

# ***Top-Management-Teams' Compensation Packages***

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The purpose of the present work is to study the compensation package for top management teams. The analysis focuses on the annual pay plus change in equity portfolio value; its level, pay-performance sensibility and structure. Using a multilevel mixed-model approach on 589 companies from the S&P1500 between 1998 and 2005, the evidence shows that CEOs' compensation package are not isomorphic with those of corporate and divisional managers, while on average no significant differences are found between these two categories. Despite of this, the random effects show significant differences across companies. An analysis on corporate performance shows that the shareholder return is lower for companies where differences between corporate and divisional managers are larger.

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## **1 Introduction**

As large corporations grow in the business world, management is a “shared activity, extending well beyond the chief executive” (Hambrick, 1995 p.111). In these situations, Top Management Team (TMT) members become more significant. The characteristics of their jobs differ from those of CEOs and among themselves. These differences among members sometimes create fragmentation within TMT, which makes them more of a “group” than a “team”, because of their low level of coordination and interdependency (Hambrick, 1994; 1995) and how they deal with the necessary conflicts (Eisenhardt & Bourgeois III, 1988; Eisenhardt, Kahwajy & Bourgeois III, 1997). Characteristics of the compensation system such as individual measures of performance or differences in compensation level between echelons might enforce this fragmentation. The research question for this paper is how compensation packages vary among TMT members, and which corporate characteristics moderate these differences.

This study contributes to the literature on executive compensation and more specifically adds to the sub-field on TMT. While there is substantial research on executive compensation --mainly on CEO's incentives; the sub-field of incentives for TMT is considered still in its seminal stage (Ang, Lauterbach & Schreiber, 2002a; Bebchuk, Cremers & Peyer, 2007; Brown, Matolcsy & Wells, 2007; Carpenter & Sanders, 2004; Carpenter & Sanders, 2002; Henderson & Fredrickson, 2001; Siegel & Hambrick, 2005); and also as an “importantly and often debated component” of the literature on corporate governance (Core, Guay & Larcker, 2003a p. 27). Lambert, Larcker and Weigelt (1993) emphasize the need to develop basic knowledge on internal wage structure, while Hambrick (1995) encourages the development of further research on TMT, highlighting incentives as a key tool to address TMT's fragmentation. Not only empirical, but also development of formal models, are needed (Ang et al., 2002a; Carpenter & Sanders, 2002). Extensions from tournament and agency theories predict that differences in compensation level and links to corporate performance among top executives increases corporate performance, but these arguments do not take into account that executives are nested in a interdependent team (Carpenter & Sanders, 2002).

Specifically, this study extends the previous academic literature in several ways. It contributes to theory development analyzing the potential impact of corporate characteristics on corporate and

divisional managers compensation. Methodologically, previous literature evaluates differences in compensation level, structure and sensitivity across companies by comparing the members from one category against the members from another category (e.g., Ang et al., 2002a; Carpenter & Sanders, 2004; Siegel & Hambrick, 2005). Aggarwal and Samwick (2003) extends this analysis by taking into account the company effect. This paper contributes by using multilevel models which become an excellent tool for analyzing TMT compensation. While multilevel research began to be used in the mid-1990s, it has rarely been used in previous literature of incentives (Ang, Slaughter & Ng, 2002b; Loeb, 2003). This methodological contribution explicitly shows the possible fixed and random effects, as well as the cross-level characteristic of executives and companies that explain the variance in TMT compensation across companies. Regarding the sample selection and following Murphy's (1998) call for further research exploring recently available public databases on this topic, the sample is obtained from the new disclosure of information on business segments (SFAS 131) that allows for better disclosure of information based on a managerial approach (Berger & Hann, 2003; Berger & Hann, 2007; Botosan & Stanford, 2005). Finally, in addition to bonuses or other partial compensation (Ang et al., 2002a; Bushman, Indjejikian & Smith, 1995; Carpenter & Sanders, 2004; Siegel & Hambrick, 2005), this study follows Core, Guay and Verrecchia (2003b) who consider the total compensation package including the change in the portfolio value held by the executive, which is important because of the increasing use of equity-based compensation (Bebchuk & Grinstein, 2005; Core et al., 2003b; Hillegeist & Penalva, 2003).

Practitioners already highlight the importance of the compensation to TMT. In a survey study, Hambrick (1995) found that team-work deficiencies such as destructive rivalries, or groupthink are among the five most important problems for CEOs. Empirical evidence proves economic implications such as the aggregate compensation of the top-five executives increasing from 5 to 10 percent of the annual earnings between 1993 and 2003 (Bebchuk & Grinstein, 2005); and that TMT, instead of CEO compensation, has been the factor that determines future performance (Carpenter & Sanders, 2002; Henderson & Fredrickson, 2001). However, the CEO's proportion of aggregate TMT compensation has increased during the last decade (Bebchuk et al., 2007).

The evidence in this study shows significant compensation differences between CEOs and other members of TMT, but not significant differences between corporate and divisional managers.

Moreover, consistent with prior behavioral studies, the results suggest that the greater the difference between these two categories, the lower the market performance.

The following section describes the theoretical background and develops the main hypotheses. The research design is developed next, covering the sample selection, variable measurement and statistical methodology. Then, I report empirical results. This paper concludes with a summary of findings and conclusions as well as recommendations for further research.

## **1 Theoretical background and hypothesis**

TMT is comprised of the most influential executives in the company. TMT is responsible for the formulation and implementation of business strategy. There is no pre-determined number of members, however it usually ranges from five to twenty members, with a mean of ten members including the CEO (Hambrick, 1995; Siegel & Hambrick, 2005). After 23 interviews with chief executives, Hambrick (1995) concludes that TMT members are equally distributed among executives in charge of company wide support activities and executives responsible for a line of business or market. Similarly, Aggarwal and Samwick (2003) classify these members based on their responsibility and distinguish those with oversight authority of the entire firm—corporate managers—and those with divisional responsibility—divisional managers. For example, Main, O'Reilly and Wade (1993) find that 28% of executives reported to the SEC as “officers of the company” are divisional managers. All these classifications recognize that there is overlap among executives holding both types of positions.

As organizational goals cascade down the hierarchical structure, the incentive system has to align the interests of TMT with those of the CEO and in turn the shareholders (Carpenter & Sanders, 2002), while simultaneously accounting for individual job characteristics. Previous research shows that pay level, pay structure and performance measurement are the three most important characteristics of a compensation system (Murphy, 1998). Murphy (1998) shows that the total amount of reward, the compensation structure, and the weight allocated to each performance measure can vary significantly contingent upon job characteristics. This paper analyzes how each of these three elements of the incentive system differs across three categories of executive: CEO, corporate managers (CFO, CIO, etc) and divisional managers.

### ***Pay level***

The most important issue related to pay is not so much the absolute level, but the differences between hierarchies. This gap affects the sociopolitical dimension of the company with consequences on status, power and influences; affecting how people pursue their own interest or contribute to the organizational goal (Henderson & Fredrickson, 2001; Mahoney, 1979).

The literature on tournaments (Lazear & Rosen, 1981; Rosen, 1986) considers hierarchical organization an effective incentive system (Ritter & Taylor, 1997). The idea is that the difference in income between one echelon and the next increases competition; thus, managers exert greater effort to be promoted to a better-paid position (Conyon, Peck & Sadler, 2001). Furthermore, this theory predicts that the larger the gap, the higher the effort of the agents and, consequently, the greater the corporate performance. Previous empirical literature on TMT supports this prediction (Bingley & Eriksson, 2001; Eriksson, 1999; Heyman, 2005; Main et al., 1993; Prendergast, 1999).

In contrast, political economy and behavioral theories show that the disparity of incomes reduces performance, because it discourages cooperation, promotes self-serving efforts and sabotage (Akerlof & Yellen, 1990; Balkin & Swift, 2006; Carpenter & Sanders, 2004; Dye, 1984; Henderson & Fredrickson, 2001; Siegel & Hambrick, 2005). Additionally, if the executives perceive their compensation as unfair, they reduce effort, negatively impacting the corporate performance (Akerlof & Yellen, 1990). However, this team player model has its disadvantages because it offers fewer incentives for executive effort (Ang, Hauser & Lauterbach, 1998).

While the argument in favor of wider or narrower gaps might be disputable based on the previous argument and probable contingent upon each company's coordination needs (Henderson & Fredrickson, 2001), the fact that there is a gap between hierarchies, such as between CEOs and non-CEO executives, is broadly accepted and not exclusive property of tournament theory (Main et al., 1993 :629). Thus I expect CEOs will have a higher compensation than other members of TMT (Aggarwal & Samwick, 1999b; Ang et al., 2002a; Ang et al., 1998; Carpenter & Sanders, 2002; Conyon et al., 2001; Lambert et al., 1993; Main et al., 1993; Murphy, 1985).

When considering the impact on future performance, the variation in pay among non-CEO members of TMT is even more important than the gap between CEOs and the other members

(Carpenter & Sanders, 2002; Henderson & Fredrickson, 2001). However, the research on pay disparity within TMT is still underdeveloped (Henderson & Fredrickson, 2001; Siegel & Hambrick, 2005). Rigorous pyramid structures are not common in large business organizations, and corporate positions, such as treasurer or general counsel, might be equivalent to divisional managers despite the difference in subordinated structure (Mahoney, 1979). Conyon, Peck and Sadler (2001), working with one hundred of the largest publicly traded companies in UK between 1997-1998, consider divisional managers as a higher category than corporate manager but report only weak evidence of higher total compensation for divisional managers over corporate managers. Thus, the relationship between corporate and divisional managers is still an empirical question.

Previous literature considers diversification as a key contextual variable that affects not only the compensation for divisional managers but also for CEOs (Geletkanycz, Boyd & Finkelstein, 2001). The literature on tournament theory considering the number of segments as a proxy for numbers of participant and predicts that the gap between CEO and other executives will increase with the number of business segments (Henderson & Fredrickson, 2001). The literature on information-processing demand suggest that the CEOs' pay levels can be explained by the information processing skill required for the job. This information processing demand is measured by the number of subordinates and divisions that the CEO has in charge (Henderson & Fredrickson, 1996). The degree of diversification was similarly used as a proxy for managerial complexity (Cordeiro & Veliyath, 2003; Finkelstein & Hambrick, 1989). These approaches indicate that, for a fixed number of segments, the degree of diversification will be positively related with the gap between CEOs and other TMT members. Finally, the behavioral theory predicts that a greater unrelated diversification increases the gap between CEO and other executives because the lower coordination needs diminish the consequences of uncooperative behaviors (Henderson & Fredrickson, 2001).

*H1a The pay level for TMT members becomes smaller compared to the CEO's level as the degree of company diversification increases*

*H1b The pay level for TMT members becomes smaller compared to the CEO's level as the number of company segments increases*

I also hypothesized that the number of segments and the degree of diversification can be considered determinants of the corporate and divisional managers pay gap. Talent screening models (Darrough & Melumad, 1995) show that more skillful and better paid executives are hired for more diversified divisions while managers in charge of businesses more related with the CEO's background are less skillful. On one hand, following the screening models, it is understood that the pay level of divisional managers is lower in less diversified companies and the likelihood that corporate managers have responsibility for their functional areas across all the segments is greater. Consequently, the pay gap for corporate managers increases. On the other hand, building on the compensation-size sensibility argument and the information processing argument (Henderson & Fredrickson, 1996; Kostiuk, 1990), given a diversification degree, the higher the number of segments, the higher the compensation for the corporate managers with responsibilities across more segments; and the lower the compensation for divisional managers with divisions of smaller relative size.

*H2a The pay level for divisional managers is positively related with the degree of diversification.*

*H2b The pay level for divisional managers is negatively related to the number of segments.*

### ***Performance Measurement***

Another important characteristic of any compensation system is the performance measurement to which compensation is tied. Jensen and Meckling (1998 p. 1) defines performances evaluation as "the process of attaching value weights to various measures of performance to represent the importance of achievement on each dimension". A poorly defined measurement mechanism might harm the organization (Barnett & Cahill, 2006; Hauser, 1998). As a consequence, if there are no appropriate performance metrics, it is better to pay a fixed salary (Holmstrom & Milgrom, 1991).

Unlike compensation-level predictions, which are basically grounded in tournament theory, predictions about to which performance measure the incentive system is tied are mainly based on the agency theory. In this sense, the performance measurement system helps the principal to understand the agent's behavior and to discriminate whether performance is low because the agent is lazy or there is an exogenous shock or because the incentive contract does not provide

adequate incentive (Lambert, 2001). As a result, any performance measure that provides incremental information on agent actions should be considered when evaluating an agent (Feltham & Xie, 1994; Holmstrom, 1979).

Performance can be evaluated based on objective or subjective assessment, but it is rare to find mechanisms based only on one of these assessments. Most cases combine objective financial and non-financial measures with subjective assessment (Murphy & Oyer, 2001). Among these, financial measures are the most frequently used, as supported by Perry and Zenner (2001) who show that 97% of companies use some financial measure of performance.

Previous studies distinguish financial performance measures at the divisional and corporate level (Abernethy, Bouwens & van Lent, 2004; Aggarwal & Samwick, 2003; Bushman et al., 1995; Keating, 1997; van Lent & Bouwens, 2006). Because the purpose of this paper is to compare divisional and corporate managers, I evaluate pay-performance sensibility just with corporate performance measures that are supposed to be significant for managers at all levels (Aggarwal & Samwick, 2003; Ang et al., 2002a; Conyon et al., 2001).

Corporate measures are classified as accounting or market-based measures (Aggarwal & Samwick, 2003; Keating, 1997; Lambert & Larcker, 1987; Sloan, 1993). Accounting-based measures are, on one hand, considered important as a shield against non-controllable events in the market (Sloan, 1993). On the other hand, they are criticized because they are easily manipulated (Healy, 1985). Market-based, or price-based measures, are not only considered forward-looking, but also to summarize the opinion of a large number of analysts and investors, and so are considered less manipulable. Following a broad set of prior literature (Aggarwal & Samwick, 2003; Core et al., 2003b; Davila & Peñalva, 2006; Sloan, 1993), both performance measure types are considered for this study.

Corporate performance is a good indicator of CEO performance because the CEO is responsible for the whole organization; but this measure becomes a noisier indicator of executives' performance as we move down the organization where managers have responsibilities for smaller parts of the company and thus are focused on their own performance (Bushman et al., 1995; Core et al., 2003a; Hambrick, 1995). The CEO has to assign responsibilities among TMT through

division of labor. On one hand, it is difficult to evaluate corporate managers based on their marginal contribution to the company because they are only partially responsible for the whole organization. Further, individual performance is better evaluated based on other non-financial measures or subjective assessments. On the other hand, divisional managers' main responsibility is for their own business (Aggarwal & Samwick, 2003; Lambert et al., 1993), from which principals can obtain a more precise signal of performance; and consequently, divisional managers are typically evaluated based upon their unit's performance (Aggarwal & Samwick, 2003; Lambert et al., 1993). Empirical evidence supports that CEO incentives are more related with corporate performance (Aggarwal & Samwick, 2003; Ang et al., 2002a; Ang et al., 1998; Conyon et al., 2001), while divisional managers are more closely tied to divisional performance (Bushman et al., 1995; Hambrick, 1995). Despite this, it is noteworthy that corporate performance retains some conditional information for corporate and divisional managers (Bushman et al., 1995; Hambrick, 1995) and at the same time reduces TMT fragmentation (Hambrick, 1995).

Regarding the comparison between corporate and divisional managers, Conyon and Sadler (2001) show divisional managers to have larger pay-performance sensitivity than corporate managers, but Aggarwal and Samwick (2003), working with ExecuComp information between 1993-1997, show the opposite relationship. Finally, Ang, Lauterbach and Schreiber (2002a) are not able to find a sizeable difference among executives below CEO.

Despite the ambiguous results on pay sensibility of divisional versus corporate managers, and based on the controllability principle (Aggarwal & Samwick, 2003; Lambert et al., 1993), it is possible to predict that the pay-corporate performance relationship will be lower for divisional managers than for CEOs and also lower than for corporate managers.

*H3a The pay-corporate performance elasticity is lower for TMT than for CEO.*

*H3b The pay-corporate performance elasticity is lower for divisional than for corporate managers.*

Keating (1997) in a survey-based study, shows that the relative size of the division is positively related with divisional managers' sensitivity to corporate performance --both market and accounting performance. It is logical to assume that, on average, the more segments in the company, the lower the relative size of the divisions, and the lower their link to corporate performance (Bushman

et al., 1995). This paper predicts the pay-corporate performance sensitivity for divisional managers will be negatively related to the number of segments. Additionally, previous literature predicts and shows a negative relationship between the divisions' interdependencies and the use of divisional performance measures (Abernethy et al., 2004; Bushman et al., 1995). This argument is also supported by talent screening models (Darrough & Melumad, 1995) which predict the more skillful and better paid managers expect to obtain their reservation utility and are attracted by a higher pay-to-performance sensitivity while the others expect rents. Following these arguments I expect that the more diversified the company, the lower the relationship between divisional compensation and corporate performance.

*H4a The pay-corporate performance sensitivity is lower for divisional than for corporate managers as the number of segments becomes larger*

*H4b The pay-corporate performance sensitivity is lower for divisional than for corporate managers as the degree of diversification increases.*

### ***Pay structure***

A final characteristic of compensation for this analysis is the structure of the compensation package. Many papers highlights the importance of considering the compensation structure for a managerial perspective of incentives (Jensen & Meckling, 1976; Lambert et al., 1993; Sanders, 2001), and for understanding its link with organizational strategy and performance (Holthausen, Larcker & Sloan, 1995; Mehran, 1995). Executive compensation is generally composed of six components: base salary, annual bonus, restricted shares and stock options granted during the year, long-term incentive plans, other benefits and shares and stock-options held by the executive (Core et al., 2003b). Although most of these components are involved in executives' compensation, not all of them are used in every case (Murphy, 1985; 1998).

The structure is important because, there is no mechanical relationship between the prior pay-performance sensitivity and the participation of fixed salary in the total package; alternatively, the low sensitivity to corporate performance for one category, could be the result of a higher percentage of the compensation package attached to other types of performance.

Agency models between shareholders and CEOs assume delegation of decision rights to an executive who has greater skills, is better informed, and more specialized. The problem arises because the principal cannot observe whether the manager is performing the required actions, and in many cases, the principal doesn't know which actions are required to maximize company value. As the asymmetry of information increases, the contracts rely more on output-based mechanisms of control (Ouchi 1979; 1998), enabling the agents to choose the mechanisms that better contribute to the organizational goals. Empirical data supports that the proportion of fixed salary in total compensation is inversely related to information asymmetry problems (Ang et al., 2002a; Bebchuk et al., 2007; Core et al., 2003a).

The information asymmetry is lower for lower organizational levels where managers become closer monitored by CEOs and peers, and have less discretion. Incentives are viewed by agency theory as substitutes for monitoring (Holmstrom, 1982). Therefore, increasing the level of monitoring reduces the performance-based components of compensation and consequently, it increases the proportion of fixed salary in total income. Based on these assumptions and evidence from empirical literature (Ang et al., 2002a), I predict that the proportion of fixed salary in total income will be lower for CEOs than for corporate and divisional managers.

When comparing corporate managers with divisional managers, the latter have more specific information about their line of business or geographical area, increasing the information asymmetry and reducing the possibility of close monitoring. Further, corporate managers are in general staff positions, while CEOs or divisional managers retain decision rights, thus reducing the controllability that corporate managers have over performance. While previous research on the bank industry is not able to find significant differences among executives below the CEO (Ang et al., 2002a); based on the previous arguments, I predict that fixed salary as percentage of total income is lower for divisional managers than for corporate managers.

*H5a The ratio of fixed salary to total income is lower for CEOs than for divisional managers.*

*H5b The ratio of fixed salary on total income is lower for divisional managers than for corporate managers*

## 2 Research design

### *Sample selection*

I obtain the sample from Wrds-Compustat, specifically from Compustat Segments and Compustat Executive Compensation (ExecuComp). The Compustat Segments includes all companies that file with the SEC. The information for the period of this analysis is that reported under SFAS No. 131 (from 1998 to 2005). This statement requires companies to report segment information based on the "management", or operating segment, approach rather than the "industry segment" approach required under SFAS No. 14. Additionally, SFAS No. 131 requires disclosures about the company's products and services, major customers and geographic areas. Thus, the information on Compustat Segments are reported for business and geographical diversification.

ExecuComp includes all the S&P 1500 plus companies removed from the index that are still trading, and some included at client requests. The S&P 1500 contains larger firms, with stronger returns, and smaller growth opportunities than the population. See Cadman, Klasa and Matsunaga (2006) for a review of possible consequences of these characteristics. The executive compensation reported by companies includes only the five highest-paid executives each year, thus the definition of TMT is restricted to these five executives, which is commonly considered a representative sample of TMT (Carpenter & Sanders, 2002; Henderson & Fredrickson, 2001; Main et al., 1993).

The sampling process is reported in TABLE 1. It starts with the sample of companies in Compustat Segments. The query requests all the information for fiscal years (YEAR) 1998 to 2005. This produces 12,220 companies. In order to avoid changes in segment definition due to restatements, I require that fiscal year of information (YEAR) equal the fiscal year of the source used to collect segment data (SRCYR). Next, I remove segments with ID (SID) equal to "99" and segments with negative sales to eliminate the information about eliminations, adjustments and unallocated information. The final step for this first stage is to delete all the companies that reported less than two segments in both diversification type. This process yields 214,979 Firm-Segment-Year observations that derive from 69,957 Firm-Segments in 10,220 firms.

The next query requires collecting information from ExecuComp for the original 12,220 companies (GVKEY) during the same period. The data from multiple grants in the same year is aggregated

obtaining a unique annual observation for each executive in each company. This yields information on 18% (2,213) of companies in the Compustat Segment database, and after removing managers without IDs it results in 81,627 Firm-Manager-Year observations, that involve 21,054 Manager-Firm observations in 2,175 companies.

With both Segment and ExecuComp databases cleaned, the combination yields a dataset of multi-divisional companies with information in ExecuComp. This dataset is composed of 69,342 Firm-Segment-Year observations and 81,207 Firm-Manager-Year observations in 2,081 firms.

The next step is to identify those managers who are CEOs, those in a corporate position - CFO, general counsel, CIO, etc – and those in charge of an specific segment. This classification scheme is similar to that of Aggarwal and Samwick (2003) and Conyon and Sandler (2001). CEOs are already identified by year in ExecuComp (CEOANN), thus the first step is to manually identify all the other managers' titles (TITLEANN) that more probably belong to corporate managers (Aggarwal & Samwick, 2003).

There is no database link between a specific segment and the executive in charge of it. Thus the next step consists of manually reviewing all the annual reports for segments and executives. When the segment name (SNAME) matches the manager's title description (ANNTITLE), the manager-company identification code (CO\_PER\_R) is assigned to the segments linking ExecuComp and Compustat Segment databases at the segment level. In addition, a dummy variable is created for cases where there is doubt about the match between the title and the segment name or because there is more than one manager potentially in charge of the segment. Additional corporate managers are able to be identified as such during this manual review, considering the information about the companies and its segments. This process produces a new dataset of executives in multi-divisional companies that can be identified as CEOs (12,607 annual observations), corporate managers (19,777) and divisional managers (3,141), taking into account only managers classified unequivocally and in charge of no more than one segment.

A final refinement process is run on this new dataset. The first criterion removes executives with repeated executive codes (EXECID), executives with repeated executive code within the company (COPERR), and executives with more than one category across the annual observations. In order

to have a more balanced sample, the final step removes company-year observations without information on one of the executive categories – CEO, Corporate or divisional, thus at least three executives must be identified in order to include the company in the study (Ang et al., 2002a).

The final sample is composed by 6,517 executive-year observations and the decomposition shows that CEOs represent 25% (1,649), corporate managers 39% (2,524) and divisional managers 36% (2,344). These proportions display small changes when observing the executive levels without taking annual observations into account. For executives it produces 3,235, from which 21.5% are CEOs, 41% are corporate managers and 37.5% are divisional managers; slightly higher than the almost 30% of divisional managers found in TMT literature (Main et al., 1993). These observations belong to 589 companies.

TABLE1-Panel B shows the distribution of the annual observations across years. The percentage distribution remains stable, with an increasing number of observations probably due to a more accurate reporting under the new SFAS 131 (Berger & Hann, 2003; Botosan & Stanford, 2005). Finally, the smaller sample in 2005 might be attributable to information not yet uploaded to ExecuComp and is not likely to affect the present findings and conclusions.

TABLE 2 analyzes the characteristics of the companies in the final sample vs. companies without identified divisional managers. It shows that companies for which it is possible to identify a specific segment with an executive are usually larger, with higher returns and more diversification than the other companies reporting segments.

Incomplete data might insignificantly reduce the number of observations for each analysis.

### ***Variable measurement***

APENDIX 1 shows a summary of the main variables used in this study, including their name, description, source of information, algorithm and the unit in which is expressed

The variable of analysis is the compensation a manager receives during a year. Specifically, my interest is in how compensation level, structure and relationship with performances varies across managerial categories. Similar to Core, Guay and Verrecchia (2003b) this paper works with three

level of compensation: The first is the sum of salary and bonus, which represents the “Total Cash Compensation” (TCC). TCC plus the value of restricted stock grants, stock option grants, long term incentives paid and all other annual compensation gives the “Total Compensation” (TC). This is similar to the third level of compensation used by Conyon, Peck and Sadler (2001). The third measure is the “Change in Wealth” (CW); that involves the previous TC plus the change in value of portfolio held by the executive. The change in portfolio comprises the number of shares and stock options at the beginning of year multiplied by the change in stock and stock option values during the year (Core et al., 2003b). The price of the stock options for each year is the value of the portfolio of stock options divided by the number of stock options. 
$$\frac{([INMONEX]+[INMONUN])}{([UEXNUMEX]+[UEXNUMUN])}$$

To compare CW across categories and to assess whether it is significantly different or not, CW is scaled by the CW of the corporate CEO (CW\_scale) (Carpenter & Sanders, 2002; Henderson & Fredrickson, 2001). This construct is similar to the concept of pay disparity (Siegel & Hambrick, 2005). This new measure is more stable across companies and reduces the need to control for corporate characteristics that might affect the total amount of compensation for each category but not the relationship among them (e.g., corporate size). It is expected that the CW\_scale is significantly different from the one for non-CEO members of TMT, and is not significantly different when comparing divisional and corporate managers. This variable is positive and censored at zero, and this paper uses all the observations under the 99 percentile (Core et al., 2003b).

Hypotheses 3a and 3b deal with the relationship between CW and corporate performance. For this analysis, following Sloan (1993), Core, Guay and Verrecchia (2003b) and Davila and Peñalva (2006), the dependent variable is the unexpected change in wealth (UCW) --the unexpected percentage change between actual and expected change in wealth. Expected compensation is assumed to be equal to the previous year’s compensation for TCC and TC (Ang et al., 2002a; Core et al., 2003b; Davila & Peñalva, 2006), while for the WC, the lagged price performance is not a good proxy for portfolio expectation (Core et al., 2003b). Thus “Expected Change in Wealth” (ECW) is the portfolio at the beginning of the year times an expected return of 10% (Core et al., 2003b). The assumption is that the difference in UCW should be related with changes in performance. For TCC and TC, the unexpected change is transformed using  $\ln(1+\text{unexpected change})$ . An

alternative estimation for ECW is generated using expected returns based on company  $\beta$  at the beginning of the year. However these are not reported because there is no significant difference between these measures and those using a fixed 10% return.

The fifth hypothesis predicts behavior related to the fixed part of compensation. The dependent variable used for this analysis is the fixed salary of the executive divided by the ECW, TC and the TCC for the executive (Ang et al., 2002a; Murphy, 1998).

With respect to the explanatory variables, this research focuses on corporate measures of performance, executive categories, degree of diversification and number of segments as well as across-level product terms.

Corporate financial measures of performance are usually classified as market-based or accounting-based. Market-based performance is usually approximated by shareholders' return (MktRtn); and it is measured as the  $\ln(1 + \text{Annual Return})$  (Core et al., 2003b; Davila & Peñalva, 2006; Davila & Venkatachalam, 2003). "Annual Return" is the one year total return to shareholders, including the monthly reinvestment of dividends (Conyon et al., 2001; Siegel & Hambrick, 2005). This figure is obtained from ExecuComp (TRS1YR). Accounting-based measures used in the literature are numerous: change in sales (Aggarwal & Samwick, 2003), return on assets - ROA (Ang et al., 2002a; Brown, Sturman & Simmering, 2003; Campbell, Johnston, Sefcik & Soderstrom, 2007; Carpenter & Sanders, 2002; Conyon et al., 2001; Cordeiro & Veliyath, 2003; Davila & Peñalva, 2006; Henderson & Fredrickson, 1996; Lambert et al., 1993; Sloan, 1993); return on equity (Ang et al., 2002a; Henderson & Fredrickson, 1996; Lambert & Larcker, 1987) and change in earnings per shares scaled over stock price (Core et al., 2003b). ROA is most widely used for managers (van Lent & Bouwens, 2006); consequently, ROA is the accounting-based measure of performance in this paper and it is estimated as  $\text{Income before extraordinary items} / \text{average total Assets}$  (from Compustat  $\text{DATA18} / ((\text{DATA6}_t + \text{DATA6}_{t-1}) / 2)$ ). Following prior literature (Core et al., 2003b; Davila & Peñalva, 2006; Sloan, 1993), rather than ROA I use change in ROA (ROA\_Ch) because the dependent variable for the relationship between compensation and performance is the change in compensation.

At the executive level, the focus is on executives categories. Two dummies distinguish the three categories of executives. The dummy variable (nonCEO) equals zero when the executive is either a corporate or divisional manager, while the dummy variable (DIV) equals one when the executive is a divisional manager. These categories are identified through the process described in the "Sample Selection" section.

At the corporate level, the hypotheses focus on the number of segments and the degree of diversification. The number of segments is just the count of segments reported by each company, for both business (BusSeg) and geographical (GeoSeg) segments, in a given fiscal year. Regarding the degree of diversification, multiple diversification indexes are used in previous research to capture different aspects of diversification: the entropy index (Jacquemin & Berry, 1979), the concentric index (Caves, Porter & Spence, 1980; Montgomery & Wernerfelt, 1988), and the Hirschman-Herfindahl index. The Hirschman-Herfindahl index is the one used in this paper and it measures concentration of the corporate segments. The index is the sum of squares of each segment's contribution to corporate sales. Degree of diversification (BusDiv) is assessed as one minus the Hirschman-Herfindahl index in order to transform the index into a diversification, instead of concentration, index. BusDiv takes a value of zero when a company is completely specialized in its primary industry, and is asymptotic to one as the number of segments and its distribution of sales increase. The approach of this paper is to work with the degree of diversification as a proxy of organizational complexity and distance from the core business. Thus, it works with unrelated diversification, using aggregate sales within the same two SIC codes. Geographical diversification is not used because of the difficulty of measuring cultural distance between geographical markets and because many geographical segment are reported together such as "Middle East, South America, Mexico" or "Europe, Canada, Other Foreign". All these measures are time variant; thus, the average of all the annual observation during the period of analysis is used to characterize the corporate profile.

It is also important to consider an array of control variables frequently used in the literature that belong to the three levels of analysis: annual observation, executives and companies.

Two variables are taken into account at the executive level. The first measure refers to the degree of influence of a corporate or divisional manager on the board (ExeDir). Previous research shows managing directors use their influence to increase the compensation level and to reduce the pay-performance sensitivity (Conyon & Peck, 1998). ExeDir is the average of the annual observations of each executive for a dummy variable equal to one when the corporate or divisional managers are board members. The second control variable is the executive's gender because of the possible "glass ceiling" for women's compensation levels (Renner, Rives & Bowlin, 2002). When dummy variable ExeWoman equals one, the executive is a woman. It is not possible to control for executives' age and experience in the company due to the low number of observations in the sample with this information.

At the corporate level it is important to control for growth opportunities, relative noise in performance measures, business risk, financial policies and corporate governance characteristics.

Growth opportunities affect the choice of performance measures. Previous literature shows that new ventures, with higher growth opportunities, differ from small companies regarding the level and mix of pay (Balkin & Swift, 2006). Companies with higher growth opportunities are associated with more market-based performance and lower use of accounting performance for both CEOs (Baber, Janakiraman & Sok-Hyon, 1996; Ryan & Wiggins, 2001; Smith Jr. & Watts, 1992) and divisional managers (Balkin & Swift, 2006; Keating, 1997; Smith Jr. & Watts, 1992). Growth opportunity set is estimated as the market-to-book value of assets at the beginning of the year (MktBkRat) (Baber et al., 1996; Bushman et al., 1995; Core et al., 2003b; Keating, 1997). Specifically, the ratio is obtained from Compustat  $(DATA6-DATA60+DATA199*DATA25)/DATA6$ .

Relative noise in performance measures (AccNoise) is a widely used measure to model variation in the weight allocated to market versus accounting performance, because these weights would be distributed to reduce risk (Core et al., 2003b; Davila & Peñalva, 2006; Sloan, 1993). This paper uses the ratio of variance of ROA\_Ch during the last five years over the variance of MktRtn during the same period (Davila & Peñalva, 2006). Due to the distribution of this ratio, AccNoise was transformed as  $\log(1+Var(ROA\_Ch)/Var(MktRtn))$ .

Business risk increases the difficulty in determining whether lower performance is a product of inferior managerial performance or events beyond the manager's control (Bloom & Milkovich, 1998). Evidence shows business risk to be negatively related to the pay-performance sensitivity (Aggarwal & Samwick, 1999b; Bloom & Milkovich, 1998; Cichello, 2005; Govindarajan, 1984; Miller, Wiseman & Gomez-Mejia, 2002). Consequently, business risk is found to increase the base salary as a mechanism to reduce risk-averse behavior (Bloom & Milkovich, 1998; Cordeiro & Veliyath, 2003). The proxy for business risk (BusRisk) is  $\text{Log}(1 + \text{business volatility})$ ; where business volatility is the Black and Sholes volatility as reported by ExecuComp (BS\_VOLAT) (Davila & Venkatachalam, 2003).

Financial policies such as increasing debt and dividend payout are shown to be substitutes for the need for monitoring and provision of incentives to employees (Aggarwal & Samwick, 2003; Begley & Feltham, 1999; Garvey, 1997). These policies reduce available cash flow and the possibility of managers' involvement in non-value maximization activities such as perquisites consumption. Next, the motivational role of incentives is diminished as is the corporate need to pay for the imposed risk to the manager (Gul & Tsui, 2001; Jensen, 1986; Smith Jr. & Watts, 1992). Debt policy (Debt) is measured as the ratio of total debt over debt plus market value of equity (Crutchley & Hansen, 1989), with Compustat information  $(\text{DATA6} - \text{DATA60}) / (\text{DATA6} - \text{DATA60} + \text{DATA25} * \text{DATA199})$ . Dividend payout (Dividends) is represented by the dividend yield (Smith Jr. & Watts, 1992) as reported in ExecuComp (DIVYIELD).

Corporate governance profile is becoming a frequent construct to explain variation across companies in executive compensation (Boyd, 1995; Collins, Gong & Li, 2007; Conyon & Peck, 1998; Cordeiro & Veliyath, 2003; Davila & Peñalva, 2006). In organizations where the executives are more involved on the board, the compensation system increases the weight of accounting measures at expenses of market measures of performance (Davila & Peñalva, 2006). Based on this literature, this study uses four measures of corporate governance: CEO duality (Boyd, 1995; Collins et al., 2007; Cordeiro & Veliyath, 2003; Davila & Peñalva, 2006), CEO and internal members on the compensation committee (Collins et al., 2007; Conyon & Peck, 1998; Cordeiro & Veliyath, 2003) and participation of internal members on the board (Collins et al., 2007; Conyon & Peck, 1998; Davila & Peñalva, 2006). CEO duality (CEOChr) measures the degree of possible

influence of the CEO on the board due to having been the CEO and chairman of the board. This construct is measured as the average of the company annual observations for a dummy variable that equals one when the CEO is also the Chairman of the Board. Similarly, the degree of possible influence of the CEO on the compensation committee is measured by the average of the annual dummy variable that equals one when the CEO is a member of the compensation committee (CEOComp). The internal members in the compensation committee (IntComp) is the average of an annual dummy variable equal to one when at least one internal director other than CEO is a member of the compensation committee. Finally, participation of internal members (IntRatio) is the average of the annual proportion of directors who are employees of the company. All this information is collected from IRRC. The expectation in previous literature is that these variables increase the compensation level while at the same time reduce the link between pay and performance (Conyon & Peck, 1998; Cordeiro & Veliyath, 2003).

Year is finally considered to control for possible macroeconomics trends.

Size is a time variant variable measure, widely used as a control variable in previous research both on executive incentives (Aggarwal & Samwick, 1999a; Balkin, Markman & Gomez-Mejia, 2000; Brown et al., 2007; Core et al., 2003b; Davila & Venkatachalam, 2003; Finkelstein & Hambrick, 1989) and segment reporting (Berger & Hann, 2003; Keating, 1997). Although this study uses dependent variables that could be considered stable across company size, corporate size is reported in the descriptive statistics to gain a better idea of sample profile. Size is traditionally measured through market value (Baker & Hall, 2004; Brown et al., 2007; Cichello, 2005; Schaefer, 1998), assets (Baker & Hall, 2004; Cichello, 2005; Schaefer, 1998), sales (Cichello, 2005; Davila & Venkatachalam, 2003; Smith Jr. & Watts, 1992) or number of employees (Cichello, 2005). The proxy used by this paper is market value of assets (MktVal) (Baker & Hall, 2004); and it is measured as the value of the outstanding shares at the end of the fiscal year plus the book value of debt estimated as the value of assets minus the value of common equity  $(DATA199*DATA25)+(DATA6-DATA60)$ .

### ***Statistical Methodology***

A common practice in previous papers in the field is to compare statistics across categories without considering the nested effect of the company and the manager to whom the information belongs (Ang et al., 2002a; Conyon et al., 2001; Siegel & Hambrick, 2005). Even controlling for those fixed effects—both, company and executive fixed effects—most studies control for one of them at a time instead of considering both at the same time. Despite the fact that this procedure is used in prior literature, the problem is that it does not completely control for the nested character of the information and so it could produce a biased outcome for unbalanced samples (Raudenbush & Bryk, 2001).

Instead, to compare between categories but considering the nested effects, this paper uses multilevel mixed-effects linear regressions. This methodology not only allows for the consideration of executive and company effect at the same time, but also treats the intercept or the slope of a variable as random and decomposes the variance and covariance components between levels. More specifically, this study uses a three-level hierarchical model. The first level considers annual compensation and performance measurement for each executive in a specific company; the second level includes the executive's characteristics described in the variable measurement section that potentially explain the relationship between the dependent and the independent variables at the first level. Finally, the third level is related to the corporate characteristics that potentially moderate all previous relationships.

Combining analysis of variance and linear regressions, a multilevel mixed-effects linear regression runs a linear model where second and third level variables interact with first level variables or the intercept to explain variations of the dependent variable. Finally, similar to an analysis of variances, the mixed-effects linear regression reports the random effect for the previous coefficients at each of the three levels, indicating whether the mean of a specific coefficient obtained in the fixed model is stable across individuals of each level.

An incremental four-stage process is used, building each subsequent stage above the previous one. In the first stage no explanatory variables are considered, then I include the nonCEO dummy variable to consider the difference between CEOs and other executives, in the third stage I include the dummy variable to assess the differential effect for divisional managers. Finally the corporate

variables are included to model all prior relationships. As an example the final model for the first hypotheses is represented by:

$$\begin{aligned}
 CW\_Scale_{ijk} = & \beta_0 + \beta_1 non\_CEO_{jk} + \beta_{11} non\_CEO_{jk} * CEO\_Chr_k + \beta_{12} non\_CEO_{jk} * CEO\_Comp_k + \\
 & \beta_{13} non\_CEO_{jk} * IntRatio_k + \beta_{14} non\_CEO_{jk} * BusDivers_k + \beta_{15} non\_CEO_{jk} * BusSegments_k + \\
 & \beta_{16} non\_CEO_{jk} * GeoSegments_k + \beta_2 DIV_{jk} + \beta_{21} DIV_{jk} * BusDivers_k + \beta_{22} DIV_{jk} * BusSegments_k + \\
 & \beta_{23} DIV_{jk} * GeoSegments_k + \beta_3 ExeDir_{jk} + \beta_4 ExeWoman_{jk} + \beta_c X_{jk}^c + u_{02k} * DIV_k + u_{00k} + r_{0jk} + e_{ijk}
 \end{aligned}$$

In this model  $CW\_Scale$  is the dependent variable and represents the year  $i$  executive  $j$  pay level scaled by the corporate CEO in company  $k$ . The  $\beta$  coefficients correspond to the fixed effect part and they are the regression intercept and the slopes of the explanatory variables. The assumption is that these parameters are the same for all companies and executives and time invariant. The coefficients  $\beta_{010}$  and  $\beta_{020}$  respectively correspond to the executive level variables  $non\_CEO$  and  $DIV$  and are the coefficient to support the difference between CEOs and other corporate as well as the difference between corporate and divisional managers. The product terms of these two variables with  $BusDivers$ ,  $BusSegments$  and  $GeoSegments$  show how the corporate level variables model the effect of  $non\_CEO$  and  $DIV$  across companies. The other executive level variables and product terms with other corporate variables are the control variables for this model. Finally, to obtain unbiased estimators I also include as explanatory variable in each model, a vector of components of any product term used in the model ( $X_{jk}^c$ ) where  $c$  represent the number of components not considered previously (Whisman & McClelland, 2005). However, only the product terms of interest are reported.

The random effect part is composed by the  $r$ ,  $u$  and  $e$  terms. The  $e_{ijk}$  represent the error term for each annual observation's prediction. The random effect consider the possibility that  $\beta$  coefficients vary across executives or companies. The  $r_{0jk}$  represents the executive effect, the figures showed are the standard deviation of the random term across executives. Similarly, the  $u_{00k}$  shows the company effect and the standard deviation of the random term across companies is reported. This model allows the  $DIV$  effect to vary between companies, the figure show for  $u_{02k}$  is the standard deviation of the random  $DIV$  term across companies. This is important because prior ambiguous results might be the result of variation between companies but no significant differences in a fixed

model. Thus, while the  $\beta_{020}$  might not be significantly different from zero in the fixed effect part of the model, the  $u_{02k}$  might be very close to zero reinforcing the idea of non significant differences for divisional manager or it could be large enough to indicate large difference in one direction or the other for specific companies.

Following previous literature using this methodology, continuous explanatory variables are centered in relation to each variable grand mean. This transformation facilitates interpretation of coefficients and reduces the collinearity between variables and product terms effects (Aiken, West & Reno, 1991; Jaccard, Turrisi & Wan, 1990; McClelland & Judd, 1993).

### **3 Empirical Results**

#### *Descriptive Statistics*

TABLE 3 reports descriptive statistics for observations between the 1 and the 99 percentile of CW. PANEL A provides the general statistics across executive' categories and the total sample, while PANEL B reports the statistics for companies. These statistics involve 6,196 annual observations between 1999 and 2005, for 3,083 executives in 588 companies. For each category in PANEL A, the differences in observation numbers result from whether the variable is observed annually or aggregated at the executive level for the whole period; while in PANEL B the aggregation is at the company level.

As expected, the mean compensation for CEOs is higher than for any other executive, no matter which measure of compensation is used. Specifically, the CW for CEO is \$8.4 million, which is more than four times the mean for other executives in TMT. This gap is significantly lower between corporate and divisional managers. Corporate managers earn an average of \$1.9 million that is 4.6% above the \$1.8 million for divisional managers. The negative values for CW at the 1 percentile are the result of losses on the executives' portfolio that are larger than the TC.

The corporate managers participate more on boards as compared with their divisional colleagues, (ExeDir is 0.08 and 0.05). Women represent 8% of corporate managers, but only 5% and 2% of divisional managers and CEOs.

The annual observations for companies in the sample (TABLE 3 - PANEL B) show that these companies earn an average return in the stock market (MktRtn) of 5% and an accounting return (ROA) of 3% (consider that the statistics for MktRtn belong to its natural logarithm transformation). The average company in the sample has a market value of assets (market capitalization plus debt) of \$14.534 million. Regarding diversification, on one hand companies have a larger number of business segment (3.5) than geographical segments (2.9), while on the other hand, these companies have a Hirschman-Herfindahl index of unrelated business diversification (BusDiv) of 0.19 with large variability across companies.

TABLE 4 reports the Pearson correlation matrix. I calculate three correlation matrixes, because variables are measured at the annual, executive and corporate level. However, only the corporate level is reported since all significant correlations at lower levels remain significant at the corporate. Additionally, the model for pay-performance sensitivity uses the change in ROA (ROA\_Ch) instead of the ROA level, so the correlation matrix reports the change measure.

It is important to notice that almost all the absolute value of correlations are below 0.5, suggesting that the variables considered capture different characteristics of the companies and the executives. The few cases that exceed 0.50 are expected and appear predominantly between dependent variables used in different analyses such as TC and TCC.

### ***Hypothesis testing***

TABLE 5 reports several models related to compensation level gaps. The first column is the full unconditional model for the CW\_scale. The intercept coefficient of 0.53 means that the average CW for all executives in the sample is 53% of their corporate CEO's CW.

The second model (Column 2) considers the dummy variable nonCEO (0.67), as well as the dummy variable ExeWoman that controls for the possible impact of the executives gender and the variable for ExeDir. Now the intercept coefficient is 1 by construction for all the CEOs. The coefficient for nonCEO is the difference in percentage for non-CEO executives with respect to CEO change in wealth. This coefficient strongly supports the expectations of non CEO executives having a CW that is lower (67%) than that of corporate CEOs. As expected, this difference is smaller when the executive is a board member. ExeWoman do not seems to have any impact in the model.

Next, the dummy variable for divisional managers is added to the model (Column 3), The coefficient for DIV shows that CW\_scale for divisional managers is not significantly different than for others non-CEO members of TMT, in this case corporate managers. Considering the DIV parameter as varying randomly across companies provides additional information. Based on the fixed effect model it is possible to assume that average difference between corporate and divisional managers is zero; the benefits of the multilevel mixed-effects linear regression is the information provided by the random effects that show how these coefficients vary across companies. The standard deviation for DIV random effect (0.1) indicates that there are companies where divisional managers' CW is below and above corporate managers for 20% of CEO change in wealth ( $0 \pm 1.96 * 0.1$ ).

The full model for CW\_scale (Column 4) takes into account the corporate characteristics that might moderate the previous coefficients. The evidence shows that including this characteristics reduces the variance of the random parameter DIV across companies in 30% ( $0.083^2 / 0.1^2 - 1$ ). However, hypotheses 2a and 2b are not supported because the corporate characteristics considered in this model, are not significantly different from zero when interacted with DIV. When interacting the nonCEO dummy variable with corporate characteristics, it is found that counter to predictions of hypothesis H1b the coefficient for GeoSeg is positive, although it is very close to zero and just significant at 10%. Moreover, it should be considered cautiously because this significance disappears in the subsequent models. The coefficients on BusSeg, also related with Hypotheses H1b, are not significantly different from zero in any model, neither is the coefficient on BusDiv related with Hypotheses H1a. These results do not support the arguments from tournament theory or information demand for TMT.

The product term of nonCEO with CEOChr is negatively and significantly related to CW-scale, meaning that CEO duality increases the gap between CEO and non-CEO executives (66%). Moreover, ExeDir already indicates account for the fact that executives that are members of the board have more responsibility and in consequence are paid higher; thus, the negative coefficient on the product term between nonCEO and IntRatio, together with the coefficient for ExeDir, indicates that members other than CEO also exercise their bargaining power individually and not for the rest of the TMT.

The next three columns consider models very similar to the last reviewed. The dependent variable in each case is the same ratio of executive over CEO but estimated on ECW, TC and TCC respectively. The corporate explanatory variables gain significance as the analysis proceeds toward dependent variables with less overall model error (see standard deviation in the descriptive statistics for the dependent variables). This effect is consistent with literature on the methodology of product term effects, where less noise means that reliable effects are easier to detect (McClelland & Judd, 1993). For example, the ECW model (Column 4) runs under more controlled conditions, where change in stock and stock option value is fixed at 10% annual return (Core et al., 2003b). In this case, the two characteristics of corporate governance related with CEO power (CEOChr and CEOComp) are significant and consistent with CEOs using their political position to increase the expected compensation (74% and 8% respectively). In the TC (Column 5) model, divisional managers seem to receive 2% higher compensation than corporate managers, but this result is not strong. The TCC model (Column 6) yields more significant product terms. This model highlights that divisional managers seem to have a significantly higher TCC than corporate managers (3% of CEO's TCC). Finally, the gender effect seems to appear only for the case of ECW and TCC where is weak.

While there is evidence that divisional managers receive higher income than corporate managers for two measures of compensation (TC and TCC). The large standard deviation for the random effect in both TC and the TCC models show that the effect reported in the fixed effect model might change from one company to another. Divisional managers' TC could range from 27% above to 23% below the corporate managers' TC based on corporate characteristics not considered in this paper. For TCC, the range is from 26% above to 19% below ( $0.03 \pm 1.96 * 0.114$ )

Thus, the first result supports CEOs with higher total compensation than other members of TMT. It also shows not significant differences between corporate and divisional managers. It is important to note that while on average no difference is expected between these categories, treating slopes as random it is possible to find differences in CW\_scale of 20% across companies. Contrary to previous studies based on tournament theory (Conyon et al., 2001) and information demand (Henderson & Fredrickson, 1996) that find the number of segments positively related with

compensation, the hypotheses relating corporate characteristics of diversification with nonCEO and DIV gaps are not supported in this paper.

TABLE 6 has a similar structure to the previous table, but now the dependent variable is the UCW and the most important explanatory variables are MktRtn and ROA\_Ch at the annual level, which subsequently are related with executive and corporate characteristics. To obtain comparable coefficients for MktRtn and ROA\_Ch, these variables are introduced in the model not only centered but also standardized. Consequently, the coefficients should be interpreted as related to their standard deviations regarding the grand mean of each variable.

The first column in this table is the unrestricted model where the intercept (0.55) means that taking all the executives in the sample, CW is 55% higher than ECW. The second column shows a model including MktRtn and ROA\_Ch, as well as YEAR, as a continuous variable, to distinguish possible macro-economic trends. Additionally, nonCEO and ExeDir are considered at the second level. This model shows a positive and significant coefficient only for MktRtn (1.69). The coefficient for the product term of MktRtn and nonCEO (-1.02) supports Hypothesis 3a, with non-CEO executives significantly less tied to MktRtn than CEOs. The non-significant coefficient for ROA\_Ch extends to non-significant conclusions for differences between executives. The next column includes the dummy variable for divisional manager. When interacting with MktRtn, this dummy variable has the sign predicted in hypothesis 3b, but the effect is not statistically different from zero. Once more the standard deviation of the random parameter DIV at the company level, shows significant differences among companies.

Finally, the previous relationships are modeled based on corporate characteristics (Column 4). Now the coefficient indicates that the unexpected change is only 24% higher than the ECW. This is the result of including the executive and corporate characteristics to explain its variation. No changes regarding the support for Hypothesis 3a and 3b; there is significant support for the non-CEO executives less tied to MktRtn than CEOs but no significance on the product term between divisional managers and MktRtn or ROA\_Ch. The product terms to support hypotheses 4a and 4b on BusDiv and BusSeg when modeling the link to performance for divisional managers are not significant either.

The model also includes many control variables from prior literature in order to obtain non-spurious results. As expected, the link between market return and UCW is significantly higher when the MktBkRat increases (0.04). Contrarily and against theoretical predications, the effect of AccNoise reduces the link with MktRtn as the variance of ROA\_Ch increases (-0.47). The proxies for managerial power have many product terms with significant effects consistent with expectations. The case of internal members of the board is interesting; regarding MktRtn, the coefficient of IntRatio indicates internal members increase the pressure for performance for their CEO, but when interacted with nonCEO, it shows internal members reducing the pressure for performance for the rest of TMT.

In summary, this second analysis supports Hypothesis 3a with a stronger link with corporate performance for CEOs than non-CEOs, but there is no evidence supporting hypothesis 3b that divisional managers' compensation is less sensitive to corporate performance than their corporate colleagues. This analysis do not support Hypotheses 4a and 4b either, the products terms for degree of diversification and the number of business segments are not significantly different from zero to model the difference in link to corporate performance between corporate and divisional managers.

Regarding the 5 hypotheses, TABLE 7 reports mixed models for fixed salary scaled by different measures of compensation as proxies for compensation structure. The model is developed incrementally for ECW, while the full model is presented for TC and TCC. There is strong support for Hypothesis 5a, with the proportion of ECW composed by fixed salary for non-CEO executives being 2500Bp higher than for CEOs (Column 2). This coefficient remains positive and strongly significant when considered as a percentage of TC and TCC, but the difference falls to 700 and 600Bp, respectively.

The evidence for Hypothesis 5b on corporate managers holding a higher proportion of fixed salary than divisional managers is not that conclusive, as it is significant only for TCC (Column 6).

The results of random effects for DIV show that the reliability of the coefficient across companies increases when moving from ECW (Column 4) to TCC (Column 6). The standard deviation of the random term between companies when considering salary as a percentage of ECW (0.105)

indicates that the proportion for divisional managers varies from -1900Bp to +2200Bp of the proportion for corporate managers ( $0.01 \pm 1.96 * 0.105$ ), while the standard error based on TCC shows no variation across companies, confirming that the proportion of TCC composed by fixed salary is significantly lower for divisional than for corporate managers no matter the company that is considered. Including the corporate characteristics in the full model for ECW (Column 4) contributes explain the variance of the company effect for DIV in 12% ( $.105^2 / .113^2 - 1$ ).

Regarding the control variables, as expected, this table shows BusRisk and Dividends positively related with the ratio of fixed salary to the executive income, no matter which measure of compensation is used. Surprisingly, there is strong evidence of women having significantly higher proportions of fixed salary as percentage of ECW (7%). This effect disappears in the TC and TCC models, this change could be the result of a lower proportion of compensation in stock and stock options. Finally, YEAR has a modest effect, but negative and significantly different from zero. This indicates that bonus, long term plans, stock and stock options are in increasing proportion of TC, perhaps reflecting prior recommendations to increase pay for performance.

### ***Compensation Package and Performances***

The different results between companies reflected in the random effects of the previous analyses deserve further analysis. TABLE 8 – PANEL A shows possible implications of the differences between divisional and corporate managers' compensation packages on MktRtn. For the pay level, the link to corporate performance, and the compensation structure; I estimate the annual differences between an average divisional and corporate managers in each company. Specifically the differences are measure for CW\_scale, fixed and a new measure of sensitivity that, similar to Ang, Lauterbach and Schreiber (2002a), indicates the effect of market corporate performance on compensation  $(1+UCW)/(1+MktRtn)$ . Based on each difference (level, structure and sensitivity) the sample is divided in three categories: the first group represents the companies where the difference falls between percentile 1 and 21, the second group includes companies within percentile 40 and 60, and the third group is for companies between percentile 79 and 99. Thus, a company might belong always to group 1 or to group 1 based on CW\_scale, group 3 based on sensitivity, and group 2 based on Fixed. Companies with MktRtn below the 1 and above the 99

percentile are removed. This refinements of the sample, allows comparison of polar types of companies without the influence of possible outliers.

The first table shows on the horizontal axis the difference between divisional vs. corporate managers for pay level while the difference on sensitivity is shown on the vertical axis. The second table combines in a similar fashion the pay level with the structure, and the third table considers the structure vs. sensitivity. For each intersection, MktRtn is shown.

In the first table, the row "TOTAL" for differences in level and the column "TOTAL" for differences in sensitivity show a curvilinear relationship where MktRtn is higher when the differences are the smallest (7.2% and 14.4% respectively). Additionally, in both cases the returns are higher than the return grand mean (5.6%). Moreover, considering the intersections between both categories, the middle group has lowest differences and highest returns (16%). This path is stable across the three tables, adding to the literature that shows lower pay disparity associated with higher performance (Akerlof & Yellen, 1990; Balkin & Swift, 2006; Carpenter & Sanders, 2004; Dye, 1984; Henderson & Fredrickson, 2001; Siegel & Hambrick, 2005).

The final analysis regresses MktRtn on the three measures of differences to obtain a better assessment of significance (TABLE 8 – PANEL B). Because of the curvilinear relationship observed previously, the variables used in this analysis are squares of the differences used previously to create the groups. The first column shows an unconditional model for MktRtn, while the second column explains variation in MktRtn based on the differences described above for CW. It is possible to see that all these variables have negative signs and the coefficients for pay level and link to performance are strongly significant (-0.573 and -0.006 respectively). Moreover, the low standard deviation for the random effects show that the negative effects are stable across companies. This indicates that extreme differences negatively impact performance. Because of the possible mechanical relationship between MktRtn and the value of the executives portfolio, columns 3 and 4 show the same model for differences related to TC and TCC. Also for these models the significant coefficients are always negative. It is noteworthy that for these three models the intercepts are higher than for the unrestricted model (0.056); this shows that for companies where the three differences are not significantly different from zero the MktRtn is higher than the

MktRtn grand mean. The same mixed model was also estimated for lagged performance with the MktRtn of the next year. In this case the coefficients are not negative but not significantly different from zero either; this not only refutes the idea of difference between executives promoting concurrent or future performance, but it is also consistent with a general equilibrium in which is not possible to trade based on compensation differences.

Overall, these results might be considered supporting arguments on organizational justice where lower pay disparity was associated with higher performance (Akerlof & Yellen, 1990; Balkin & Swift, 2006; Carpenter & Sanders, 2004; Dye, 1984; Henderson & Fredrickson, 2001; Siegel & Hambrick, 2005). Additionally, compensation packages with very different weights on corporate performance among TMT do not seem to be efficient, as might be predicted by agency theory.

#### **4 Summary and conclusions**

The purpose of this study is to analyze TMT members' compensation packages, specifically their level, link to corporate performance, and structure. Compensation is measured as total wealth change, which includes not only the annual salary, bonus, grants and long-term incentives, but also the change in value of corporate stocks and stock options held. The sample involves CEO, corporate and divisional managers from S&P1500 companies between 1998 and 2005.

The evidence in this paper shows that CEOs' compensation packages are not isomorphic with those of other members of TMT, consistent with previous literature stating that "findings and theory applicable to the CEO will not generalize directly to the members of the team" (Carpenter & Sanders, 2002 p.510). In addition, consistent with Ang, Lauterbach and Schreiber (2002a) and contrary to Aggarwal and Samwick (2003), evidence here shows that, on average, there are no significant differences between divisional and corporate managers' compensation packages. However, when considering random effects across companies, I expect to find a large difference in one direction or the other based on corporate characteristics not identified by this study. Taking the example of total change in wealth, while the fixed effects model shows that on average it is not possible to predict differences between divisional and corporate managers, allowing the divisional

managers effect to vary across companies it is possible to see that there are companies where this difference reaches 20% in favor of divisional or corporate managers.

A final analysis on the differences between corporate and divisional managers' compensation packages shows that large differences do not promote higher performance. Actually, it seems that performance is higher when the compensation package is more isomorphic among non-CEO members of TMT.

Overall, the evidence in this paper might be interpreted as not supporting tournament theory, in the sense that even when previous literature considered divisional managers a higher hierarchical levels (Conyon et al., 2001), the gap between divisional and corporate managers is insignificant and a larger gap between these categories does not increase performance. In contrast the results in this paper add to the literature suggesting that agency theory does not always apply to real situations (Core et al., 2003b), and supporting arguments in organizational justice, not only because the difference between corporate and divisional managers is insignificant, but also because the performance seems to be higher as the difference decreases (Akerlof & Yellen, 1990; Balkin & Swift, 2006; Carpenter & Sanders, 2004; Dye, 1984; Henderson & Fredrickson, 2001; Siegel & Hambrick, 2005). This is in line with arguments suggesting that integrated TMT enables a rapid adaptation to changes in competitive environments (Carpenter & Sanders, 2002).

Caveats of the present study are related to sample bias that precludes generalizing conclusions to smaller, less diversified, and worst performing companies; although there is no reason to consider that the present findings are not extendable to other firms. Another challenge is that identification of TMT members based on the five highest-paid executives not only omits members but also is biased towards higher compensation levels, with smaller gaps with respect to CEOs and higher elasticity regarding corporate performance.

An important implication of this study for future academic studies is the application of multilevel analysis for information that is naturally nested, as is the case in most studies in business research. But even more important is that further research on characteristics of the company that explain differences across members of the management team is needed, as well as empirical studies to test how agency theory predictions about the use of performance applies to divisional managers.

## 5 References

- Abernethy, M.A., Bouwens, J., & van Lent, L. (2004). Determinants of Control System Design in Divisionalized Firms. *Accounting Review* 79, 545-570.
- Aggarwal, R.K., & Samwick, A.A. (1999a). Executive compensation, strategic competition, and relative performance evaluation: Theory and Evidence. *Journal of Finance* 54, 1999.
- Aggarwal, R.K., & Samwick, A.A. (1999b). The other side of the trade-off: The impact of risk on executive compensation. *The Journal of Political Economy* 107, 65.
- Aggarwal, R.K., & Samwick, A.A. (2003). Performance Incentives within Firms: The Effect of Managerial Responsibility. *Journal of Finance* 58, 1613-1650.
- Aiken, L.S., West, S.G., & Reno, R.R. (1991). *Multiple regression: testing and interpreting interactions*. Newbury Park, Calif.: Sage Publications.
- Akerlof, G.A., & Yellen, J.L. (1990). The Fair Wage-Effort Hypothesis and Unemployment. *Quarterly Journal of Economics* 105, 255-283.
- Ang, J., Lauterbach, B., & Schreiber, B.Z. (2002a). Pay at the executive suite: How do US banks compensate their top management teams? *Journal of Banking & Finance* 26, 1143.
- Ang, J.S., Hauser, S., & Lauterbach, B. (1998). Contestability and pay differential in the executive suites. *European Financial Management* 4, 335.
- Ang, S., Slaughter, S., & Ng, K.Y. (2002b). Human Capital and Institutional Determinants of Information Technology Compensation: Modeling Multilevel and Cross-Level Interactions. *Management Science* 48, 1427-1445.
- Baber, W.R., Janakiraman, S.N., & Sok-Hyon, K. (1996). Investment opportunities and the structure of executive compensation. *Journal of Accounting & Economics* 21, 297-318.
- Baker, G.P., & Hall, B.J. (2004). CEO Incentives and Firm Size. *Journal of Labor Economics* 22, 767-798.
- Balkin, D., & Swift, M. (2006). Top management team compensation in high-growth technology ventures. *Human Resource Management Review* 16, 1-11.
- Balkin, D.B., Markman, G.D., & Gomez-Mejia, L.R. (2000). Is CEO Pay In High-Technology Firms Related to Innovation? *Academy of Management Journal* 43, 1118-1129.
- Barnett, M.L., & Cahill, G. (2006). Measure Less, Succeed More: A Zen Approach to Organizational Effectiveness. *Philosophy of Management* 6.
- Bebchuk, L., & Grinstein, Y. (2005). The Growth of Executive Pay. *Oxford Review of Economic Policy* 21, 283-303.
- Bebchuk, L.A., Cremers, K.J.M., & Peyer, U.C. (2007). Pay Distribution in the Top Executive Team. *Working Paper Series, vol. Harvard Law and Economics Discussion: SSRN*.
- Begley, J., & Feltham, G.A. (1999). An empirical examination of the relation between debt contracts and management incentives. *Journal of Accounting & Economics* 27, 229-259.

- Berger, P.G., & Hann, R. (2003). The Impact of SFAS No. 131 on Information and Monitoring. *Journal of Accounting Research* 41, 163-223.
- Berger, P.G., & Hann, R.N. (2007). Segment Profitability and the Proprietary and Agency Cost of Disclosure. *Working Paper Series: SSRN*.
- Bingley, P., & Eriksson, T. (2001). Pay Spread and Skewness, Employee Effort and Firm Productivity. *Working Paper: 01-2, Department of Economics, : Faculty of Business Administration, Aarhus, Denmark*.
- Bloom, M., & Milkovich, G.T. (1998). Relationships among risk, incentive pay, and organizational performance. *Academy of Management Journal* 41, p283.
- Botosan, C.A., & Stanford, M. (2005). Managers' Motives to Withhold Segment Disclosures and the Effect of SFAS No. 131 on Analysts' Information Environment. *Accounting Review* 80, 751-771.
- Boyd, B.K. (1995). CEO Duality and Firm Performance: A Contingency Model. *Strategic Management Journal* 16, 301-312.
- Brown, M.P., Sturman, M.C., & Simmering, M.J. (2003). Compensation Policy and Organizational Performance: The Efficiency, Operational, and Financial Implications of Pay Levels and Pay Structure. *Academy of Management Journal* 46, 752-762.
- Brown, P.J., Matolcsy, Z.P., & Wells, P.A. (2007). Economic Determinants of Group versus Individual Compensation Schemes for Senior Executives. *Working Paper Series: SSRN*.
- Bushman, R.M., Indjejikian, R.J., & Smith, A. (1995). Aggregate Performance Measures in Business Unit Manager Compensation: the Role of Intrafirm Interdependencies. *Journal of Accounting Research* 33, 101-128.
- Cadman, B.D., Klasa, S., & Matsunaga, S.R. (2006). Evidence on How Systematic Differences between ExecuComp and Non-ExecuComp Firms Can Affect Empirical Research Results. *Working Paper Series: SSRN*.
- Campbell, K., Johnston, D., Sefcik, S.E., & Soderstrom, N.S. (2007). Executive compensation and non-financial risk: An empirical examination. *Journal of Accounting & Public Policy* 26, 436-462.
- Carpenter, M.A., & Sanders, W.G. (2004). The Effects of Top Management Team Pay and Firm Internationalization on MNC Performance. *Journal of Management* 30, 509-528.
- Carpenter, M.A., & Sanders, W.M.G. (2002). Top Management Team Compensation: The Missing Link Between CEO Pay and Firm Performance. *Strategic Management Journal* 23, 367.
- Caves, R.E., Porter, M.E., & Spence, A.M. (1980). *Competition in the Open Economy*. Cambridge: Harvard University Press.
- Cichello, M.S. (2005). The impact of firm size on pay-performance sensitivities. *Journal of Corporate Finance* 11, 609-627.
- Collins, D.W., Gong, G., & Li, H. (2007). Corporate Governance and Backdating of Executive Stock Options. *Working Paper Series: SSRN*.
- Canyon, M.J., & Peck, S.I. (1998). Board Control, Remuneration Committees, and Top Management Compensation. *Academy of Management Journal* 41, 146-157.
- Canyon, M.J., Peck, S.I., & Sadler, G.V. (2001). Corporate Tournaments and Executive Compensation: Evidence from the U.K. *Strategic Management Journal* 22, 805.

- Canyon, M.J., & Sadler, G.V. (2001). Executive pay, tournaments and corporate performance in UK firms. *International Journal of Management Reviews* 3, 141.
- Cordeiro, J.J., & Veliyath, R. (2003). Beyond Pay for Performance: A Panel Study of the Determinants of CEO Compensation. *American Business Review* 21, 56.
- Core, J.E., Guay, W.R., & Larcker, D.F. (2003a). Executive Equity Compensation and Incentives: A survey. *Economic Policy Review* (01476580) 9, 27.
- Core, J.E., Guay, W.R., & Verrecchia, R.E. (2003b). Price versus non-price performance measures in optimal CEO compensation contracts. *The Accounting Review* 78, 957.
- Crutchley, C.E., & Hansen, R.S. (1989). A Test of the Agency Theory of Managerial Ownership, Corporate Leverage, and Corporate Dividends. *FM: The Journal of the Financial Management Association* 18, 36-46.
- Darrough, M.N., & Melumad, N.D. (1995). Divisional versus Company-Wide Focus: The Trade-Off between Allocation of Managerial Attention and Screening of Talent. *Journal of Accounting Research* 33, 65-94.
- Davila, A., & Peñalva, F. (2006). Governance structure and the weighting of performance measures in CEO compensation. *Review of Accounting Studies* 11, 463-493.
- Davila, A., & Venkatachalam, M. (2003). The Relevance of Non-financial Performance Measures for CEO Compensation: Evidence from the Airline Industry. In B. Working Papers -- Duke Fuqua School of.
- Dye, R.A. (1984). The Trouble With Tournaments. *Econ Inq* XXII, 147-149.
- Eisenhardt, K.M., & Bourgeois III, L.J. (1988). Politics of Strategic Decision Making in High-Velocity Environments: Toward a Midrange Theory. *Academy of Management Journal* 31, 737-770.
- Eisenhardt, K.M., Kahwajy, J.L., & Bourgeois III, L.J. (1997). Conflict and Strategic Choice: How Top Management Teams Disagree. *California Management Review* 39, 42-62.
- Eriksson, T. (1999). Executive Compensation and Tournament Theory: Empirical Tests on Danish Data. *Journal of Labor Economics* 17, 262.
- Feltham, G.A., & Xie, J. (1994). Performance Measure Congruity and Diversity in Multi-Task Principal/Agent Relations. *Accounting Review* 69, 429-453.
- Finkelstein, S., & Hambrick, D.C. (1989). Chief Executive Compensation: A Study of the Intersection of Markets and Political Processes. *Strategic Management Journal* 10, 121-134.
- Garvey, G.T. (1997). Marketable Incentive Contracts and Capital Structure Relevance. *Journal of Finance* 52, 353-378.
- Geletkanycz, M.A., Boyd, B.K., & Finkelstein, S. (2001). The Strategic Value of CEO External Directorate Networks: Implications for CEO Compensation. *Strategic Management Journal* 22, 889.
- Govindarajan, V. (1984). Appropriateness of Accounting Data in Performance Evaluation: An Empirical Examination of Environmental Uncertainty as an Intervening Variable. *Accounting, Organizations & Society* 9, 125.
- Gul, F.A., & Tsui, J.S.L. (2001). Free Cash Flow, Debt Monitoring, and Audit Pricing: Further Evidence on the Role of Director Equity Ownership. *Auditing* 20, 4.
- Hambrick, D.C. (1994). Top Management Groups: A Conceptual Integration and Reconsideration of the "Team" Label. *Research in Organizational Behavior* 16, 171.

- Hambrick, D.C. (1995). Fragmentation and the other problems CEOs have with their top management teams. *California Management Review* 37, 110.
- Hauser, J.R. (1998). Research, Development, and Engineering Metrics. *Management Science* 44, 1670.
- Healy, P.M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting & Economics* 7, 85-107.
- Henderson, A.D., & Fredrickson, J.W. (1996). Information-Processing Demands as a Determinant of CEO Compensation. *Academy of Management Journal* 39, 575-606.
- Henderson, A.D., & Fredrickson, J.W. (2001). Top Management Team coordination needs and the CEO pay gap: A competitive test of economic and behavioral views. *Academy of Management Journal* 44, 96-117.
- Heyman, F. (2005). Pay inequality and firm performance: evidence from matched employer-employee data. *Applied Economics* 37, 1313-1327.
- Hillegeist, S.A., & Penalva, F. (2003). Stock Option Incentives and Firm Performance. *Working Paper Series: SSRN*.
- Holmstrom, B. (1979). Moral hazard and observability. *Bell Journal of Economics* 10, 74.
- Holmstrom, B. (1982). Moral hazard in teams. *Bell Journal of Economics* 13, 324-340.
- Holmstrom, B., & Milgrom, P.R. (1991). Multitask Principal--Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design. *Journal of Law, Economics & Organization* 7, 24.
- Holthausen, R.W., Larcker, D.F., & Sloan, R.G. (1995). Annual bonus schemes and the manipulation of earnings. *Journal of Accounting & Economics* 19, 29-74.
- Jaccard, J., Turrisi, R., & Wan, C.K. (1990). *Interaction effects in multiple regression*. Newbury Park: Sage Publications.
- Jacquemin, A.P., & Berry, C.H. (1979). Entropy Measure of Diversification and Corporate Growth. *The Journal of Industrial Economics* 27, 359-369.
- Jensen, M.C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *American Economic Review* 76, 323.
- Jensen, M.C., & Meckling, W.H. (1976). Theory Of The Firm: Managerial Behavior, Agency Costs And Ownership Structure. *Journal of Financial Economics* 3, 305-360.
- Jensen, M.C., & Meckling, W.H. (1998). Divisional Performance Measurement. *Foundations of Organizational Strategy*: Harvard University Press.
- Keating, A.S. (1997). Determinants of divisional performance evaluation practices. *Journal of Accounting & Economics* 24, 243-273.
- Kostiuk, P.F. (1990). Firm Size and Executive Compensation. *Journal of Human Resources* 25, 90-105.
- Lambert, R.A. (2001). Contracting theory and accounting. *Journal of Accounting & Economics* 32, 3-87.
- Lambert, R.A., & Larcker, D.F. (1987). An Analysis of the Use of Accounting and Market Measures of Performance in Executive Compensation Contracts. *Journal of Accounting Research* 25, 85-125.
- Lambert, R.A., Larcker, D.F., & Weigelt, K. (1993). The Structure of Organizational Incentives. *Administrative Science Quarterly* 38, 438-461.

- Lazear, E.P., & Rosen, S. (1981). Rank--Order Tournaments as Optimum Labor Contracts. *Journal of Political Economy* 89, 841.
- Loeb, J.W. (2003). Hierarchical Linear Modeling in Salary Equity Studies. *New Directions for Institutional Research 2003*, 69-96.
- Mahoney, T.A. (1979). Organizational Hierarchy and Position Worth. *Academy of Management Journal* 22, 726-737.
- Main, B.G.M., O'Reilly Iii, C.A., & Wade, J. (1993). Top Executive Pay: Tournament or Teamwork? *Journal of Labor Economics* 11, 606.
- McClelland, G.H., & Judd, C.M. (1993). Statistical Difficulties of Detecting Interactions and Moderator Effects. *Psychological Bulletin* 114, 376-390.
- Mehran, H. (1995). Executive compensation structure, ownership, and firm performance. *Journal of Financial Economics* 38, 163.
- Miller, J.S., Wiseman, R.M., & Gomez-Mejia, L.R. (2002). The Fit Between CEO Compensation Design and Firm Risk. *Academy of Management Journal* 45, 745-756.
- Montgomery, C.A., & Wernerfelt, B. (1988). Diversification, Ricardian Rents, and Tobin's q. *The RAND Journal of Economics* 19, 623-632.
- Murphy, K.J. (1985). Corporate Performance and Managerial Remuneration: An Empirical Analysis. *Journal of Accounting & Economics* 7, 11-42.
- Murphy, K.J. (1998). Executive Compensation. In N. Yale School of Management's Economics Research.
- Murphy, K.J., & Oyer, P. (2001). Discretion in Executive Incentive Contracts: Theory and Evidence. *Working Paper Series: SSRN*.
- Perry, T., & Zenner, M. (2001). Pay for performance? Government Regulation and the structure of compensation contracts. *Journal of Financial Economics* 62, 453-488.
- Prendergast, C. (1999). The Provision of Incentives in Firms. *Journal of Economic Literature* 37, 7.
- Raudenbush, S.W., & Bryk, A.S. (2001). *Hierarchical Linear Models: Applications and Data Analysis Methods*: SAGE Publications.
- Renner, C., Rives, J.M., & Bowlin, W.F. (2002). The Significance of Gender in Explaining Senior Executive Pay Variations: An Exploratory Study. *Journal of Managerial Issues* 14, 331.
- Ritter, J.A., & Taylor, L.J. (1997). Economic Models of Employee Motivation. In R. Federal Reserve Bank of St. Louis.
- Rosen, S. (1986). Prizes and Incentives in Elimination Tournaments. *American Economic Review* 76, 701.
- Ryan, J.H.E., & Wiggins, I.I.R.A. (2001). The influence of firm- and manager-specific characteristics on the structure of executive compensation. *Journal of Corporate Finance* 7, 101-123.
- Sanders, W.G. (2001). Behavioral Responses of CEOs to Stock Ownership and Stock Option Pay. *Academy of Management Journal* 44, 477-492.
- Schaefer, S. (1998). The dependence of pay-performance sensitivity on the size of the firm. *Review of Economics & Statistics* 80, 436-443.

Siegel, P.A., & Hambrick, D.C. (2005). Pay Disparities Within Top Management Groups: Evidence of Harmful Effects on Performance of High-Technology Firms. *Organization Science* 16, 259-274.

Sloan, R.G. (1993). Accounting earnings and top executive compensation. *Journal of Accounting & Economics* 16, 55-100.

Smith Jr., C.W., & Watts, R.L. (1992). The investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Financial Economics* 32, 263-292.

van Lent, L., & Bouwens, J. (2006). Assessing the performance of business unit managers. *Working Paper Series, vol. CentER Discussion Paper No. 2006-92*: SSRN.

Whisman, M.A., & McClelland, G.H. (2005). Designing, testing, and interpreting interactions and moderator effects in family research. *Journal of Family Psychology* 19, 111-112-.

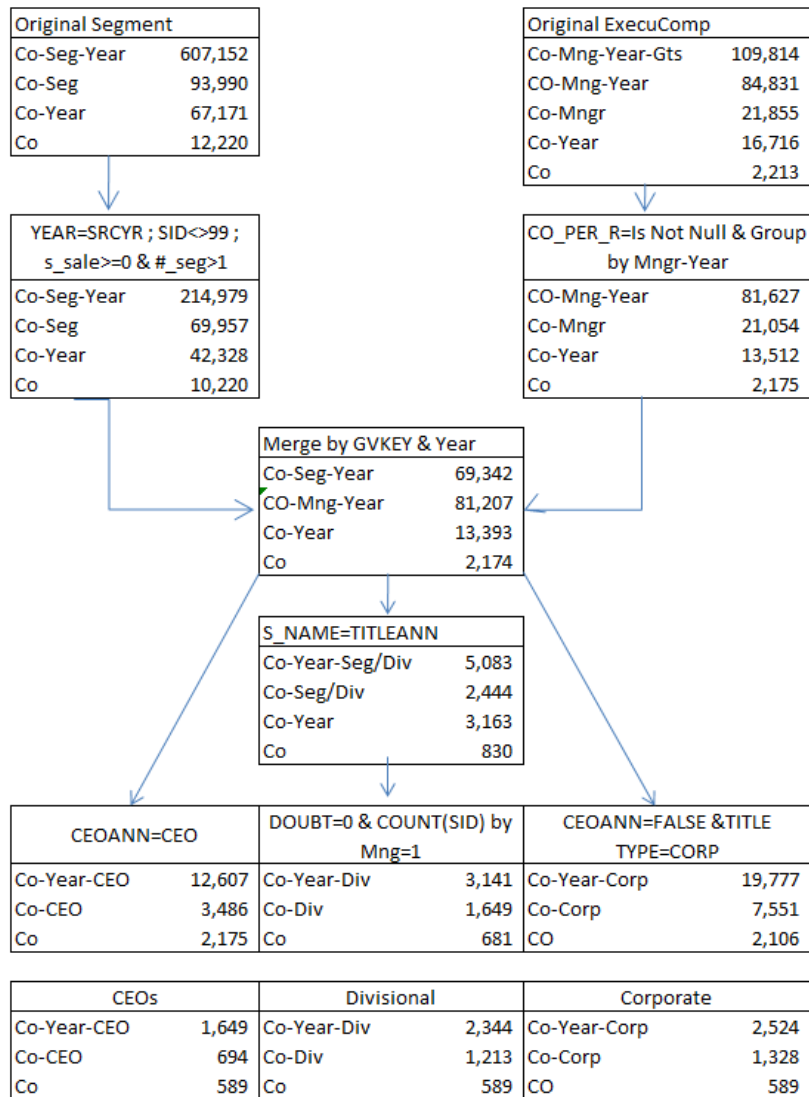
## APENDIX 1

### Panel A Variable Description

VARIABLE	LEVEL	Description	Source	Estimation	Units
SALARY	Annual	Amount of fixed salary	ExecuComp	SALARY	(000)
TCC	Annual	Cash compensation is Fixed salary plus bonus	ExecuComp	SALARY+BONUS	(000)
TC	Annual	Total compensation is cash compensation plus restricted stock grants, stock option grants, long term incentives paid and all other annual compensation	ExecuComp	TCC+RSTKGRNT+BLK_VALU+LTIP+OTHANN+ALLOTHTO	(000)
ECW	Annual	Expected Amount of Total Compensation plus change in portfolio		$TC_{t-1} + \text{Portfolio}_{t-1} * 10\%$	(000)
CW	Annual	Actual Amount of Total Compensation plus change in portfolio	ExecuComp+Comustat	$TC_t + (\text{Number of shares and stock options})_{t-1} * \text{Change in Price}_t$	(000)
UCW	Annual	Unexpected change in wealth		$CW_t / ECW_t$ ; for TC is $\log(TC_t/TC_{t-1})$ ; for TCC is $\log(TCC_t/TCC_{t-1})$	ratio
CW_scale	Annual	Executives's ECW scaled by corporate CEO's expected change in wealth		$CW_t / Ce\_CW_t$ ; similar is the ratio for ECW, TC and TCC	ratio
MktReturn	Annual	Annual Return to shareholders, including the monthly reinvestment of dividends	ExecuComp	$\ln(1+TRS1YR)$	
ROA	Annual	Corporate Income before extraordinary items divided by total Assets	Compustat	$DATA18 / ((DATA6_T + DATA6_{T-1}) / 2)$	ratio
ROA_Ch	Annual	Difference between actual an previous ROA	Compustat	$ROA_t - ROA_{T-1}$	ratio
MktValue	Annual	Corporate Market Value of assets	Compustat	$(DATA199 * DATA25) + (DATA6 - DATA60)$	Million
YEAR	Annual	Fiscal year of Company and Segment data	ExecuComp	YEAR	units
non_CEO	Executive	members of TMT who corporate or divisional managers	ExecuComp	0 if CEOANN=CEO	dummy
DIV	Executive	members of TMT who divisional managers	ExecuComp+Compustat	SNAME=TITLEANN	dummy
ExeDir	Executive	Proportion of years in which Executive is director of the company	ExecuComp+IRRC	$\text{Avg}(\text{Annual dummy}=1 \text{ if Executive is in IRRC})$	
ExeWoman	Executive	Executive's gender	ExecuComp	1 if PGENDER=FEMALE	dummy
BusDivers	Corporate	Avg Business Herfindahl index of diversification, higher is more diversified	Compustat Segment	$1 - \text{sum} ( (\text{Seg\_SALE} / \text{Corp\_SALE})^2 \text{ if STYPE=BUSSEG})$	
BusSegments	Corporate	Avg Corporate number of Business segments	Compustat Segment	$\text{Avg}_{1998-2005} ( \text{count}(\text{SID if STYPE=BUSSEG}) )$	units
GeoSegments	Corporate	Avg Corporate number of Geographical segments	Compustat Segment	$\text{Avg}_{1998-2005} ( \text{count}(\text{SID if STYPE=GEOSEG}) )$	units
MktBookRatio	Corporate	Avg Corporate Market to Book ratio of Assets at the beginning of fiscal year	Compustat	$\text{Avg}_{1998-2005} ((\text{DATA199}_{t-1} * \text{DATA25}_{t-1}) + (\text{DATA6}_{t-1} - \text{DATA60}_{t-1}) / \text{DATA60}_{t-1})$	ratio
BusRisk	Corporate	Log of 1+Avg Corp Black & Shoels Volatility	ExecuComp	$\log(1 + \text{Avg}_{1998-2005} (\text{BS\_VOLAT}))$	
AccNoise	Corporate	Relative noise of Accounting-based over Market-based performance		$\text{Avg}_{1998-2005} ( \text{var}(\text{ROA\_ch}) / \text{Var}(\text{TRS1YR}) )$	ratio
Debt	Corporate	Avg Corporae debt to market value of assets ratio	Compustat	$\text{Avg}_{1998-2005} ( (\text{DATA6} - \text{DATA60}) / (\text{DATA6} - \text{DATA60} + \text{DATA199} * \text{DATA25}) )$	ratio
Dividends	Corporate	Avg Corporate Dividends yield over the past 3 years	ExecuComp	$\text{Avg}_{1998-2005} ( \text{BS\_YIELD} )$	ratio
CEO_Ch	Corporate	Proportion of years in which CEO is chairman of the Board	IRRC	$\text{Avg}_{1998-2005} ( \text{dummy}=1 \text{ if CEO}=1 \ \& \ \text{CHAIRMAN}=1)$	
CEO_Comp	Corporate	Proportion of years in which CEO is member in the compensation committee	IRRC	$\text{Avg}_{1998-2005} ( \text{dummy}=1 \text{ if CEO}=1 \ \& \ \text{COMPMBR}=1)$	
Int_Comp	Corporate	Proportion of years in which an Internal is member in the compensation committee	IRRC	$\text{Avg}_{1998-2005} ( \text{dummy}=1 \text{ if count}(\text{DIRTYPE=E} \ \& \ \text{COMPMBR}=1) > 1)$	
IntRatio	Corporate	Average Proportion of internal members in the Board	IRRC	$\text{Avg}_{1998-2005} ( \text{count}(\text{DIRTYPE=E}) / \text{count}(\text{DIRTYPE}) )$	ratio

**TABLE 1**

**Panel A** Process of Executives' Category Identification



**Panel B** Final Sample Distribution

	CEO	CORP	DIV	Total
1998	132	189	174	495
1999	173	238	242	653
2000	209	319	281	809
2001	214	331	311	856
2002	242	367	347	956
2003	255	412	366	1,033
2004	246	387	359	992
2005	178	281	264	723
Total	1,649	2,524	2,344	6,517
Executives	694	1,328	1,213	3,235
Companies	589	589	589	589

**TABLE 2**

**Panel A** Comparison of Divisionalized Firms with vs. without identified Divisional Manager  
**MktVal** is the Corporate Market Value of assets. **F\_Sales** is the reported value of the net sales. **ROA** represents Corporate Income before extraordinary items divided by total Assets. **MktBkRat** is Market-to-Book ratio of Assets at the beginning of fiscal year. **Debt** is the ratio of Corporate debt to market value of assets. **BusDiv** is 1 - Herfindahl index of business diversification, higher is more diversified. **BusSeg** and **GeoSeg** represent the number of segments reported by the company for each diversification type.

	Div Executive			Non Div Executive			t	Prob Equal Population	
	Obs.	Mean	Std Err	Obs.	Mean	Std Err		Pr( T > t )	Kruskal Wals Test
mktvalue	6,587	19,640	74,212	47,868	4,618	34,400	-16.19	0.000	0.000
f_sales	6,688	6,210	17,401	50,423	1,516	7,457	-21.80	0.000	0.000
roa	6,688	2.5%	18.6%	50,078	-13%	65%	-42.60	0.000	0.000
mktbookratio	6,562	1.65	2.57	47,521	2.1	6.5	11.30	0.000	0.000
debt	6,587	41%	24%	47,536	40%	29%	-2.26	0.024	0.000
busdiver	6,162	0.18	0.21	38,301	0.11	0.17	-25.51	0.000	0.000
bussegments	6,821	3.26	1.47	53,831	2.10	1.35	-61.78	0.000	0.000
geosegments	6,816	2.92	1.64	53,011	2.51	1.40	-19.51	0.000	0.000

**TABLE 3**

**Panel A** Descriptive Statistics for Executives

Executives	Variable	N	mean	sd	p1	p50	p99	skewness	kurtosis
CEO	SALARY	1,612	726	336	99	689	1,735	2	11
	TCC	1,612	1,561	1,520	100	1,146	6,211	6	61
	TC	1,612	5,460	9,318	337	2,919	37,287	8	94
	ECW	1,567	9,907	19,429	489	4,284	91,096	6	54
	CW	1,612	8,453	32,347	(72,268)	3,209	164,156	3	27
	ExeWoman	686	0.02	0.13	0	0	1	7	55
Corporate	SALARY	2,381	336	147	103	306	811	2	8
	TCC	2,381	598	526	142	467	2,208	6	80
	TC	2,381	1,638	2,868	191	948	10,816	11	194
	ECW	2,251	1,738	3,782	81	915	11,699	13	223
	CW	2,381	1,968	4,121	(5,349)	963	24,057	4	29
	ExeDir	1,246	0.08	0.24	0	0	1	3.03	10.72
ExeWoman	1,246	0.08	0.27	0	0	1	3.15	10.93	
Divisional	SALARY	2,203	354	162	127	320	907	2	20
	TCC	2,203	670	719	173	506	2,884	9	127
	TC	2,203	1,673	2,182	207	1,039	11,840	5	33
	ECW	2,038	1,572	2,175	85	933	11,236	5	43
	CW	2,203	1,881	2,973	(3,220)	1,047	15,830	3	18
	ExeDir	1,151	0.05	0.19	0	0	1	4.07	18.53
ExeWoman	1,151	0.05	0.21	0	0	1	4.24	18.98	
TOTAL	SALARY	6,196	444	274	112	365	1,401	2	14
	TCC	6,196	874	1,029	158	580	4,805	7	101
	TC	6,196	2,645	5,497	201	1,237	21,755	12	229
	ECW	5,856	3,866	11,020	96	1,295	48,290	11	160
	CW	6,196	3,624	17,028	(25,768)	1,195	60,436	7	100
	ExeDir	3,083	0.05	0.20	0	0	1	4.01	17.92
ExeWoman	3,083	0.05	0.22	0	0	1	3.98	16.85	

**Panel B** Descriptive Statistics for Companies

Companies	Variable	N	mean	sd	p1	p50	p99	skewness	kurtosis
Annual	MktRtn	5,488	0.05	0.50	-1.50	0.10	1.14	-1.13	11.57
	ROA	5,551	0.03	0.13	-0.37	0.04	0.23	6.79	137.41
	MktVal	6,192	14,534	48,089	146	2,958	252,843	9.84	133.66
	YEAR	6,196	2002	2.12	1998	2002	2005	0	2
Period Avg.	BusDiv	588	0.19	0.21	0.00	0.10	0.67	0.79	2.33
	BusSeg	588	3.53	1.42	1.00	3.50	7.50	0.55	4.01
	GeoSeg	583	2.96	1.65	1.00	2.38	9.25	2.00	9.36
	MktBkRat	588	1.97	1.57	0.94	1.52	7.85	6.17	66.73
	BusRisk	588	0.38	0.16	0.16	0.33	1.06	1.94	9.08
	AccNoise	500	0.05	0.13	0.00	0.01	0.63	7.49	73.72
	Debt	588	0.42	0.22	0.05	0.40	0.92	0.35	2.31
	Dividends	588	0.02	0.20	0.00	0.01	0.09	22.12	511.81
	CEOChr	504	0.81	0.30	0.00	1.00	1.00	-1.50	4.08
	CEOComp	504	0.00	0.03	0.00	0.00	0.19	9.48	102.49
	IntComp	504	0.00	0.04	0.00	0.00	0.20	9.19	92.79
	IntRatio	504	0.19	0.10	0.06	0.16	0.53	1.75	6.76

**TABLE 4**

**Panel A** Correlation matrix

	SALARY	TCC	TC	ECW	CW	MktRtn	ROA_Ch	MktVal	YEAR	ExeDir	ExeWoman	nonCEO	DIV	BusDiv	BusSeg	GeoSeg	MktBkRat	BusRisk	AccNoise	Debt	Dividends	CEOChr	CEOComp	IntComp	
TCC	<b>0.667</b>																								
TC	<b>0.577</b>	<b>0.701</b>																							
ECW	0.493	0.492	<b>0.654</b>																						
CW	0.274	0.458	0.419	0.490																					
MktRtn	0.034	0.166	0.032	0.009	0.335																				
ROA_Ch	0.009	0.039	-0.008	0.044	0.032	0.145																			
MktVal	0.456	<b>0.513</b>	<b>0.548</b>	0.265	0.255	0.074	-0.007																		
YEAR	0.106	0.076	-0.101	0.043	0.008	0.191	0.081	-0.113																	
ExeDir	0.129	0.105	0.139	0.087	0.086	-0.030	-0.033	0.245	-0.122																
ExeWoman	0.027	0.049	-0.013	-0.024	-0.002	0.020	-0.042	-0.016	0.080	-0.047															
nonCEO	-0.127	-0.132	-0.057	-0.132	-0.006	0.028	0.002	0.072	0.014	0.125	0.050														
DIV	0.105	0.005	0.026	0.009	-0.007	0.072	0.093	0.128	-0.016	0.066	-0.092	0.308													
BusDiv	0.100	0.101	0.131	0.026	0.036	0.069	-0.051	0.136	-0.080	0.071	-0.062	0.120	0.075												
BusSeg	0.289	0.272	0.189	0.059	0.133	0.080	-0.019	0.254	-0.013	0.085	-0.073	0.166	0.159	0.412											
GeoSeg	0.065	-0.005	0.058	0.000	-0.040	-0.066	-0.056	0.088	0.010	0.041	-0.056	0.026	0.050	0.029	-0.011										
MktBkRat	0.002	0.014	0.197	0.288	0.086	0.002	0.146	0.036	0.025	-0.045	0.171	0.003	0.007	-0.166	-0.196	0.060									
BusRisk	-0.309	-0.224	-0.055	-0.009	-0.107	-0.156	0.154	-0.164	0.027	-0.030	0.034	0.001	-0.084	-0.234	-0.327	0.183	0.270								
AccNoise	-0.040	-0.043	-0.035	-0.044	-0.045	-0.060	<b>0.537</b>	-0.035	0.024	-0.072	0.048	0.002	0.014	-0.114	-0.072	0.003	0.141	0.180							
Debt	0.191	0.237	0.056	-0.043	0.075	0.047	-0.019	0.155	-0.045	-0.008	-0.105	-0.035	-0.008	0.146	0.288	-0.153	<b>-0.548</b>	-0.272	-0.135						
Dividends	0.133	0.046	-0.067	-0.129	-0.026	0.043	-0.032	0.073	-0.039	-0.073	-0.062	-0.018	-0.020	0.110	0.253	-0.195	-0.242	<b>-0.527</b>	-0.015	0.447					
CEOChr	0.229	0.180	0.128	0.054	0.028	0.040	-0.072	0.094	-0.018	-0.042	-0.006	0.042	0.121	0.084	0.117	0.094	-0.147	-0.143	-0.003	0.189	0.158				
CEOComp	-0.035	-0.051	-0.042	0.043	-0.023	0.003	0.004	-0.029	0.032	0.162	-0.038	-0.067	-0.090	0.016	-0.030	-0.092	-0.037	-0.045	-0.014	0.005	0.018	-0.155			
IntComp	-0.041	-0.056	-0.010	-0.047	-0.030	0.014	-0.007	-0.029	-0.022	0.044	0.063	-0.084	-0.061	0.011	-0.019	-0.052	-0.017	-0.044	-0.033	-0.034	0.005	-0.147	0.301		
IntRatio	-0.062	-0.081	-0.058	0.085	-0.029	-0.060	-0.001	-0.047	0.098	<b>0.526</b>	-0.015	-0.072	-0.040	-0.142	-0.141	-0.013	0.027	0.165	0.007	-0.159	-0.237	-0.222	0.375	0.262	

**TABLE 5**

**Panel A Compensation Level Gap**

Fixed Effects (with robust std errors)				CEO vs TMT	CEO vs Corporate and Divisional		CEO vs Corporate and Divisional			
L1	L2	L3	Pred	CW_scale	CW_scale	CW_scale	CW_scale	ECW_scale	TC_scale	TCC_scale
Intercept				0.53 ***	1.00 ***	1.00 ***	1.00 ***	1.00 ***	1.01 ***	1.00 ***
nonCEO	-				(0.65) ***	(0.65) ***	(0.66) ***	(0.74) ***	(0.60) ***	(0.56) ***
CEOChr	-						(0.11) ***	(0.08) ***	(0.08) ***	(0.05) **
CEOComp	-						0.18	(0.46) **	(0.32)	(0.34)
IntComp	+						(0.54)	0.16	(0.31)	(0.22)
IntRatio	+						(0.26) **	(0.27) ***	0.41 ***	0.32 ***
BusDiv	-						0.04	0.03	(0.02)	(0.09) **
BusSeg	-						(0.00)	(0.00)	(0.01)	0.00
GeoSeg	-						0.01 *	(0.00)	0.00	0.00
DIV	?					(0.00)	(0.01)	0.00	0.02 **	0.03 ***
BusDiv	+						(0.02)	(0.05)	(0.02)	0.05
BusSeg	-						0.00	(0.00)	(0.00)	(0.01)
GeoSeg	-						0.00	(0.00)	(0.00)	(0.01)
ExeDir	+				0.17 ***	0.17 ***	0.21 ***	0.22 ***	0.14 ***	0.18 ***
ExeWoman	?				0.02	0.02	0.04 *	(0.04) ***	(0.02)	(0.03) **
Random Effects										
Coef	Level			Var. CW_scale		Std. Err. CW_scale	Std. Err. CW_scale	EO vs Corporate and	Std. Err.	Std. Err.
DIV	Between Comp					0.100	0.083	0.086	0.127	0.114
Deviance (-2 Log Likelihood)				4,999	2,965	2,962	2,682	(4,749)	(1,192)	(4,711)
Number of parameters				4	7	9	26	26	26	26
Annual Observations				5,648	5,648	5,648	5,016	5,140	5,523	5,507
Executives				2,889	2,889	2,889	2,485	2,464	2,650	2,639
Compaiaes				588	588	588	501	496	501	500

**TABLE 6**

**Panel A Compensation and Performances**

Fixed Effects (with robust std errors)			Unrestricted	CEO vs TMT	CEO vs Corporate and Divisional		
L1	L2	L3	Pred sign	UCW	UCW	UCW	UCW
		Intercept		0.55 ***	0.31 ***	0.31 ***	0.24 ***
		BusRisk	+				1.58 ***
		Debt	-				0.00
		Dividends	-				(1.18)
		MktRtn	+		1.69 ***	1.69 ***	1.97 ***
		MktBkRat	+				0.04 **
		AccNoise	+				(0.47) ***
		CEOChr	-				0.17
		CEOComp	-				0.95
		IntComp	-				5.85 ***
		IntRatio	-				3.66 ***
		nonCEO	-		(1.02) ***	(0.91) ***	(1.04) ***
		CEOChr	+				0.20
		CEOComp	+				(0.49)
		IntComp	-				(2.81)
		IntRatio	-				(4.74) ***
		DIV	-			(0.04)	(0.11)
		BusDiv	-				(0.08)
		BusSeg	-				(0.05)
		ExeDir	-		0.83 ***	0.73 ***	0.82 ***
		ROA_Ch	+		(0.03)	(0.03)	(0.09)
		MktBkRat	-				0.04
		AccNoise	-				0.08
		CEOChr	-				0.04
		CEOComp	-				(4.08)
		IntComp	-				(14.61) ***
		IntRatio	-				(2.43) **
		nonCEO	-		0.05	0.02	0.06
		CEOChr	+				(0.06)
		CEOComp	+				5.44
		IntComp	-				2.73
		IntRatio	-				2.57 *
		DIV	-			0.03	0.24
		BusDiv	-				0.43
		BusSeg	-				0.23
		ExeDir	-		(0.04)	0.23	0.57
		YEAR	?		(0.03) **	(0.03) **	(0.04) ***
Random Effects							
		Coeficient	Level	Std. Err. Unrest.	Std. Err. UCW	Std. Err. UCW	Std. Err. UCW
		Div_MktRtn				0.641	0.731
		Div_ROA_Ch				0.721	1.335
		Deivance (-2 Log Loikelohhod)		23,967	19,530	19,416	16,781
		Number of parameters		4	13	18	63
		Annual Observations		5,859	5,207	5,207	4,592
		Executives		2,897	2,601	2,601	2,225
		Compaiaes		587	535	535	447



**TABLE 8**

**Panel A** Corporate performance vs. Differences between corporate and divisional managers

Change in Wealth scaled by CEO CW  
Divisional - Corporate Managers

Pay-Performance Elasticity	Divisional - Corporate Mgrs		1	2	3	TOTAL	
			-21%	-1%	18%		
		1	(1.2)	13.5%	10.5%	-29.1%	3.0%
		2	(0.0)	8.7%	16.0%	7.7%	14.4%
		3	1.3	-24.9%	-9.0%	12.1%	-2.6%
	TOTAL	-0.9%	7.2%	2.8%	5.6%		

Change in Wealth scaled by CEO CW  
Divisional - Corporate Managers

Salary as percentage of ECW	Divisional - Corporate Mgrs		1	2	3	TOTAL	
			-21%	-1%	18%		
		1	-25%	-5.8%	10.6%	0.7%	3.8%
		2	-1%	5.5%	8.8%	-4.0%	8.8%
		3	23%	-10.4%	-9.1%	9.2%	1.1%
	TOTAL	-0.9%	7.2%	2.8%	5.6%		

Salary as percentage of ECW  
Divisional - Corporate Mgrs

Pay-Performance Elasticity	Divisional - Corporate Mgrs		1	2	3	TOTAL	
			-25%	-1%	23%		
		1	(1.2)	5.5%	3.3%	-36.9%	3.0%
		2	(0.0)	11.7%	13.1%	26.3%	14.4%
		3	1.3	-67.0%	-39.0%	2.2%	-2.6%
	TOTAL	3.8%	8.8%	1.1%	5.6%		

**Panel B** Regression of Corporate Performance on Compensation Package Characteristics

Fixed Effects (with robust std errors)			MktRtn		
L1	Pred	Unrestricted	CW	TC	TC
Intercept		0.056 ***	0.093 ***	0.079 ***	0.118 ***
d_Level_dc2	-		(0.573) ***	(0.765)	0.499
d_Perf_dc2	-		(0.006) ***	(0.000)	(0.186) ***
d_Fix_dc2	-		(0.008)	(2.317) *	(0.904) ***
Random Effects					
Coefficient	Level	Std Error	Std Error	Std Error	Std Error
Between Comp	d_Level_dc2		0.000	6.294	0.421
	d_Perf_dc2		0.005	0.000	0.124
	d_Fix_dc2		0.000	9.665	0.003
Deviance (-2 Log Likelihoo		1,455	1,391	1,498	1,293
Number of parameters		3	6	6	6
Number of Observations		1,366	1,366	1,359	1,357
Companies		520	520	514	514