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**BOARD CONTROL, FIRM OWNERSHIP STRUCTURE,
AND CHIEF EXECUTIVE COMPENSATION:
AN EMPIRICAL ANALYSIS**

Mona Obaid

A Thesis

In

The Department

Of

Commerce and Administration

**Presented in Partial Fulfillment of the Requirements
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ABSTRACT

Board Control, Firm Ownership Structure, and Chief Executive Compensation: An Empirical Analysis

Mona Obaid

The degree of board control and a firm's ownership structure have an important role in the determination of chief executive officer (CEO) compensation in large U.S. corporations. This study uses a model of political factors to attempt to describe their influence on both the overall amount and form of CEO compensation under differing growth and risk conditions. Past research indicates that powerful boards limit a CEOs' ability to control decisions made, such as those that have to do with setting their compensation (Finkelstein and Hambrick, 1988; Westphal and Zajac, 1994). Also, that both institutional and large block holders have the power and the incentive to monitor CEO actions to make sure they are in their own interest. Finally, it is expected that both investors and board members are to make use of different forms of compensation depending on a firm's level of risk and growth opportunities. The findings based on data from a cross-sectional set of 362 Business Week firms are both supporting and contradictory.

DEDICATION

To Mom & Dad

Thank you for reminding me every day what being a family is all about

You're the only source of love, trust, security, and understanding that never failed me

I love you both very much... you mean the world to me

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TABLE OF CONTENTS

LIST OF FIGURES.....	viii
LIST OF TABLES.....	viii
INTRODUCTION	1
I. THEORETICAL FRAMEWORK & LITERATURE OVERVIEW.....	6
1. Agency Theory.....	6
1.1 Agency Theory and CEO Compensation.....	9
(a) CEO Compensation Framework.....	10
(i) Determinants.....	11
(ii) Compensation Dimensions.....	12
(iii) Consequences.....	13
2. Research Model and Hypotheses Development.....	14
2.1 Firm Ownership Concentration and CEO pay.....	15
(a) Institutional Ownership.....	15
(b) Significant/Large Block-holders.....	16
(c) Insider Ownership.....	18
(d) CEO Ownership.....	19
2.2 Board Monitoring and CEO Pay.....	21
(a) Board Composition.....	22
(i) Ratio of Insiders.....	22
(ii) CEO Duality.....	24
(b) Board Stock Ownership.....	25
2.3 Review of the impact of firm growth potential and firm risk on the relationship between the political factors and CEO pay.....	27
(a) Agency Theory and Firm Growth Potential.....	27
(i) Information Asymmetry.....	27
(ii) Divergence of interest.....	28
(b) Agency Theory and Firm Risk.....	30
II. METHOD	32
1. Data collection and Sample.....	32
2. Choice and Measurement of Variables.....	33
2.1 Dependent Variable.....	33
(a) Compensation.....	33
2.1 Independent Variables.....	35
(a) Ownership Structure.....	35
(b) Board Control.....	37
2.3 Moderators.....	38
(a) Firm Growth.....	38
(b) Firm Risk.....	38
2.4 Control Variables.....	39
(a) Organizational :.....	39
(b) Personal:.....	41
(c) Industry:.....	41

III. ANALYSIS & DISCUSSION OF FINDINGS	42
1. Empirical Analysis	42
1.1 Descriptive statistics & Variable Correlations.....	42
1.2 Factor Analysis	43
1.3 Regression Analysis	45
2. Empirical Results & Discussion of Findings	46
2.1 Model Testing “ Main Effects ”.....	46
2.2 Model Testing the Impact of Growth.....	49
2.3 Model Testing the Impact of Risk.....	53
3. Summary of Results	57
 IV. CONCLUSION & STUDY IMPLICATIONS	 60
 v. BIBLIOGRAPHY	 65

LIST OF FIGURES

Figure 1: CEO Compensation Framework	11
Figure 2: Research Model	15

LIST OF TABLES

Table 1: Descriptive Statistics	43
Table 2: Pearson Correlation Matrix	44
Table 3: Principal Component Analysis	45
Table 4: Results Of The Regression Analysis: Basic Model	48
Table 5: Results Of The Regression Analysis: Impact Of Firm Growth Potential	51
Table 6: Results Of The Regression Analysis: Impact Of Firm Risk	55

INTRODUCTION

Few topics related to corporate governance are more controversial than deciding the level of compensation for corporate Chief Executive Officers (CEOs). The issue has become particularly popular as evidenced by the amount of research and media exposure it has received. Numerous stories recently published in the popular press expose firms' excessive CEO compensation practices, and the poor link demonstrated between their pay and corporate performance. Business Week reported in its 1991 issue that the gap between the income of top executives and that of an average factory worker, is increasing. In addition, its comparison of CEO pay practices in the U.S. and Japan revealed that an average CEO in the U.S. makes 85 times the pay of an average worker whereas the comparable ratio in Japan is 17 to 1. The topic also received wide attention in the academic literature. According to Tosi and Gomez-Mejia (1989), over 250 research papers had been written on the issue since the 1920s.

The CEO pay package is important to firms because of the critical message it sends to the organization's employees, shareholders, and the business community as a whole. When a large part of the plan is tied to increases in shareholders' wealth, then the CEO and the shareholders share a common economic destiny- one in which the CEO's rewards reflect those received by the company's owners. If increases in shareholders' wealth fail to produce a similar increase in CEO pay, the message is equally clear to CEOs that owners are willing to share the risk of failure but not the rewards of success. It is very important to design pay packages with concern for both the motivational impact on CEOs

and the signals sent to the investment community. Walters, Hardin, and Schick (1995) even go as far as saying that a company's executive pay plan is one of the determinants of any company's success:

"An effective pay plan is essential to attract, to motivate, and to retain key people. (p.227).

These concerns over how a CEO is paid refer to the way in which companies put together different components of pay such as salary, bonuses, long-term incentives, and benefits so they form effective motivational and control mechanisms with which to achieve their organizational objectives. To constructively evaluate firms' current compensation practices and the role of the board of directors and others in setting them, research in the past has looked at the amount, form of CEO pay, and its change over time. While most articles in the popular press debated the unreasonable amounts paid to CEOs, the majority of academic research focused on how a CEO is paid as well as on the link between different forms of pay and company performance.

However to date, research has paid relatively less attention to political factors that may influence the determination of CEO pay. It is important to remember that three major parties play a role in how corporations are controlled and managed today. They are:

- (1) The shareholders who own the residual value of the firm;
- (2) The members of the board of directors elected by the owners to watch over their interests;
- (3) The CEO, entrusted to run the business.

The separation of ownership from control in large public corporations and the resulting conflict of interest between principals and agents is the fundamental issue in corporate governance. The two main problems being goal incongruence and information asymmetry between owners and managers. Theorists have argued that both problems can be managed by:

- (1) A firm's Ownership structure which influences shareholders' ability to monitor and control the firm's management ;
- (2) The board of directors whose job is to monitor the CEO and make sure He/she chooses strategies that will maximize firm performance; and
- (3) CEO compensation contracts which are used by the board as a tool to align the interests of managers and owners.

When they do not own part of the firm, managers must be provided with some incentive to maximize firm performance. It is therefore up to the owners and the board to monitor the CEO's actions directly, and indirectly through compensation and other monitoring devices.

Executive compensation is influenced by both the degree of board control, and a firm's ownership structure. Powerful boards limit the CEO's ability to control decisions made by the board such as those that have to do with setting their compensation (Finkelstein and Hambrick, 1988; Westphal and Zajac, 1994). Also, owners, particularly institutional and large block holders have the power and the incentive to monitor CEO

actions to make sure they are in their own best interest. The fact that institutional investors vote a substantial chunk of the largest firm's equity gives them the power, and the difficulties they would face in disposing of their large holdings give them the necessary incentive. Both owners and the board members they elect will make use of different forms of compensation depending on both firms' level of risk and their growth potential. Owners know that certain forms of compensation reward risk taking and can result in a higher income for both themselves and the CEO. In addition, firms with many growth opportunities need to tighten their control to make sure that executive decision making is directed towards maximizing firm performance, not firm size.

While the majority of past research has concentrated on testing the extent to which firm performance is a factor in the determination of the amount and form of CEO compensation, it has not delved as deeply into the role of political factors and how they might affect CEO pay. This study proposes that political aspects of board control and firm ownership structure together may play a role in predicting the amount, form of CEO compensation, and its change over time even after controlling for firm performance. Specifically, using a sample of 362 firms taken from Business Week's annual compensation survey, this study addresses the questions:

- (1) Do political factors in board control and a firm's ownership structure affect the determination of the amount, change in the amount relative to the prior year, and form of CEO compensation?
- (2) Do firm risk and firm growth moderate this relationship?

The organization of this paper is as follows: section one contains a review of the relevant literature and a description of the studies' hypotheses. The data and methodology used are outlined in section two, followed by the discussion of the results, and concluding remarks, in sections three and four.

I. THEORETICAL FRAMEWORK & LITERATURE OVERVIEW

1. Agency Theory

There is considerable debate in strategy, economics, and finance literature over the incentive conflict resulting from the separation of ownership and control in large public corporations (e.g., Fama and Jensen, 1983; Mizruchi, 1983). At the heart of this debate lies the question of whether managers act in ways that will maximize shareholders' wealth (Fama and Jensen, 1983; Zajac, 1990). Research which looks at the monitoring, and control of corporations from the perspective of its owners is dominated by agency theory (e.g., Mizruchi, 1983; Gomez-Mejia, Tosi, and Hinkin, 1987; Davis and Thompson, 1994; Welbourne, Balkin, and Gomez-Mejia, 1995; Boyd, 1995).

“Agency theory is concerned with the general problem of delegation, a situation in which a principal engages another individual, or agent, to perform tasks on behalf of the principal” (Welbourne, Balkin, and Gomez-mejia, 1995, p. 882). A problem exists when principal and agent have conflicting goals as is the case with the managers and shareholders of large public corporations where the manager is typically not the majority shareholder (Jensen and Meckling, 1976; Fama and Jensen, 1983).

The way in which capital markets operate insures that corporations manage the conflict created by the separation of ownership and control in ways that will minimize

agency costs and maximize shareholders' wealth (Davis and Thompson, 1994). The stock market is efficient in as much as it adjusts prices to reflect all information available about a firm's current performance and its future prospects. A firm's value is reflected in its share price on the stock market. Shareholders of public corporations own the residual value of the firm after employees, buyers, suppliers and creditors get what is owed to them. Therefore, their wealth depends entirely on how well the company's stock does on the market, and they bear a risk equal to their investment. Managers, on the other hand, get a salary, which in some cases is totally independent of how well the company's stock does on the market. Because owners have more at stake, market forces will work to insure managers either work to maximize shareholders' wealth or suffer the consequences. By continuously choosing strategies that maximize firm size as opposed to its performance, a firm's management will eventually cause the price of its stock to fall. This will create an opportunity for a better management team to take over control of the company and run it better. In a takeover, the shareholders will usually sell some of what they own to the new management team at a premium. The new management will be rewarded by the gain in the value of the firm as will be reflected in its share price.

The market forces described above are an example of external monitoring tools that owners make use of in going about protecting their interests. Other monitoring mechanisms can be used to reduce agency problems. Shareholders will seek inside information on how well a firm is being managed through several other internal monitoring and control devices such as:

- (1) A firm's ownership structure which if concentrated in the hands of major block-holders and institutions will allow them not only a way to monitor closely how things are run, but also a way to exert an influence on how they are run (Demsetz and Lehn, 1985).

- (2) The board of directors they elect to hire, fire, and compensate the CEO (Fama and Jensen, 1983). In addition, the most important aspect of their job involves monitoring CEO actions (Zahra and Pearce, 1989) .

- (3) Companies' executive compensation practices, which are one of the means available to shareholders to monitor CEO behavior and to align both parties' interests at the lowest possible cost (e.g., Fama, 1980; Mizruchi 1983; Boyd 1995).

Given the theoretical criticality of the above three factors for a positive collaboration between agents and principals, this paper will explore the extent to which political factors inherent in ownership structure and board control actually exert influence on chief executive officer (CEO) compensation. It will also attempt to draw conclusions as to whether these political factors are ultimately a good/bad thing for constructing a pay package that will serve as an effective self-monitoring tool. Compensation was mainly chosen because it is an area where both parties (owners and board members) especially board members make significant and frequent decisions (Zajac, 1991).

1.1 Agency Theory and CEO Compensation

Agency theory suggests that when top managers receive little or no financial reward for maximizing shareholders' returns, they are likely to choose strategies that will both maximize their own interests and reduce their risk exposure (e.g., Zajac, 1990; Boyd 1995). It is therefore up to the owners and the board they elect to represent their interests to monitor CEO actions. The costs of direct supervision that companies incur to obtain information about management's behavior could be drastically reduced if principals can find a way to provide managers with incentives to act in the interest of the firm's owners. It has been said that the only way to get CEOs to think like owners is to give them shares in the company as part of their compensation. Mangel & Singh (1993) view CEO compensation as both "an instrument of corporate governance and an indicator of its effectiveness" (p. 339).

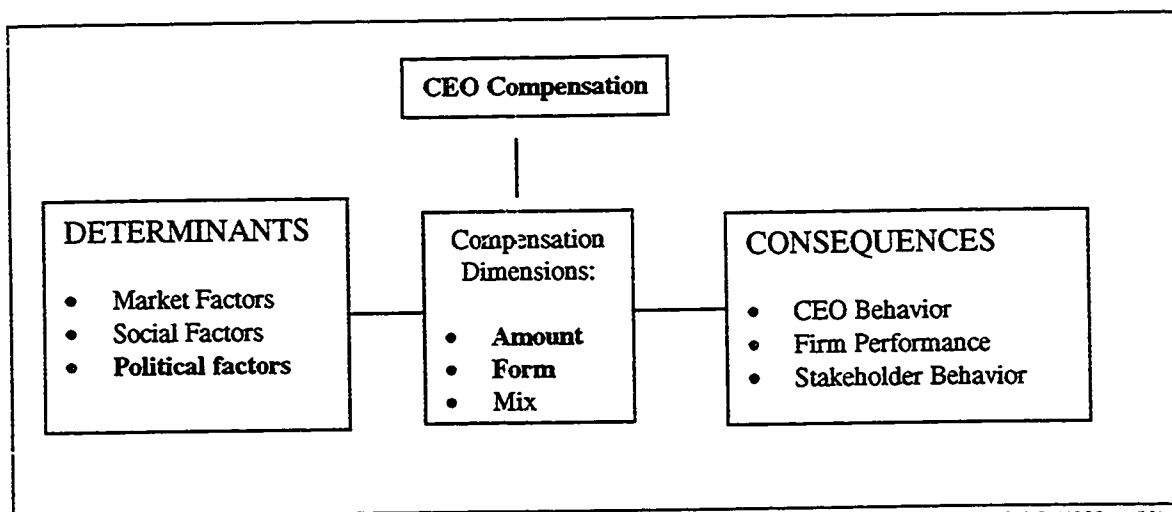
In general, the compensation of corporate executives takes two basic forms: short term cash payments (e.g., base salary and bonus), and long-term payments (e.g., stock options and stock rights). Both forms are linked to corporate governance systems in different ways (Sanders, Davis-Blake, and Fredrickson, 1995). Agency theory assumes that owners and their managers will have different preferences about how executives are paid. Owners prefer to tie pay to company performance (either its accounting performance or stock market performance) by setting bonuses and granting the CEO stock options. Managers on the other hand prefer not to tie their pay to performance because of the

inherent risk of such a contract. It is these conflicting interests that result in agency costs to the owners, the costs of direct supervision of the CEO.

(a) CEO Compensation Framework

Both Finkelstein and Hambrick (1989), and Gomez-Mejia and Balkin (1992) provide a review of the research on executive compensation based on agency theory. In general, past research on the use of compensation plans to align the interests of shareholders with their agents had failed to provide conclusive evidence. “The weight of the evidence points towards a small, almost inconsequential, relationship between firm performance and CEO pay, and a large relationship between company size and CEO pay” (Gomez-Mejia and Balkin, 1992, p. 184). Finkelstein and Hambrick (1988) proposed a theoretical framework for the examination of CEO compensation. Their framework identifies both the determinants and consequences of executive compensation.

Figure 1:..CEO Compensation Framework



Adapted from Finkelstein and Hambrick (1988, p. 10)

(i) Determinants

Crystal (1988) wrote “just about all of the rational factors you can think of, taken together, don’t play a big role in determining CEO pay. Top level compensation doesn’t make much sense” (p. 68). In putting together a framework of CEO compensation, Finkelstein and Hambrick reviewed and integrated findings from past research. Their model assumes that CEO pay is influenced by three main sets of determinants: market, social, and political factors:

- (1) Concerning market factors, previous research has concentrated on firm performance and firm size as determinants of CEO pay (e.g., Gomez-Mejia and Balkin, 1992). Finkelstein and Hambrick (1988) expanded market factors (of performance and size) to include CEO’s personal attributes such as education, experience, and age; the executive labor market- as in the supply of and demand for executives; and, the marginal contribution of the CEO to the performance of the firm.
- (2) Social factors include things like tax and fashion which though not of theoretical interests do influence the amount and form of CEO pay. As far as tax is concerned, CEOs will prefer a form of pay that will result in the least tax payable. On the other hand, fashion is mainly created by compensation consultants who urge boards to use the newest compensation types and mixes to keep attracting the best executives.

(3) Concerning political factors which are the focus of this paper, Finkelstein and Hambrick argue that CEO compensation is also influenced by the balance of power between the CEO and the board of directors. They argue that CEO pay can be manipulated by both parties in an ongoing power struggle, where the board wants to use pay to encourage the CEO to pursue strategies that will maximize shareholders interests, while executives want to maximize their own individual interests and reduce their risk exposure. A Firm's ownership concentration also influences CEO compensation in that the more diffused or dispersed the stock holdings are in a firm, the more difficult it is for owners to protect their interests.

(ii) Compensation Dimensions

The amount of compensation is equal to total compensation consisting of salary, bonus, fringe benefits, and the expected value of contingent compensation like stock options or incentive share rights; each one of the above is called a form of pay; and the combination of the different forms is called the mix of pay (Finkelstein and Hambrick, 1988). The amount of pay is indicative of management's self-serving behavior. If excessive, it can also be indicative of board failure to appropriately compensate the CEO. The change in the amount of CEO compensation is indicative of the effect of time. Finally, the form and mix of pay as mentioned earlier have different implications regarding agency problems. Long-term compensation as a form of pay is not a favorite of management since although it provides them with an opportunity to earn a larger income, it increases their risk exposure. Owners on the other hand, wish to link executive pay with firm

performance so they support pay plans that contain a greater portion of long-term compensation.

(iii) Consequences

The effects of CEO compensation could be explained in terms of CEO behavior, shareholder's behavior, and finally firm performance. Compensation affects CEO motivation, his/her decision to join/ stay, and even the degree and direction of their effort. The fact that it is so public results in reactions from shareholders, investment analysts, and even the public. Finally, compensation affects firm performance. This is well established in the literature. The majority of past research on pay and performance was based on the premise that tying executive pay to firm performance will help align the interests of shareholders with their agents. However, it has so far failed to provide conclusive evidence. Much of it used absolute measures of firm performance in their investigation (Ciscel & Carroll, 1980; Lwellen & Huntsman, 1970; McGuire, Chiu & Elbing, 1962, Masson, 1971; Muphy, 1985).

The central research question in these studies has been whether certain types of compensation contracts provide management with an incentive to maximize shareholder wealth. In general, these studies produced mixed results. Some have reported a positive association between firm performance and compensation (e.g., Murphy, 1985), others have found little or no relationship (e.g., Kerr & Bettis, 1987). Observers have noted that even the studies which provided evidence of a positive relationship, the associations

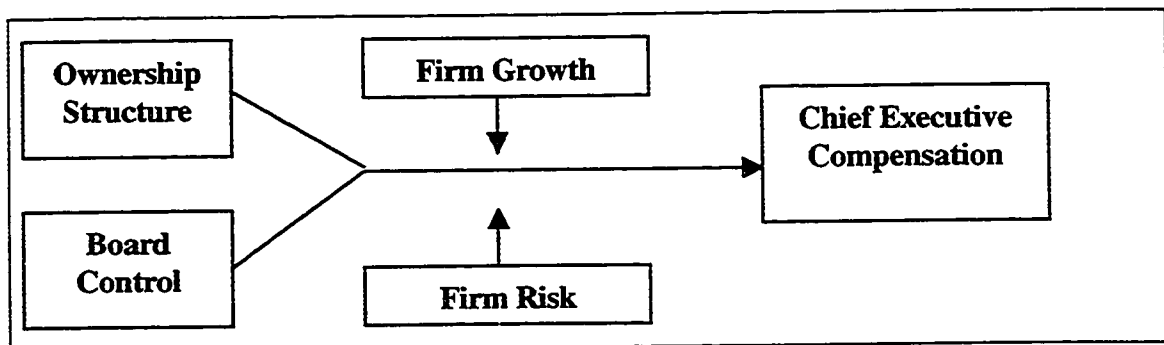
obtained tended to be modest and explained little of the variance in executive compensation (e.g., Tosi & Gomez-Mejia, 1989).

2. Research Model and Hypotheses Development

In addition to presenting a framework for understanding CEO compensation, Finkelstein & Hambrick (1988) make recommendations for a research agenda for studying CEO pay. Their recommendations for further research suggest that researchers distinguish between the determinants of the amount, change, form, and mix of CEO pay, and its consequences, for example performance. As previously mentioned, this paper will attempt to examine political factors as determinants of CEO compensation by building on the framework provided by Finkelstein & Hambrick (1988). Given possible relationships between the other market measures and CEO compensation, we chose to control for CEO age, firm size, firm performance, and industry type.

The research model is illustrated below. Each arrow-line represents a research question.

Figure 2:..Research Model



2.1 Firm Ownership Concentration and CEO pay

In general, equity ownership affects the behavior of external shareholders through its provision of influence. Owners take it into their own hands to protect their interests by directly monitoring the CEO especially since they generally gain very little from non-firm-value maximizing management behavior. They do that: one, by increasing pressure on the board to tie pay to performance, and two, by using other direct monitoring means available to them such as supporting compensation plans that tie pay to performance in proxy contests; As mentioned earlier, the board of directors is the body officially responsible for setting CEO compensation and protecting the interests of the shareholders who elected them. Studies such as (Mizruchi, 1983; Kerr and Bettis, 1987; Wade, O'Reilly, and Chandratat, 1990) questioned whether monitoring by the board of directors is effective. Along with this discontent, or perhaps in response to it, shareholders are now taking more interest in the governance of corporations.

(a) Institutional Ownership

Over the course of the last century, much as who manages the corporation shifted from entrepreneurs to managers, who owns the corporation shifted from average individuals to professional investors particularly institutions. Fifty percent of the average firm's common shares of the largest U.S. firms are held by institutions. While institutional investors as a category includes banks, insurance and investment companies, pension funds are among the largest. In fact, the ten largest pension funds alone hold 6 percent of the

U.S. equities market (Oviatt, 1988). Institutional investors have both the power and the incentive to monitor CEO actions to make sure they are in their own interest. Owning a large percentage of shares affords them more influence through voting rights and other means (Mangel and Harbir, 1993). In addition, their large holdings make it especially difficult for them to dispose of without suffering a loss. This gives them extra incentive to protect their investment.

This suggests that the greater is the percentage of shares owned by institutional investors, the greater is the level of monitoring by owners, therefore, the greater is the tie between CEO pay and firm performance. A greater tie is indicative of larger amounts of incentive or long-term compensation, lower amounts of base salary, and smaller changes in the amount of base salary relative to the prior year.

(b) Significant/Large Block-holders

Large block-holders include investors who own 5% or more of a firm's equity. Since some institutions are limited to 5%, those holding exactly 5% of a firm's equity are considered as both institutional investors as well as significant/ large block-holders.

In firms where ownership is dispersed across a large number of shareholders, no single one will have the incentive to monitor CEO actions. Even though such a shareholder will have to individually incur all monitoring costs, he/she will still have to share any resulting benefits with the other shareholders. To the extent that a few or one

shareholder own large amounts of shares in a firm, he/she will have both the power and the incentive to protect their interests.

Another way to look at this is to consider whether a company is owner or management controlled (e.g., Hambrick & Finkelstein, 1995). In general, as stock ownership becomes more concentrated in a firm, shareholders are better able to protect their interests. Studies attempting to substantiate or disprove the hypothesis that owner-controlled firms outperform manager-controlled firms produced mixed results. The ones that looked at the differences between owner-controlled and management-controlled firms found that when ownership in a large corporation is dispersed, its shareholders have less influence on managers and members of the board, because understandably they are under the control of management. On the other hand, in firms where ownership is concentrated in the hands of a few block-holders or a single shareholder, owners have leverage and influence management's actions, and can therefore better protect their interests. In cases where both management and the CEO own a large part of the firm, there is no conflict of interest because owners and managers are one and the same.

Studies that looked at ownership and its effect on CEO compensation found that external ownership had a significant impact on the amount of executive compensation. Empirical evidence suggests that in management-controlled firms, pay tends to be related to sales and firm growth while performance is found to be related to pay in owner-controlled firms (Steve and Tosi, 1995). In general, firms with concentrated ownership structure have more incentives, lower salaries, and are overall more concerned with

strengthening the link between pay and performance (Hambrick & Finkelstein, 1989; 1995). Tosi and Gomez-Mejia (1989) for example, found that in owner-controlled firms where a single shareholder owned a significant amount of stock (more than 5%), board of directors and major stockholders had more influence on CEO compensation. Gomez-Mejia, Tosi, and Hinken (1987) found that CEOs of owner-controlled firms received more compensation for performance and less for size than CEOs in management-controlled firms. However, other studies found no impact (e.g., O'Reilly, Wade, and Chandratat, 1990).

Therefore, degree of management/owner ownership must be noted as a control in studying the effect of board on CEO compensation, and also considered in its own right as an antecedent. When it is considered as an antecedent, the greater the firm stock concentration (owner-controlled), the greater is the degree of monitoring by owners, the greater will be the tie between pay and performance, and hence, the greater is the level of incentive compensation, the lower is the amount of base salary received, and the lower will be the change in pay over time.

(c) Insider Ownership

Insiders include anybody with connection to the firm, like officers/director, their families, and other employees. As officers of the firm, they derive the most benefit from their salaries and the perks their position allows them to enjoy. When they own part of the firm, insiders behave differently. Higher insider ownership in a firm implies that its officers and employees have a financial stake in the firm's success. Therefore, ownership by

insiders, as ownership by other board members will align the interests of owners with board members who are also officers, therefore making it easier for them to stand up to the CEO.

(d) CEO Ownership

In addition to controlling operating decisions, CEOs who own large amounts of equity are expected to control decisions made by the board such as those that concern setting their own compensation's level, change in level, and form (Finkelstein & Hambrick, 1989). When they own part of the firm, CEOs prefer to take out a lower salary (Murphy, 1985). Although the money they earn as income escapes being taxed at the firm's marginal tax rate which is typically 50%, and also escapes the proportional claims made by other shareholders on any increase in firm value, there are advantages to leaving money in the firm. One such advantage is has to do with the level of taxation, since capital gains are usually taxed at a much lower rate than personal income. Finkelstein & Hambrick (1989) suggest that a CEO's decision to take the money out of the firm or invest in it depends on three factors:

- (1) The CEO's personal preference to immediate or future income.
- (2) A firm's future growth opportunities.
- (3) The percentage of a CEO's current equity ownership.

Mangel & Harbir (1993) on the other hand view CEO equity ownership more as a way to align interests than as a tool for power and control.

Therefore, this suggests that increased CEO equity ownership will result in increased convergence of interest between the CEO and firm owners.

To summarize, empirical evidence seems to suggest that a firm's ownership structure influences its CEO compensation, since compensation is one way to align the interests of shareholders with those of their agents, the management team (Steve and Tosi, 1995). Because ownership structure affects the way CEOs are paid, this paper predicts it will explain part of the variance in compensation, even after controlling for the confounding effects of performance, size, industry, and the age of the CEO.

H1a: A firm's ownership structure can explain a significant amount of the variance in CEO compensation measured as the sum of base salary and bonus, the % change in that amount, and the proportion of long-term incentive pay.

The relationship will be such that ownership by institutions, and significant/large block-holders will positively influence the proportion of long-term compensation, while ownership by insiders, and the CEO will positively influence both the amount of compensation and the proportion of long-term compensation.

2.2 Board Monitoring and CEO Pay

Owners delegate the task of running the business to a group of professional managers and incur costs to obtain information about management's behavior. Laws in the United States give board members the responsibility for monitoring and rewarding the CEO, to insure maximization of shareholders' returns and to replace the CEO when he/she fails to do so (Zahra and Pearce, 1989). However, many question whether boards are doing enough; especially the shareholders that elected them to represent their interests. As shareholders started questioning the fairness of CEO pay packages and the accountability of the CEO, corporate boards started taking a more active interest in the governance of corporations.

Pearce and Zahara (1991) have suggested that "most (corporate governance) reform efforts have been based on the premise that a healthy balance between CEO and board powers is required to ensure effective company performance" (p. 135). The relationship between the CEO and board of directors has been the focus of many past studies (e.g., Mizzurchi, 1993; Pearce & Zahara, 1991; Fredrickson, Hambrick & Baumrin, 1988). As described by Zahra and Pearce (1989) "Control is the most important board task" (p. 302).

Researchers interested in investigating board of director's control have primarily focused on executive compensation decisions which boards often use to align the interests

of the CEO with those of the owners of the firm (e.g. Kerr and Bettis, 1987; O'reilly, Main, and Crystal, 1988). Their research concentrated on two aspects of the board that can influence the way a firm is run: the composition of the board, and board stock ownership. Hermalin and Weisbach wrote that both board composition and ownership structure “are intended to measure the direct incentives and monitoring faced by top management” (1991, p. 102).

(a) Board Composition

(i) Ratio of Insiders

“Boards are populated either by inside directors who can ill afford to criticize their superiors or themselves, uninformed outsiders who are unable to evaluate top management, or more knowledgeable outside CEO-directors whose empathy for their fellow CEOs diminishes their willingness to actively monitor them” (Westphal and Zajac, 1995, p. 281).

Agency theory predicts that insiders on the board will experience a conflict of interest in their attempt to be loyal to the CEO, while trying at the same time to serve the interests of the shareholders (Fama, 1980; Fama and Jensen, 1983; Daily and Schwenk, 1996). The merits of having insiders versus outsiders dominating the board can be discussed in terms of the “ independence “ versus “ information” argument. A board dominated by outsiders is considered to be more independent and objective compared to one dominated by insiders which would understandably be under the influence of the CEO. On the other hand, insiders sitting on the board

have more information about the internal processes of the business. This extra knowledge that insiders have would be especially important in high growth firms and ones facing high levels of risk. In such firms, an insider dominated board is better able to cope with the dynamic and continuously changing environment characterizing such firms.

Kerr and Bettis (1987) examined the effects of having insiders on the board on CEO pay and found that such boards ignore their responsibilities to shareholders and sometimes increase pay regardless of stock performance. Other research looked at the relationship between outsiders on the board and firm performance. Hermalin and Weisbach (1991) found no relation between firm performance and the ratio of outside directors. Baysinger and Butler (1985) on the other hand found evidence that firms with outsiders on the board tend to perform better. Mangel and Harbin (1993) looked at agency theory and CEO/board relationship and suggested that although all board members share the responsibility of monitoring the CEO to the same degree, in pay decisions the responsibility for being impartial lies to the most part with outside directors. Hence the reason compensation committees are made up of outsiders who are thought to be better at resisting influences from the CEO and insiders, and at making sure the CEO receives only what is appropriate.

Some studies found that outside directors who tend to be other CEOs may be sympathetic to, and more understanding of, the desires of the CEO whose

performance they are to evaluate (e.g., O'Reilly, Wade, and Chandratat, 1990). Also, as outsiders they might feel they have less information with which to evaluate the CEO and will hence let themselves be influenced by the more knowledgeable inside board members (e.g., O'Reilly, Wade, and Chandratat, 1990; and Baysinger & Hoskisson, 1990).

In short, research findings regarding the effect of insider/outsider ratio on the study of CEO pay have thus far been mixed. Further empirical evidence is needed to investigate its impact as a determinant of CEO pay. Still, we can expect insiders on the board to pay the CEO more than what is appropriate as far as amount, change in amount, and form are concerned.

(ii) CEO Duality

Board of director's leadership structure is another indicator of who the winner is in the continuous power struggle between the CEO and the board of directors (Daily and Shwenk, 1996). At issue here is the extent to which having the same person serving simultaneously as CEO and chairman of the board will lead to abuses of power that are damaging to shareholders. Since the primary function of the board is to monitor the performance of management, critics of the dual structure question whether a CEO/chairman should be put in a position where a self-evaluation would be necessary. Supporters of the dual structure on the other hand argue that the combined role provides a single focal point for company

leadership. Having one person in charge is crucial for risky firms and those with many growth opportunities because these firms operate in dynamic environments. Hence, the question of whether the CEO serving the dual purpose as chairman of the board and CEO compensation remains to be determined, particularly under situations with varying degrees of growth and risk.

(b) Board Stock Ownership

Board members have a responsibility to the shareholders they represent to monitor CEO behavior and to make sure they receive the pay they deserve. Past research suggests that board control is augmented if members owned significant amounts of stock in the firm. Board stock ownership will serve to more closely align the interests of board members and shareholders over and above their duty and will therefore provide the with greater incentive to monitor the CEO (Hermalin and Weisbach, 1991, Mangel and Harbir, 1993).

This suggests that board members owning significant amounts of equity will be more inclined to link CEO compensation to firm performance. Therefore, paying the CEO only what he/she deserve, increasing the amount of base salary and bonus by the same amount that firm performance improved, and altogether increasing the proportion of long-term incentive pay.

To summarize, past studies that looked at the board of directors' composition and specifically the issues of CEO duality and the number of insiders sitting on the board produced mixed results. The earlier ones (Kerr & Bettis 1987; Tosi & Gomez-Mejia 1989; Finkelstein & Hambrick 1989; Beatty & Zajac 1990; Pearce & Zahra 1991; Boyd 1994) have reported a positive association between powerful boards and levels of compensation measured as the sum of salary and bonus. Findings of more recent studies though (e.g., Rediker & Seth 1995) argued and found support for the existence of a substitution effect with respect to corporate control variables; more specifically, that a powerful board combined with another monitoring activity will reduce the board's reliance on incentive compensation.

H1b: The degree of board control can explain a significant amount of the variance in CEO compensation measured as the sum of base salary and bonus, the change in that amount, and the proportion of long-term compensation.

The relationship will be such that ratio of insiders, and duality will have a positive influence on the amount of compensation, while board ownership will have a negative effect on the amount of compensation and a positive one on the proportion of long-term compensation.

In addition to empirically examining the direct relationship between CEO pay and market, political, and social factors as determinants, early research has attempted to provide further insight by introducing variables that might moderate that relationship.

In looking at the political factors, agency theory suggests that managers acting as agents for shareholders, have the propensity to pursue strategies that will maximize their own interests which may not always be in concert with those of the owners. This study presupposes that a firm's growth potential and its level of risk affect the nature of agency problems between managers and owners.

2.3 Review of the impact of firm growth potential and firm risk on the relationship between the political factors and CEO pay

(a) Agency Theory and Firm Growth Potential

The two main problems resulting from the separation of ownership and control in public corporations are those of information asymmetry and divergence of interest.

(i) Information Asymmetry

Information asymmetry is higher in growth firms because only the CEO has private insider information about the value of future investments, and also because growth firms are very dynamic in nature and that makes it harder for the board to monitor CEO behavior (Smith and Watts, 1992). Smith and Watts, argue that variations in compensation agreements detected in their cross-sectional analysis were related to firm's investment opportunities. Their findings suggest that firms try to reduce problems arising from the degree of information asymmetry existing between executives and shareholders by emphasizing incentive compensation over fixed salary.

(ii) Divergence of interest

Our assumption with regards to the preferences of CEOs is that they normally prefer a high fixed salary, and no link between pay and performance. Also, it is evident that they prefer more pay to less. To legitimize their demands for high pay, they argue that the larger the firm, the more their responsibilities, and the more they should be paid. This is why CEOs in general favor increasing firm size to maximizing shareholders' wealth, and it is why specially in growth firms there is greater divergence of interest between owners and managers (Hill and Phan, 1991). Growth firms in particular, are more likely to use incentive compensation in paying their executives because the higher growth opportunities imply that it is possible for CEOs of those companies to increase their power and prestige by choosing strategies that will maximize firm size as opposed to its share price (Collins, Blackwell, and Sinkey, 1995).

In a study which looked at the association between investment opportunities and firms' compensation practices, Gaver and Gaver (1995), found that growth firms tend to pay higher levels of total compensation to CEOs, and that in addition these CEOs derive the larger part of their compensation from long-term incentive such as stock options. Their results also indicate that non-growth firms pay their executives less total

compensation, and that these executives derive the larger part of their pay from fixed salary. McConnell & Servaes (1995) found that the allocation of equity among insiders and other investors seem to be of greater importance in firms with low growth opportunities. Since agency theory presumes that CEOs will favor increasing firm size over its share price, then it is reasonable to assume that in firms with greater positive investment opportunities, it is crucial for boards to tie pay to performance if they are to protect the interests of the owners they represent.

Therefore, examining the empirical relations between political factors, CEO compensation under differing growth conditions will uncover the degree to which compensation packages are able to align the interests of managers and owners.

H2: A firm's growth potential will moderate the relationship between ownership structure, board monitoring, and CEO compensation.

The effect will be such that CEOs of low growth firms will receive less total compensation, a smaller increase in base salary and bonus relative to the prior year, and will derive a greater part of their pay from base salary.

On the other hand, CEOs of high growth firms will receive more total pay, a larger increase in the amount of base salary and bonus, and will derive the greater part of their compensation from long-term incentive pay.

Compensation paid to CEOs of medium growth firms is expected to fall somewhere in the middle.

(b) Agency Theory and Firm Risk

In the agency theory domain, there seems to be a consensus that owners wishing to align their interests with managers can do so by increasing the level of incentive compensation paid to executives, and/or the degree of monitoring by the board. Concerning risk, our assumptions with regard to the preferences of CEOs is that they prefer a strong link between fixed pay and risk (Hill and Phan, 1991). This is because by linking pay to firm risk, managers avoid becoming vulnerable to factors affecting firm performance that are beyond their control such as market fluctuations due to changes in interest rates or inflation. CEOs can therefore decrease the degree of uncertainty attached to their expected pay.

Zajac and Westphal (1994) suggest that there exist some costs that are associated with this highly advocated use of incentive pay to align the interests of owners with managers. They explain that tying pay too closely to owners' wealth can result in risk-avoiding behavior on the part of managers who have already invested their "non-diversifiable and non-tradable human capital in the firm" (p. 123). Owners on the other hand, hold well diversified portfolios. To expect managers to take on high levels of performance related risk when it would be better borne by owners would be very costly to a firm.

In a study that drew from agency theory, Beatty & Zajac (1994) used agency theory to investigate the costs of using incentive pay. They concluded that owners of risky firms would experience greater difficulty and greater costs in convincing their top

executive to go along with incentive compensation when those managers are risk averse. Zajac & Westphal (1994) further investigated how differences in firm riskiness may influence the use of incentive pay and found support for the relationship between levels of firm risk and the use of long-term compensation agreements in setting CEO pay.

In general, firms operating in a high-risk industry are expected to limit their executive's risk exposure. This would mean that executives of high-risk firms derive the larger part of their compensation from fixed salary and bonus not from long-term incentive agreements. On the other hand, in non-risky firms executives derive the larger part of their compensation from long-term incentive agreements, which are often tied to share price. This action by boards is done in the hope that tying pay to performance will reduce their executives' risk aversion by increasing the value of investments that maximize the value of the firm to management, and raising to them the cost of investments that adversely affect a firm's share price in favor of increasing its size (Lewellen, Loderer, and Martin, 1987).

H3: Degree of firm risk moderates the relationship between ownership structure, board monitoring, and CEO compensation.

The effect will be such that CEOs of less risky firms will be paid lower salaries composed of a higher proportion of long-term pay.

While CEOs of very risky firms will be paid higher salaries composed of a lower proportion of long-term incentive pay.

Also, in high risk firms, we predict that board monitoring will be stronger to compensate for the poor tie between pay and performance.

II. METHOD

The studies' hypotheses suggest that board control and ownership structure affects CEO compensation directly, and that firm growth and firm risk moderate this relationship.

The study's design required collecting data on three types of constructs: (1) board control, (2) firm ownership concentration, and (3) CEO compensation. Compensation data was collected from Business Week's compensation survey; all other data were extracted from disclosure database that publishes information on companies included in their Securities & Exchange Commission (SEC) files.

1. Data collection and Sample

The sample consisted of firms included in Business Week's 46th annual executive compensation survey. This led to an initial sample of 364 firms. The next step was to collect financial and other needed data from disclosure tapes, and to eliminate firms for which such data was not available. The final sample included 362 companies from 9 industries.

The sample is made up of the largest firms in the United States only and therefore is not a random sample. Although results from this study will not be generalizable to the total population of companies, it relates well to other research studies done on compensation since most of them used samples of the largest firms as collected by *Business Week* or *Fortune*.

2. Choice and Measurement of Variables

The research model on p.14 identified two independent variables, one dependent variable, and two moderators. The aim of the study was to see how much of the variance left unexplained by market factors, is explained by political factors, mainly those concerning CEO-board relations and a firm's ownership structure.

2.1 Dependent Variable

(a) Compensation

Executive compensation data is usually in the corporate proxy statements issued annually to shareholders of publicly held corporations. Separate salary and bonus data are not available for most firms, therefore for our purposes, they were taken together to represent the cash component of total compensation. We included long-term compensation in this analysis because they are an important component of total compensation (e.g., Jensen & Murphy, 1990; Kerr and Kren, 1992), especially stock options which allow the future purchase of stock at a fixed price. Although very common nowadays, the valuation of stock options is still very problematic. Historically, some studies have employed valuation methods based on the Black & Scholes (1987) model (e.g., Murphy, 1985); while others have ignored the value of stock options altogether, citing fundamental measurement problems (e.g. Kerr & Bettis, 1987). For the purpose of this study, the total value of long-term compensation was calculated by Standard and Poors' compustat services and published in Business Week.

Research looking at the relationship between executive compensation and company performance has in the past relied heavily on the sum of salary and bonus as a proxy for total compensation. This study will attempt to validate results from past research on CEO board relations, firm ownership structure, and the overall amount of executive compensation using both base salary and long-term compensation as measures of total compensation figures. Considering that board of directors in general use incentive rewards to encourage managers to pursue strategies that will maximize shareholder's wealth, board control will likely be more related to long-term rather than current levels of compensation. Similarly, whether a firm is owner or manager-controlled is likely to be related more to long-term compensation than to the sum of salary and bonus that is a current compensation measure. Therefore, the use of long-term compensation in this study is not only appropriate but also necessary. In addition, Griner (1996) tested the reliability of using salary and bonus as a measure of CEO compensation and found that it contains a substantial amount of unsystematic measurement error. Griner (1996) strongly urged future researchers to use a long-term compensation measure especially one that takes into account executive stock options. Therefore, in this paper analysis was conducted with three different dependent variables:

- (1) the sum of salary and bonus 1995: salary and bonus constitute a large portion of total compensation (Antle and Smith, 1986) and was calculated as the sum of all CEOs' salaries plus bonuses they received in 1995.

$$\text{Salary \& Bonus 1995} = \text{salary 1995} + \text{Bonus 1995}$$

(2) % change in base salary and bonus 1994-1995: the % change in base salary was measured by the sum of base and bonus in year t minus the sum of base and bonus in year t-1, all divided by the sum base and bonus in year t-1 for all CEOs of firms included in the sample.

$$((\text{Salary \& Bonus 1995}) - (\text{Salary \& Bonus 1994})) / (\text{Salary \& Bonus 1994})$$

(3) Proportion of long-term compensation: the proportion of long-term compensation was calculated as the dollar value of long-term compensation divided by the dollar value of total compensation calculated as the sum of cash and bonus added to long-term compensation. The proportion of long-term compensation had to be calculated for each firm according to the following formula.

$$\text{L-term compensation 1995} / \text{Total compensation 1995}$$

Raw data for all three measures of the dependent variables was taken from Business Week March 1995 issue.

2.1 Independent Variables

(a) Ownership Structure

This study avoided weaknesses of previous studies which relied on a single measure of the construct. Ownership structure was measured using the following four measures:

(1) % of shares held by institutional investors: This was measured as the percentage of outstanding common shares held by institutional investors.

$$\% \text{ of institutional ownership} = (\text{Tot \# of shares held by institutions} / \text{Tot \# of shares}) * 100$$

(2) % of shares held by significant block-holders (someone who owns 5% or more of a company's outstanding stock and is not an officer or a director): This was measured as the percentage of outstanding shares held by an entity owning 5% or more of the total outstanding common shares. Although a specific level of concentrated ownership by outsiders is difficult to justify on theoretical grounds, Gomez-Mejia and colleagues found significant differences using a 5% threshold. This measure was included because previous research has suggested that monitoring by outsiders is more likely once some significant level of ownership concentration is reached. Gomez-Mejia, Tosi and Hinkin (1987) found evidence that externally controlled firms which have presumably high monitoring were more likely to tie executive compensation to firm performance than other firms.

$$5\% \text{ or more owners} = (\text{tot \# of shares held by large block-holders} / \text{Tot \# of shares}) * 100$$

(3) % of shares owned by insiders other than the CEO: The equity held by insiders was measured as the percentage of outstanding common shares held by board members who were also officers of the firm excluding the CEO.

$$\% \text{ of shares held by insiders} = (\text{Tot \# of insider shares} / \text{Tot \# of shares}) * 100$$

(4) % of shares held by the CEO: CEO equity was measured as the percentage of outstanding shares that the CEO owns.

$$\% \text{ of CEO equity} = (\text{Tot \# of CEO shares} / \text{Tot \# of shares}) * 100$$

All data for the measures above was taken from disclosure database tapes.

(b) Board Control

Previous research shows a relationship between board power and the level or form of CEO compensation (Finkelstein and Hambrick, 1989; Westphal and Zajac, 1994). Board control will be measured using insider ratio, duality, and stock ownership, as in Boyd (1994).

(1) Insider ratio was calculated as the number of employee directors divided by the total number of board members.

$$\text{Insider ratio} = \# \text{ of officer directors} / \text{total \# of directors}$$

(2) CEO-board-chairman duality is a binary variable, that was coded as one if a CEO was also chairman of the board, and zero otherwise.

(3) Directors' stock ownership was measured as the percentage of total common equity owned by non-CEO directors.

$$\text{Stock ownership} = (\text{Tot \# of share owned by non-CEO directors} / \text{tot \# of shares}) * 100$$

Board control raw data was downloaded from Disclosure tapes.

2.3 Moderators

(a) Firm Growth

Our measure of firm growth is Tobin's Q (e.g., Kerin and Weeks, 1987): The ratio of the firm's market value to the replacement cost of its assets. Tobin's Q is a frequently used and accepted in both strategic and finance literature as an indicator of excellence, future growth potential, investment value, and the like (Wernerfelt and Montgomery, 1988; Varia, Kerin and weeks, 1987; Wright et al., 1996). In essence, the ratio is indicative of the extent to which there is a "market premium" over the replacement value of the firm's assets. To compute the numerator of the Q-ratio, we summed the market values of the firm's equity and long-term debt. The market value of the firm's common stock is equal to the number of common shares outstanding times the price per share at the end of the year. Both were taken from the disclosure tape. We added to that the value of the preferred stock, and then divided the whole thing by total assets (e.g., Hermalin and Weisbach, 1991).

$$\text{Tobin's Q-ratio} = (\text{Market value of equity} + \text{l-term debt} + \text{preferred share}) / \text{Tot assets}$$

(b) Firm Risk

Times interest ratio was chosen as our measure of firm risk. Ratios for firms in the sample were taken from Disclosure tapes. In calculating the ratio, both and long-term debt, but not leases were included. Previous studies in the strategy literature used debt-to-equity (D/E) ratio as a measure of risk (Zajac & Westphal 1994). We chose not to use it

because using it means we assumed that firms with high levels of debt are riskier. This assumption does not hold if those firms have much cash on hand and can maintain interest payments on the debt. Firm betas and times interest ratio when it takes into account the interest paid on both short and long-term debt can be used to measure firm risk.

Times interest ratio = Earnings before interest & tax / interest on short & l-term debt

2.4 Control Variables

The following variables may affect the direct relationship between our dependent and independent variables. Hence, they were included in our analysis as controls.

(a) Organizational :

(1) Firm size: Previous research established the effect of size on CEO compensation. Finkelstein and Hambrick, 1989 explain that the bigger the firm is, the more responsibilities its chief executive has, and the higher his compensation. Also, bigger firms tend to have more resources and can therefore afford to pay higher salaries. To control for potential relationships between firm size and the level or form of CEO compensation, the log of assets and number of employees were chosen. Both were chosen because of their strong correlation to compensation.

(2) Corporate Performance: Various studies found evidence indicating a positive relationship between firm performance and CEO compensation (e.g., Antle and Smith, 1985, 1986; Murphy, 1985). The different studies used different performance

measures, but all assumed that corporate boards attempt to align the interests of owners with those of managers by making firm performance the basis of their compensation package. The majority have measured company performance using either accounting based measures (e.g., O'Reilly, Main & Crystal, 1988), market based measures (e.g., Coughlin & Schmidt, 1985), or both together (e.g., Antle & Smith, 1986). Both types have conceptual and methodological weaknesses as measures of performance (Keats, 1990; Lubatkin & Shrieffer, 1986). Accounting measures are subject to management manipulation, and may not correlate significantly with firm value (Lubatkin & Shrieffer, 1986). On the other hand, a company's stock performance is also sensitive to numerous factors beyond management's control (Jensen & Murphy, 1990).

To avoid the biases inherent in using either method alone, we used both accounting and market based measures of performance in this study.

- (i) Return on assets was used as the accounting-based measure of performance. We defined return on average assets (ROA), as net income divided by average total assets. We took this number from the disclosure tapes. This measure has been used in previous research and was shown to be highly correlated with other accounting measures, such as return on equity (Antle & Smith, 1986).

$$\text{ROA} = \text{Net Income} / \text{Total Assets}$$

(ii) The market-based measure used in this study was the growth rate of the stock in fiscal years 1994 and 1995 defined according to the following formula where (g) is the growth rate.

It should be noted that prior year data for return on assets (ROA) and stock growth (g) were also used as controls. Since especially in the case of the salary & bonus the performance of the prior year affects the compensation of the following year. This was also done because usually, a poor prior year performance causes firms to pay their executives higher levels of incentive compensation (Westphal and Zajac, 1994). To test for the sensitivity of the results to alternative measures of performance, the tests were replicated using ROE, and the arithmetic average of monthly returns. The results found were similar.

(b) Personal:

CEO age was included to control for their confounding effect on compensation (Finkelstein and Hambrick, 1989).

(c) Industry:

To gain some assurance that the presence of certain industry groups in the data did not drive out results we already controlled for industry by using dummy variables for SIC codes of firms included in the sample.

III. ANALYSIS & DISCUSSION OF FINDINGS

1. Empirical Analysis

1.1 Descriptive statistics & Variable Correlations

Table 1 presents the means, standard derivations, and N (# of data points present) of the variables in the analysis.

Variable	Mean	Std. Deviation	N
# of Employees	39,814.4	65,730.5	341
Log Assets	16.0	1.3	362
sic 1 (industry dummies)	0.03	0.2	362
sic2	0.2	0.4	362
sic3	0.2	0.4	362
sic4	0.2	0.4	362
sic5	0.05	0.2	362
sic6	0.2	0.4	362
sic7	0.04	0.2	362
sic8	0.02	0.2	362
CEO Age	57.2	6.4	344
Growth Rate 94	-0.01	0.1	347
Growth Rate 95	0.006	0.1	347
ROA 94	0.1	0.1	362
ROA 95	0.1	0.1	361
Salary & Bonus 95	1,972,651.0	3,581,063.7	361
% Change in CEO Salary	17.4	35.0	358
Proportion of L-t comp	0.4	0.2	270
CEO Duality	0.8	0.4	362
Ratio of Insiders	0.3	0.3	360
Board Ownership	6.4	15.3	337
Institutional Ownership	54.8	20.0	362
Ownership by Insiders	6.6	12.7	362
Significant Shareholders	19.8	20.1	362
CEO Ownership	12.4	53.5	311
Q-Ratio	1.6	1.9	361
Times Interest Earned	14.1	88.4	314

Table 2 below gives the inter-correlation between measures of compensation, board control, and ownership structure variables. As expected, the compensation measures are in general correlated, except for the proportion of l-term compensation. This could be because data on this variable was only available for 270 firms out of a sample of 362. Whereas, for the other two compensation measures, data was available for a significantly higher number of (See table 1). The matrix also indicates that multicollinearity is not a threat to the variables' specifications of the theoretical model.

Table 2: Pearson Correlation Matrix

	1	2	3	4	5	6	7	8	9	10
1 Salary & bonus 95										
2 % change in CEO salary	.242**									
3 Proportion of L-T comp	.056	.393								
4 CEO Duality	.067	.552	(-.010)							
5 Ratio of Insiders	.071	.118	.058	(-.004)						
6 Board Ownership	.685	.557	.985	.052	.271					
7 Institutional Ownership	.357	.067	.136*	.066	.051	(-.097)				
8 Ownership by Insiders	.302	(-.023)	.081	(-.133)*	.073	.157**	(-.18)**			
9 Significant shareholders	.225	(-.020)	.109	(-.118)*	(-.003)	.069	.101	.522**		
10 CEO Ownership	.024	.113*	.071	.029	.065	.143*	(-.119)*	.336**	.100	

* significant at the 10% level
** significant at the 5% level
*** significant at the 1% level
1, 2 & 3 are measures of the CEO compensation
4, 5, & 6 are measures of board control
6, 7, 8, & 9 are measures of firm ownership

1.2 Factor Analysis

To lend further credence to our theoretical model, we performed a principal component analysis of board control and ownership structure measures. The analysis was

done using the varimax rotation. Its results are in table 3 below. The analysis resulted in three factor loadings:

- (1) Board ownership, CEO equity ownership, and ownership by insiders other than the CEO load on a single factor which could be labeled insider-ownership. It should be noted that ownership of 5% or more loaded on both this factor and factor 2 (below). The loading on factor 2 though were only slightly higher, therefore, the results continue to lend credence to our theoretical model.
- (2) Ownership of 5% or more of total equity and institutional ownership load on another factor which could be labeled as ownership by outsiders, and
- (3) CEO ownership, duality and ratio of insiders load on a third factor which could be labeled board control. All loadings were positive except for CEO ownership which loaded negatively on factor 3, and positively on factor 1. The negative loading implies that CEO ownership and measures of board control move in opposite directions.

Table 3: Principal Component Analysis

	Factor 1 <u>Insider</u> <u>Ownership</u>	Factor 2 <u>Outside</u> <u>Ownership</u>	Factor 3 <u>Board Control</u>
Board ownership	0.38858	-0.44236	-0.19560
CEO ownership	0.54755	-0.18686	-0.52764
Duality	-0.29535	0.06875	0.60564
5% ownership	0.67384	0.50415	-0.24812
Insiders	0.85876	0.12775	0.06003
Institutions	-0.25318	0.72264	-0.15561
Ratio of Insiders	0.07689	0.36484	0.54900

Analysis proceeded in two steps. The first, involved the use of regressions to test the effects of all the independent variables on the amount of executive compensation. The second also used regression analysis to test the impact of growth and risk on this relationship.

1.3 Regression Analysis

The studies' hypotheses were tested using ordinary-least-squares regression analysis based on the following basic equation:

Compensation = f (CEO duality dummy, ratio of insiders, % of board ownership, % of institutional ownership, % of shares owned by insiders other than the CEO, % owned by significant shareholders, % of CEO equity holdings, firm performance, firm size, industry dummy, CEO age, and an error term).

The next section reports the results from regression analysis of the different compensation measures on board control and ownership structure variables. This was done using first, the full sample of firms. This involved entering the control variables in step one, followed by the various measures of the two independent variables (board and firm ownership); and second, the results of regressions testing the same relationship under differing growth and risk conditions. This involved repeating the stepwise regression analysis described above twice. Once on a sample of firms separated by growth potential, and a second time on a sample of firms separated by degree of risk.

2. Empirical Results & Discussion of Findings

2.1 Model Testing “Main Effects”

First, we regressed each of the three compensation measures on the board, ownership, and appropriate control variables. Table 4 (on the next page) reports the results of the tests for the determinants of executive compensation using the large sample. Three regression equations are reported in table 4:

- (1) One with compensation measured as the sum of salary and bonus.
- (2) Another with compensation measured as the change in the sum of salary and bonus.
- (3) In the last equation, compensation was measured as the proportion of long-term compensation.

We included the control variables because of their association with pay. Seeing that all the hypotheses relate firm ownership and board control to firm compensation, all the variables were analyzed at the firm level.

We separately regressed the three measures of the dependent variable on a set of predictor variables composed of the independent variables board control, and ownership structure; and the control variables: size, age, firm performance, and industry. Effects in such an analysis are indicated by a significant t-statistic for the regression coefficients of the independent variables, or by significant incremental change in the R^2 of the model after inclusion of those variables.

Hypothesis #1 predicts a relationship between board control, ownership structure and executive compensation. We expect a strong board to tie pay closely to performance and to pay the CEO more in long-term compensation; while a weak board would pay the CEO a larger fixed salary. Table 4 below presents both supporting and contradictory results.

Table 4 reports the results of tests for the determinants of executive compensation.

Table 4: Results Of The Regression Analysis: Basic Model

Independent Variables	Reg. 1 (Fixed Pay) Sum of Salary & Bonus 1995		Reg. 2 (Δ Fixed Pay) Change in Salary & Bonus 1995		Reg. 3 (Prop. Incentive Pay) Proportion of l-term Compensation 1995	
	Using ROA	Using G	Using ROA	Using G	Using ROA	Using G
CEO Duality	0.055 (0.873)	0.041 (0.636)	-0.010 (-0.164)	-0.005 (-0.082)	0.326 (0.985)	0.081 (1.066)
Insiders ratio	0.015 (0.190)	0.083 (1.300)	-0.122 (-2.033)**	-0.006 (-0.073)	-0.005 (-0.064)	-0.006 (-0.086)
Board stock	-0.018 (-0.267)	-0.008 (-0.112)	-0.022 (-0.347)	-0.029 (-0.437)	0.000 (0.005)	0.013 (0.174)
Institutions	0.079 (1.129)	0.070 (0.989)	0.099 (1.461)	0.096 (1.375)	0.119 (1.438)	0.106 (1.257)
Insiders	0.015 (0.190)	0.031 (0.372)	-0.029 (-0.376)	-0.006 (-0.073)	0.038 (0.423)	0.050 (0.520)
5% or more	-0.041 (-0.565)	-0.041 (-0.540)	-0.041 (-0.575)	0.009 (0.121)	-0.022 (-0.251)	-0.028 (-0.316)
CEO	0.013 (0.201)	0.019 (0.285)	0.154 (2.405)*	0.148 (2.237)**	0.094 (1.228)	0.102 (1.302)
Adj. R ² (a)	0.5%	0.7%	4.8%	3.7%	7.1%	4%
Adj. R ² (b)	-0.4%	-0.5%	6.6%	4.2%	6.3%	2.8%
F statistic	0.946	0.929	2.075*	1.653**	1.757**	1.317
Decision	no	no	yes	yes	No	no

The numbers in parentheses are the t-statistics.

Firm size is measured as the natural log of total assets. Results using "number of employees" as a size variable were very similar.

* significant at the 10% level

** significant at the 5% level

*** significant at the 1% level

Adj. R² (a) refers to model with controls only; (b) refers to model with independent variables.

Decision refers to the model explanatory power

The regression model using the sum of salary and bonus as its dependent variable turned out insignificant. In fact the value of the adjusted R^2 tended to decrease each time after the inclusion of the independent variables.

The model which used the change in the sum of salary & bonus seems significant at the 0.01 and 0.05 level, depending on the measure used to control for firm performance: ($F=2.075$ is significant at the 0.01 level or less with an adjusted R^2 of 6.6% when ROA was used, and $F=1.653$ is significant at the 0.05 level or less with an adjusted R^2 of 4.2% when the growth rate of the stock is used). The coefficients for CEO ownership and board insider ratio were found significant at the 0.05 level or less. This tells us that a change in CEO salary and bonus is associated with a change in CEO equity ownership and the ratio of board insiders. The coefficient for both was positive. The literature would lead us to believe that as CEO equity ownership increases, the CEO prefers not to take a larger fixed salary, but instead to invest more money in the business in which he is a significant owner, and wanting to maximize firm performance rather than firm size. Therefore, we would have expected CEO ownership to be negative. On the other hand, the more insiders on the board, the more influence the CEO has on the process of setting compensation. Since managers are also risk averse, we would expect them to prefer deriving the largest part of their compensation from a fixed salary, and we would expect it to have a positive relationship on the change in the sum of fixed salary and bonus. Results partially support hypothesis # 1

The third model that used proportion of 1-term compensation as a dependent variable seems significant at the 0.05 level or less, only when return on assets (ROA) is used to control for firm performance ($F= 1.757$, adjusted $R^2= 6.3\%$). None of the coefficients in this model were significant.

2.2 Model Testing the Impact of Growth

Regression analysis was also used to test the proposition that both firm growth and firm risk affect the relationship between compensation, and both board control and firm ownership structure (H2 & H3).

To test the impact of growth, we separated the large sample of firms into low, medium, and high growth potential depending on their Q-ratio (a measure of growth potential). We then repeated the regressions done on the full sample to detect differences in the results.

Hypothesis #2 indicates that the relationship between board control, ownership structure, and CEO compensation varies with firm growth. Table 5 above presents supporting and contradictory results.

Table 5 reports the results for determinants of the differences in CEO compensation among firms under different growth conditions.

Table 5: Results Of The Regression Analysis: Impact Of Firm Growth Potential

Independent Variables	Reg. 1(Fixed Pay) Sum of Salary & Bonus 1995			Reg. 2(Δ Fixed Pay) Change in Salary & Bonus 1995			Reg. 3(Prop. Incentive Pay) Proportion of l-term Compensation 1995		
	Low	Med.	High	Low	Med.	High	Low	Med.	High
CEO Duality	-0.084 (-0.82)	0,097 (0.979)	0.192 (1.905)***	0.096 (0.840)	-0.264 (2.47)**	0.138 (1.328)	0.224 (1.646)	0.026 (0.181)	-0.004 (-.032)
Insiders ratio	0.182 (1.409)	-0.017 (-0.18)	0.103 (1.012)	0.084 (0.576)	-0.103 (-1.05)	0.018 (0.118)	-0.269 (-1.982)***	0.101 (0.808)	0.057 (0.418)
Board stock	-0.176 (-1.60)	-0.176 (-1.58)	0.053 (0.540)	-0.051 (-.418)	-0.195 (-1.60)	0.089 (0.892)	0.168 (1.071)	-0.220 (-1.53)	-0.010 (-.075)
Institutions	-0.135 (0.189)	-0.007 (-0.05)	0.008 (0.069)	0.036 (0.285)	-0.116 (-0.905)	0.139 (1.232)	0.166 (1.007)	0.204 (1.159)	0.172 (1.165)
Insiders	0.182 (1.409)	-0.024 (-.202)	-0.132 (-0.87)	0.084 (0.576)	-0.127 (-0.984)	0.018 (0.118)	0.100 (0.492)	-0.075 (-.452)	0.197 (0.988)
5% or more	0.181 (1.812)***	0.103 (0.864)	-0.092 (-0.699)	0.113 (1.009)	-0.104 (-0.805)	-0.002 (-.015)	-0.109 (-.780)	0.227 (1.300)	0.033 (0.171)
CEO	0.016 (0.134)	0.214 (2.016)**	0.003 (0.027)	0.071 (0.529)	0.331 (2.890)*	0.141 (1.285)	0.133 (0.751)	0.152 (0.938)	-0.061 (-0.416)
Adj. R ²	2.92%	2.29%	1.44%	15.2%	1.4%	10.5%	-8%	4.1%	6.5%
F statistic	3.533*	2.786*	2.054*	1.981**	1.887**	1.696***	1.124	1.264	1.011
Decision	yes	Yes	Yes	no	yes	Yes	no	no	no

The numbers in parentheses are the t-statistics.

Performance is measured as ROE. Firm size is measured as the natural log of total assets. Results using the growth rate (G) and employees were slightly lower.

* significant at the 10% level

** significant at the 5% level

*** significant at the 1% level

Adj. R² (a) refers to model with controls only; (b) refers to model with independent variables.

Decision refers to the model explanatory power

The first model which used the sum of salary and bonus as a dependent variable appears to be significant at the 0.01 level or less, in all three: Low, medium, and high growth firms (F=3.533, 2.786, and 2.054 respectively). Whereas when we used the full sample the adjusted R² went down after the inclusion of the independent measures. When the model took firm growth potential into account, adjusted R² improved significantly, and the model explained more of the variance in CEO salary. Results from table 5 also show that different coefficients were significant at different levels of firm growth.

In low growth firms, only 5% or more ownership was significant at the 0.10 level or less. In low growth firms, as ownership by large block-holders increases, CEO salary also increases. In general, we expect large-block-holders and institutional investors to tie

pay and performance closely, therefore encouraging the CEO to work on maximizing firm value rather than firm size. However, in the case of low growth firms, since the CEO in any case has less investment opportunities to choose from, there is less need for using compensation as a monitoring tool. Gaver and Gaver (1995) tested the direct relationship between executive pay and firm growth, they found that executives in low growth firms derived the largest part of their compensation from fixed salary, and not from long-term incentive agreements.

In medium growth firms, CEO ownership was significant at the 0.05 level or less. This suggests that in such firms, as CEO equity increases, the CEO's salary also increases.

In high growth firms, duality (where the CEO is also chairman of the board) was significant at the 0.1 level or less, and was positive. This is an important result, and it indicates that in high growth firms having the CEO also serve as chairman of the board is positively associated with an increase in CEO salary & bonus. Since also being chairman means the CEO has more influence on the compensation committee that decides his/her pay. We would expect the CEO of a high growth firm to prefer not to tie his pay to performance, because of the added risk. It is not unreasonable that CEOs of high growth firms would want to derive the largest part of their compensation from a fixed salary. Even though according to agency theory, there is high information asymmetry in high growth firms, and we expect the board of such firms to attempt reducing agency costs by paying the CEO a larger proportion of long-term compensation. Our results could be

explained if we assume that role duality interferes with this relationship, and that the CEO/chairman almost dominates the board.

The second regression model which used change in salary and bonus as a dependent variable appears significant for all three samples: (F= 1.981 (low growth), 1.887 (medium growth), both significant at the 0.05 level or less, and 1.696 (high growth) significant at the 0.1 level or less). If we take a look at the variance explained by the three models, we notice that adjusted R² for the model when tested on the low growth firms sample decreased after taking the independent variables into account, and that none of the coefficients in that model were significant. By comparison, results for the model when tested on the sample of medium growth firms show that adjusted R² jumps from 1.4% to 13.9% after the independent variables are entered into the equation. The results for that model show that in medium growth firms both duality and CEO ownership affect the change in salary and bonus. Both coefficients were significant at the 0.05 level and 0.01 level respectively. Whereas, in high growth firms the model was significant, and the adjusted R² was 10.8%. None of the coefficients were significant. As previously mentioned, we expect high growth firms to have a larger impact on the relationship between board, firm ownership, and long-term compensation.

Finally, all three models that used the proportion of l-term compensation as a dependent variable were not significant for all three samples. While adjusted R² improved after the independent variables were entered into the model (in low and medium growth

firms), it dropped drastically for the sample of high growth firms. In addition, only the ratio of insiders was significant at the 0.1 level or less in low growth firms. Neither of the two other models had significant coefficients.

Results from the sample of low growth firms support our hypothesis 3, while results from high growth firms do not.

2.3 Model Testing the Impact of Risk

To test the impact of risk on the relationship between board control, ownership structure and CEO compensation, we separated the large sample again into low, medium, and high risk firms by their times-to-interest-ratio (a measure of firm risk). The final step involved repeating the regressions done on the full sample a third time to see if firm risk altered the results.

Hypothesis #3 indicates that the relationship between board control, ownership structure, and executive compensation varies with firm risk. Table 6 below presents both supporting and contradictory results.

Table 6 reports the results of tests of the determinants of differences in the amount and form of CEO compensation differences among firms facing low, medium, or high levels of risk.

Table 6: Results Of The Regression Analysis: Impact Of Firm Risk

Independent Variables	Reg. 1(Fixed Pay) Sum of Salary & Bonus 1995			Reg. 2(Δ Fixed Pay) Change in Salary & Bonus 1995			Reg. 3(Prop. Incentive Pay) Proportion of l-term Compensation 1995		
	Low	Med.	High	Low	Med.	High	Low	Med.	High
CEO Duality	-0.024 (-0.24)	0.090 (0.840)	0.217 (2.502)**	-0.006 (-.043)	-0.162 (-1.222)	0.045 (0.424)	0.314 (1.769)***	0.206 (1.399)	0.144 (1.110)
Insiders ratio	0.134 (1.483)	0.058 (0.553)	-0.138 (-1.56)	-0.149 (-1.22)	-0.146 (-1.09)	-0.101 (-.937)	-0.040 (-.265)	-0.138 (.972)	0.108 (0.811)
Board stock	-0.033 (-0.37)	-0.067 (-0.57)	-0.013 (-.149)	0.038 (0.323)	-0.055 (-.372)	0.142 (1.298)	0.279 (2.005)***	-0.131 (-.865)	0.073 (0.522)
Institutions	0.127 (1.403)	0.132 (1.051)	-0.109 (-1.05)	0.061 (0.476)	0.122 (0.762)	0.264 (2.112)**	-0.041 (-.248)	-0.119 (-.724)	0.451 (2.712)*
Insiders	0.047 (0.482)	-0.018 (-0.14)	-0.127 (-1.10)	0.119 (0.911)	0.039 (0.222)	-0.016 (-.116)	0.224 (1.323)	-0.408 (-2.583)**	0.321 (1.798)***
5% or more	0.065 (0.719)	0.007 (0.052)	-0.009 (-.089)	-0.058 (-.482)	-0.243 (-1.38)	0.086 (0.676)	0.247 (1.493)	0.505 (2.739)*	-0.046 (-.261)
CEO	0.416 (4.569)*	0.103 (0.845)	-0.042 (-0.472)	0.397 (3.252)*	0.115 (0.752)	0.202 (1.831)***	0.079 (0.450)	-0.198 (-1.066)	0.178 (1.235)
Adj. R ²	30.4%	33.7%	42.3%	12.9%	-9%	17.4%	12.3%	8.5%	14.2%
F statistic	5.400*	3.147*	5.154*	1.647***	.613	2.085**	1.454	1.333	1.632***
Decision	yes	no	yes	Yes	no	yes	no	no	yes

The numbers in parentheses are the t-statistics.

Performance is measured as ROE. Firm size is measured as the natural log of total assets. Results using the growth rate (G) and employees were slightly lower.

* significant at the 10% level

** significant at the 5% level

*** significant at the 1% level

Adj. R² (a) refers to model with controls only; (b) refers to model with independent variables.

Decision refers to the significance of model

The three models that used the sum of salary & bonus as dependent variable were all significant. Model one which tested the relationship between board control, ownership structure and executive compensation on a sample of low risk firms was significant at the 0.01 level or less, and the model explained 49% of the variance in CEO salary and bonus. Equity ownership held by the CEO was significant at the 0.01 level or less. This suggests that in low risk firms, as CEO ownership increases, pay in the form of salary & bonus also increases. The literature suggests that regardless of ownership, executives of high as opposed low risk firms prefer to derive the largest part of their compensation from fixed salary to limit their risk exposure. The second model was significant at the 0.01 level or less (F=3.147), and it explained 31.3% of the variance. Yet, none of the coefficients were

significant. Model three was tested on a sample of high risk firms. It was also significant at the 0.01 level or less ($F= 5.154$), and it explained 44.3% of the variance. Also, in this model, duality was significant at the 0.05 level. This is an important finding. The literature leads us to expect that in high-risk firms, the CEO prefer to be paid a larger base salary to reduce his/her risk exposure. However, being CEO/chairman allows the CEO to strongly influence compensation decisions so that ultimately he/she gets the compensation they want.

Results of the second set of models, which used change in salary & bonus as their dependent variable, were interesting. The model tested on a sample of low-risk firms was significant at the 0.1 level or less ($F=1.647$), and it explained 12.9% of the variance in the dependent variable. In this model, the coefficient for CEO ownership was significant at the 0.01 level. This suggests that in firms facing low levels of risk, an increase in CEO ownership is associated with a positive change in the sum of salary & bonus. This result is contradictory to what the literature would lead us to expect. Model 2 tested on the sample of medium-risk firms was not significant. Medium-risk seems to have no impact on the relationship between board control, ownership structure, and executive compensation. Model 3 tested on a sample of high-risk firms was significant at the 0.05 level or less ($F=2.085$), and it explained 17.4% of the variance in change in salary & bonus. CEO ownership was also significant, but at the 0.1 level or less. Institutional ownership was significant at the 0.05 level or less. This suggests that in firms facing high levels of risk, institutional and CEO ownership is related to change in salary and bonus. Normally institutions want to protect their interests by tying pay to performance, but in

firms operating in high risk industries, the literature suggests that in setting pay, the board would tries to limit managerial risk exposure by paying the CEO a larger fixed salary.

The last set of regression models used the proportion of long-term compensation as their dependent variable. Results from table 8 generally show that with the exception of the model tested on the sample of high growth firms, the other models were not significant. The first model while not significant still explained 12.3% of the variance in the proportion of long-term pay, and had two significant coefficients: duality, and board stock ownership. The second model explained 8.5% of the variance, and had two significant coefficients: insiders, and large block-holders. The last model tested using a sample of high-risk firms was significant at the 0.1 level or less ($F=1.632$), and explained 14.2% of the variance in the proportion of long-term compensation. Both institutions and insiders were significant and positive in this model. This suggests that in high-risk firms, an increase in either institutional or insider ownership is associated with an increase in the proportion of long-term compensation paid to executives. The literature suggests that high-risk firms would find it extremely difficult to convince their executives of taking on more risk by deriving the largest part of their compensation from long-term incentive agreements.

3. Summary of Results

In the model that tested the main effects, only the model using the change in sum of salary & bonus was significant. The positive relationship between the ratio of insiders on the board and the change in fixed salary & bonus reinforces results of past studies suggesting that insiders on the board experience a conflict of interest in trying to be loyal to the CEO, and simultaneously assuming their responsibilities towards shareholders. In general, the more influence CEOs have on the process of setting compensation, the larger the fixed salary they would want assuming they are risk averse. The positive relationship between CEO ownership and the change in salary & bonus can be explained in terms of power. Finkelstein and Hambrick (1989), suggest that as CEO equity increases, CEO power also increases, and the CEO is able to extract a larger paycheck. We would have expected a positive relationship with the proportion of long-term compensation but there was none. That finding would have supported past research suggesting that giving CEOs shares of the company reduce the agency gap between themselves and owners.

In testing the impact of firm growth on the relationship between board, ownership and executive compensation, we predicted a weaker relationship in low growth firms if long-term compensation was used as the dependent variable. We also expected that the relationship between board, ownership and fixed salary to be stronger in low growth firms than in those with high growth. In addition, executives of low growth firms would derive the largest part of their compensation from fixed salary, while executives of high growth firms are paid more long-term compensation. Results of the model using the

change in the sum of salary & bonus as dependent variable show that in low growth firms, ownership by large block-holders influences the amount of fixed pay, while in medium growth firms the significant coefficient was ownership by the CEO, and finally in high growth firms, duality seemed to explain the variance in fixed pay. Owners and boards in low growth firms seem to tie pay to fixed salary as was predicted.

In testing the impact of risk on the relationship between board, ownership and CEO compensation, model 1 that used the sum of salary & bonus as dependent variable, was significant only for the sample of low growth firms. Also, in that model, CEO ownership was significant. We would expect owners and boards to tie pay to fixed salary as opposed to performance in risky firms, yet the results using this model show that this assumption is also true for CEOs of non risky firms. This could be because managers no matter in general are risk averse, and therefore prefer types of pay that are certain. The model that used the change in sum of salary & bonus as dependent variables was significant for samples of both low and high risk firms. CEO and institutional ownership seemed to predict changes in fixed pay in low and high risk firms. In high risk firms, we expect owners and board members to try to limit their executives risk by giving them a larger fixed salary as opposed to more stock options which are a riskier type of pay. This finding supports hypothesis 3. Finally, the model that used the proportion of long-term compensation as dependent variable was significant only when tested on the sample of high risk firms. In that model institutional ownership and ownership by insiders were significant. Although we have predicted that it is best in high risk firms not to link pay to performance in order to reduce the manager's risk, the results show that both ownership

by institutions and insiders predict the proportion of long-term incentives paid to executives. This finding imply that owners are continuing to tie pay to performance even when such action is not in their favor. As was mentioned earlier, tying pay too closely to performance in high risk firms might result in risk avoiding behavior on the part of the manager which will adversely affect firm performance and therefore shareholders' wealth.

IV. CONCLUSION & STUDY IMPLICATIONS

This study examined the relationship among elements of firm ownership, board of director's control, and executive compensation. This section summarizes the study and suggests directions for future research.

This study attempted to examine the determinants of the amount of fixed compensation, the change in amount of fixed compensation, and the proportion of long-term compensation. Its results provide additional insight into the dynamic impact of board control and ownership structure on CEO pay under differing growth and risk conditions.

The results show the importance of board control and a firm's ownership structure on CEO compensation, and that firm risk and growth affect that relationship. Generally, in the models tested, equity ownership by the CEO, role duality, ratio of insiders, institutional ownership, and ownership by insiders and large block-holders had the strongest influence on CEO compensation.

Overall, the results indicate the need for a more comprehensive model of CEO compensation that takes into account factors like risk and growth. In addition, although previous research suggested that control is the most important board task, this study suggests that with regards to influencing CEO behavior, it is the type of control that is more important, and warrants further consideration. This implies that it is the dynamic interaction of different firm approaches to control like: ownership concentrations, board

composition, managerial risk aversion, competitive market conditions, or a combination of several that result in differences in CEO compensation.

Suggestions for future research:

- (1) This study viewed the determinants of CEO compensation cross-sectionally, whereas actual pay depend on the CEO's cumulative performance (Finkelstein & Hambrick, 1988). Cross-sectional analysis makes it difficult to identify the direction of cause-effect relationships. A longitudinal study of the determinants of compensation would better capture real effects.
- (2) While this study accounts for present and past performance, firm size, CEO age, and industry differences, various other probable determinants of compensation need to be accounted for. Examples include CEO tenure, working experience, education; differences in organizational complexity.
- (3) This study investigated the effects of board insiders, CEO duality and board stock ownership on CEO pay. Future research should look at other board composition measures such as the degree of demographic similarity between the CEO, and new board members. From an agency perspective, board members should actively monitor the new director nomination and selection process to protect the interests of shareholders. Westphal and Zajac (1995) investigated the antecedents and consequences of increased demographic similarity between new board members and

both CEOs and existing board members, and found that in general, both CEOs and existing board members favor new directors who are demographically similar to them. A situation that is likely to have an effect on subsequent board decision-making, and in the case of compensation is likely to result in more generous CEO compensation contracts. Their findings also suggest that increased demographic similarity between the CEO and board members is likely to also affect the form or mix of CEO compensation by reducing the need for performance –contingent CEO compensation, which is the primary mechanism by which companies reduce the so-called agency problem that arises in large corporations(Jensen & Meckling, 1976). This is because to the extent that CEOs and board members are similar, boards are more likely to attribute good performance to the CEO's leadership and poor performance to factors in the environment beyond the CEOs control (Westphal and Zajac ,1995).

- (4) The sample of firms chosen in this study consisted of the largest U.S. firms as collected by Business Week. Such a sample is not representative of the general population of firms, which makes it difficult to generalize the findings. In addition, our separation of the sample into low, medium, and high levels of growth and risk, consisted of the largest firms only. This may have limited our variance. This is especially important since CEO compensation as a proportion of total operating costs is inversely proportional to firm size and considering that the effects of ownership structure would be more pronounced in smaller firms. Excluding them probably reduced the magnitude of effects in our results. As far as board control is concerned,

not including them also affects the results, since in large firms, it is more difficult for the Board to monitor the CEO, and to attribute financial results to CEO performance. Therefore, future studies should attempt to get hold of a more representative sample.

(5) In controlling for firm performance, this study used an absolute measure of performance such as the return on assets. Future research should investigate whether using relative performance evaluations instead would affect the results. The idea is that relative performance measured against the performance of competitors may be more strongly related to executive compensation than absolute performance. Empirical tests for the presence of relative performance evaluations in CEO pay decisions have been few, but have at least produced some supporting evidence (e.g., Antle & Smith, 1986). In addition, researchers like Kerr and Kren (1992) investigated the extent to which boards use relative decision monitoring to help them evaluate and compensate CEOs. They hypothesized that unique decisions made by management that are unlike any made by other managers in competing firms will moderate the relationship between performance and pay so that when it is present, performance will be more closely associated with pay. Using relative performance evaluation to predict CEO pay is not uncommon (Antle and Smith, 1987). Relative performance evaluation reduces the systematic risk managers' face by comparing their performance with that of the competitors. If evaluators can find a way to control for systematic risk (that is the risk common to all managers in any one group), they can better attribute organizational results to managerial effort or to external factors affecting all agents. Kerr and Kren (1992) suggest boards can monitor CEO behavior

by comparing their decisions to those of other managers in their group. Therefore, boards should attribute financial results to management's actions when their monitoring reveals evidence of unique decision making that is different from others in the group and compensate the CEO accordingly. In cases where there is no evidence of unique decision monitoring, Kerr and Kren (1992) predict no relationship between CEO pay and firm performance.

- (6) This study tested the impact of a firm's growth potential and its level of risk on the relationship between ownership structure, board monitoring, and CEO compensation. Future research should investigate the effects of other moderating variables such as the degree of firm diversification. Since diversification links shareholders' interests with those of managers.

Considering that early research has found little relationship between CEO pay and firm performance, this study which focused on CEO pay in a political context can offer researchers some insight into the effect of ownership structure and board power on executive pay decisions made by companies.

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