controlled firms. Similarly, family-controlled firms require 32.5 fewer days than nonfamily-controlled firms for consummating a merger. These results are supported by regression analysis where the family-controlled firms need 18 to 29 fewer days for completion than nonfamily-controlled firms.

Table 5: Size of target firms

Testing Hypothesis 1b: *Family firms will make smaller and quicker acquisitions than nonfamily firms.*

Panel A: Univariate Test

	Acquisitions by family-controlled firms	Log of Target size	Acquisitions by nonfamily firms	Log of Target size	Difference	p-value
Targets	501	5.657	1,595	5.894	-0.237***	0.00
Public targets	161	6.379	639	6.643	-0.264*	0.06

All targets are larger than \$10 million in transaction value and have a relative size of at least 0.01.

Panel B: OLS Regression Models

Dependent Variable: Log of Target Size	Models	1	2	3	4
Constant		5.894***	7.013***	5.854***	5.909***
<u>Hypothesized Effect</u>					
Family-controlled firm		-0.237***	-0.106	-0.124*	-0.074
<u>Controls:</u>					
Size Quartiles (<i>SizeQ</i>)			√		
1-digit Industry Dummies (<i>Ind</i>)				√	
<i>SizeQ</i> × <i>Ind</i> (<i>Intersection term</i>)					√
Adj R ²		0.00	0.27	0.05	0.27
Number of observations		2,096	2,096	2,096	2,096

Table 6: Relative Size of target firms

Testing Hypothesis 1b: *Family firms will make smaller acquisitions than nonfamily firms, on average, ceteris paribus.*

Panel A: Univariate Test

	Acquisitions by family-controlled firms	Relative size	Acquisitions by nonfamily firms	Relative size	Difference	p-value
Targets	501	0.100	1,595	0.161	-0.061***	0.01
Public targets	161	0.160	639	0.251	-0.091*	0.10

All targets are larger than \$10 million in transaction value and have a relative size of at least 0.01.

Panel B: OLS Regression Models

Dependent Variable: Relative Size	Models	1	2	3	4
Constant		0.161***	0.111***	0.164***	0.171***
<u>Hypothesized Effect</u>					
Family-controlled firm		-0.061***	-0.064***	-0.063**	-0.051**
<u>Controls:</u>					
Size Quartiles (<i>SizeQ</i>)			√		
1-digit Industry Dummies (<i>Ind</i>)				√	
<i>SizeQ</i> × <i>Ind</i> (<i>Intersection term</i>)					√
Adj R ²		0.00	0.01	0.01	0.02
Number of observations		2,096	2,096	2,096	2,096

Table 7: Time to Completion of Acquisition

Testing Hypothesis 1c: *Family firms on average will complete acquisitions in a shorter time period than nonfamily firms,*

Panel A: Univariate Test

	Acquisitions by family-controlled firms	Days to completion	Acquisitions by nonfamily firms	Days to completion	Difference	p-value
All Targets	820	63.9	2,426	92.9	-29.0***	0.00
Public Targets	222	106.7	817	138.7	-32.5***	0.00

Panel B: OLS Regression Models

Dependent Variable: Days to Completion for mergers	Models	1	2	3	4	5
Constant		92.90***	-9.50*	100.58***	34.23***	42.19***
<u>Hypothesized Effect</u>						
Family-controlled firm		-28.97***	-23.11***	-18.49***	-27.02***	-18.58***
<u>Controls:</u>						
<i>SizeQ × Ind (Intersection term)</i>				√		√
<i>Log of transaction value</i>			19.35***		15.67***	14.37***
<i>Mode of payment is cash</i>					-36.54***	-27.60***
Adj R ²		0.02	0.15	0.12	0.19	0.27
Number of observations		3,246	3,246	3,246	2,383	2,383

VI.1C Testing and Results Hypothesis 2:

H2: Family-controlled firms will pay cash more often than equity when compared to nonfamily firms, ceteris paribus.

Results regarding the method of payment are illustrated in Table 8. Table 8, Panel A shows that overall 46.9% of the acquisitions by family firms are made using cash only compared with 22.7% using stock, implying that cash mergers are 24.2% more frequently used than stock mergers. On the other hand, nonfamily-controlled firms use cash 42.5% of the time and stock 27.9% of the time, representing a difference of 14.6%. The use of cash compared with stock in family firms is significantly more prevalent than the incidence of cash vs. stock in nonfamily firms. This is consistent with previous results that find family firms acquire smaller firms. The results are generally supported when the sample is broken into industry groups or size quartiles.

The regression models estimated are similar to those for the previous hypotheses except that I use Relative Size (*RSize*) as an additional control variable, the logic being that a smaller size target firm is apt to be paid for by cash rather than stock. The results are depicted in Table 8, Panel B.

Consistent with hypothesis 2, the results in Table 8, Panel B reveal that family-controlled firms are less likely to acquire targets using stock than non-family firms and that family-controlled firms are more likely to use cash. The coefficient on *FF* is positive and statistically significantly different from zero in 3 out of 5 models and the difference between cash and stock acquisitions for family firms and nonfamily firms is 9.7%.

Besides statistical significance presented in the table, the results are also economically important. Table 8, Panel A shows that the fraction of targets that are acquired using cash is

greater than targets acquired using stock for both family and nonfamily firms but the difference is greater for family firms. As argued in the development of this hypothesis, use of cash exhibits greater confidence in the firm's decision and demonstrates that the stock of family-controlled firms is less likely to be overvalued. Yet this result has to be interpreted with some caution because decision-makers in family firms may be more willing to pay cash than stock, so as not to dilute their equity and thus maintain control in the firm

Table 8: Method of Payment

Hypothesis 2: *Family-controlled firms will pay cash more often than equity when compared to nonfamily firms, ceteris paribus*

Panel A: Univariate Tests

Acquisitions by family-controlled firms	Percent of cash mergers	Percent of stock mergers	Difference between cash and stock	Acquisitions by nonfamily firms	Percent of cash mergers	Percent of stock mergers	Difference between cash and stock	Difference	p-value
375	46.9%	22.7%	24.2%	1,267	42.5%	27.9%	14.6%	9.6%	0.03

Panel B: OLS Regression Models

Dependent Variable: Difference in % of cash and stock mergers	Models	1	2	3	4	5
Constant		0.146***	0.053	-0.053	-0.070	0.180***
<u>Hypothesized Effect</u>						
Difference in cash and stock mergers		0.097**	0.090*	-0.005	-0.015	0.084*
<u>Controls:</u>						
Size Quartiles (<i>SizeQ</i>)			√			
1-digit Industry Dummies (<i>Ind</i>)				√		
<i>SizeQ</i> × <i>Ind</i> (Intersection term)					√	
Relative Size						√
Adj R ²		0.00	0.02	0.09	0.10	0.02
Number of observations		1,642	1,642	1,642	1,642	1,64

VI.1D Testing and Results for Hypothesis 3:

H3: Family-controlled firms will make more related acquisitions than nonfamily firms, on average, ceteris paribus.

Table 9 evaluates hypothesis 3, which states that family-controlled firms will make more related acquisitions than non-family firms. Relatedness is defined as the target and bidding firm having the same 4-digit primary SIC code as reported by CRSP. This high level of relatedness, and resulting horizontal mergers are more likely to realize synergistic gains because they allow for easier integration and better resource utilization. The significance of differences of means between the number of related and unrelated mergers between family and nonfamily firms, and the results are presented in Table 9, Panel A. Family-controlled firms acquire related firms 23.3% of the time compared with 15.0% of the time for non-family firms. The frequencies of related acquisitions are statistically significantly different. Results for subgroups by size and industry are similar.

In Table 9, Panel B, it can be seen that the coefficient on the indicator for family-controlled firms is positive in all four regression estimates. The coefficient values suggest that family-controlled firms, on average, acquire about 6-8% more related firms than non-family firms. The coefficient is statistically significantly different from zero in all four models. Thus, estimates in Table 9, Panel B, suggest that family-controlled firms make significantly more related acquisitions than non-family firms, supporting hypothesis 3.

Table 9: Relatedness of Merging Firms

Hypothesis 3: *Family-controlled firms will make more related acquisitions than nonfamily firms, on average, ceteris paribus*

Panel A: Univariate Test

	Acquisitions by family-controlled firms	Percent of related mergers	Acquisitions by nonfamily firms	Percent of related mergers	Difference	p-value
All targets	202	23.3%	755	15.0%	8.3%	0.01
Relative Size >0.01	146	26.0%	589	17.7%	8.3%	0.02

Relatedness is measured by 4-digit SIC code. Transaction value is greater than \$10 value.

Panel B: OLS Regression Models

Dependent Variable: Relatedness of Merger	Models	1	2	3	4
Constant		0.150***	0.116***	0.166***	0.219***
<u>Hypothesized Effect</u>					
Family-controlled firm		0.083***	0.077***	0.058*	0.064***
<u>Controls:</u>					
Size Quartiles (<i>SizeQ</i>)			√		
1-digit Industry Dummies (<i>Ind</i>)				√	
<i>SizeQ</i> × <i>Ind</i> (<i>Intersection term</i>)					√
Adj R ²		0.01	0.01	0.04	0.04
Number of observations		957	957	957	957

VI.1E Testing and Results for Hypothesis 4:

H4: On average, the abnormal returns around merger announcements will be greater for family-controlled firms than for nonfamily firms, ceteris paribus.

In order to test hypothesis 4, I use standard event study methodology with merger announcement as the focal event. Following Brown and Warner (1985), abnormal returns are computed in a two step process as described in the methods section for testing hypothesis 4. Analyses are conducted using both equally-weighted and value-weighted returns, giving similar results.

The cumulative abnormal returns (CAR) for family-controlled firms and non-family firms are reported and compared in Table 10. Panel A contains the bidder abnormal returns for the three observation windows. The mean CAR for family-controlled firms is positive for the three periods whereas the mean CAR for non-family firms is negative for the three periods. Past work has found that the abnormal returns to bidder firms are generally negative. Therefore, the negative returns to non-family firms are not unusual. However, the positive returns to family-controlled firms are very encouraging and suggest that family-controlled firms may be adding value via their merger and acquisition strategy. This is an important result as it refines our understanding of the context in which mergers and acquisitions can deliver value to the acquiring firm (King et.al, 2004). Medians are also reported in addition to means because stock returns tend to be non-normal and to guard against the possibility that one or two returns are influential in the mean returns. From the last two columns, we can observe that the differences in means are always positive. Positive differences imply that CARs around merger announcements are larger for family-controlled firms when compared with non-family firms. The differences in returns are statistically significant and vary between 0.35% and 0.49% depending on length of observation window. This indicates that family-controlled firms earn

approximately 0.50% more than non-family firms around merger announcement using the longest observation window.

Table 10, Panel B contains the present regression estimates with CAR as the dependent variable. Results for the shortest observation window are reported although results for the other two observation periods are similar.

The intercepts in Table 10, Panel B capture the CAR around mergers to non-family firms, whereas the coefficients on FF represent the additional CAR earned by family-controlled firms relative to non-family firms. It can be seen that the intercept is always negative which is consistent with the results in Table 10, Panel A indicating that, on average, non-family firms lose value around merger announcements even after controlling for industry and size. On the other hand, the coefficients on FF are always positive ranging between 0.28% and 0.35%. All of the coefficients are statistically significant implying that family-controlled firms do make better acquisitions than nonfamily firms thus supporting hypothesis 4.

The excess returns for the family-controlled firms are economically important. The average market cap of the 3,558 bidders is \$26.9 billion. A gain of 0.50% means that family-controlled firms are able to realize an additional value of \$133 million with each merger. Thus the abnormal returns are both statistically and economically significant and important.

Table 10: Acquirer's Abnormal Returns

Testing Hypothesis 4: *On average, abnormal returns around merger announcements will be greater for family-controlled firms than for nonfamily firms, ceteris paribus*

Panel A: Univariate Tests

	Acquisitions by Family-controlled Firms	Mean Abnormal Return – Family Firms	Median Abnormal Return – Family Firms	Acquisitions by Nonfamily-controlled Firms	Mean Abnormal Return – Nonfamily Firms	Median Abnormal Return – Nonfamily Firms	Difference in Means	p-value
CAR (-1, 0)	821	0.08%	-0.07%	2,425	-0.27%	-0.19%	0.35%	0.03
CAR (-1, +1)	821	0.18%	0.21%	2,425	-0.24%	-0.10%	0.42%	0.03
CAR (-1, +3)	821	0.28%	0.36%	2,425	-0.21%	-0.05%	0.49%	0.03

Panel B: OLS Regression Models

Dependent Variable: Bidder CAR (-1, 0)	Models	1	2	3	4
Constant		-0.266***	-0.323***	-0.270	-0.433
<u>Hypothesized Effect</u>					
Family-controlled firm		0.349**	0.353***	0.282*	0.308*
<u>Controls:</u>					
Size Quartiles (<i>SizeQ</i>)			√		
1-digit Industry Dummies (<i>Ind</i>)				√	
<i>SizeQ</i> × <i>Ind</i> (Intersection term)					√
Adj R ²		0.01	0.01	0.01	0.01
Number of Observations		3,246	3,246	3,246	3,246

VI.2 CEO COMPENSATION STRATEGY OF FAMILY-CONTROLLED FIRMS

Summary statistics and firm characteristics of the compensation sample of 6,365 firm-years described in section V.4 are presented in Tables 11 and 12. It can be seen from Table 11 that there are 1,391 family-controlled firm-years and 4,456 nonfamily-controlled firm-years. The remaining 518 firm-years could not be classified either as family firms or nonfamily firms. For example, Intel Corp is not categorized as a family firm because Andy Grove (when he was the CEO) did not own more than 1% of the firm. However, it cannot be categorized as a nonfamily firm due to the strong influence of Andy Grove as its CEO and cofounder. Ownership by the board of directors falls into one of the following categories, dummy variables coded as: Own0_1, Own1_2, Own2_10, Own10_25, and Own25_100. Boards of 717 firm-years own more than 10% of the stock. There are relatively few firms with dual class stock comprising only 399 firm-years. Dual class stocks are most common among media companies such as Washington Post, New York Times, and Dow Jones.

Summary statistics for the compensation sample are presented in Table 12. Almost all compensation variables and some other variables have extreme values. For example, some CEOs choose to take only \$1 as salary whereas others may take home several million dollars in salary. Similarly, direct compensation can range from less than \$100,000 to several hundred million dollars. CEOs can lose or gain several billion dollars in indirect compensation due to market fluctuations. In order to take care of the large variability in the data, I winsorize the top 5% and the bottom 5% of the value of observations for salary, bonus, direct compensation, indirect compensation, percent change in direct compensation, and change in market value. The practice of modifying outliers in the data by making them no more extreme than the most extreme data that one believes to be relevant or accurately measured is called winsorizing.

Winsorising data is one way to calculate a modified mean. Winsorised estimators are usually more robust to outliers than their unwinsorised counterparts. Another method of reducing large variations in data is using logarithmic transformations- however interpreting coefficients that are log transformed is sometimes difficult and not intuitive. Therefore while I check some of the results with log transformed data, I report only winsorised results. Similar results are obtained by both forms of data transformations.

The summary statistics reveal data series for salary, bonus, stock based pay and direct compensation. The means and medians are not very different and the standard deviation is usually not more than the mean. Indirect compensation, however, has a large variation even after winsorizing. The stock return varies from -99.1% to 707.4%, whereas the return on assets varies between -3.30% and 15.00%, in part due to winsorizing.

The correlations in Table 13 provide a preview of the results presented later. Each cell of the table contains the correlation coefficient along with its statistical significance. It is interesting to note that salaries are lower for CEOs in family firms, and are lower for CEOs who own a stake in the firm. Consistent with prior work, salaries and other forms of compensation are higher for larger firms (Tosi, et al, 2000). Base salaries are unrelated to firm performance, whereas indirect compensation depends strongly on firm performance measured by stock return. As predicted by agency theory, CEO ownership is positively related with performance.

Table 11: Sample Firm characteristics for CEO compensation sample

Variable	Number of Firm Years (0)	Number of Firm Years Yes (1)	N
Family firm	4,456	1,391	5,847
Neither family nor nonfamily	5,847	518	6,365
Own (<1%)	2,412	3,953	6,365
Own (=>1%, <2%)	5,684	681	6,365
Own (=>2%, <10%)	5,351	1,014	6,365
Own (=>10%, <25%)	5,912	453	6,365
Own (=>25%)	6,101	264	6,365
Dual Class	5,751	399	6,150

Note: 5,847 firm years could be classified as family or nonfamily firm years. The remaining 518 firm years could neither be classified as family nor as nonfamily firm years.

Table 12: Summary Statistics for the CEO Compensation Sample

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	N
Salary (\$ 000)	982	975	1,609	439	301	6,365
Bonus (\$ 000)	1,135	838	4,082	0	1,112	6,365
Stock based pay (\$ 000)	5,180	3,000	24,984	0	5,858	6,365
Direct Compensation (\$ 000)	7,302	5,084	25,946	715	6,506	6,365
Indirect Compensation (\$ 000)	8,354	639	102,185	-22,220	25,991	6,322
Firm size (\$ mil)	17,278	7,389	538,095	62	34,448	6,323
Assets (\$ mil)	31,119	7,792	1,884,318	113	96,758	6,365
Return on Assets	5.11%	4.51%	15.00%	-3.30%	4.71%	6,365
12-month stock return	15.7%	11.6%	707.4%	-99.1%	42.1%	6,348
Firm risk	56.5%	54.4%	155.5%	33.8%	12.0%	6,266
CEO ownership	1.8%	0%	74.4%	0%	5.8%	5,270
Pay-performance sensitivity						

Note: Salary, bonus, direct compensation, indirect compensation, and return on assets have been winsorized at the 5th and 95th percentiles.

Table 13: Correlations for CEO Compensation

Variable	Salary	Indirect Compensation	Firm Size	12-month stock return	Return on Assets	CEO Ownership	Dual voting stock
<i>Variable of Interest:</i>							
<i>Family-Controlled Firm</i>	-0.103 ^{***}	0.291 ^{***}	-0.047 ^{***}	0.027 ^{**}	0.094 ^{***}	0.421 ^{***}	0.208 ^{***}
Salary (\$ 000)		0.052 ^{***}	0.479 ^{***}	-0.004	0.024 [*]	-0.027 ^{**}	0.018
Indirect Compensation (\$ mil)			0.190 ^{***}	0.436 ^{***}	0.150 ^{***}	0.364 ^{***}	0.090 ^{***}
Firm size				0.173 ^{***}	0.245 ^{***}	-0.006	0.003
12-month stock return					0.148 ^{***}	0.028 ^{**}	-0.003
Return on Assets						0.058 ^{***}	0.028 ^{***}
CEO Ownership							0.290 ^{***}
Dual voting stock							

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$.

General Remarks on Hypothesis Testing

As with the mergers sample, compensation hypotheses are tested by comparing family-controlled firms with non-family firms by conducting two kinds of tests. First, I use a t-test to measure the differences in the variables of interest for the two samples. In the second approach I rely on a regression framework using size, industry, and firm fixed effects to test the proposed relationships. General linear models (GLM) are used for the analyses in order to control for firm and time/year fixed effects.

Several control variables are entered in the regression analysis. The first control is firm size based on the meta analysis of determinants of CEO pay by Tosi, et al. (2000) who find that firm size is the one consistent factor in CEO pay. Firm size is measured by log of market capitalization as of the last trading day of the previous year. Other control variables include the Board ownership dummy coded variables because greater board ownership is likely to result in more effective monitoring of the CEO. In addition, I control for industry sector and time/year due to the longitudinal nature of the data. Finally, I also add fixed effects for firms because firm characteristics are assumed to be time-invariant. However, the introduction of firm fixed effects increases the R^2 substantially. In order to give the reader information about the effect size and goodness of fit of the regression model, I report R^2 both with and without firm fixed effects.

Though the sample consists of 6,365 firm-years as shown in Tables 11 and 12, the number of observations used in the tests is slightly smaller. First, 518 firm-years are excluded because it was not possible to categorize the firms either as family firms or nonfamily firms. That reduces the sample size to 5,847 firm-years. In most univariate tests, I use a full sample of 5,847 firm-years including 1,391 firm-years where the firms are family-controlled. The number of observations is further reduced due to restricted availability of ownership information, firm

risk, or details of indirect compensation. As a result, most regression models use 5,718 observations including 1,347 family-firm-years for estimation of parameters. Following Jensen and Murphy (1990), the sample size falls further when lagged values of changes in firm value are used for estimation of pay-performance sensitivity.

Since the data are longitudinal, in nature, repeated observations are used for the same firm. While firm and year fixed effects are used as control variables, autocorrelation among residuals in a regression may violate one of the assumptions of the least squares method, leading to underestimation of standard errors giving higher associated t-stats. The estimated coefficients, though, remain unbiased. Since the data are pooled, and the hypotheses are tested using static cross-sectional relationships rather than a trend analysis, autocorrelation is not a major factor in the regression analysis. However Durbin-Watson statistics are evaluated and lagged value of the dependent variable is used to check for robustness of the significance values. I find that statistical and economic significance of regression coefficients is not affected.

VI.2A Testing and Results for Hypothesis 5

H5a: Salary and direct compensation of family CEOs in family firms will be lower than salary and direct compensation of CEOs in nonfamily firms, on average, ceteris paribus.

H5b: Salary and direct compensation of professional CEOs in family firms will be lower than salary and direct compensation of CEOs in nonfamily firms, but higher than salary and direct compensation of family CEOs in family firms, on average, ceteris paribus.

Salary, and direct compensation for family firms and nonfamily firms are compared in Table 14, Panel A. Salary refers to the base compensation that a CEO receives, bonus is based on performance but does not include stock based pay. Direct compensation includes salary,

bonus, and any stock or option based stock based pay that the firm provides to the CEO. I also include indirect compensation later, which is the change in value of the stock holdings of the CEO.

Salary is significantly lower for CEOs in family firms than nonfamily firms; on average, a family firm CEO gets \$73,000 less in salary compared with a nonfamily firm CEO. However, direct compensation is higher in family firms but the difference is not significant statistically.

Within family firms, the compensation of family CEOs and professional CEOs is compared in the middle section of Panel A of Table 14. The differences in salary and bonus are small and economically insignificant. Though the difference in direct compensation is greater, it is not statistically significant. Finally, a comparison of family CEOs and all professional CEOs (in family and nonfamily firms) suggests that family CEOs earn less than professional CEOs, though the direct compensation is not significantly different. While these univariate results suggest that family CEOs and professional CEOs are not paid differently, regression results tell a different story.

The results in Table 14, Panel B, with salary and direct compensation as the dependent variables, show that controlled for firm size, firm risk, ownership by Borad, firm fixed effects, industry, and time effects, CEOs of family firms earn \$70,100 less than CEOs of nonfamily firms. This result is similar to that in Table 14, Panel A. Furthermore, family CEOs earn \$97,200 less than professional CEOs. Together, a family CEO in a family firm will get \$167,200 less than a professional CEO in a nonfamily firm. The difference is economically and statistically significant. The other results in the regressions are consistent with our prior expectations: CEOs of larger firms and of firms that suffer greater risk will earn more than CEOs

of other firms. The R^2 of 78% with firm fixed effects and 26% without considering firm fixed effects are both quite large, and suggest that the regression model has done an effective job of capturing many of the factors that determine compensation.

The parameters estimated for the regression model with direct compensation tell the same story as the salary regressions. CEOs of family firms get \$989,000 less than CEOs of nonfamily firms, and family CEOs get \$1,538,000 less than professional CEOs. The statistical and economic significance of differences in compensation is quite different from the univariate test results in Panel A of Table 14. Perhaps, the lack of control variables in the univariate tests caused the compensation differences to be statistically nonsignificant.

Table 14: Salary and Direct Compensation of CEOs

Testing Hypothesis 5a: *Salary and direct compensation of family CEOs in family firms will be lower than salary and direct compensation of CEOs in nonfamily firms, on average, ceteris paribus.*

5b. *Salary and direct compensation of professional CEOs in family firms will be less than salary and direct compensation of CEOs in nonfamily firms, but greater than salary and direct compensation of family CEOs, ceteris paribus.*

Panel A: Univariate Tests

	Mean CEO Compensation in family firms	Mean CEO Compensation in nonfamily firms	Difference in means	Mean Compensation of family CEOs	Mean Compensation of Professional CEOs in family firms	Difference in means	Mean Compensation of family CEOs	Mean Compensation of Professional CEOs in both types of firms	Difference in Means
Salary (\$ 000)	928	1,001	-73***	929	926	3	929	993	-64***
Direct Compensation \$ 000	7,516	7,256	260	7,578	7,418	160	7,578	7,274	304
Number of Observations	1,391	4,456	5,847	858	533	1391	858	4,989	5,847

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$.

Table 14 Panel B: Regression Models

Dependent Variable:	<u>Salary</u>				<u>Direct Compensation</u>			
	1	2	3	4	1	2	3	4
Sample type	Full sample	Full sample	Family firms only	Full sample	Full sample	Full sample	Family firms only	Full sample
Constant								
<u>Independent Variables</u>								
Family-controlled firm	-91.5***	--	--	-70.1***	-1327***	--	--	-989***
Family CEO	--	-112.3***	-38.7***	-97.2***	--	-1751***	-996*	-1538***
<u>Controls:</u>								
<i>Log of Market Cap</i>	+++	+++	+++	+++	+++	+++	+++	+++
<i>Firm Risk</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Ownership Dummies</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Firm fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Industry fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ² without firm effects	0.26	0.26	0.12	0.26	0.36	0.36	0.27	0.36
Adj R ² (full model)	0.78	0.78	0.84	0.78	0.63	0.62	0.65	0.63
Number of Observations	5,718	5,718	1,347	5,718	5,718	5,718	1,347	5,718

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$

+++ means a positive coefficient and significant at .01 level.

Ownership dummies include Own0_1, Own1_2, Own2_10, Own10_25, and Own25_100. However, Own0_1 is not included when the family firms only sample is employed because Own0_1 is zero for all family firms by definition.

The results in Table 14 are consistent with hypotheses 5a and 5b suggesting that family CEOs in family firms get less than professional CEOs in family firms, and that professional CEOs in family firms earn lower compensation than professional CEOs in nonfamily firms.

VI.2B Testing and Results for Hypothesis 6

H6: Annual change in salary and direct compensation of family CEOs will be lower than that for professional CEOs, ceteris paribus.

Annual change in direct compensation is measured as the percent change from one year to the next based on ExecuComp data. In case there is a change in the CEO for a firm then that particular data point is dropped from the sample because a new CEO may join the firm at terms that are substantially different from the terms of the previous CEO.

The univariate tests in Table 15, Panel A show that the average changes in salary and direct compensation for CEOs in family firms and for family CEOs are negative, whereas the changes in salary and direct compensation for professional CEOs whether in family firms or in nonfamily firms is consistently positive. The differences in salary changes are statistically significant. However, the differences in direct compensation changes though economically large are not statistically significant. The statistical nonsignificance for direct compensation is caused due to the large dispersion of values causing the standard errors to be very large. On the other hand, since salaries do not vary as much, the much smaller differences in salary changes are statistically significant.

I estimate regression model (5.28) for evaluating hypothesis 6 with the change in pay (salary or direct compensation) as the dependent variable. The sample size is smaller for testing

this hypothesis because data on prior year compensation estimates must be available and the same person should have been the CEO in the previous year. Regression results for model 1 for change in salary in Table 15 Panel B, reveal that there is no significant difference in salary changes for CEOs in family firms and nonfamily firms. The CEOs in family firms get a raise of \$2,400 less than CEOs in nonfamily firms, and the difference is neither economically nor statistically important. This finding is validated in model 4 for salary changes. Similar results are also apparent for changes in direct compensation (models 1 and 4) although the differences are larger.

Interestingly and consistent with hypothesis 6, I find that salary increases for family CEOs are significantly and economically smaller than salary increases for professional CEOs in both types of firms. Irrespective of whether family CEOs are compared with professional CEOs in family firms or compared with CEOs in nonfamily firms, the family CEOs get a salary increase that is \$125,000 to \$133,000 less than that received by professional CEOs. Parameter estimates for change in direct compensation also show that family CEOs receive considerably less in terms of increases in direct compensation: on average, they get \$1.5 to \$1.9 million less in increases. The differences are economically important. They are also statistically significant except for the parameter estimated within family firms again probably due to high standard errors.

Overall, I find empirical support for hypothesis 6 which states that the increase in salary and the increase in direct compensation is significantly less for family CEOs when compared with professional CEOs in both family and nonfamily firms.

Table 15: Annual Change in CEO Compensation

Testing Hypothesis 6: *Annual change in salary and direct compensation of family CEOs will be lower than that for professional CEOs, ceteris paribus.*

Panel A: Univariate Tests

	Mean CEO Compensation in family firms	Mean CEO Compensation in nonfamily firms	Diff. in means	Mean Compensation of family CEOs	Mean Compensation of Professional CEOs in family firms	Diff. in means	Mean Compensation of family CEOs	Mean Compensation of professional CEOs	Difference in Means
Change in Salary	-9.33	2.97	-12.30*	-20.12	9.77	-29.89**	-20.12	3.68	-23.80***
Change in Direct Compensation	-12.47	22.14	-34.62	-208.94	335.24	-544.18	-208.94	54.71	-263.65
Number of Observations	1,083	3,368	4,451	692	391	1,083	692	3,759	4,451

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$.

Table 15 Panel B: Regression Models

Dependent Variable:	<u>Change in Salary</u>				<u>Change in Direct Compensation</u>			
	1	2	3	4	1	2	3	4
Sample type	Full sample	Full sample	Family firms only	Full sample	Full sample	Full sample	Family firms only	Full sample
Constant								
<u>Independent Variables</u>								
Family-controlled firm	-2.4	--	--	27.4	-35.6	--	--	399.4
Family CEO	--	-125.8 ^{***}	-126.6 ^{***}	-132.8 ^{***}	--	-1837.0 ^{**}	-1647.0	-1939.3 ^{**}
<u>Controls:</u>								
<i>Ownership Dummies</i>	√	√	√	√	√	√	√	√
<i>Firm fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Industry fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ² without firm effects	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Adj R ² (full model)	0.17	0.17	0.27	0.17	0.10	0.10	0.14	0.10
Number of Observations	4,451	4,451	1,083	4,451	4,451	4,451	1,083	4,451

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$

+++ means a positive coefficient and significant at .01 level.

Ownership dummies include Own0_1, Own1_2, Own2_10, Own10_25, and Own25_100. However, Own0_1 is not included when the family firms only sample is employed because Own0_1 is zero for all family firms.

VI.2C Testing and Results for Hypothesis 7

H7a. Family firm CEOs (both family CEOs and professional CEOs) will get lower stock based pay and a lower proportion of their direct compensation in stock-based pay than CEOs in nonfamily firms, ceteris paribus.

Panel A of Table 16 analyzes the ratio of stock based pay to direct compensation for family CEOs, and professional CEOs in family and nonfamily firms.

The first row of the table reveals that the total amount of stock based pay is larger for family firms and family CEOs than professional CEOs. The difference is economically and statistically significant. Though this result seems at odds with the hypothesis, the regression results provide strong support for the hypothesis once other factors affecting compensation have been controlled for.

The second row of Panel A shows that the proportion of stock based pay to direct compensation is always smaller for family CEOs and CEOs in family firms than for other CEOs. The difference in stock based pay ranges from 1% to 5%. The differences are both economically and statistically significant.

The results in Panel B of Table 16 suggest that, family firm CEOs and family CEOs get less stock based pay than professional CEOs. Taking both of them together, a family CEO may get almost \$1.2 million ($829.0+1360.3$) less in stock based pay than a CEO in a nonfamily firm. The difference is both large and statistically significant.

Regarding stock based pay as a proportion of direct compensation, there is no significant difference between CEOs of family firms and nonfamily firms. However, family CEOs receive considerably less in stock based pay when compared with both professional CEOs in family

firms and CEOs of nonfamily firms. The difference ranges around 13-14% of direct compensation, which is large and important.

Overall, I find evidence that is consistent with hypothesis 7a, which states that family-firm CEOs and family CEOs earn less stock-based pay than CEOs of nonfamily firms, providing support for the rationale for hypothesis 7a. Firstly, the controlling family in the family firm does not want to dilute its stake in the firm by giving away stock or stock options to its CEOs. Secondly, family members are willing and able to monitor the CEO in the family firm effectively by virtue of their ownership and presence on the board so that the necessity of providing stock based pay is much less than for other firms. Thirdly, since it is likely that a substantial part of the family CEO's wealth is tied up in the firm, the goals of the management are well aligned with those of the shareholders necessitating less stock based pay.

H7b: Salary of family CEOs will be less volatile than salary of professional CEOs, ceteris paribus

Volatility of salary is estimated by the standard deviation of salary over the entire period for which the same person is the CEO of the firm with a minimum tenure of 5 years. The volatility of salary is compared for family CEOs with professional CEOs.

Univariate analysis in Panel A of Table 17 shows that the volatility of salary for family CEOs is greater than the volatility of salary for professional CEOs. Control variables and fixed effects are inserted in the analysis using regression model (5.30) and the results are presented in Panel B of Table 17. The parameter estimates show that family CEOs have significantly less volatile salary, which means that there is less variation in the salaries of family CEOs compared to that of salaries of professional CEOs. More specifically, variability of the salary of the family CEO is \$42,000 less than the salary variability of professional CEOs in family and non family

controlled firms and further the variability of salary of family CEOs is \$68,000 less than variability of salary of professional CEOs in family firms.

The regression results are consistent with hypothesis 7b and the coefficient β_1 is negative as expected. Since there is likely to be less turnover among family CEOs, their compensation will be more stable. Building on earlier results, I find that family CEOs get paid less, have smaller pay increases, but their salaries are more predictable.

Table 16: Amount and Proportion of stock-based pay

Testing Hypothesis 7a: *Family firm CEOs (both family CEOs and professional CEOs) will get lower stock based pay and a lower proportion of their direct compensation in stock-based pay than CEOs in nonfamily firms, ceteris paribus.*

Panel A: Univariate Tests

	CEOs in family firms	CEOs in nonfamily firms	Diff. in means	Family CEOs	Professional CEOs in family firms	Diff. in means	Family CEOs	Professional CEOs in family and nonfamily firms	Difference in Means
Stock based pay (\$ 000)	5536.4	5078.2	458.2**	5600.8	5433.2	167.6	5600.8	5116.1	484.7**
Ratio of Stock based pay to Direct Compensation	55.85%	57.08%	-1.23%*	53.87%	59.04%	-5.17***	53.87%	57.29%	-3.42***
Number of Observations	1,391	4,456	5,847	858	533	1391	858	4,989	5,847

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$.

Table 16 Panel B: Regression Models

Dependent Variable:	<u>Stock based pay</u>				<u>Ratio of Stock based pay to Direct Compensation</u>			
	1	2	3	4	1	2	3	4
Sample type	Full sample	Full sample	Family firms only	Full sample	Full sample	Full sample	Family firms only	Full sample
Constant								
<u>Independent Variables</u>								
Family-controlled firm	-1128.3***	--	--	-829.0**	-1.07	--	--	2.00
Family CEO	--	-1539.0***	-927.7*	-1360.3***	--	-13.54%***	-14.17%***	-13.96%***
<u>Controls:</u>								
<i>Log of Market Cap</i>	+++	+++	+++	+++	+++	+++	+++	+++
<i>Firm Risk</i>	+++	+++	0	+++	+++	+++	+++	+++
<i>Ownership Dummies</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Firm fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Industry fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ² without firm effects	0.26	0.26	0.12	0.26	0.36	0.36	0.27	0.36
Adj R ² (full model)	0.78	0.78	0.84	0.78	0.63	0.62	0.65	0.63
Number of Observations	5,718	5,718	1,347	5,718	5,718	5,718	1,347	5,718

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$

+++ means a positive coefficient and significant at .01 level.

Ownership dummies include Own0_1, Own1_2, Own2_10, Own10_25, and Own25_100. However, Own0_1 is not included when the family firms only sample is employed because Own0_1 is zero for all family firms.

Table 17: Volatility of CEO compensation

Testing Hypothesis 7b: *Salary of family CEOs will be less volatile than salary of professional CEOs, ceteris paribus*

Panel A: Univariate Test

Number of firm-years for family CEOs	Std. dev. of salary of family CEOs	Number of firm-years for Professional CEOs	Std. dev. of salary of Professional CEOs in both types of firms	Difference in means	p-value
347	108.1	1,346	96.6	11.5	0.02

Panel B: OLS Regression Models

Dependent Variable:		Full Sample	Family Firms
Standard deviation of salary	Models	1	2

Independent Variables

Family CEO	-42.0**	-68.0***
------------	---------	----------

Controls:

<i>Log of Market Capitalization</i>	√	√
<i>Firm risk</i>	√	√
<i>Fixed effects: industry, year, firm</i>	√	√
Adj R ² without firm effects	0.08	0.17
Adj R ² with firm effects	0.90	0.96
Number of observations	1,650	477

VI.2D Testing and Results for Hypothesis 8

H8: Professional CEOs in family firms with dual class stock will receive higher stock based pay and a higher proportion of their direct compensation in stock-based pay compared with CEOs in family firms without dual class stock, ceteris paribus.

Testing of hypothesis 8 is conducted by creating two samples, one with dual class stock family firms and the other without dual class stock family firms. Panel A of Table 18 shows that the stock based pay and the fraction of total compensation paid as stock-based pay of professional CEOs in dual stock family firms is larger than for professional CEOs in non-dual stock family firms. Panel A also reports that family CEOs in nondual stock firms earn higher stock based pay and a larger fraction in stock based pay than professional CEOs in dual stock firms. The dollar difference however is not statistically significant and the difference in proportion of stock based pay to direct compensation for professional CEOs in family firms with dual class stock compared to non-dual class stock family firms is significant only at $p < .10$, Panel B of Table 18 has the regression results with dual class dummy as the independent variable. Controlled for factors affecting compensation, I find that professional CEOs in dual class stock family controlled companies earn significantly more in stock based pay (about \$1.65 million) and 7.5% more in stock based pay when compared with professional CEOs in non-dual stock family firms. The difference in percentage changes is however only weakly significant at $p < .10$

The results are consistent with hypothesis 8 which states that professional CEOs in dual class stock family firms will get higher stock based pay and a higher proportion of stock based pay than CEOs in non-dual class family firms. The logic behind this result flows from the main reason for creating dual class stock firms. Owners of dual class want to separate control from

cash flows, with the intent being on retaining control of the firm while selling rights to the firm's cash flows for raising external capital. The premium accorded to control in such firms is obviously high. So owners of these firms (family or other) would be willing to offer higher stock based pay to professional CEOs because they are not ceding voting rights. On the other hand, family CEOs in dual-class stock firms may not be interested in stock based pay because it is not accompanied by greater control or voting rights.

The difference in stock based pay between professional CEOs in dual stock firms and non dual stock firms is approximately \$1.65 million. Similarly as a fraction of direct compensation, professional CEOs in dual stock firms get 64.8% versus 59% in non-dual stock firms.

However, while the results of the regression analysis were supported for the dollar value difference, they were supported only modestly for the univariate tests and for the regression results for the difference in proportion of stock based pay to direct compensation. Therefore I consider that the sample data show only partial support for this hypothesis.

Table 18: Stock-based pay in dual class voting stock firms

Testing Hypothesis 8 *Professional CEOs in family firms with dual class stock will receive higher stock based pay and a higher proportion of their direct compensation in stock-based pay compared with CEOs in family firms without dual class stock, ceteris paribus.*

Panel A: Univariate Tests

	Professional CEOs in dual stock family firms	Professional CEOs in non-dual stock family firms	Difference in Means
Stock based pay (\$ 000)	6,206.5	5,419.8	786.7
Ratio of Stock based pay to Direct Compensation	64.8%	59.0%	5.8%*
Number of Observations	63	457	520

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$.

Table 18 Panel B: Regression Models

Dependent Variable	<u>Stock based pay</u>	<u>Ratio of Stock based pay to Direct Compensation</u>
Sample type	Professional CEOs in family firms	
Constant	-17859***	7.78%
<u>Independent Variables</u>		
Dual Class stock	1653.8***	7.50%*
<u>Controls:</u>		
<i>Log of Market Cap</i>	+++	+++
<i>Firm Risk</i>	+++	+++
<i>Ownership Dummies</i>	√	√
<i>Firm fixed effects</i>	No	No
<i>Year fixed effects</i>	Yes	Yes
<i>Industry fixed effects</i>	Yes	Yes
Adj R ²	0.21	0.08
Number of Observations	504	504

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$

+++ means a positive coefficient and significant at .01 level.

Ownership dummies include Own1_2, Own2_10, Own10_25, and Own25_100.

VI.2E Testing and Results for Hypothesis 9

H9: Stock based pay and direct compensation will be less sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.

The general approach to measuring pay-performance sensitivity follows Jensen and Murphy (1990). Since this hypothesis is designed to explore the relationship between pay and performance, there are no univariate tests for testing this hypothesis because univariate tests examine unconditional changes in a variable, and not relative changes.

The variables in this analysis are dollar values: dollar changes in compensation and dollar changes in firm value. Dollar changes in compensation are measured by change in direct compensation, and change in stock based pay. Direct compensation includes two forms of incentives: cash bonus and stock-based stock based pay. Though direct compensation also includes salary, the portion of salary in direct compensation is not large: it is 13% of direct compensation based on the mean and 19% based on the median. Again following prior work (Jensen and Murphy, 1990), dollar change in firm's value is measured as stock return times market capitalization of the firm at the beginning of the year.

Regression model in equation (5.32) is estimated for the two measures of change in compensation for four different subsamples: family CEOs, professional CEOs, family-controlled firms, and nonfamily-controlled firms. The control variables are firm size and change in firm risk in addition to fixed effects for firm, industry, and time. The results from the regression analysis are presented in Table 19.

Many interesting observations can be made from Table 19. First, the coefficients on change in market value are consistently positive and significant suggesting that performance does matter for changes in stock based pay and for changes in direct compensation. Second,

there is a substantial increase in pay for performance since Jensen and Murphy's (1990: Table 2 on page 234) work based on 1969-83 data. They found a change in direct compensation of 2-4 cents for every \$1,000 change in firm value, whereas my results show a change in compensation of 6-20 cents for every \$1,000 change in firm value. Third, unlike prior work, I find relatively little effect on compensation of change in firm value from previous year implying that the compensation is much more contemporaneous with performance.

Table 19 also illustrates that the pay for performance sensitivity is 11.6 cents per \$1,000 of direct compensation for professional CEOs, and 20.2 cents per \$1,000 of direct compensation for family CEOs. Similarly, professional CEOs receive 6.3 cents of stock based pay compared with 18.6 cents of stock based pay for family CEOs. Though there are large economic differences in pay-performance sensitivity for family and professional CEOs, those differences are not statistically significant. Just like for family CEOs, the pay for performance sensitivity for family firms is generally larger than for nonfamily firms, though the differences are not statistically significant.

Overall, there appears to be strong pay for performance sensitivity for this sample. However, I do not find that the direct compensation of family firms or family CEOs is less sensitive to performance than compensation for professional CEOs. When I consider indirect compensation in hypothesis 10, the results are dramatically different. Following Jensen and Murphy (1990) and others, pay-performance sensitivity is measured as the sum of the coefficients on change in market value and the lagged change in market value. I use this measure for testing hypothesis 11.

Table 19: Pay-performance sensitivity for direct compensation

Testing Hypothesis 9: *Stock based pay and direct compensation will be less sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.*

Dependent Variable:	<u>Change in Direct Compensation</u>				<u>Change in Stock Based Pay</u>			
Sample type	Family CEO = 0	Family CEO = 1	Family firm = 0	Family firm = 1	Family CEO = 0	Family CEO = 1	Family firm = 0	Family firm = 1
<u>Independent Variables</u>								
Change in market value (x10 ⁻³)	0.116 ^{***}	0.202 ^{***}	0.118 ^{***}	0.144 ^{***}	0.063 ^{**}	0.186 ^{**}	0.066 ^{**}	0.116 [*]
Lag of change in market value (x10 ⁻³)	0.004	0.032	0.006	0.016	0.013 [*]	0.038 [*]	0.015 [*]	0.021
<u>Controls:</u>								
<i>Log of Market Cap</i>	+++	+++	+++	+++	+++	+++	+++	+++
<i>Ratio of Risk to lagged risk</i>	+++	+++	+++	+++	+++	+++	+++	+++
<i>Ownership Dummies</i>	√	√	√	√	√	√	√	√
<i>Firm fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Industry fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ² without firm effects	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.02
Adj R ² (full model)	0.12	0.20	0.13	0.16	0.12	0.18	0.12	0.15
Number of Observations	3,505	640	3,138	1,007	3,505	640	3,138	1,007

*** where p < 0.01; ** where p < 0.05; * where p < 0.10; +++ means a positive coefficient and significant at .01 level.

Ownership dummies include Own0_1, Own1_2, Own2_10, Own10_25, and Own25_100. However, Own0_1 is not included when the family firms only sample is employed because Own0_1 is zero for all family firms by definition.

VI.2F Testing and Results for Hypothesis 10

H10: Total compensation (direct compensation plus indirect compensation) will be more sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.

The testing of hypothesis 10 is identical to that of hypothesis 9 except that compensation for this hypothesis includes monies paid by the firm to the CEO (direct compensation) and change in wealth due to stock held by the CEO (indirect compensation). As a shareholder of the firm and a member of the founding family, the CEO's incentives are quite different than for a professional, and possibly a non-shareholder CEO.

Indirect compensation is the initial stock ownership times the total stock return. Total compensation is the sum of direct and indirect compensation, whereas change in total compensation is the sum of indirect compensation and change in direct compensation, which includes bonus and stock based pay.

The regression results are tabulated in Table 20. The differences between Tables 19 and 20 are immediately discernible. A professional CEO earns \$2.06 of extra total compensation per \$1,000 of firm value, which is significantly larger than the 11.6 cents of extra direct compensation he earns as reported in Table 19. The difference suggests that direct compensation, on average, means little to a typical CEO when compared with total compensation of the CEO. While this difference is large, it pales in comparison with that of a family CEO. A family CEO receives \$10.09 of extra total compensation per \$1,000 of change in firm value, or more than 1% of value added. This amount is nearly 50 times as large as the direct compensation that a family CEO earns from the firm. Clearly, a family CEO's personal

ownership of equity provides a sufficiently strong incentive that it is no longer necessary to provide incentives through other means such as stock options.

With regard to the hypothesis in particular, it can be observed that family CEOs earn about \$8.03 or \$7.86 more in extra compensation when compared with professional CEOs. These differences are economically large and are statistically significant. Overall, I find support for hypothesis 10. In addition, I find that the pay for performance sensitivity is much stronger for family CEOs, professional CEOs, family firms, and nonfamily firms, when indirect compensation is also taken into account.

Table 20: Pay-performance sensitivity for total compensation

Testing Hypothesis 10: *Total compensation (direct compensation plus indirect compensation) will be more sensitive to performance for family CEOs than for professional CEOs, ceteris paribus.*

. Dependent Variable:	<u>Change in Total Compensation</u>				<u>Total Compensation</u>			
Sample type	Family CEO = 0	Family CEO = 1	Family firm = 0	Family firm = 1	Family CEO = 0	Family CEO = 1	Family firm = 0	Family firm = 1
<u>Independent Variables</u>								
Change in market value (x10 ⁻³)	2.056 ^{***}	10.090 ^{***}	1.927 ^{***}	7.900 ^{***}	1.781 ^{***}	9.640 ^{***}	1.645 ^{***}	7.490 ^{***}
Lag of change in market value (x10 ⁻³)	0.025	0.010	0.030	0.020	0.022	0.010	0.024	0.050
<u>Controls:</u>								
<i>Log of Market Cap</i>	+++	+++	+++	+++	+++	+++	+++	+++
<i>Ratio of Risk to lagged risk</i>	+++	+++	+++	+++	+++	+++	+++	+++
<i>Ownership Dummies</i>	√	√	√	√	√	√	√	√
<i>Firm fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Industry fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ² without firm effects	0.27	0.62	0.28	0.47	0.32	0.63	0.34	0.45
Adj R ² (full model)	0.50	0.76	0.48	0.70	0.56	0.77	0.56	0.70
Number of Observations	3,505	640	3,138	1,007	4,003	667	3,565	1,105

*** where p < 0.01; ** where p < 0.05; * where p < 0.10

+++ means a positive coefficient and significant at .01 level.

Ownership dummies include Own0_1, Own1_2, Own2_10, Own10_25, and Own25_100. However, Own0_1 is not included when the family firms only sample is employed because Own0_1 is zero for all family firms.

VI.2G Testing and Results for Hypothesis 11

H11: Pay-performance sensitivity of firms will be positively correlated with annual stock returns, ceteris paribus.

This hypothesis tests whether pay-performance sensitivity matters to the performance of the firm. In particular, if pay-performance is high and relevant, then it should result in superior performance. In order to test this hypothesis, I construct a sample of firms for which the pay for performance sensitivity can be estimated given that each firm has a maximum of 15 observations. Furthermore, I require that the pay-performance sensitivity estimates be significantly different from zero. I construct the pay-performance sensitivity based on total compensation (including indirect compensation) for which I obtain 2,998 valid observations. For comparison, I also compute pay-performance sensitivity based on direct compensation and stock based pay as I did for hypothesis 9.

The dependent variable is a measure of performance, which is estimated by 1-year and 3-year total stock returns while the independent variable is pay-performance sensitivity. Control variables include the ownership dummy coded variables along with time fixed effects and industry fixed effects. The regression results as per model 5.33 are presented in Table 21 for 1-year total returns. The results show that the total stock return is significantly affected by the pay-performance sensitivity based on the change in total compensation. The coefficient is 0.0271. Given that the mean value of pay-performance sensitivity is approximately 20, it accounts for an extra 0.54% return per year. This return is economically and statistically significant.

On the other hand, the pay-performance sensitivities estimated using stock based pay and direct compensation do not significantly affect performance. These results lead us to draw two conclusions. First, higher pay-performance sensitivity leads to superior performance and since

family firms and family CEOs have higher pay-performance sensitivity (see hypothesis 10), they are likely to have better performance due in part to higher pay-performance sensitivity. Second, the change in incentive pay and change in direct compensation address only a small part of compensation policy. It is therefore necessary to that compensation packages and incentive schemes explicitly consider goal alignment that already occurs in family firms due to the CEO's wealth being invested in the firm through prior stock ownership.

Table 21: Correlation between Sensitivity and Performance

Testing Hypothesis 11: *Pay-performance sensitivity of firms will be positively correlated with annual stock returns, ceteris paribus.*

Regression Models

<u>Dependent Variable</u>	<u>Total Stock Return for 1 year</u>			
	Change in Total Compensation	Change in Total Compensation	Change in Stock based pay	Change in Direct Compensation
Basis for estimating pay-performance sensitivity				
Intercept	16.27***	14.86***	15.46***	14.70***
<u>Independent Variables</u>				
Pay-performance sensitivity	0.0266**	0.0271**	-0.0261	0.0075
<u>Controls:</u>				
<i>Ownership Dummies</i>		√	√	√
<i>Firm fixed effects</i>	No	No	No	No
<i>Year fixed effects</i>	Yes	Yes	Yes	Yes
<i>Industry fixed effects</i>	Yes	Yes	Yes	Yes
Adj R ²	0.01	0.01	0.00	0.00
Number of Observations	2,998	2,998	1,582	1,608

*** where $p < 0.01$; ** where $p < 0.05$; * where $p < 0.10$

Ownership dummies include Own0_1, Own1_2, Own2_10, Own10_25, and Own25_100.

VI.3 SUMMARY OF RESULTS

Hypotheses	Status	Key Results
H1a	Not Supported	<ul style="list-style-type: none"> ○ Considering both public and private targets, family firms acquire 0.47 targets per year compared with 0.42 targets per year for nonfamily firms. ○ However, family firms acquire fewer publicly-traded targets (0.13) compared with nonfamily firms (0.14 per year) but the difference is not statistically significant.
H1b	Supported	<ul style="list-style-type: none"> ○ Family firms acquire smaller targets than nonfamily firms: \$286 million vs. \$362 million for all targets; and \$589 million vs. \$767 million for public targets only. ○ Relative size of targets is smaller for family firms than for nonfamily firms: 10.0% vs. 16.1% for all targets; and 16.0% vs. 25.1% for public targets only.
H1c	Supported	<ul style="list-style-type: none"> ○ Family firms take fewer days to complete the acquisitions transaction ○ On average family firms require 32.5 fewer days than nonfamily firms for completion of acquisitions
H2	Supported	<ul style="list-style-type: none"> ○ Family firms pay cash for their acquisitions more often than nonfamily firms ○ On average difference in cash and stock mergers for family and nonfamily firms is 9%
H3	Supported	<ul style="list-style-type: none"> ○ Family firms acquire more related firms than nonfamily firms ○ On average, family firms acquire related firms 23% of the time compared to 15% for nonfamily firms

Hypotheses	Status	Key Results
H4	Supported	<ul style="list-style-type: none"> ○ Mean abnormal returns for family firms' acquisitions are positive ○ Mean abnormal returns for nonfamily firms' acquisitions are negative ○ Difference in means for abnormal returns between family and nonfamily firms is 0.5% ○ Translated in dollar terms, family firms are able to realize additional value of \$133 million with each acquisition
H5a	Supported	<ul style="list-style-type: none"> ○ CEOs in family firms are paid less salary than CEOs in nonfamily firms ○ Family CEOs are paid less salary than professional CEOs
H5b	Supported	<ul style="list-style-type: none"> ○ Direct compensation for CEOs in family firms is less than direct compensation for CEOs in nonfamily firms ○ Direct compensation for family CEOs is less than direct compensation for professional CEOs in family firms
H6	Partially Supported	<ul style="list-style-type: none"> ○ There are no significant differences in salary changes between CEOs of family firms and CEOs of nonfamily firms ○ Family CEOs in family firms get smaller salary increases than professional CEOs in family and nonfamily firms
H7a	Supported	<ul style="list-style-type: none"> ○ CEOs in family firms receive less stock-based pay than CEOs in nonfamily firms ○ Family CEOs receive less stock based pay compared to professional CEOs in family and nonfamily firms
H7b	Supported	<ul style="list-style-type: none"> ○ Variability in salaries paid to family CEOs is significantly less than variability of salaries paid to professional CEOs in family and nonfamily firms

Hypotheses	Status	Key Results
H8	Partially Supported	<ul style="list-style-type: none"> ○ Professional CEOs in family firms with dual class stock receive more stock based pay than professional CEOs in family firms without dual class stock ○ Professional CEOs in family firms receive greater proportion of direct compensation in stock based pay
H9	Not Supported	<ul style="list-style-type: none"> ○ For the overall sample, there is significant pay for performance sensitivity for direct compensation ○ For a change in market value of the firm by \$1000, family CEO's direct compensation changes by 20.2 cents, and stock based pay changes by 18.6 cents. ○ For a change in market value of the firm by \$1000, professional CEO's direct compensation changes by 11.6 cents, and stock based pay changes by 6.3 cents
H10	Supported	<ul style="list-style-type: none"> ○ For a change in market value of the firm by \$1000, family CEO's total compensation changes by \$10.09. ○ For a change in market value of the firm by \$1000, professional CEO's total compensation changes by \$2.06 ○ Family CEOs thus earn at least \$7.86 more in total compensation for every \$1000 change in market value of their firm compared to professional CEOs
H11	Partially Supported	<ul style="list-style-type: none"> ○ Pay for performance sensitivity of total compensation is positively correlated to 1 year total stock returns, accounting for an extra 0.54% return per year ○ Pay for performance sensitivity of direct compensation is not correlated to performance

CHAPTER VII: CONCLUSION

There is a growing body of literature that has found that performance of large publicly traded, family-controlled firms is superior to that of nonfamily firms (Anderson and Reeb, 2003; Business Week, 2003; Lee, 2006; Miller and Miller, 2005; and Villalonga and Amit, 2006). Business Week (2003) stated that the annual stock returns for family firms averaged 15.6% compared with 11.2% for nonfamily firms over a 10-year period. The antecedents for this differential performance are not yet established in the literature. Scholars have attributed this success to the long-term orientation of family firms with a desire to pass on reins to heirs (Dyer, 2006), the stewardship orientation of firm founders and their descendants (Miller and Miller, 2005), the lower agency costs of business and debt (Anderson and Reeb, 2003), and the resources accruing from social capital and long-standing and trustful relationships (Habershorn and Williams, 1998; Sirmon and Hitt, 2003). While there may be reasons for agency costs to be higher due to nepotism, clan control, lack of diversity, minority freeze-outs, and consumption of excessive perquisites (Schulze et al, 2001), it is reasonable to assume that there is greater alignment of managerial goals with shareholder goals in family firms. Past research has also examined the inter-generational differences in performance of family firms (Villalonga and Amit, 2006) and the concentration of the family in the firm's operations, but empirical research that tests the strategic behavior reflecting the competitive advantages of family firms, and comparing family and non family firms on process outcomes is rare.

This dissertation has tried to fill the gap by examining strategic behavior of family controlled firms compared to nonfamily firms in the two contexts that are extremely important for firm survival, growth, and performance: viz. merger and acquisition activity, and CEO compensation practice. When firms choose to grow, they can do so organically, a slower route, or via acquisitions, a quicker but

much riskier route. In fact, several studies have demonstrated that shareholders of acquiring firms generally lose value due to poor identification and integration of target firms (King et al., 2004). Yet M&A activity continues to escalate, ostensibly due to misaligned managerial incentives. The thesis proposed in this study centers around the premise that interest alignment and agency costs will determine what kind of acquisitions managers will pursue.

Previous research on M&A has shown that smaller, related, and for cash mergers, tend to add some value to acquiring firms. In order to evaluate the principles of interest alignment and agency costs in action, I studied firms in the S&P 500, by grouping them into family-controlled versus nonfamily controlled on the assumption that family controlled firms will by their nature suffer lower agency costs as the interests of family managers will closely match those of the owners.

I further test the principle of interest alignment by examining the practices of CEO compensation among these two groups of firms again using agency costs as the underpinning theory. Prior research has found that the CEO of a firm (along with the top executives) is the most influential person in determining its success or failure. Besides the CEO's intrinsic motivation, external incentives are important in setting organizational goals and guiding the CEO towards optimal achievement for the firm. As a result, CEO compensation policy is one of the most important facets of corporate governance and has received much attention not only by business and industry consultants but also by the government, the media, and activist shareholder groups. My thesis argued that presence of family owners can help substantially in the design of compensation policies that both advance the interests of stockholders while protecting them from paying excessive compensation to CEOs either through salary, bonus, or through stock-based pay.

Since I study only the large publicly traded family and non family firms, I am able to compare compensation practices of family and professional CEOs in family-controlled firms and juxtapose

these results with a study of compensation practices of professional CEOs in non family firms to gauge which CEOs are paid the most amount of money. I theorized that family CEOs would receive lower compensation than professional CEOs in family and nonfamily firms because family CEOs derive non-pecuniary satisfaction from managing the family firm, and because of their firm-specific skills and reluctance to enter the labor market. Due to family owners' potential ability to monitor the CEO closely by presence on board of directors, and their concern about dilution of equity and control, CEOs in family firms will earn less in total pay and less in stock-based pay compared with CEOs in nonfamily firms.

Summary of findings and implications:

I tested the hypotheses relating to merger policy and compensation policy using the S&P 500 firms over a 15-year period, from 1992 to 2006. Firms were categorized as family firms if a member of the founder's family, including the founder(s) was present on the board and owned at least 1% of the firm. Firms that did not have any family member on the board are labeled nonfamily firms even if they owned 1% or more in stock, as it would indicate an absence of control of the strategic direction of the firm. The results in Tables 2 to 10 relating to hypotheses 1 to 4 confirmed the presence of a superior acquisition strategy in family firms when compared with nonfamily firms. While I found that family firms do not acquire fewer firms than nonfamily firms, results indicated that family firms acquire fewer publicly traded targets where there is a greater probability of overpaying, but acquire more private targets compared with nonfamily firms. Since privately held firms are difficult to value there often can be unrealized potential to seize gains. Family firms also acquire targets that are smaller in size, whether size is measured in terms of transaction value or as a ratio of the value of target firm relative to the acquiring firm. In addition, family firms generally acquire firms in the same industry, as measured by the 4-digit SIC code. Overlap in the 4-digit industry code indicates that these mergers are

horizontal in nature, not just related. Horizontal mergers generate greater savings and are easier to integrate thus leading to synergistic gains. Moreover family firms in this study pay cash more often than stock to acquire their target firms. Stock payments are generally made by acquirers when their own stock is overvalued, while cash is used when the stock is not overvalued. Another plausible explanation for deploying cash for acquisitions by family-controlled firms, is to prevent dilution of equity and control by paying with stock. The results further reveal that family firms are able to close the merger deal quicker than nonfamily firms indicating that their targets are carefully chosen and the process is well-executed. Thus, overall, the announcement returns around mergers are generally positive for family firms, but consistently negative for nonfamily firms. The difference between the returns is statistically and economically significant, approximately 0.50%. In dollar terms, family firms earn up to an extra \$133 million for every merger completed when compared with nonfamily firms. A summary table of the results and status of the hypotheses tested is provided on pages 180-182.

The results in Tables 11 to 21 test hypotheses 5 to 11 relating to CEO compensation policy. Family CEOs and professional CEOs in family firms earn less than professional CEOs in nonfamily firms in terms of salary, stock-based pay, and direct compensation. Changes in salary and direct compensation are negative and significantly smaller for family CEOs when compared with professional CEOs in both family and nonfamily firms. The lower amount of compensation for family CEOs is mitigated by a lower variability in their compensation. However, professional CEOs in family firms receive much higher stock-based pay in dual class stock firms because family control dynamics remain unaffected by payment of nonvoting stock. Finally, I find that contrary to media reports, the pay for performance sensitivity has increased significantly from earlier times. Compared to 3.1 cents in CEO compensation per \$1,000 increase in firm value, from 1969-1984 (Jensen and

Murphy, 1990), the change in CEO compensation is about 11 cents per \$1,000 of firm value. Moreover, the pay-performance sensitivity is greater for family CEOs and for family firms than for professional CEOs, though the differences are not statistically significant. When changes in wealth that accrue due to prior stock ownership by the CEO are considered, pay for performance sensitivity jumps from a few cents to a few dollars per \$1,000 of firm value, and the pay for performance sensitivity is much greater for family CEOs and family firms than for professional CEOs. In the ultimate analysis, the pay for performance sensitivity is positively related to performance as measured by stock returns.

The results in my thesis are important for understanding the reasons behind the superior performance of family firms relative to nonfamily firms. I find that merger policy in family firms leads to announcement stock returns that are significantly greater than the announcement returns for nonfamily firms. I also find that CEO compensation practices lead to pay-for-performance sensitivity that is much larger for family CEOs and family firms than nonfamily firms. In turn, the pay-for-performance sensitivity is positively related to firm performance. Since pay-for-performance sensitivity is higher for family firms, the positive correlation with firm performance (stock returns) suggests that family firms outperform nonfamily firms. Thus, both merger policy and CEO compensation policy demonstrably contribute to the superior performance of family firms in my sample.

Contribution

Governance and Family firm literature: This study empirically examined how agency costs affect strategic decision-making in family firms contrasted with nonfamily firms. Although agency theory has been applied to governance in the family firm literature, no study has attempted to directly

or indirectly investigate the consequences of lower or higher agency costs suffered by family firms in the context of actual strategic behavior. By making direct comparisons of publicly held family and nonfamily-controlled firms within the S&P 500 index, I contribute to a better understanding of family firm decision-making thus adding to the entrepreneurship and governance literatures.

Mergers and Acquisition literature: Secondly, this research systematically studied characteristics of mergers and acquisitions made by family firms where agency costs are assumed to be lower than in nonfamily firms and evaluated their effect on firm performance thus contributing to the literature on mergers and acquisitions. Since past research has found that mergers and acquisitions do not add value to the acquiring firm (see meta-analysis by King, Dalton, Daily, & Covin, 2004) due to poor decision-making and post-integration problems, the results of this study throw light on the moderator variable of ownership to evaluate one more aspect of firm growth strategy.

Compensation literature: Thirdly, this study contributes to the literature on CEO compensation. While CEO compensation has received considerable attention from academic researchers, practitioners, the media, and public policy makers, there are very few, if any, published studies that examine the role played by differing compensation structures in family and nonfamily firms towards firm performance. My study finds that compensation practices and pay-for performance sensitivities are indeed different in these two sets of firms and the different incentive schemes impact firm performance differently, so there are lessons to be learned from the design of compensation contracts of family firms.

Empirical contribution: Very few studies measure the indirect component of CEO compensation as this dissertation does. Direct compensation is but a small part of the total remuneration that accrues to the CEO. By including this measure of compensation and studying the

changes in the wealth of the CEO, I demonstrated that pay of performance sensitivity was much higher for family CEOs thus contributing to their superior performance.

The importance of studying compensation in the context of S&P 500 firms must be noted and compared with prior studies. The value of S&P 500 stocks was about \$11.5 trillion as of March 2008. By comparison, Cole and Mehran (2007) and Wasserman (2006) samples consists of 2,212 and 528 private firms respectively. These firms are particularly small: Wasserman's (2006) average firm employs 78 people and Cole and Mehran's (2007) average firm's sales are \$2.2 million per year. It is also difficult to extend conclusions drawn from privately held firms to a broader sample of publicly held firms. Gomez-Mejia, et al. (2003) use a sample of 253 publicly traded firms randomly drawn from 3,000 firms on Compustat. The annual sales of an average firm in their sample are \$4.67 million suggesting a bias towards small firms. Ali and Chen (2006) rely on the S&P 500 firms like I do. However, they restrict themselves to one year's data (2002). Gomez-Mejia, et al. (2003) have 4 years of data (1995-98), Wasserman (2006) works with 3 years of data (2000-2002), and Cole and Mehran (2007) have data for just one year (1992). On the other hand, my analysis extends over a relatively long period of 15 years (1992-2006). The longitudinal research design enables me to perform subperiod analysis potentially warding off criticism that my conclusions come from a particularly vibrant economy (1995-98) or a particularly depressed economy (1992).

Limitations and directions for future research:

Conceptually, there is no consensus on what constitutes a family firm. While the rationale in arriving at my definition of family firm is based on the size and nature of the sample of firms in the S&P 500, it is possible that these results may not hold for a similar definition of firms that are much smaller in size. Miller et al., (2007) argue that often times the results of performance of family firms outperforming nonfamily firms is dependent upon the conceptualization and operationalization of

family firms and may be an artifact of the sample used. It is not always possible to verify the ancestry and history of the family members as ownership data prior to 1996 is spotty. Even when data is available, classification of multiple founders is unclear. Thus, while theoretical arguments can be advanced regarding the potential lower agency costs incurred, and the expected higher interest alignment rents accrued in family firms, when the translation of the family firm comes down to owning a small percentage of shares in the firm and exercising control by presence of family member(s) on the board of directors, the unique advantages of the family firm organization may be diluted. However, since this study builds on the finding of superior performance of family firms established by previous research in large publicly traded family-controlled firms (Anderson and Reeb, 2003, Business Week, 2003), it would be prudent to confine the generalizability of the results to similar samples. Privately owned and smaller family firms, and especially those in countries where minority shareholder rights are not protected by adequate external monitoring may well display different logics and results.

The study was also limited by data availability while testing specific hypothesis for dual class stock where the sample had 520 observations. Nevertheless, I believe that considering the large sample size available for testing most of the hypotheses, and the long period for which data were collected, the results are robust and can be generalized to large public firms.

Further, whenever dichotomous variables (like family and nonfamily) are used, some information is lost. A continuous variable that measures the degree of stock ownership by various family members, and by the generation succeeding the founder can provide more fine-grained information on the strength of “familiness” construct and its impact on the performance of the family firm.

Future research can expand the sample of firms to S&P 1500 firms or smaller firms where ownership stakes of the family are likely to be more substantial. It would also be interesting to separate

founder firms from family firms as suggested by Miller et al, (2007) to isolate the founder effect from family effect and check where the interest alignment rents are greater. Similarly, other questions can be posed like “Can individuals like Warren Buffet have a “family effect” on firms although not owned by him via generations of family control, and what leads to the success of such firms, or, how does the compensation of a longstanding professional CEO differ from a family CEO? While this thesis examined only the level and components of CEO compensation in family and non-family firms, it would be useful to study the differential and pay gap between the CEO and other members of the top management team in family and non-family firms and especially for family CEOs and professional CEOs in family firms. Again this study was limited to studying only direct and indirect compensation that had clear measurable value. Other forms of compensation like hidden perks, tax incentives etc. were not taken into account. Future research can consider these forms of compensation especially since the law requires that from 2009, perquisites granted to CEOs be now reported in the annual proxy statements. In addition, while this dissertation explored the pay-for-performance sensitivities for family and nonfamily controlled firms and their relationship to firm performance, future research can estimate the exact nature and extent of the mediating / moderating properties of the relationship.

An important finding of this dissertation is that in some cases like acquisitions by family firms, acquiring firms can garner value for their shareholders. Thus when managers have a long-term view and acquire firms carefully chosen in related industries and paid for by cash there are opportunities to derive value for shareholders.

Another essential lesson this study imparts is that the manner in which the CEO is remunerated, matters. The greater the wealth of the CEO tied to the fortune of the firm, the more likely the firm will perform better. This study also demonstrates that CEO compensation elasticities to performance have increased over the years mainly due to the indirect component of compensation arising out of returns

on CEO stock-ownership in the firm. This study shows that future research should invariably encompass direct and indirect compensation components because salary and direct compensation is but a small portion of the CEOs total compensation package. It is heartening to note that in recent years, corporations do understand and follow the principle of pay-for-performance. Greater transparency as required by Sarbanes-Oxley is a step in the right direction and will empower shareholders who can now have a “Say-on-Pay” that will affect the compensation of America’s top corporate officers.

In sum, the organizational form of the family-controlled firm is valuable especially when it is concurrent with public monitoring

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