EXECUTIVE PAY: RELATIONSHIPS WITH RISK-ADJUSTED PERFORMANCE, ENTRY MODE CHOICES, AND FIRM CONTROL SYSTEMS

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ABSTRACT

This dissertation consists of three papers examining managerial decision theory, executive compensation, and firm performance. The first paper examines the relationship between executive pay and common equity holdings and risk-adjusted performance; the second paper examines the relationship between executive pay and common equity holdings and strategic decisions, specifically entry mode decisions; and, the third paper develops theory related to the relationship between organizational constitution, valuation constitution, and executive compensation. Furthering the understanding in these areas will have broad implications for pay package design, executive decision-making, and corporate governance.

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Thank you.

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CHAPTER 1

EXECUTIVE COMPENSATION STREAM OF RESEARCH

This dissertation consists of three papers examining managerial decision theory, executive compensation, and firm performance. The first paper examines the relationship between executive pay and common equity holdings and risk-adjusted performance; the second paper examines the relationship between executive pay and common equity holdings and strategic decisions, specifically entry mode decisions; and, the third paper develops theory related to the relationship between organizational constitution, valuation constitution, and executive compensation. My hope is that each of these papers will contribute to the academic literature, as well as the business community. Furthering the understanding in these areas will have broad implications for pay package design, executive decision-making, and corporate governance.

In the section that follows, I discuss my motivation for each of the three papers in this dissertation. I then discuss some avenues for future research that could build upon my findings.

Executive Compensation and Managerial Decision-Making

The extant literature examining the relationship between top management team (TMT) compensation and firm performance has largely neglected a multi-dimensional approach. Research has primarily focused on firm performance

(Carpenter & Sanders, 2002, Mehran, 1995) or risk (Coles, Daniel, & Naveen, 2006, Wright, Kroll, Krug, & Pettus, 2007) and has neglected investigating the risk and return dimensions simultaneously. This runs counter to the risk-adjusted investment analysis logic that investors have employed since the works by Sharpe, (1996a, 1966b) and Treynor (1964). I argue that a multi-dimensional view of firm performance is essential as risk-adjusted performance measures are proxies for "managerial efficiency" in delivering performance for shareholders.

Given this foundation, in Chapter 2, I examine the relationship between executive compensation and common equity holdings and firm risk-adjusted performance. I find that when option awards constitute a higher percentage of total compensation packages, risk-adjusted performance declines. I also find that there is an inverse relationship between top management team stock ownership and risk-adjusted performance. These findings are consistent with the findings of Sanders and Hambrick (2007), who suggested that executives "Swing for the fences." In short, my findings suggest that option-based incentives and common equity holdings lead to lower risk-adjusted returns for shareholders.

My third chapter examines how pay mix influences entry mode choices. In this paper, I deviate from the extant literature in this area, which examines the antecedents of entry mode choice by drawing on transaction cost theory (TCA) (Coase, 1937; Williamson, 1975; Williamson, 1979), the resource-based view (RBV) (Barney, 1991; Peteraf, 1993), institutional theory (Selznick, 1948), and

Dunning's (1988) eclectic framework (OLI) (Brouthers & Hennart, 2007). I apply an agency theory perspective to investigate entry mode choices and I also investigate a narrow segment of the entry mode space, specifically acquisitions. Focusing on data over the period from 1998 through 2009, I find an inverse relationship between TMT salary and the percentage of equity purchased in cross border transactions (CBTs). However, contrary to previous work in the agency and entry mode space, I find no associations between stock option and common equity holdings and percentage of equity purchased in international transactions. These findings suggest that the antecedents for entry mode selection may differ from the antecedents for ownership decisions once a specific entry mode has been selected.

The final paper in Chapter 4 is a theoretical paper investigating TMT pay differences in the United States and Japan. I examine the existing studies on executive compensation in Japan and the United States, and I opine on why pay differences exist between these focal countries. I examine absolute pay and pay allocation differences (i.e., allocation across salary, bonuses, options), as well as disparities between organizational forces such as organization constitution and valuation constitution. Given these differences, I develop 3 propositions, which reflect cross-cultural organization control system differences.

Future Research

There are a number of research streams that can build upon my findings. In the area of executive pay and firm performance, scholars could utilize alternative measures of performance, such as enterprise value (EV). Enterprise value is the firm value available to all suppliers of capital (shareholders and bondholders), while equity value is the residual value remaining for only shareholders. Extensions of this concept, which draw in the value created for additional stakeholders could also provide useful insights. By altering the "performance for who" question I may be able to get a clearer picture of the linkage between TMT decision-making and value creation. In a similar vein, studies examining TMT pay dispersion could shed light on the polarization of strategic decision-making, or the lack there of. For example, if the TMT has vastly different pay allocations across different forms of pay, does it temper the impact of firm incentives? In the closely related area of managerial decision-making, future research examining loss aversion decisions could also be fruitful. For example, the majority of studies in this area examine whether or not managerial incentives create value on the upside. However, there is a gap in the literature examining the relationship between managerial incentives and unfavorable options like filing for bankruptcy under Chapter Eleven or maintaining firm operations as is. Studies in these areas stress the foundations upon which my studies are built and could test underlying agency theory assumptions in different contexts.

Finally, in the literature on organizational control systems, scholars could operationalize the concepts of organization constitution and valuation constitution. In doing so, researchers would set the stage for empirically testing my propositions and examining the optimal control mechanism mix for shareholder wealth maximization. For instance, control mechanisms at the disposal of key decision-makers could serve as inputs into data envelopment analysis (DEA) models, which measure the efficiency of those inputs in generating performance. Using such a models would offer a new perspective in this area.

CHAPTER 2

EXECUTIVE COMPENSATION: AN EXAMINATION OF THE INFLUENCE OF TMT COMPENSATION ON RISK-ADJUSTED FIRM PERFORMANCE

Abstract

In this paper, I examine how executive pay schemes influence managerial efficiency, which I measure as risk-adjusted firm performance. Focusing on top management teams in the post Sarbanes-Oxley era, over the period from 2004 through 2006, I find that as options constitute a higher percentage of total compensation packages, subsequent firm risk-adjusted performance declines. I also find an inverse relationship between TMT stock ownership and risk-adjusted performance. Therefore, my findings suggest that firm stakeholders should reconsider the likely influence of option-based incentives and equity holdings on risk-adjusted performance.

Keywords: Agency; compensation; TMT; performance; risk-adjusted performance

Introduction

For decades, management scholars have employed agency theory tenets in their research on managerial decision-making and corporate governance. Research in these areas has highlighted the shortcomings of compensation schemes composed of only salary and has argued that incentive-based compensation is needed to

increase organizational commitment (Maier & Brunstein, 2001) and to align the risk preferences of managers with the preferences of shareholders (Jensen & Meckling, 1976; Eisenhardt, 1989). Relying on this logic, numerous empirical investigations have focused on the relationship between executive pay schemes and strategic decisions such as acquisitions (Amihud & Lev, 1981), R&D spending (Coles et al., 2006), capital expenditures (Sanders & Hambrick, 2007), and leverage (Cohen, Hall, & Vicera, 2000). Research has also focused on overall firm performance, utilizing measures such as stock market performance (Brick, Palmon, & Wald, 2010), return on assets (ROA), and Tobin's Q (Carpenter & Sanders, 2002). However, consensus about the value implications of utilizing compensation schemes laden with incentive-based pay remains elusive (Barkema & Gomez-Mejia, 1998; Hanlon, Rajgopal, & Shevlin, 2003). More broadly, Core and Larcher (2002, p. 34) posit that there is "no theoretical or empirical consensus on how stock options and managerial equity ownership affect firm performance."

A number of scholars have echoed similar sentiment and have argued that the mixed performance results are due to ignoring corporate governance mechanisms (Barkema & Gomez-Mejia, 1998), organizational performance measurement issues (Carlon, Downs, & Wert-Gray, 2006), and endogeneity (Kole, 1997; Yermack, 1997). While these shortcomings may have contributed to the opaqueness in this research area, myopia may have also contributed. The extant management literature examining the relationship between top management team

compensation and firm performance has largely neglected a multi-dimensional approach. For example, some scholars have focused on performance (Carpenter & Sanders, 2002; Mehran, 1995) while others have focused on risk (Coles et al., 2006; Wright et al., 2007), but few have combined these two dimensions simultaneously.

Investigating the relationship between executive compensation packages and risk-adjusted performance measures allows us to simultaneously capture the effect of compensation packages on firm performance and firm risk (Cohen & Dey, 2004). The performance-to-risk relationship is crucial as I evaluate managerial decisions and the appropriateness of pay alternatives in executive compensation packages. As firm stakeholders attempt to design the optimal TMT pay mix, they must consider how pay influences managerial perceptions of investment opportunities that ultimately drive strategic decisions and subsequent risk-adjusted performance. Risk-adjusted performance measures serve as a measure of the "efficiency" of managerial decisions (i.e., measuring the number of units of return per unit of risk).

Investors with strong business acumen take a multi-dimensional perspective when evaluating firm performance. They do so because a thoughtful analysis of business opportunities requires a holistic understanding of firm returns and risks. Performance appraisal focused solely on return or risk defies the fundamental logic that serves as a foundation in the fields of finance and economics (Sharpe,

1966b, 1994). As an example, consider the mutual fund in a typical retirement account. Investors need to consider fund performance, but they also need to consider risk (usually measured as fund performance standard deviation). Two mutual funds generating the same returns were not equal if the amount of risk taken to deliver the performance was not similar. To effectively compare investment alternatives, many use the Sharpe ratio to demonstrate the fund's efficiency in delivering performance. Only after considering both the return and risk dimensions simultaneously, can an investor opine on which fund is superior. This common approach to examining investment performance is analogous to the evaluation of firm performance particularly if one is comfortable in conceptualizing a firm as a portfolio of assets or resources, projects, capabilities, or systems. Much like mutual fund managers, TMTs manage portfolios and compete with rivals in an effort to generate superior returns. Despite the similarities, the extant literature examining the relationship between TMT compensation and firm performance has largely neglected a multi-dimensional approach. As such, my primary contribution in this paper is to examine how TMT compensation influences risk-adjusted performance. More specifically, I examine how different forms of pay (salary, options, bonuses), as well as TMT common equity holdings influence the efficiency in which a TMT delivers for firm shareholders.

The contributions of this paper are fivefold. First, as noted above, I incorporate risk-adjusted performance measures in my study. Second, I seek to address some

of the documented limitations in the pay-for-performance literature, specifically, endogeneity and omitted governance variables. I incorporated corporate governance controls and lagged risk-adjusted performance variables in my study. Empirical models that utilize lagged risk-adjusted performance help address the issue of simultaneous causality (Brick et al., 2010), one of the main causes of endogeneity. This allows us to gain a better understanding of the causal link between compensation and future risk-adjusted performance.

Third, it should be noted that much of the extant literature focuses on CEO pay packages. I broaden my focus to include top management team pay. Extending research to the TMTs captures the effects of compensation on a broader segment of key decision-makers in public firms (Carpenter & Sanders, 2004; Sanders & Hambrick, 2007). In this paper, I define the TMT as the top five executives in terms of total compensation, as disclosed in the SEC filings.

Fourth, I utilize data that reflect the post Sarbanes Oxley (Sox) climate. More recent data, which capture the effect of the current economic climate and the post Sarbanes-Oxley atmosphere, allow us to get a better understanding of the environment that is shaping perceptions of potential risk and return opportunities in the minds of executives. Post Sarbanes-Oxley analysis is important because Sox placed considerably more risk on executives. For example, executives, particularly CEOs and CFOs, now have personal responsibility for the integrity of financial statements (Carter, Lynch, & Zechman, 2009) and, if company

financials are restated due to material noncompliance, executives may forfeit any bonuses or other incentives from the prior periods. In addition, TMTs are subject to bigger penalties for misreporting. For instance, CEOs and CFOs can be sentenced to up to 20 years in prison for false certifications if deemed "willful." It is possible that stricter oversight and harsher penalties could alter executives' perception of potential projects. In a study examining Sarbanes-Oxley's impact on compensation and risk-taking incentives of chief executive officers (CEOs), Cohen and Dey (2004) found that post Sarbanes-Oxley, CEOs invested less in research and development (R&D) and capital expenditures and also received more fixed salary and less incentive compensation. Their findings suggest that the additional liability imposed on executives may influence project selection and strategic decisions.

Finally, I utilize compensation variables from the management, accounting, and finance literatures in the same study. I combine pay measures in percentage terms, which are common in the management literature (Sanders & Hambrick, 2007; Wright et al., 2007) with TMT wealth sensitivity measures such as option, restricted stock, and common stock sensitivities from the accounting and finance literature (Brick et al., 2010; Burns & Kedia, 2008; Coles et al, 2006). Management variables are typically measured by taking forms of pay, such as salary, and dividing them by total compensation to yield a percentage. This provides a snap shot of how pay was allocated during a particular year. Wealth sensitivity variables from accounting and finance provide a broader view of

compensation by capturing the effect of option, restricted stock, and common stock grants awarded in prior periods. By combining these different wealth measures I develop a more holistic view of pay variables and the potential influence these measures have on firm risk-adjusted performance.

I begin this paper with a brief review of the executive compensation literature. Following this review, I develop hypotheses related to pay and risk-adjusted performance. I then discuss my empirical models, as well as sources of data, and variable construction. Finally, I offer conclusions and thoughts about future research.

Research Background and Hypotheses

Prior Research on Executive Compensation

Executive compensation studies utilizing an agency theory perspective are often focused on how different compensation packages foster goal alignment between managers and shareholders. At the heart of the principal-agent conflict are divergent preferences for risk and employee effort. When compensation packages are heavily weighted with salary, executives (risk-averse agents) have an incentive to reduce firm risk (Hill & Snell, 1989) and to stabilize cash flow (Ashley & Yang, 2004). This is in response to risks associated with employment security and income that is tied to the health of the organization (Wiseman & Gomez-Mejia, 1998; Hu, Kale, Pagani, & Subramanian, 2010), as well as future employment opportunities (Balsam, 2007). However, shareholders (risk-neutral

principals) prefer that executives select riskier projects since they can diversify away firm-specific risk. The resulting misalignment often leads to incentive-based forms of pay (options and bonuses) that entice risk-taking.

Employee effort is also an area of focus for agency theorists. It is largely assumed that without proper incentives (i.e., when agents are given fixed pay only) agents will be more concerned with maintaining their own comfort than with exerting maximum effort to increase firm productivity and performance (Lazear, 2000). As such, incentive-based forms of pay are included to increase the effort and performance of the agent.

As of 2005, salary comprised approximately 30 percent of total compensation of TMTs of publicly-held U.S. firms (Balsam, 2007). Given that salary is such a large part of total compensation, it is of great importance in pay-for-performance studies focused on the determinants of pay (Banghoj, Gabrielsen, Petersen, & Plenborg, 2010; Wade, O'Reilly, & Pollock, 2006) and TMT pay dispersion (Carpenter and Sanders 2002; Seigel & Hambrick, 2005; Fredrickson, Davis-Blake, & Sanders, 2010). However, in research examining the relationship between pay and TMT behavior, the focus tends to shift to incentive-based forms of pay including options, bonuses, restricted stock, stock grants, and long-term incentives. This line of research investigates the compensation packages that have been designed to combat the lack of incentives provided by salary alone and how different pay allocations encourage risk-taking by TMTs. For instance, some

studies focus on goal alignment and the managerial actions that are taken when boards seek to foster shareholder-TMT alignment through options (Barker & Mueller, 2002; Beatty & Zajac, 1994). Many of these studies have examined the relationship between performance-based incentives and strategic decisions such as R&D spending (Hoskisson, Hitt, & Hill, 1993), financial leverage (Cohen et al., 2000), and capital expenditures (Rajgopal & Shevlin, 2002).

Studies examining stock option grants appear to be getting the most attention in the latest research. It appears that boards have accepted that option grants are a tool that can be used to foster goal alignment with shareholders. Consequently, as of 2001, stock options (valued ex ante) contributed to over 50% of the total pay to executives at large U.S. firms (Sanders & Hambrick, 2007). More recent data suggest that stock option usage has declined, but as of 2005, still represented 28% of yearly CEO compensation packages (Balsam, 2007).

The decision to rely on stock options to foster goal alignment with shareholders is largely based on the asymmetric return profile of options contracts. Options are believed to serve a dual purpose of incentivizing an increase in effort and thus performance and in risk-taking. Options contracts give executives exposure to stock appreciation, while allowing TMTs to share downside risk with bondholders (Anderson, Mansi, & Reeb, 2003) and shareholders. In general, the exposure to upside potential provides an incentive to accept riskier projects with firm assets and helps foster goal alignment with shareholders, who generally have a more

risk-neutral posture. Option contracts provide handsome payoffs for value-creating projects and also provide an incentive to exert more effort.

While many scholars have found support for the notion that stock option holdings are positively associated with risky firm strategies and firm risk (Coles et al., 2006; Kroll, Walters, & Le, 2007), a few scholars have looked more closely at the option positions of executives. For instance, Brisley (2006) examined deep in-the-money options and the effect of such options on project selections made by executives. Contrary to the incentive effect that accompanies new option grants, Brisley (2006) found that previously granted options that have significantly appreciated in value (i.e., in-the-money options) can exacerbate risk aversion in project selection. The underlying logic is that since managers have more to lose, they will avoid risky projects to protect their option value, similar to how they would act if compensation was in the form of salary. More recently, Devers, McNamara, Wiseman, & Arrfelt (2008) also found that the value of equity-based pay (in-the-money versus out-of-the-money) is also a factor that influences strategic risk taking and firm risk. This evidence is supported by choice behavior theories such as prospect theory, which posits that risk preferences are shaped by the probabilities of future gains and losses (Kahneman & Tversky, 1979, Tversky & Wakker, 1995). With respect to salary, choice theorists assert that due to the stability of expected payments, executives will be prone to avoid the risk in an effort to minimize the possibility of loss. Likewise, choice theory suggests that as

options significantly increase in value, and executives view those gains as being highly probable, risk reduction would be a likely course of action.

Salary and Risk-Adjusted Performance

Fixed salaries offer certain financial outcomes, provided that firms remain a going concern (Cadsby, Song, & Tapon, 2007). While the certainty surrounding salaries is favorable to TMTs with regard to risk, firm stakeholders, particularly stockholders, will likely have different preferences. Managers worry about the loss of their salary if the firm significantly underperforms its peers or declares bankruptcy (Wright et al., 2007). Managers have much at stake considering that poor performance could cost them their job, as well as negatively influence future job prospects (Balsam, 2007).

In their study related to firm diversification, Amihud and Lev (1981) argue that CEOs reduce firm risk when much of their personal wealth is tied to their human capital (i.e., their ability to draw salary from their position in the firm). They argue that as an executive's firm-specific knowledge increases, so does the personal benefit of diversifying firm operations. This evidence supports the argument that decisions influencing firm risk are affected by managerial objectives and that managers who have more human capital vested in the firm will likely have a greater desire for risk reduction (May, 1995). Therefore, in sharp contrast to option-based incentives, salary streams may provide the incentive for managers to be more concerned about managing risk and maintaining stable cash

flows. Supporting this notion, Ashley and Yang (2004) found that compensation packages that are heavily weighted in salary and bonuses are positively associated with earnings persistence and cash flow management.

Researchers have shown that managers have a tendency to favor risk reduction strategies and cash flow stability in the absence of incentives. Since there is a weak linkage between salary and firm performance, the desire for risk reduction becomes the primary objective as opposed to the intrinsic desire to generate returns for shareholders. As such, firm returns should simply reflect managerial preferences for lower risk, lower return projects, and therefore there should be no relationship between salary and risk-adjusted performance. On this basis I hypothesize the following:

Hypothesis 1: The ratio of salary to total compensation will not be associated with lagged, risk-adjusted performance.

Option-Based Incentives and Risk-Adjusted Performance

The findings of studies examining the relationship between equity incentives and firm performance appear to be mixed. Some research suggests that there is a positive relationship between the use of equity incentives and firms' growth opportunities (Gaver & Gaver, 1993), as well as firm performance (Himmelberg, Hubbard, & Palia, 1999; Mehran, 1995; Palia, 2001). Carpenter and Sanders (2002) found that CEO pay is positively related to top management team pay and that TMT pay is related to future performance, as measured by return on assets

and Tobin's Q. Others found that CEO pay is related to firm underperformance (Bloom & Milkovich, 1998; Brick, Palmon, & Wald, 2006). For example, Bloom and Milkovich (1998) find that incentive pay in higher risk firms leads to poor performance as compared to lower risk firms, while Brick et al. (2006) found that excessive pay is associated with underperformance. Others believe that incentive pay may lead to behaviors that may hurt shareholder value, such as decreasing hedging activities (Tufano, 1996) or manipulating news releases around stock option grant dates (Aboody & Kasznik, 2001). As such, there is little consensus about whether option-based incentives enhance firm value (Hanlon et al., 2003) or firm performance (Core, Guay, & Verrecchia, 2003).

While the link between equity incentives and firm performance is a bit tenuous, the link between executive equity incentives and firm risk appears to be strong. Scholars have found relationships between equity incentives and proxies for strategic decisions, such as corporate investments and capital structure decisions, as well as broader measures of firm risk. For instance, Coles et al. (2006) found that equity incentives are positively related to strategic decisions to allocate more firm resources to assets like R&D, and fewer resources to assets like plant, property, and equipment (PP&E). Given the inherent differences between riskiness of investments in intangible and tangible assets, the resource allocation decision provides an indication about managerial preferences for risk (Hentschel & Kothari, 2001). Coles et al. (2006) also found a positive relationship between equity incentives and more concentrated sales portfolios (i.e., sales coming from

fewer business segments) and the use of debt financing. Again, like the investment decision discussed above, more concentration in certain business segments and the use of more debt are also examples of a TMT's propensity to take risks. Further, other scholars found positive relationships between option holdings and firm debt (Cohen et al., 2000), risky capital projects in the area of oil exploration (Rajgopal & Shevlin, 2002), and capital expenditures (Sanders & Hambrick, 2007).

A host of researchers, using broad measures of firm risk, such as the volatility of firm stock returns and ROA volatility, have found positive relationships between option-based compensation and firm risk (Chen, Steiner, & Whyte, 2006; Wright et al., 2007). Cheng and Farber (2008) found that a decline in option-based compensation reduces the incentive to take risk, thus supporting findings that managers consider personal situations when making decisions about firm risk (Don, 1995).

There is also empirical evidence supporting the relationship between options and aggressive accounting practices (Burns & Kedia, 2008), earnings management (Bergstresser & Philippon, 2006), misreporting (Cheng & Farber, 2008), and the likelihood of fraud allegations (Denis, Hanouna, & Sarin, 2006). In addition, studies have documented aggressive practices related to option backdating and option timing (Heron & Lie, 2009; Lie, 2005). These findings provide additional support for the argument that, in general, options provide an incentive to make

risky decisions related to firm policies, strategies, and investments. Individually and collectively, these decisions increase the probability distribution (i.e., riskiness) of firm operations and financial performance (Coles et al., 2006).

Empirical evidence suggests that equity incentives encourage risk-seeking behavior. While these tendencies may increase the outcome variance of firms, there is no consensus about the direction of the outcome variance. In a related study, using data from 1993 to 2000, Sanders and Hambrick (2007, p. 1061) found that CEO stock options lead executives to "Swing for the fences." They found that CEO stock options increase the propensity to make high-variance bets, and that large losses are more likely than large gains. These findings lend support for the argument that option-based incentives, with asymmetric payoff structures, encourage executives to accept riskier projects with more uncertain payoffs and that option-based incentives generate suboptimal returns.

While researchers have studied executive compensation and its relationship with performance or risk, few studies examine the link between executive compensation and risk- adjusted performance (Sanders & Hambrick, 2007). In one tangential study on executive compensation and corporate acquisition decisions, Datta, Iskandar-Datta, and Raman (2001) document a strong positive relationship between equity-based compensation and efforts to pay lower acquisition premiums, to seek acquisition targets with higher growth opportunities, and to increase firm risk. Although Datta et al. (2001) did not

measure actual performance, they did find that managers with higher equity-based incentives do seek investment opportunities with both higher expected return and higher risk. In a more recent study, Brick et al. (2010) found a statistically significant inverse relationship between option sensitivity and lagged, risk-adjusted performance as measured by Fama-French abnormal returns and Jensen's performance measures. In their study, they focused solely on CEO compensation and used option sensitivity variables from the accounting and finance literature. This provides support for the argument that pay mix, particularly the allocation to options, does influence future risk-adjusted performance.

I argue that examining performance or risk individually tells little about the effect of the option-based incentives on the firm. I posit that the salient question in the minds of stakeholders is whether the higher firm returns more than compensate investors for the higher risk that may be associated with them. I assume, consistent with theory in financial economics, that investors seek to maximize return for a given level of risk or minimize risk for a given level of return. Thus, higher firm risk, as a result of option-based incentives, is tolerable if it is accompanied by increased returns that are proportional to the additional risk.

Given the strong evidence supporting the link between option-based incentives and firm risk, as well as the relatively weaker link between option-based incentives and firm performance, I argue that the option-based incentives will

provide an incentive to make riskier strategic decisions, but that firm performance will not be commensurate with the additional risk (the incentive to take risk will be more powerful than the incentive to increase performance). Thus, as option-based compensation increases, risk-adjusted performance should decline. Therefore, I hypothesize the following:

Hypothesis 2: The ratio of option-based compensation to total compensation will be negatively associated with lagged, risk-adjusted performance.

Equity Ownership and Risk-Adjusted Performance

Restricted stock and common stock ownership are other instruments with unique incentive and payoff characteristics that differ from both salary and options. Unlike stock options and bonuses, restricted stock and equity ownership have more symmetric payoff structures. As mentioned previously, options provide the incentive to take risk because of the substantial upside and minimal downside and salary provides an incentive to stabilize operations. Although restricted and common stock holdings may provide an incentive for executives to take unjustified risk with company assets, the TMT is still exposed to equity price declines should projects fail (Burns & Kedia, 2008; Matta & McGuire, 2008).

Research suggests that the options, restricted stock, and common stock ownership account for a considerable amount of the sensitivity of CEO wealth to performance (Balsam, 2007). Therefore, it is reasonable to expect restricted stock and common stock holdings to act as an incentive to increase firm value. In a

study of stock ownership plans, Core and Larcker (2002) examined ownership plans that require CEOs to hold a minimum amount of company common equity. They found a positive relationship between managerial common stock ownership increases and subsequent firm performance. Similarly, Agarwal, Daniel, and Naik (2009) found that higher levels of managerial ownership, as well as option-like incentives are positively associated with superior performance in hedge funds. Lewellen, Loderer, and Rosenfeld (1985) and Travlos and Waegelein (1992) found that common equity ownership by TMTs is positively associated with stock returns associated with acquisitions. In short, they found that managers that have higher levels of common equity holdings are more likely to be involved in value-maximizing acquisitions.

Consistent with agency theory logic, compensation committees have incorporated restricted stock grants into compensation schemes in an effort to encourage additional effort and to overcome the managerial preference for risk aversion. Likewise, many firms have required equity ownership positions for TMTs through company ownership plans. Empirical evidence suggests that firms have been successful in enticing risk-taking, as evidenced by numerous studies finding a positive association between managerial equity ownership and firm risk (Eisenmann, 2002). For instance, researchers have found positive relationships with firm risk operationalized in firm variance and financial leverage (Agrawal & Mandelker, 1987), as well as acquisition (Amihud & Lev, 1981), corporate entrepreneurship (Zahra, 1996), and corporate diversification (Eisenmann, 2002)

decisions. As noted by Agrawal and Mandelker (1987, p. 831), "evidence tends to support the hypothesis that executives' security holdings induce them to make investment decisions that are in the interest of shareholders."

However, contrary to the research mentioned above, some researchers have found that firms with executives that have considerable stock ownership tend to invest in less risky assets (Capozza & Seguin, 2003) and use less debt (Jensen, Solberg, & Zorn, 1992). These results may be explained in part with the empirical findings of Wright et al. (2007), which indicated that there may be an inverted U-shaped relationship between executive stock ownership and firm risk. They found that risk increases with low levels of equity ownership and then subsequently declines at high levels of ownership. It is possible that these studies, which appear to be contradictory to existing studies, may have captured more observations that fell into a different portion of the curvilinear relationship.

Given the evidence supporting the link between equity ownership and firm performance, and also firm risk, it appears that, consistent with the fundamental logic in finance, with higher performance comes higher risk. This is reasonable since executives are exposed to a symmetric payoff structure with common equity. I expect that TMTs have the incentive to make optimal decisions with regard to the risk/return profiles of the projects they accept for their firms. Therefore, I hypothesize the following:

Hypothesis 3: Common equity ownership will be positively associated with the risk-adjusted performance.

Research Methodology

Data

The data utilized in this study were drawn from the Compustat, Execucomp, and Center for Research in Security Prices (CRSP) databases. My sample consists of financial and TMT executive compensation data for all the firms with available data over the eight-year period from 1999 through 2006. This sample provided a broad swath of firms from a number of different industries.

I gathered data for cases that contained executive compensation and stock return information, and also examined missing data in the non-executive compensation and stock return fields. Given that missing data in these fields did not exhibit a pattern and that missing observations were less than five percent for each variable in my analysis, I replaced missing values with variable means.[1] My final sample consisted of 1,146 firms.

[1] I also evaluated results when excluding cases listwise (i.e., eliminating cases if any variable had missing data) and pairwise (i.e., only dropping analyses of variables with missing data). Across my three measures of risk-adjusted performance, models utilizing variable mean substitution for missing variables exhibited r-squares that were consistent with the listwise and pairwise models.

Variable Definitions

Dependent Variable. *Risk-adjusted performance* measures incorporate the extent to which managerial incentives lead to optimal decisions (Sharpe, 1994). In the literature in finance and economics, the return-to-risk relationship is often measured with the Sharpe ratio, which is defined as ratio of return to the standard deviation of that return (Sharpe, 1966a), or the Treynor ratio, which is defined as the ratio of return to the systematic risk (or beta) of that return (Treynor, 1965). However, either ratio provides a measure of performance in relation to risk.[2]

I define risk as stock return volatility (Brick et al., 2010, Burns & Kedia, 2008, Coles et al., 2006), which I measured as the standard deviation of stock returns. I use this measure of risk as a component in the Sharpe ratio (Sharpe, 1966b), which has been used in risk-adjusted analysis for a wide range of investments including treasury securities (Pilotte & Sterbenz, 2006), mutual funds (Eling, 2008), insurance (Milevsky, Promislow, & Young, 2006), and equities (Avellaneda & Lee, 2010). I also use the Treynor measure (Treynor, 1965), another commonly utilized risk-adjusted performance measure that measures volatility (i.e., beta or systematic risk) in relation to a broad-based measure of stock market performance. Like the Sharpe ratio, the Treynor ratio has been used extensively in evaluating investment alternatives in equities and mutual funds (Dietze, Entrop, & Wilkens, 2009; Pilotte & Sterbenz, 2006).

[2] The Sharpe ratio uses standard deviation in the denominator, which captures both systematic and unsystematic risk, while the Treynor measure uses beta, which captures systematic risk only.

I relied upon both the Sharpe ratio and the Treynor ratio as proxies for the effectiveness of strategic policy choices.[3] The Sharpe ratio is based on three-year average stock returns divided by the standard deviation of stock returns from 2004 through 2006, while the Treynor ratio was calculated by taking the three-year average stock returns divided by firm beta.[4] Similarly, in their study of CEO compensation, Brick et al. (2010) used lagged risk-adjusted performance measures that incorporate stock beta in their Fama-French abnormal returns and Jensen's performance measures. Furthermore, in addition to these market-based measures of performance, I also include return on assets as my internal accounting measure of performance (Carpenter & Sanders, 2002; Mehran, 1995). Like my market-based measures, I divided the three-year average ROA by the standard deviation of the three-year average ROA to compute this measure.

[3] Typically the Sharpe ratio and the Treynor ratio capture stock performance over and above a risk-free rate of return (i.e., excess return) divided by the standard deviation of returns or beta, respectively. The examination of excess return allows one to compare risk-adjusted returns of a security or a portfolio with the returns of a risk-free alternative. However, given that the focus of this paper is to evaluate the link between executive compensation and risk-adjusted performance of firms and not the selection of one security over another, I have not subtracted the risk-free rate in the numerator. Thus, I have calculated the Sharpe measure to include performance (Total Stock Returns or Return on Assets) in relation to standard deviation (Total Stock Returns or Return on Assets) and the Treynor measure to performance (Total Stock Returns) in relation to beta.

[4] One-year and five-year performance measures were also evaluated. However, the empirical findings suggest that a one-year performance lag may not provide enough time to show the relationship between pay incentives and subsequent risk-adjusted performance, while a five-year lag may introduce too much noise to the pay/performance relationship. Thus, I have shown only the three-year lagged performance in my tables.

Independent Variables. Consistent with the prior literature in management, I measure *salary pay and option-based pay as a percentage of total compensation, w*hich includes salary, bonus, non-equity incentive plan compensation, grant-date fair value of option awards, grant-date fair value of stock awards, deferred compensation earnings reported as compensation, and other compensation (Chen et al., 2006; Harris & Bromiley, 2007; Sanders & Hambrick, 2007). *Salary and option-based* pay data were used to test Hypotheses 1 and 2 and *stock ownership, and restricted stock* were used to test Hypothesis 3. I relied upon the 2003 data from the Execucomp database for this analysis. The Execucomp database utilizes the Black and Scholes option pricing model (Black & Scholes, 1973) to estimate option values. In addition, to increase the robustness of my findings, I also included salary and option values in dollar terms as an alternative measure to the above mentioned salary and options as a percentage of total compensation variables (the results were not shown, but are discussed later).

As mentioned previously, one of the motivations of this paper was the managerial posture towards risk and return prospects after the Sarbanes-Oxley Act of 2002. Thus, I measure compensation packages in 2003 to investigate how the pay packages in the post Sarbanes-Oxley climate are related to subsequent risk-adjusted performance.[5] For the purpose of this paper, I call the above mentioned

[5] I have not performed pre and post Sarbanes-Oxley analysis, thus I cannot reach any conclusions pertaining to the change in TMT risk aversion as a result of the Sarbanes-Oxley Act of 2002.

variables “management independent variables or management IVs” and show the empirical findings with these variables in Table 2-2.

I also incorporated wealth sensitivity measures that are commonly utilized in the accounting and finance literature, specifically measures for *option sensitivity*, *restricted stock sensitivity*, and *TMT stock ownership sensitivity*. These sensitivity measures capture option, restricted stock, and common stock positions from prior periods. For example, option sensitivity measures include option grants over the prior ten years, while current restricted stock and common stock holdings reflect all prior awards. Therefore, these measures incorporate the effects of previous awards on company performance, not simply the option awards in the 2003 compensation package.

Option sensitivity measures, or variations relying solely on delta, have been used by numerous accounting researchers (Bergstresser & Philippon, 2006; Burns & Kedia, 2006; Burns & Kedia, 2008; Core & Guay, 2002; Datta et al., 2001). Option delta is calculated as the partial derivative of option value in relation to stock price (Burns & Kedia, 2008) and measures the rate of change of option value in relation to changes in the underlying asset’s price (Haug, 2007). To calculate option delta, I relied upon the Black-Scholes option pricing model (Black & Scholes, 1973). Delta was estimated with the following formula:

$$e^{-dt}\phi(Z), \text{ where } Z = \frac{Ln\frac{S}{X}+T(r-d+0.5*\sigma^2)}{\sigma\sqrt{T}}.$$

My measure is calculated by multiplying the option delta by 1% of the stock price and the number of options held (Burns & Kedia, 2006; Core & Guay, 2002). In order to capture the effects of all option positions, I calculated delta for new option awards, as well as previously granted exercisable and unexercisable options. These delta calculations were based on prior research by Core and Guay (1999), who showed that proxies estimated from current year financial data are reliable proxies for option grants reported in prior years.

My option delta calculation required estimates for stock price, exercise price, volatility, the risk-free rate, dividend yields, and option maturity (Black & Scholes, 1973). Using data from the Execucomp, CRSP, and Compustat databases, I gathered stock prices at the fiscal year end, dividend yield (dividend divided by stock price at year end), and volatility (standard deviation of stock returns over the 60 months prior to 2003). Data from the Federal Reserve in St. Louis was used for risk-free rates in the focal year. Following Core and Guay (1999, 2002) and Burns and Kedia (2006), the time to maturity for unexercisable option grants was calculated as the maturity of new option grants minus one, while exercisable option grant maturity was calculated as unexercisable option grant maturity minus 3. Following Core and Guay (2002), exercise prices were calculated as the realized values of exercisable and unexercisable option grants minus the stock price (i.e., the profit) divided by the number of shares of exercisable and unexercisable options. Delta estimates were then aggregated

over the TMT to capture the option wealth sensitivity to changes in stock price for the entire group of top executives.

Based on the same logic as my option sensitivity variable, I calculated restricted stock sensitivity and TMT common stock ownership sensitivity. Following Burns and Kedia (2006), I estimate these sensitivities by multiplying the number of shares by 1% of the stock price. Collectively, I call these sensitivity measures "accounting and finance independent variables or accounting and finance IVs" and show the empirical findings with these variables in Table 2-3.

Control Variables. I controlled for firm *size* because size influences the firm's ability to alter organizational structure and strategy and to make investments (Miller, Wiseman, & Gomez-Mejia, 2002; Erickson, Hanlon, & Maydew, 2006; Sanders & Hambrick, 2007; Burns & Kedia, 2008). I measured firm size as the log of the number of employees of each firm in 2003. *Two-digit SIC codes* were utilized to control for differences in performance and fundamentals across industries represented by the sample (Burns & Kedia, 2008). Two-digit SIC codes controlled for inter-industry differences among firms in my primary regression analyses and were included in all models in this analysis. In addition, given that prior firm risk and prior firm performance may influence future corporate risk taking and performance, I have controlled for *five-year average prior firm risk* and *prior firm performance* (measured by monthly total stock returns from 1999-2003), as well as *five-year average prior ROA* (quarterly ROA

defined as net income/total assets from 1999-2003) (Wright et al., 2007).[6] Moreover, since agency theorists posit that bonuses can serve as a mechanism to foster goal alignment between the TMTs and shareholders (Carter et al., 2009) and that *bonuses* can entice executives to take risks with firm assets, I control for the average dollar value of bonuses to the TMTs in 2003.

Further, I controlled for factors that may influence the ability of executives to alter the risk and return profiles of firms. More specifically, I controlled for *five-year average prior financial leverage (1999-2003),* which was calculated as the percentage of interest bearing liabilities to shareholders equity (Bergstresser & Philippon, 2006; Coles et al., 2006; Burns & Kedia, 2008), and slack, which was measured as working capital as a percentage of sales in 2003 (Finkelstein & Hambrick, 1990). Both of these measures serve as proxies for the resources that are available to allocate to risky initiatives. High levels of debt and low levels of working capital narrow the range of potential risky projects executives can accept. Conversely, low levels of debt and high levels of working capital provide flexibility. Finally, I included a variable to control for differences in corporate governance since some researchers have found that corporate governance influences firm performance and earnings management (Gompers, Ishii, & Metrick, 2003; Cornett, Marcus, & Tebranian, 2008). I utilized the *Gompers*

[6] Five-year averages for these variables, as well as for financial leverage were used because these measures can fluctuate significantly from year to year. Thus, due to fluctuations in the business cycle, values in the focal year (2003) alone may not be indicative of underlying firm characteristics. However, for variables where measures are taken from the focal year only, one-year snapshots appear to be appropriate (e.g., firm size, SIC, corporate governance, etc.).

Governance Index, which includes 24 governance rules related to shareholders rights, as my measure of corporate governance.[7]

Endogeneity

Endogeneity, which occurs when there is a correlation between an independent variable and the error term (Wooldridge, 2006), comes from three primary sources: omitted variables, model misspecification, and simultaneous causality (Bascle, 2008). It creates biased estimates in ordinary least squares (OLS), which might lead researchers to make incorrect causal inferences from data (Stock, 2001). Thus, given my usage of observational data, as well as my quest to answer questions related to causality, I have considered the issue of endogeneity in my model. I have hypothesized that executive compensation packages influence strategic decisions (which lead to subsequent firm performance and firm risk), but I are cognizant of the possibility that the past strategic decisions may influence executive compensation packages as well. In short, since compensation structures and strategic initiatives are choice variables, my analysis may encounter endogeneity problems (Erickson et al., 2006).

[7] The Gompers Governance Index is updated every two years and includes the following governance measures: antigreenmail, blank check, business combination laws, bylaw and charter amendment restrictions, cash-out laws, classified board, compensation plans with change in control provisions, indemnification contracts, cumulative voting, director dispute provisions, director duties laws, fair-price provisions, golden parachutes, director liability limitations, pension parachutes, poison pills, secret ballots, severance agreements, silver parachutes, special meeting provisions, supermajority requirements, unequal voting rights, limitation on action by written consent. In this analysis, I relied on the Gompers Index data from 2004. For more detail, please review Gompers, Ishii et al. 2003.

I have attempted to control for endogeneity by selecting control variables that are proxies for determinants of compensation packages (Erickson et al., 2006). Specifically, I have added controls for firm size, prior firm risk, performance, and leverage, slack, industry, and corporate governance. Furthermore, I have addressed the issue of simultaneous causality by utilizing lagged values in my models. By using lagged performance measures I address simultaneous causality because future risk-adjusted performance will not have an impact on compensation paid three years prior. This allows us to better isolate the casual relationship between compensation packages and future performance.

I also considered utilizing a two-stage least squares estimation (2SLS) in my analysis. However, I recognize that some scholars have highlighted the difficulties in determining instruments, as well as the incorrect statistical inferences that may occur if instruments are weak (Bound, Jaeger, & Baker, 1995; Staiger & Stock, 1997). As such, I have relied on my control variable selection and lagged dependent variables in my models to control for endogeneity.

Empirical Models

Ordinary least squares (OLS) regression was employed to examine how different forms of compensation influence future risk-adjusted performance. I performed numerous statistical tests and analytical procedures to ensure that my multivariate analysis did not violate the underlying assumptions of OLS, which include normality, linearity, homogeneity, and independence. In an attempt to achieve

normality, and to reduce the impact of univariate outliers, I transformed variables as appropriate.[8] Following my variable transformations, I eliminated cases that exceeded acceptable thresholds with regard to standardized residuals and various influence measures. Next, I evaluated multivariate outliers through the use of Mahalanobis distance measures and eliminated cases exceeding critical leverage values (α =.001 level). Homoscedasticity was examined through a review of scatterplots, which indicated reasonable consistency of spread through the residual distributions. Further, I tested for autocorrelation with the widely utilized Durbin-Watson test. Since this test indicated that autocorrelation was not present, alternative methods were not required.

For the purpose of this analysis, two-stage, hierarchical regression models were employed to test each hypothesis. This allowed us to isolate the incremental explanatory power of the independent variables. In each case, I first tested the validity of my control model, and then separately tested the association between pay mix explanatory variables (wealth sensitivity measures) and dependent variables for risk-adjusted performance.

[8] After a thorough review of histograms, as well as skewness and kurtosis statistics, I transformed variables as appropriate. I performed a square root transformation for the Sharpe ratio because this variable exhibited moderate positive skewness and I used natural log transformations for bonus, risk-adjusted ROA performance, the Treynor ratio, restricted stock, employees, five-year average prior financial leverage, and slack variables due to substantial positive skewness. I used inverse transformations for the five-year average prior stock returns and five-year average prior risk.

Results and Analysis

Descriptive Statistics

Descriptive statistics and correlation coefficients of the variables in this study are presented in Table 2-1. Due to space constraints, SIC dummies were not shown. As one might expect, I find a strong correlation (r =.885, p<.01) between my two market-based performance measures, which include the Sharpe and Treynor ratio, and a weaker correlation between risk-adjusted ROA and the Sharpe and Treynor ratios (r = .327, p<.01, r = .268, p<.01, respectively). I also find a fairly strong correlation between salary and bonus (r = .497, p<.01). Since most correlations are statistically significant, I conducted variance inflation factor (VIF) analysis to test for multicollinearity. My analysis indicated that all variables exhibited VIFs under three, which is well below commonly accepted VIF thresholds (Chatterjee & Price, 1991). Thus, multicollinearity does not appear to be a problem in this analysis.

The results of my OLS regression analysis examining the influence of options, salaries, and stock ownership on risk-adjusted firm performance are detailed in Tables 2-2 and 2-3. Table 2-2 shows the Sharpe ratio, Treynor ratio, and ROA risk-adjusted performance measures with executive compensation independent variables commonly found in the management literature, while Table 2-3 shows my performance measures with executive compensation independent variables commonly found in the accounting and finance literature.

Table 2-1

Descriptive Statistics and Correlation Coefficients of Variables in the Study [A, B, C]

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Sharpe Ratio	0.16	0.17	1													
2 Risk-Adjusted ROA	0.02	0.03	.327 **	1												
3 Treynor Ratio	0.01	0.01	.885 **	.268 **	1											
4 Bonus	382.56	567.39	.091 **	.278 **	.006	1										
5 5 Yr Avg. Prior Stock Return	0.03	0.02	.086 **	.057 *	.108 **	.043	1									
6 5 Yr Avg. Prior Risk	0.16	0.08	.184 **	.409 **	.057 *	.281 **	.545	1								
7 5 Yr Avg. Prior ROA	0.01	0.03	.034	.413 **	.006	.205 **	.060 *	.458 **	1							
8 5 Yr Avg. Prior Leverage	0.58	0.08	.190 **	-.054 *	.113 **	.149 **	.037	.103 **	-.04	1						
9 Size	20.47	63.02	.088 **	.213 **	-.044	.362 **	.333 **	.449 **	.187 **	.233 **	1					
10 Gompers Index 2004	9.25	2.49	.169 **	.073 *	.125 **	.145 **	.143 **	.214 **	.003	.205 **	.162 **	1				
11 Slack	0.40	0.98	-.211 **	-.233 **	-.150 **	.230 **	-.276 **	-.426 **	-.136 **	-.237 **	-.444 **	-.192 **	1			
12 Options as % of Total Comp.	0.34	0.25	-.190 **	-.014 *	-.168 **	-.084 **	.241 **	-.221 **	.047	-.182 **	.055 *	-.118 **	.266 **	1		
13 Restricted Stock	240.98	819.56	.120 **	.071 **	.034	.245 **	.214 **	.225 **	.040	.207 **	.331 **	.121 **	-.173 **	-.257 **	1	
14 Salary as % of Total Comp.	0.32	0.19	.020	-.160 **	.088 **	.497 **	.096 **	-.081 **	-.162 **	-.055 **	-.271 **	-.046	-.018	-.559	-.311 **	1
15 TMT Stock Ownership	1.46	1.47	-.039	.271 **	-.114 **	.198 **	-.011	.264 **	.268 **	.036	.331 **	-.015	-.096 **	-.019 **	.161 **	.177 **

[A] p<.05 *, p<.01**

[B] N=1146

[C] Bonuses and restricted stock values were in thousands of dollars, while TMT stock ownership was in millions of dollars. Size represented the number of employees in thousands. The Gompers index was a count index based on 24 corporate governance variables. All other variables were percentages.

Salary and Risk-Adjusted Performance

In Model 1 of Table 2-2, I examine the relationship between my control variables and the Sharpe ratio. The control model was statistically significant and had an r-square of .20. The control variables for five-year prior risk, five-year prior leverage, corporate governance, and slack variables were all significant at least at the .05 level as well. Model 2, which introduced my independent variables, was also statistically significant ($p<.01$), explaining an additional 1.1% of the variance of the dependent variable. All of the control variables mentioned previously were statistically significant as well.

In Hypothesis 1 (see Models 2 and 4 in Table 2-2 and Table 2-3), I tested the relationship between salary and risk-adjusted performance. Based on conventional agency theory logic, I hypothesized that since salary is a fixed form of pay, salary would not be associated with future risk-adjusted performance. Salary was not significant in Table 2-2 (Model 2, $p<.406$ and Model 4, $p<.517$.) nor Table 2-3 (Model 2, $p<.276$ and Model 4, $p<.841$). These results were consistent across both the Sharpe and Treynor measures of performance. Therefore, Hypothesis 1 was supported with these measures.

To increase the robustness of my findings, I also utilized ROA as another measure of risk-adjusted performance. As shown in Model 5 in Table 2-2, the control model was statistically significant and had an r-square of .302. Similar to Model 1, the control variables for five-year average prior stock risk, and five-year average prior leverage, were statistically significant. However, my salary variable was not statistically significant.

Contrary to the findings related to market-based performance measures, when I utilize my accounting IVs, I find that salary is negatively associated (Table 2-3 Model 6 $p<.01$) with risk-adjusted ROA, thus providing some evidence that as salary increases, managers may be willing to give up performance in favor of risk reduction. As such, with regard to risk-adjusted accounting performance measures, my results are mixed and Hypothesis 1 is not supported.

Another notable difference between market-based and accounting performance measures is the difference with regard to TMT bonuses. I find that in all ROA models TMT bonuses are positive and statistically significant ($p<.01$). I argue that positive associations are reasonable given that bonuses are typically paid when firm performance exceeds some internal performance benchmark such as a target ROA, ROE, or net income (net income is a key component in the calculation of ROA and ROE).

Table 2-2

Effects of Compensation Packages on Risk-Adjusted Performance with Management Variables*

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Control 1	Risk Adjusted Performance (Sharpe Ratio)	Control 2	Risk Adjusted Performance (Treynor Ratio)	Control 3	Risk Adjusted Performance (Return on Assets)
Bonus	0.001	-0.001	0.000	0.000	0.061 ***	0.060 ***
5 Yr Avg. Prior Stock Return	0.131	0.390	-0.158 ***	-0.124 **	7.707 ***	6.391 ***
5 Yr Avg. Prior Risk	-0.335 **	-0.355 ***	0.029	0.026	-5.101 ***	-4.781 ***
5 Yr Avg. Prior ROA	-0.104	-0.046	0.010	0.018	2.173	1.913 ***
5 Yr Avg. Prior Leverage	0.050 ***	0.043 ***	0.005 **	0.005 *	-0.190 ***	-0.168 ***
Size	-0.002	0.003	-0.003 ***	-0.002 *	0.035 ***	0.007
Gompers Index 2004	0.003 ***	0.002 **	0.000 **	0.000 **	0.002	0.004
Slack	-0.054 ***	-0.044 **	-0.009 ***	-0.007 **	-0.068	-0.110
SIC	Included	Included	Included	Included	Included	Included
Options as % of Total Comp.		-0.0340 **		-0.005 *		0.054
Restricted Stock		0.0000		0.000		-0.005
Salary as % of Total Comp.		-0.0560		-0.008		-0.069
TMT Stock Ownership		-0.0070 ***		-0.001 **		0.045 ***
F-Value	4.441 ***	4.434 ***	3.416 ***	2.860 ***	7.693 ***	7.582 ***
R-Square	0.200	0.211	0.161	0.170	0.302	0.313
Adjusted R-Square	0.155	0.163	0.114	0.120	0.263	0.272
Change in R-Square		0.011 ***		0.009 **		0.011 ***
*p<.10 **p<.05, ***p<.01						
	N = 1146					

We used natural log transformations for bonus, risk adjusted ROA performance, the Treynor ratio, restricted stock, employees, five-year average prior financial leverage, salary, and slack variables due to substantial positive skewness. We used inverse transformations for five-year average prior stock returns and five-year average prior risk and we used square root transformation for the Sharpe ratio. Bonuses, salary and restricted stock were in millions of dollars, while prior average variables were in percentages. Size, which was the log of employees, was in thousands.

Table 2-3

Effects of Compensation Packages on Risk-Adjusted Performance with Accounting Variables*

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Control 1	Risk Adjusted Performance (Sharpe Ratio)	Control 2	Risk Adjusted Performance (Treynor Ratio)	Control 3	Risk Adjusted Performance (Return on Assets)
Bonus	0.001	0.002	0.000	0.001	0.060 ***	0.055 ***
5 Yr Avg. Prior Stock Return	-0.028	-0.200	0.078 ***	0.046 *	-3.524 ***	-2.560 ***
5 Yr Avg. Prior Risk	0.184 ***	0.222 ***	-0.015	-0.008	2.665 ***	2.423 ***
5 Yr Avg. Prior ROA	-0.109	-0.065	0.010	0.017	2.200 ***	1.919 ***
5 Yr Avg. Prior Leverage	0.050 ***	0.045 ***	0.005 **	0.005 **	-0.192 ***	-0.162 ***
Size	-0.003	0.002	-0.003 ***	0.000	0.035	0.023
Gompers Index 2004	0.003 ***	0.002 **	0.000 **	0.000 **	0.002	0.004
Slack	-0.053 ***	-0.043 **	-0.009 ***	-0.007 *	-0.071	-0.129
SIC	Included	Included	Included	Included	Included	Included
Option Senstivity		-0.006 **		-0.001 ***		0.040 ***
Restricted Stock Sensitivity		0.001		0.000		0.005
Salary		0.022		0.001		-0.294 ***
TMT Stock Ownership Sensitivity		-0.003 **		0.000 *		0.016 ***
F-Value	4.466 ***	4.440 ***	3.441 ***	3.580 ***	7.736 ***	7.950 ***
R-Square	0.201	0.211	0.162	0.177	0.303	0.324
Adjusted R-Square	0.156	0.163	0.115	0.128	0.264	0.283
Change in R-Square		0.010 ***		0.015 ***		0.021 ***
*p<.10 **p<.05, ***p<.01						
	N = 1146					

We used natural log transformations for bonus, risk adjusted ROA performance, the Treynor ratio, restricted stock, employees, five-year average prior financial leverage, salary, and slack variables due to substantial positive skewness. We used inverse transformations for five-year average prior stock returns and five-year average prior risk and we used square root transformation for the Sharpe ratio. Bonuses, salary and restricted stock were in millions of dollars, while prior average variables were in percentages. Size, which was the log of employees, was in thousands.

Since executives have considerable control over key accounting policies such as accruals, LIFO/FIFO inventory accounting, depreciation methods, and the classification of non-operating income and expenses, it is possible that there would be a positive association between compensation, risk-adjusted ROA, or earnings management (Carter et al. 2009).

This illustrates that different performance incentives (bonuses, and options, for example) could potentially drive different types of internal (ROA or ROE) and external (stock market) performance. This logic could help to explain why my salary variable was inversely related to my ROA risk-adjusted performance measures in Table 2-3 (Model 6).

Option-Based Incentives and Risk-Adjusted Performance

As discussed previously, Model 1 of Table 2-2, was statistically significant and had an r-square of .20. My independent variables ($p<.01$) (shown in Model 2) explained an additional 1.1% of the variance of dependent variable. As posited in Hypothesis 2, the options as a percentage of total compensation variable was significant and negative ($p<.05$), indicating that there is an inverse relationship between the option percentage of pay mix and risk-adjusted stock performance. This indicates that as options increase as a percentage of total compensation, TMTs select riskier projects and produce returns that are not commensurate with the risk taken.

To increase the robustness of my findings, I also substituted the dollar value of options for options as a percentage of pay mix measure. The models were statistically significant and the dollar value of options variable was also negatively associated with risk-adjusted performance. Furthermore, in addition to the Sharpe ratio, I included the Treynor ratio, which adjusts performance with beta as opposed to the standard deviation of stock returns. My findings, shown in Models 3 and 4 in Table 2-2, are similar to the findings for the Sharpe ratio. The control model (Model 3) is statistically significant with an r-square of .16 ($p<.01$). After adding my compensation independent variables my model is still statistically significant, and like my findings with the Sharpe ratio risk-adjusted performance measure, explains approximately 1.0% more variance ($p<.01$) than the control model. I also find an inverse relationship between the option percentage of pay mix and risk-adjusted stock performance measure utilizing the Treynor measure. In Models 5 and 6 of Table 2-2, I also tested Hypothesis 2 with my risk-adjusted ROA measure. However, my options as a percentage of total compensation variable was not statistically significant.

As shown in Table 2-3, in Models 1, 2, 3, and 4, I performed regression analysis with Sharpe ratio and Treynor ratio risk-adjusted performance measures and option sensitivity measures commonly utilized in the accounting and finance literature. Again, I have statistically significant models where the executive compensation independent variables explain additional variance. However, it appears that option sensitivity accounting measures explain slightly more variance than the

management variables shown in Table 2-2. For instance, the changes in r-square for the Sharpe ratio (Model 2 in Table 2-3) and Treynor ratio (Model 4 in Table 2-3) were 1.0% and 1.5%, respectively and were statistically significant ($p<.01$). This not only reflects that the accounting and finance independent variables have more explanatory power since they capture option, restricted stock, and common stock grants from prior periods, but it also provides a robustness check on my management independent variables. Likewise, my option sensitivity variable was significant and negative, indicating that there is an inverse relationship between my option–based TMT wealth and risk-adjusted performance. Thus, for the Sharpe ratio and Treynor ratio performance measures, Hypothesis 2 is supported for option-based variables from the management and accounting and finance literatures. However, unlike the negative association with the market-based measures, option-based TMT wealth was positively associated ($p<.01$) with my risk-adjusted ROA measure. As such, Hypothesis 2 was not supported when my ROA measure was utilized.

Equity Ownership and Risk-Adjusted Performance

My final hypothesis examined the relationship between equity ownership and risk-adjusted firm performance. I find that TMT stock ownership is negatively related to risk-adjusted performance when management independent variables are used. This relationship is statistically significant in Table 2-2 (Model 2, $p<.01$ and Model 4, $p<.05$). This implies that stock ownership does encourage risk taking, and further, the higher risk projects that are undertaken do not generate returns

which are commensurate with the risks. My models incorporating common equity sensitivity accounting measures (Table 3) produce mixed results. I find an inverse relationship with risk-adjusted performance when the Sharpe ratio is the measure of risk-adjusted performance (Model 2, $p<.05$) and a positive relationship when the Treynor ratio is used (Model 4, $p<.10$). However, I note that common stock sensitivity had a zero coefficient in Model 4 of Table 2-3. Thus, Hypothesis 3 was supported with only accounting and finance IVs.

Consistent with my prior analysis, I also tested Hypothesis 3 with my risk-adjusted ROA variable. Similar to the option sensitivity variable, the TMT stock ownership sensitivity variable was positively associated ($p<.01$) with risk-adjusted ROA.

Discussion

My goal in this paper was to examine the influence that executive pay packages have on managerial efficiency, as measured by risk-adjusted performance. In focusing on risk-adjusted performance I develop a better understanding about how different components of pay influence firm performance and firm risk simultaneously. A review of these components, with an emphasis on the relationship with risk-adjusted performance, provides relevant information about whether different allocations of pay have the intended effects.

I found that fixed salary was not associated with market-based, risk-adjusted performance measures. Indeed, this supports the underlying logic behind adding incentives to pay packages. Since there is little connection between TMT salary and firm outcomes, executives have an incentive to minimize firm risk (Hill & Snell, 1989). However, I also found that salary, when included with accounting independent variables, was negatively associated with risk-adjusted ROA, indicating that fixed compensation is associated with internal measures of firm performance as opposed to market-based measures of performance.

I found that as options constitute a larger percentage of total compensation, risk-adjusted performance declines. These findings provide evidence that increasing option-based pay achieves the goal of incentivizing TMTs to select riskier projects, but at a cost of decreasing risk-adjusted performance. Option-based compensation may then have an unexpected consequence of decreasing the level of risk aversion in managerial decision making to a point where additional risk without commensurate return is palatable to TMTs. These results appear to be consistent with a study conducted by Sanders and Hambrick (2007), which found that option holdings are associated with performance extremes, specifically to the downside as the payoff structure of option holdings entice CEO attempts to "swing for the fences." (p. 1061) Sanders and Hambrick (2007, p. 1074) assert that "Investors-not even risk-neutral investors-would have desired this outcome." In a more recent study, Brick et al. (2010) found an inverse relationship between option sensitivity and lagged risk-adjusted firm performance.

Finally, I also investigated common stock holdings and risk-adjusted performance. I found that TMT common equity holdings, like options, enticed managers to take more risk with firm assets, without reaping the benefits of higher returns. It should be noted, however, that although common equity holdings were inversely related to market-based risk-adjusted returns, the coefficients were lower than those of option-based pay. This appears to be reasonable given that the payoff structure of common equity holdings is much more symmetric than that of stock options. As such, the impact of such holdings should not be as significant as option-based holdings.

This paper simultaneously captures both dimensions of performance: risk and return. Without evaluating the risk and return dimensions simultaneously, investors, boards, policymakers, and other firm stakeholders may create compensation policies or make investment decisions that are suboptimal. Agency theorists have long argued that managerial incentives should be provided to entice managers to increase firm risk in line with the preference of shareholders. However, the underlying assumption in this argument is that better firm performance accompanies increased firm risk. These findings provide evidence of the contrary.

Limitations

As with most empirical studies, there are some limitations that warrant some discussion. Each of these limitations is associated with opportunities to enhance my understanding of pay and risk-adjusted performance. I note three limitations.

First, I only evaluated large U.S. firms. This offers a fairly myopic view of TMT pay-for-performance due the institutional forces embedded in large, publicly-held firms. Second, my results were based on a specific time period, 1999-2008, and reflect the accounting standards during that time. Therefore, these findings may or may not remain relevant as accounting standards change. Recently, the Securities and Exchange Commission (SEC) amended existing proxy solicitation and annual statement disclosures related to compensation (Release 33-9089). In an effort to provide additional transparency for shareholders and other investors, effective on February 28th, 2010, companies must now offer narrative disclosures, in plain language, that discuss how executive pay may impact the company. The SEC believes that an emphasis on practices that have a "material adverse" effect will help firms to focus their discussion on the incentives that negatively affect the firm. In addition to the recent amendments made by the SEC, Congress, through the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank), also enacted changes related to executive compensation policies. Dodd-Frank strengthened payback policies under the Sarbanes-Oxley Act of 2002, which imposed payback provisions for incentive pay in the twelve months prior to any restated financials. Dodd-Frank requires a recovery of funds from incentive pay in

the three-year period prior to restatements and also extends the provisions to current and prior executives as well. These new rules may have a significant impact on corporate decisions going forward and, as such, future research on this topic is needed.

Finally, while the evidence supports the argument that increasing equity-based incentives may lead to suboptimal risk-adjusted performance, I have not examined the root cause of the poor performance. There are a number of potential explanations for this phenomenon. The explanation most closely linked to fundamental agency theory tenets is that TMTs act selfishly, and due to moral hazard and the asymmetric return profile of option-based incentives, managers are enticed to select high payoff, low probability strategic alternatives in the search for higher stock-based payoffs. Another potential explanation is that declines in risk-adjusted performance may be the result of additional TMT effort, which turned out to be fruitless. Perhaps TMTs become overly focused on finding and managing high-return projects, thus suffering from what is commonly called "choking" in sports (Camerer & Hogarth, 1999, p. 8). Rather than just remaining in their comfort zone, TMTs may push the envelope, thereby causing suboptimal performance. In a similar vein, there may be other behavioral biases, such as overconfidence, mental accounting, or framing, which serve as moderators with compensation schemes and lead to poor performance. Given the wide range of potential explanations, future research in this area should be particularly fruitful.

Conclusion

While a considerable amount of research has been conducted on the relationship between forms of pay and performance, as well as pay and risk, relatively few studies have examined both dimensions simultaneously. My study adds to the literature in this area. I examined the fundamental question of whether or not forms of pay influence firm performance after adjusting for firm risk. Using compensation measures from the fields of management and accounting and finance, in addition to market-based and accounting-based risk-adjusted performance metrics, I found that as option-based compensation increased, risk-adjusted performance declined. I also found that common equity holdings were also inversely related to risk-adjusted performance as well. Therefore, my study indicates that incentives (options and common stock holdings) may lead to unintended consequences.

CHAPTER 3

EXECUTIVE PAY AND CROSS-BORDER TRANSACTIONS: AN EXAMINATION OF MANAGERIAL DECISION-MAKING

Abstract

Few studies have applied an agency theory perspective while examining the relationship between executive pay and common stock ownership and entry mode decisions. I help to fill this gap by studying of a narrow segment of the entry mode spectrum, specifically the acquisition of equity interests in non-domestic firms. Focusing on international equity acquisitions and executive compensation schemes over the period from 1998 through 2009, I posit that the incentives inherent in different forms of executive compensation (salary, bonuses, options), as well as restricted and common stock ownership, will influence the percentage of equity that firms purchase in cross-border transactions. I find an inverse relationship between executive salary and the percentage of equity acquired. However, contrary to previous work in the agency and entry mode space, I find no associations between stock option and common equity holdings and the percentage of equity purchased in international transactions. These findings suggest that the antecedents for entry mode selection may differ from the antecedents for ownership decisions once a specific entry mode has been selected.

Keywords: agency theory, executive compensation, entry modes, acquisitions, cross-border transactions

Introduction

The choice of a mode of entry into a foreign market can have a significant impact on a firm's operations and performance (Brouthers, Brouthers & Werner, 2002). Research suggests that entry mode choices have long-lasting effects on firms due to difficulties in changing firm trajectories once initiated (Pedersen, Petersen, & Benito, 2002). Not surprisingly, the importance of entry mode selection, both in the short-term and the long-term, has drawn much attention from International Business scholars and has fostered significant academic literature. However, while examining the antecedents of entry mode choice, the majority of studies have relied on transaction cost theory (TCA) (Coase, 1937; Williamson, 1975; Williamson, 1979), the resource-based view (RBV) (Barney, 1991; Peteraf, 1993), institutional theory (Selznick, 1948), and Dunning's (1988) eclectic framework (OLI) (Brouthers & Hennart, 2007; Datta, Musteen, & Herrmann, 2009). Few studies have considered corporate governance and firm internationalization (Luo, Zhao, & Du, 2005; Hitt, Tihanyi, Miller, & Connelly, 2006), and, to my knowledge, and even fewer have examined how firm top management team compensation packages influence entry mode choice (Datta et al, 2009). This gap in the literature provides an opportunity for new studies utilizing an agency theory perspective to further develop my understanding of entry mode choice and cross-

border transactions, which I define as equity investments (or acquisitions in varying proportions) in foreign firms made by domestic firms.

While researchers have been developing, debating, and expanding the literature on firm internationalization and entry mode choice, agency theorists have been advancing the literature on the relationship between executive compensation and performance (Jensen & Murphy, 1990; Tosi, Werner, Katz, & Gomez-Mejia, 2000), firm risk (Don, 1995; Brisley, 2006), and risk-adjusted performance (Sanders & Hambrick 2007). This literature is related to various forms of pay, which include salary, bonus, non-equity incentive plan compensation, grant-date fair value of option awards, grant-date fair value of stock awards, deferred compensation earnings reported as compensation, and other compensation, and how these forms of pay, individually, or collectively, influence executive performance and preferences related to strategic decisions. Recently, there has been considerable interest from across academic disciplines, most notably accounting (Carter et al., 2009), finance (Wright et al., 2007), and management (Sanders & Hambrick, 2007), related to the impact that executive compensation has on strategic decisions, firm policies, and firm risk. Datta, Iskandar-Datta, & Raman (2001) found a positive relationship between equity-based compensation and executive effort to seek acquisition targets with greater growth potential and risk. Sanders and Hambrick (2007) found that CEO stock options lead executives to "swing for the fences" (p, 1061), by leading to an increased propensity to accept high-risk projects. These findings lend support for the argument that different

forms of compensation, particularly option-based incentives, encourage executives to accept projects with uncertain payoffs. This is particularly relevant in the entry mode choice space because there is a considerable amount of literature discussing the differences in risks across the various forms of entry modes including exporting, greenfields, alliances, joint ventures, and acquisitions. It is surprising that there has been limited cross-over between agency theory tenets and foreign entry mode selection decisions (Datta et al., 2009), especially since managerial incentives and their related payoff structures can significantly influence executive risk preferences and firm decisions. As such, I seek to determine if executive pay packages explain additional variance above and beyond the extant antecedents in the entry mode literature.

Against this backdrop, I argue that managerial compensation and common stock ownership may influence cross-border investment decisions. In this paper, I examine the percentage of equity purchased by U.S. domestic firms in cross-border transactions (i.e., target firms were firms that had headquarters outside of the United States). My focus is on a narrowly defined segment of the entry mode literature, specifically acquisitions. Accordingly, the logic grounding my analysis is based on fundamental concepts that have been developed in the broader entry mode choice literature. I posit that TMT compensation schemes influence the percentage acquired in CBTs.

The contributions of this paper are three-fold. First, since much of the extant

executive compensation literature is fairly myopic concentrating on only CEO compensation, I extend my focus to include the top five executives, which collectively serve as the top management team. Incorporating the rest of the TMT captures broader swath of the key decision makers in an organization (Carpenter & Sanders, 2004). Second, given the considerable amount of research indicating that executive compensation packages influence strategic decisions, an agency theory perspective applied to the foreign market entry strategies is a logical extension. A better understanding of the relationship between compensation packages and strategic decisions, specifically foreign market entry, is paramount if compensation packages are to be used to encourage specific corporate behavior. Third, the entry mode literature typically focuses on the decision to enter a new market through either shared control (licensing or joint ventures) or full control (greenfield investment or acquisitions) entry modes. Musteen, Datta, & Herrmann (2009) relied on this dichotomy in their study of 118 non-diversified, manufacturing firms during the 1990's. They examined the relationship between long-term incentives (options, restricted stock, and other long-term pay) and shared control versus full control decisions, and found that long-term incentives were related to full control entry modes. This supports agency theory logic that executive pay influences managerial preferences for different entry modes, which differ on various dimensions including time horizon (Krychowski & Quelin, 2010), flexibility (Brouthers & Brouthers, 2001), initial resource commitment (Buckley, Clegg, & Wang, 2002), exit cost (Anderson & Gatignon, 1986), and transaction cost (Zollo & Singh, 2004). This line of research indicates that managerial incentives can

entice managers to select one entry mode alternative over another, and that one of the key factors in such a decision hinges on ownership preferences. However, the research examining the level of ownership within an entry mode once it is selected is sparse. This is potentially due to usage of binary dependent variables in this line of research. I focus on a narrow segment of the entry mode choice spectrum, specifically the selection of an acquisition, which allows us to concentrate on whether or not the documented antecedents of entry mode choice are also the antecedents of the percentage of equity purchased in the selected entry mode.

I begin this paper with a brief discussion of agency theory, executive compensation packages, and the effects of these compensation packages on firm risk. Following this review, I briefly discuss entry mode literature. Next, I develop three hypotheses related to executive compensation packages and CBTs. I then discuss my empirical model, as well as sources of data, and variable construction. Finally, I offer conclusions and thoughts about future research.

Literature Review

There has been a considerable amount of discussion in the entry mode choice literature pertaining to the dissimilar risks and rewards of full and partial entry modes. It has been widely argued that shared-control entry modes are less risky than full-control modes for a number of reasons (Datta et al., 2009). For example, researchers posit that full-control entry modes require a higher initial

resource commitment than shared-control entry modes (Anderson & Gatignon, 1986; Hill, Hwang, & Kim, 1990; Buckley et al., 2002). The underlying logic is that in shared-control entry modes such as joint ventures or partial equity purchases, partner firms jointly contribute assets and capital, which minimizes the resource commitments of each partner. Since fewer resources are committed there is less risk associated with shared-entry mode choices. In addition, more significant upfront resource commitments also add risks beyond the initial outlay. For example, it is argued that lower upfront resource commitments related to shared-control entry modes generally lead to lower exit costs (Anderson & Gatignon, 1986). Likewise, as a result of lower resource commitments, shared-control entry modes generally offer more firm flexibility (Brouthers & Brouthers, 2001).

In large part, these divergent resource requirements form the underlying logic behind the real options (RO) literature. "Real options" (Myers, 1977) refer to the usage of option theory to rank investment alternatives. For example, as firms make small investments to gain entry to a market or to develop a new prototype (Krychowski & Quelin, 2010), they create the ability to evaluate the evolving circumstances. Like stock options, which require a premium for the option to buy or sell a security at a specific price in the future, investments in the international joint ventures (IJVs) or partial acquisitions give firms the ability to keep the initial investment of each project low while maintaining the option to make additional investments over time should opportunities present themselves (Buckley & Tse,

1996; Folta, 1998). Some theorists posit that a real option approach, where firms participate in shared-control entry as opposed to full acquisitions, minimizes risk from any particular venture (Brouthers, Brouthers, & Werner, 2008) and allows firms considerable flexibility. Therefore, "Real options not only enable firms to capture the value of growth opportunities in case of favorable circumstances; they also limit downside risks in case of unfavorable conditions" (Krychowski & Quelin, 2010, p. 70).

Moreover, full-control entry modes are considered riskier than shared-control entry modes due to the higher resource commitments related to the underlying characteristics of common business transactions. For example, purchasing a controlling interest in a target firm often requires a considerable acquisition premium to entice target shareholders to approve the transaction (Slusky & Caves, 1991; Jensen, 1993). There are also significant transaction costs which further increase the resource commitment during acquisitions (Zollo & Singh, 2004). Furthermore, there are considerable risks associated with the accurate valuation of the target firm given the information asymmetries between acquirer and acquiree TMTs (Fishman, 1989; Lee & Lieberman, 2010), thus requiring considerably more due diligence efforts. Individually and collectively, these factors increase the likely costs associated with full-control entry modes and, as such, increase the risks associated with this entry mode alternative.

Research Hypotheses

Agency theorists assert the principal-agent relationship, if left without appropriate control mechanisms, could have a profound impact on firm strategy. Without proper control by the board, or some of other stakeholder groups (shareholders, institutions, bondholders, founding families) the firm will incur agency costs (adverse selection and moral hazard). Managers may take advantage of information asymmetries to build empires (Jensen & Murphy, 1990) through diversification and restructuring strategies (Amihud & Lev, 1981; Bethel & Liebeskind, 1993), reinvest cash instead of distributing it to shareholders (Brush, Bromiley, & Hendrickx, 2000), or increase their own compensation (Bebchuk & Fried, 2003).

To align interests between TMTs, employees, and shareholders, firms employ compensation packages and develop organizational structures that seek to minimize agency costs. Since shareholders and boards have difficulty observing the behavior of executive management teams, outcome-based contracts appeared to be the logical choice to encourage goal alignment (Eisenhardt, 1989). During the late 1980s and 1990s there was an explosion of option grants to executives, but recent changes in accounting for option expenses and harder economic times have slowed the use of options. Nonetheless, options still generally constitute a significant portion of executive compensation packages (Balsam, 2007).

Salary and the Percentage Acquired in Cross Border Transactions

Agency theorists argue that compensation schemes composed primarily of salary provide TMTs with little incentive to take risk (Jensen & Meckling, 1976). While TMTs are still concerned about effectively guiding their firms, agency theorists contend that TMTs' worries center around maintaining the firm's going concern status (Cadsby et al., 2007). The underlying logic is that TMTs paid in only salary focus on protecting their employment and the accompanying salary. In addition to protecting personal benefits in the short-term, risk aversion is also seen as a way to protect long-term interests. For instance, it is particularly important to maintain firm performance relative to its peers (Wright et al., 2007) since underperformance could hurt future job possibilities (Balsam, 2007). Given the preference for risk aversion, as well as the fact that salary streams are generally unaffected by fluctuations in firm performance, I hypothesize that TMTs paid primarily in the form of salary will seek to minimize firm risk and thus, they will prefer less equity ownership over more equity ownership. On this basis I hypothesize:

Hypothesis 1 – TMT salary will be negatively associated with the percentage acquired in CBTs.

Option-based Incentives and the Percentage Acquired in Cross Border Transactions

A plethora of research suggests that the addition of option-based incentives to executive pay packages encourages the acceptance of risky projects. Researchers have found relationships between option-based pay and corporate investments,

financial leverage, and numerous other proxies for firm risk. For example, scholars have found positive relationships between option holdings and firm debt (Cohen et al., 2000), the level of capital expenditures (Sanders & Hambrick, 2007), and risky oil exploration projects (Rajgopal & Shevlin, 2002). Coles et al. (2006) found that as equity incentives increase, TMTs allocate more resources to risky R&D projects and less to PP&E, which is inherently less risky. Coles et al. (2006) also found a positive relationship with sales concentration, which is riskier than a diversified sales portfolio. These managerial decisions reflect managerial preferences for risk-taking when given equity-based incentives.

While many find positive associations between option-based pay and riskier strategic initiatives, others find that managerial preferences for risk manifest themselves in accounting decisions. For example, researchers have found a positive association with the likelihood of fraud allegations (Denis et al, 2006), earnings management (Bergstresser & Philippon, 2006), and aggressive accounting policies (Burns & Kedia, 2008). Still others have found positive relationships between option-based compensation and risk, as measured by the volatility of stock returns or return on assets (ROA) (Chen et al., 2006; Wright et al., 2007). In studies of volatility, risk is often operationalized as the standard deviation of stock or ROA returns, where wider distributions indicate higher risk.

However, the studies that are most closely related to this study examine stock option pay and entry mode choice. In a study of manufacturing firms, Musteen et

al. (2009) examined whether CEO compensation influences the selection of full-control or shared-control entry modes. They found that full-control entry modes were more likely when CEO compensation schemes consisted of higher weightings of long-term incentives, which they classified as the combination of options, equity holdings, other long-term incentives. This implies that options and equity holdings encourage managers to select riskier entry alternatives, with longer investment horizons such as greenfields and acquisitions, while other forms of pay like salary would encourage the usage of less-risky entry modes like joint ventures and licensing agreements. In a related article, Datta et al. (2001) found a positive relationship between equity-based compensation and acquisition targets with higher growth opportunities and higher risk. Providing further support, Sanders and Hambrick (2007) found that option-based pay encourages CEOs to "Swing for the fences" (p, 1061) and to make high-variance bets.

Given this evidence showing a positive association between option-based pay and firm risk, I argue that the option-based incentives will encourage riskier strategic decisions and thus larger equity investments in foreign firms. Therefore, I hypothesize the following:

Hypothesis 2 – TMT option-based compensation will be positively associated with the percentage acquired in CBTs.

Ownership Incentives and the Percentage Acquired in Cross Border Transactions

Ownership incentives, which I define as restricted stock and common stock holdings, are other instruments that influence managerial decision-making. Equity holdings offer a payoff structure that is quite different from payoffs offered by salary and option-based incentives. As mentioned previously, salary is paid regardless of firm performance and hence it is unlikely to encourage risk-taking. Option-based incentives on the other hand, exhibit an asymmetric payoff structure that allows TMTs to benefit from surges in stock price, but largely protects TMTs from stock declines since risk is shared with the shareholders and bondholders (Anderson et al., 2003). Similar to option-based incentives, common stock holdings allow TMTs to participate in stock price increases along with common shareholders. However, option-based pay and common stock holdings differ in the relative exposure to downside risk. Common stock and restricted stock holdings exhibit a symmetric payoff structure that more closely aligns the risk and reward preferences of TMTs with common shareholders (Burns & Kedia, 2008; Matta & McGuire, 2008). In short, TMTs feel the effects of both positive and negative stock price movements.

Previous studies support the hypothesis that managerial ownership aligns managerial interests with shareholder interests (Lewellen et al., 1985). Consistent with fundamental agency logic, studies focused on the relationship between equity-based incentives and firm risk have documented positive associations between

managerial equity ownership and firm risk. Firm risk has been measured in capital structure (leverage) and firm variance (Agrawal & Mandelker, 1987), as well as acquisition (Amihud & Lev, 1981), corporate entrepreneurship (Zahra, 1996), and corporate diversification (Eisenmann, 2002) decisions. As such, scholars have posited that executive common stock holdings align TMT and shareholder risk preferences (Agrawal & Mandelker, 1987) and that the preponderance of empirical evidence supports this position (Eisenmann, 2002).

Given the increased risk that accompanies larger equity acquisitions versus smaller equity acquisitions, as well as the literature supporting the notion that TMT equity positions encourage risk-taking, I hypothesize that there will be a positive linkage between TMT equity ownership and the percentage of ownership acquired in CBTs. On this basis I hypothesize the following:

Hypothesis 3 – TMT common stock ownership will be positively associated with the percentage acquired in CBTs.

Research Methodology

For the purpose of this study, financial and executive compensation data were drawn from the Compustat and Execucomp databases, respectively. My sample consisted of financial and TMT executive compensation data for all the firms the ExecuComp database who made full or partial acquisitions over the eleven-year period from 1998 through 2009.

In addition, I relied upon transaction data from Capital IQ (a division of Standard & Poor's) transactions database. I narrowed my initial sample of approximately 3,000 completed transactions by eliminating the observations with missing variables. The final sample consisted of 1,462 observations and is summarized in Tables 3-1 and 3-2.

Table 3-1 shows that the distribution of observations across the sample time period is fairly even. As Table 3-2 illustrates, the sample provided information from a wide range of industries. The majority of the transactions (67%) came from SIC codes 20 through 39. In 17% of the observations, domestic firms acquired partial interests as opposed to 100% equity. As noted by Erramilli & Rao (1993), and Chari & Chang (2009), U.S. firms have a preference for full control and this percentage in the total sample is consistent with prior work.

Analytical Model

I relied upon the following regression model to test my hypotheses.

Share of Equity Acquired (in time t+1)

$= b_0 + b_1$Acquirer Firm Size $+ b_2$Acquirer Firm Industry $+ b_3$Year $+ b_4$Acquirer Firm Corporate Governance $+ b_5$Acquirer Firm Foreign Experience $+ b_6$Target Country Risk $+ b_7$Target Country Market Potential $+ b_8$Asset specificity $+ b_9$Acquirer TMT Bonus $+ b_{10}$Acquirer TMT Restricted Stock $+ b_{11}$Acquirer TMT Age $+ b_{12}$Acquirer Slack $+ b_{13}$Acquirer Leverage $+ b_{14}$Acquirer TMT Options $+ b_{15}$Acquirer TMT Salary $+ b_{16}$Acquirer TMT Common Equity Holdings $+ \varepsilon$ (all in time t) (1)

Table 3-1

Sample Distribution By Year		
Year	n	%
1998	67	4.6%
1999	99	6.8%
2000	114	7.8%
2001	92	6.3%
2002	93	6.4%
2003	108	7.4%
2004	145	9.9%
2005	163	11.1%
2006	176	12.0%
2007	156	10.7%
2008	159	10.9%
2009	90	6.2%
	1462	100.0%

Table 3-2

Sample Distribution by Industry	n	%
Agriculture, Forestry & Fishing (SIC 1-10)	11	0.8%
Mining (SIC 11-14)	46	3.1%
Construction (SIC 15-19)	3	0.2%
Manufacturing (SIC 20-39)	984	67.3%
Transportation, Communications, Electric, Gas, and Sanitary Services (SIC 40-49)	48	3.3%
Wholesale Trade (SIC 50-51)	60	4.1%
Retail Trade (SIC 52-59)	37	2.5%
Finance, Insurance, and Real Estate (SIC 60-67)	9	0.6%
Services (SIC 70-89)	260	17.8%
Public Administration (SIC 91-99)	4	0.3%
	1462	100.0%

Variable Definitions

Dependent Variable: Following Chari & Chang (2009), Chen & Hennart (2004), and others, I measure my dependent variable as the percentage acquired in the cross-border transactions. **Independent Variable:** Consistent with prior literature, I relied upon ***salary, option value and common stock holdings*** data for TMTs from the CompuStat Execucomp database. Each variable was measured in the year prior to the CBT. Execucomp utilizes the Black and Scholes option pricing model (Black & Scholes, 1973) to estimate option values. In hypothesis 1, my independent variable was ***salary compensation in dollars*** (aggregated across the TMT). In hypotheses 2 and 3, I used ***option value in dollars*** and ***common stock holding value*** as my independent variables, respectively.[9] Total compensation

[9] As an alternative, I also used ***salary and option value as a percentage of total compensation*** in the year prior to the CBT as well. However, neither of these measures were significant in my alternative models.

includes salary, bonus, non-equity incentive plan compensation, grant-date fair value of option awards, grant-date fair value of stock awards, deferred compensation earnings reported as compensation, and other compensation (Chen et al., 2006; Harris & Bromiley, 2007; Sanders & Hambrick, 2007).

Control variables: I controlled for firm ***size*** because size influences a firm's flexibility, strategy, and resource availability (Miller et al., 2002; Erickson et al., 2006; Sanders & Hambrick, 2007; Burns & Kedia, 2008). I measured firm size as the log of the number of employees of each firm in the year prior to each transaction. I utilized ***Two digit SIC codes*** to control for differences across industries captured by the sample (Burns & Kedia, 2008). Two-digit SIC codes control variables were included in all models in this analysis. Also, since I pooled data over an 11-year period, I controlled for the ***time period*** by created dummy variables for each year, using 1998 as the reference year.

Moreover, since agency theorists posit that bonuses can serve as a mechanism to foster goal alignment between the TMTs and shareholders (Carter et al., 2009) and that ***bonuses*** can entice executives to take risks with firm assets, I control for the average dollar value of bonuses to the TMTs in the year prior to each transaction. I included a control for differences in corporate governance since some researchers have found that corporate governance influences firm performance and earnings management (Gompers et al., 2003; Cornett et al., 2008). I utilized the ***Gompers Governance Index***, which includes 24 governance rules related to shareholders

rights, as my measure of corporate governance (Gompers et al., 2003).[10] I also included control for the availability of resources. I controlled for ***financial leverage***, which was the ratio of interest bearing liabilities to shareholders equity (Bergstresser & Philippon, 2006, Coles et al., 2006, Burns & Kedia, 2008), and ***slack***, which was estimated by taking working capital as a percentage of sales (Finkelstein & Hambrick, 1990). Both financial leverage and slack are proxies for the resources that managers can allocate to equity acquisitions.

I recognize that a considerable amount of research on entry mode choice has been conducted utilizing TCE, RBV, institutional theory, as well as the OLI framework (Brouthers & Hennart, 2007). Accordingly, since I have hypothesized that executive compensation and common stock holdings influence entry mode decisions, I have controlled for some of more established entry mode antecedents from the extant literature to isolate the incremental impact of pay mix and stock ownership of TMTs. TCE theorists have argued that ***asset specificity*** (Williamson, 1985) is related to preferences for full-control entry modes (Erramilli & Rao, 1993; Brouthers, Brouthers, & Werner, 2003), while RBV theorists have argued that asset specificity is within the resource-based framework and can contribute to a

[10] The Gompers Governance Index is updated every two years and includes the following governance measures: antigreenmail, blank check, business combination laws, bylaw and charter amendment restrictions, cash-out laws, classified board, compensation plans with change in control provisions, indemnification contracts, cumulative voting, director dispute provisions, director duties laws, fair-price provisions, golden parachutes, director liability limitations, pension parachutes, poison pills, secret ballots, severance agreements, silver parachutes, special meeting provisions, supermajority requirements, unequal voting rights, limitation on action by written consent. In this analysis, I relied on the Gompers Index data from 1998 through 2008. For more detail, please review Gompers et al., 2003.

competitive advantage (Barney, 1991). Therefore, I have controlled for asset specificity. Since the investment in R&D represents a firm's commitment to the development of specialized assets (Houston & Johnson, 2000), I have measured asset specificity by calculating R&D as a percentage of sales (R&D/sales, R&D Intensity) in the year prior to each transaction. TCE and RBV theorists posit that firms with greater proprietary assets may seek greater equity positions to control partner opportunism and to have more control over key resources (Chari & Chang, 2009). Following Chari and Chang (2009) and Chari, Devaraj, & David, (2007), I replaced missing R&D data with zero values since the absence of R&D expense reporting reflects immateriality with respect to R&D spending. Likewise, TCE and RBV researchers have theorized that internal uncertainty at an acquirer influences entry mode choice. ***International experience*** is often used as a measure of internal uncertainty in these literature streams (Zhao, Luo, & Suh, 2004). For the purpose of this study, I have measured international experience as the number of joint ventures or acquisitions over the 3 years prior to the date of the transaction. Finally, consistent with TCE and institutional theory, I added controls for external uncertainty, which included variables for ***target market potential*** and ***country risk***. Researchers theorize that as external uncertainty increases, firms will shy away from more resource intensive full-control and select shared-control entry modes. I have measured target market potential as 3-year average GDP per capita during the three-year period prior to the transaction (Chari & Chang, 2009). These data were part of the International macroeconomic data set compiled by the Economic Research Service of the United States Department of Agriculture. In order to

estimate country risk, I relied upon total country risk and risk premium estimates. Since a country's credit rating incorporates risks in factors such as GDP, external debt, level of economic development, default history, real growth rate, and the inflation rate (Antonio, 2003), sovereign debt ratings provide the foundation for capturing and quantifying county risk. Given a country's credit rating, one can estimate the country risk by observing the yield on a country's sovereign debt. For the purpose of this article, I relied upon country risk premiums estimated by Aswath Damodaran of New York University (NYU) as of January of 2010. Dr. Damodaran periodically updates country risk premiums on his web page at NYU. Dr. Damodaran calculates premiums as follows:

> "To estimate the long term country risk premium, I start with the country rating (from Moody's: www.moodys.com) and estimate the default spread for that rating (based upon traded country bonds) over a default free government bond rate. This becomes a measure of the added country risk premium for that country. I add this default spread to the historical risk premium for a mature equity market (estimated from US historical data) to estimate the total risk premium. In the short term especially, the equity country risk premium is likely to be greater than the country's default spread. You can estimate an adjusted country risk premium by multiplying the default spread by the relative equity market volatility for that market (Std dev in country equity market/Std dev in country bond). I have used the emerging market average of 1.5 (equity markets are about 1.5 times more volatile than bond markets) to estimate country risk premium. I have added this to the historical premium for the US of about 4.79% to get the total risk premium".

Table 3-3 provides descriptive statistics and the correlation coefficients of the variables in this study. Due to space constraints, SIC and year dummies were not shown. As one might expect, I find a strong correlation (r =.72, p<.01) between the average salary across the TMT and firm size. I also find a statistically

significant relationship between TMT salary and international experience (r =.27, p<.01), which highlights the relationship between certain forms of experience (i.e., experience in cross-border transactions) and fixed pay. Additionally, I note a strong correlation between 3-year GDP per capita and country risk (r =.78, p<.01). This likely reflects the fundamental linkage between risk and reward in business.

Endogeneity

Endogeneity occurs when an independent variable is correlated with the error term (Wooldridge, 2006). It creates biased estimates in statistical models which might lead researchers to make incorrect causal inferences from data (Stock & Watson, 2007). Thus, given my usage of observational data, as well as my quest to answer questions related to causality, I have explored the issue of endogeneity in my models (Bascle, 2008). I have hypothesized that executive compensation packages influence strategic decisions (such as entry mode selections), but I are cognizant of the possibility that the past strategic decisions may influence executive compensation packages as well. In short, since compensation structures and strategic initiatives are choice variables, my analysis may encounter endogeneity problems (Erickson et al., 2006).

Table 3-3

Descriptive Statistics and Correlation Coefficients of Variables in the Study [A, B, C]

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Percentage Acquired	89.98	22.88	1													
2 Country Risk	4.98	11.04	0.31 **	1												
3 Corporate Governance	9.21	2.62	0.02	0.04	1											
4 Acquirer Size	44.96	115.28	-0.12 **	-0.10 **	0.00	1										
5 Asset Specificity	7.26	16.67	-0.16 **	-0.03	0.14 **	0.29 **	1									
6 International Experience	1.36	2.13	-0.03 *	-0.04	-0.01	0.33 **	-0.05 *	1								
7 Country GDP Per Capita	30.48	11891.24	0.26 **	0.78 **	0.03	-0.06 **	-0.05 *	0.01	1							
8 TMT Bonus	773.54	1890.35	-0.04	0.01	-0.06 *	0.26 **	0.14 **	0.08 **	-0.04	1						
9 TMT Restricted Stock	609.44	5196.15	0.08 **	0.07	-0.05 *	-0.16 **	0.17 **	-0.01	0.08 **	-0.32 **	1					
10 TMT Age	59.86	6.16	-0.05 *	0.03	0.11 **	0.20 **	0.23 **	-0.1 **	-0.06 **	0.19 **	-0.11 **	1				
11 Acquirer Slack	2.35	2.25	-0.10 **	-0.06 **	0.16 **	0.51 **	0.39 **	0.08 **	-0.07 **	0.19 **	-0.18 **	0.19 **	1			
12 Acquirer Leverage	48.27	51.48	-0.14 **	-0.08 **	0.02	0.26 **	0.27 **	0.01	-0.07 **	0.22 **	-0.19 **	0.16 **	0.37 **	1		
13 TMT Salary in $	511.83	234.63	-0.15 **	-0.06 **	0.06 *	0.72 **	0.18 **	0.27 **	0.01	0.16 **	-0.14 **	0.16 **	0.41 **	0.20 **	1	
14 TMT Options in $	1915.65	4989.05	0.03	-0.02	-0.04	0.06 **	-0.06 *	-0.03	-0.06 **	0.51 **	-0.32 **	0.22 **	0.06 *	0.06 **	-0.02	1
15 TMT Common Equity in $	4606.79	30248.94	-0.06 **	-0.02	-0.05 *	0.23 **	-0.01	0.17 **	0.00	0.11 **	-0.07 **	0.00	0.04	0.07 **	0.26 **	-0.01

[A] p<.05 *, p<.01**

[B] N=1462

[C] Bonuses, restricted stock, salaries, options, and GDP per capita values were in thousands of dollars, while TMT stock ownership was in millions of dollars. Size represented the number of employees in thousands. The Gompers index was a count index based on 24 corporate governance variables. International experience was in estimated in years. All other variables were percentages.

I have attempted to control for endogeneity by utilizing lagged values in my models and by selecting control variables that are proxies for determinants of compensation packages (Erickson et al., 2006). I have added controls for firm size, industry, and corporate governance. I included a one-year lag between my executive compensation observations and my dependent variable. For example, if there was a transaction that occurred in 1999, I regressed the executive compensation in the previous period (1998). By using a lagged dependent variable I address simultaneous causality because the impact of the transaction will not have an impact on compensation paid one-year prior. This allows us to better isolate the casual relationship between compensation packages and the percentage acquired in cross-border transactions.

Empirical Analysis

In this paper, I relied upon ordinary least squares (OLS) regression to examine the relationship between executive pay mix and common stock holdings and the ownership acquired in completed, CBTs. Since numerous researchers have employed Tobit regression when incorporating a dependent variable measuring percentage ownership (Pan, 2002; Chari & Chang, 2009; Cuypers & Martin, 2010), I also considered Tobit regression, which is sometimes known as "censored"

regression (Amemiya, 1984). However, according to Sigelman & Zeng (1999), "Theoretically the standard Tobit model is applicable only if the underlying dependent variable contains negative values that have been censored to zero in the empirical realization of the variable." (p. 170) Maddala (1992), echoes similar sentiment when he asserts that when an individual's decision dictates when values are zeros, Tobit models is not appropriate. Given this, as well as the underlying characteristics of my dependent variable, I have solely relied upon OLS regression in my analysis. My OLS regression results are shown in Table 3-4.

I conducted a variety of statistical tests and analytical procedures to ascertain if there were violations of the underlying assumptions in OLS regression analysis. For each variable in the analysis, I reviewed skewness and kurtosis measures, as well as various scatter diagrams to address the normality of data distributions. After a thorough review, variables were transformed as appropriate.[11] Following my variable transformations, I eliminated cases that exceeded acceptable influence (Cook's Distance and DFBetas) and leverage thresholds. I reviewed residual plots and conducted Breusch-Pagan/Cook-Weisburg and Cameron & Trivedi's decomposition tests and found evidence of heteroskedasticity. As such, I utilized the robust command in Stata so that my regression models incorporated robust standard errors. Similar to the cluster option in Stata, the robust command relaxes the assumptions that errors are both independent and identically

[11] I utilized natural log transformations for country risk, bonus, TMT share ownership, TMT restricted stock, option value in dollars, firm size, and asset specificity due to substantial positive skewness. Finally, I utilized an inverse transformation for my three-year international experience variable due to extreme positive skewness.

distributed and is appropriate since numerous firms have made multiple acquisitions during the sample period. I follow Folta & Miller (2002), and Chari and Chang (2009) in this regard. Finally, I conducted collinearity diagnostics by computing variance inflation factors (VIF) and Eigen values and found no evidence of multicollinearity in my sample.

In this paper, two-stage, hierarchical regression models were employed to test each hypothesis. First, I tested the validity of my control model. Then, I tested the association between pay mix explanatory variables and dependent variable for the percentage of equity acquired.

Findings and Discussion

Findings

Table 3-4 details the results of my OLS regression analysis examining the influence of salaries, options, and stock ownership on the percentage of equity acquired in international transactions. Model 1, which is my control model, was statistically significant ($p<.01$) and had an r-square of .206. Consistent with prior research in the entry mode literature, antecedents that are heavily utilized in TCA, RBV, institutional theory, and Dunning's OLI framework are statistically significant. For instance, control variables for country risk ($p<.01$), asset specificity ($p<.01$), and GDP per capita ($p<.05$) were all statistically significant. I also found that TMT age ($p<.10$) was also significant and negative implying that TMTs get older they become more risk averse and participate in transactions where less equity is purchased.

Model 2, which introduced my independent variables, was also statistically significant explaining an additional .5% of the variance of dependent variable. Again, the control variables measuring country risk ($p<.01$), asset specificity ($p<.01$), and GDP per capita ($p<.05$) were statistically significant, as was my measure for firm size ($p<.10$) and international experience ($p<.10$).

Table 3-4

Effects of Compensation and Equity Ownership on the Percentage Acquired in International Transactions*

	Model 1 Control Model		Model 2 Percentaage Acquired	
Constant	5.620	***	6.120	***
Country Risk	5.050	***	5.020	***
Corporate Governance	-0.510		-0.340	
Acquirer Size	-0.270		1.820	*
Asset Specificity	-2.770	***	-3.140	***
International Experience	-0.310		-0.390	**
Country GDP Per Capita	2.220	**	2.380	
TMT Bonus	0.260		0.330	
TMT Restricted Stock	1.150		0.770	
TMT Age	-1.880	*	-1.160	
Acquirer Slack	1.350		1.540	
Acquirer Leverage	0.010		0.000	
Industry	Included		Included	
Year	Included		Included	
TMT Salary in $			-2.990	***
TMT Options in $			-0.460	
TMT Common Equity in $			0.100	
F-Value	4.780	***	4.740	***
R-Square	0.206		0.211	
Adjusted R-Square	0.163		0.167	
Change in R-Square			0.005	***
*p<.10 **p<.05, ***p<.01				
	N = 1462			

In hypothesis 1, I tested the relationship between salary value and the percentage acquired in international transactions. I argued that as salary pay increases the percentage acquired in international acquisitions should decline. As shown in model 2, there was a statistically significant, inverse relationship between salary and percentage of equity purchased. Therefore, hypothesis 1 was supported. To increase the robustness of my findings I also ran my regression with a salary as a percentage of total compensation measure, CEO salary only, manufacturing firms only, as well as service firms only. However, the results were not significant, which indicates that one should take caution when interpreting the empirical evidence supporting hypothesis 1. It is possible that statistical significance is due to the sample size of this study.

In hypotheses 2, the option value variable was not significant indicating that option values in the TMT executive packages were not associated with the percentage acquired in international transactions in my sample. Thus hypothesis 2 was not supported. Similar to my analysis in hypothesis 1, I also incorporated an option value as a percentage of total compensation measure and various other models with CEO data and industry variations as well. These measures and models were not significant suggesting that option compensation is not related to percentage acquired in CBTs.

My final hypothesis examined the relationship between equity ownership and the percentage acquired in international transactions. I argue that the more symmetric

payoff structure of equity ownership justifies its own analysis in a hypothesis separate from options, which were tested in hypothesis 2. I hypothesized that TMT equity ownership would be inversely related to the dependent variable because managers experience the direct effects of stock prices fluctuations (increases and decreases equally). I find that TMT stock ownership is not associated with the dependent variable. Thus, hypothesis 3 was not supported.

Discussion

My main objective was to utilize an agency theory lens to examine the relationship between executive compensation and CBTs. I found support for hypothesis 1, which tested the relationship between TMT salary and the percentage acquired in CBTs. The additional variance that was explained was quite small (an additional .5%) and was potentially related to the large sample size. However, these results should be noted. First, these findings highlight the need for more empirical tests examining the relationship between agency tenets and entry mode choices. Further research is necessary to build a sound theoretical foundation in this area. Second, these findings suggest that the antecedents to entry mode selection, may differ from the antecedents to the proportional ownership decision once an entry mode is selected. Previous research indicates that long-term incentives (options, restricted stock, and other long-term incentives) influence managerial preferences for shared versus full control entry modes (Musteen et al., 2009; Datta et al., 2009). Relying on similar agency logic, and testing the relationship between executive pay and ownership variables and the percentage of ownership in cross-border acquisitions, I were unable to

replicate these results. This may reflect the inherent control differentials between 1) the entry decision: joint venture vs. acquisition, and 2) the choice to acquire a minority or controlling interest (if acquisition is selected).

When selecting a JV or an acquisition, managers perform cost/benefit analysis to determine if a controlling interest acquisition is worth taking on the additional risk. Likewise, when selecting a minority or controlling interest in an acquisition, managers perform the same cost-benefit analysis. However, the differential between cost/benefits of the JV and acquisition and the cost/benefit of the minority/controlling acquisition may not be symmetrical. This could potentially explain why managerial pay and equity ownership has an impact on the shared control versus full control decision, but not on the minority versus controlling interest decision.

One could argue that if the differential in narrow, as in the shared control versus full control scenario, pay and ownership incentives would be required to entice managers to accept the riskier acquisition. Joint ventures typically require the creation of a new entity. Prior to the creation of the new entity, JV partners determine the resource (assets and or funds), and know-how contribution of each partner, as well as the new entity's goals, structural foundations, and useful life. The impact and control inherent in being involved in such negotiations prior to the birth of a new JV makes it possible to obtain more operational control than is justified by the percentage of ownership. This may narrow the perceived

differential between the joint venture and an acquisition. Conversely, the differential between a minority and a controlling interest may be wider, since the existing entities have developed organization practices, cultures, and systems without the influence of the acquiring party. As such, the need for ownership control in an acquisition may temper the impact of TMT pay and ownership.

Limitations and Future Research

I note that a few limitations warrant further discussion and, if addressed in future research, would further the literature on the important topic of executive compensation and CBTs. First, I do not control for accounting considerations related to FAS 115, which provides guidance for the classification of inter-corporate investments (i.e., how varying percentage interests are reflected and carried on acquirer balance sheets). Given FAS 115 classification guidelines, TMTs may have the incentive to manipulate ownership percentages of inter-corporate investments to maximize the earnings of the firm. Thus, accounting treatment may be another factor that influences entry mode investments. Future research in accounting may uncover some other factors related to accounting guidelines that influence strategic decisions. Second, I recognize that there are numerous other control variables from TCE, agency, and institutional theories, as well as the OLI framework, upon which I could have drawn. Additional variables and from the broader entry mode literature would positively contribute to the field. Finally, as with many other studies, this study may suffer from selection bias in that I only incorporated observations where cross-border transactions were

completed. I note that this bias omits a valuable segment of the potential transaction universe that may provide valuable information on the logic that scuttles some potential transactions.

Conclusion

Using entry mode and agency theory studies, and the investigation of a small segment of the entry mode spectrum, I provide a glimpse into comparative cost/benefit analysis in the entry mode decision-making process. My findings suggest that the antecedents of entry mode selection are not the same as antecedents to the minority/controlling interest acquisition decision. This contradicts fundamental agency theory logic and opens a discussion related to the relevance of behavioral theories in the entry mode literature or even problems with the conceptualization of the risks inherent in entry mode alternatives. For example, behavioral theories like prospect theory (Kahneman & Tversky, 1979) could explain biases that may potentially offset or override the incentives provided by incentive-based compensation packages. TMTs may suffer from familiarity bias whereby they place a considerable risk premium on international projects because they are much more familiar with domestic investment alternatives. Distorted perceptions of the risk and return profiles of a firm's investment universe may lead to decisions that contradict existing theory. Alternatively, these findings may indicate that researchers have an overly simplistic view of the entry mode alternatives. For instance, many researchers view full acquisitions to be riskier than joint ventures due to real options

reasoning. However, this view may overlook all the other factors, specifically the potential cash flow benefits and intellectual property protection, which weigh in the decision process. As such, I believe this study is an important part of the theoretical development of entry mode selection logic, which integrates theory from executive pay, entry mode choice, and managerial decision-making.

CHAPTER 4

ORGANIZATIONAL CONSTITUTION, VALUATION CONSTITUTION, AND EXECUTIVE PAY: AN EXAMINATION OF CONTROLS IN THE UNITED STATES AND JAPAN

Abstract

Recent research supports anecdotal evidence that Japanese executives earn less than American executives. However, there is relatively little research focusing on why this difference exists. In this paper, I rely on insights from agency theory, organizational constitution, and valuation constitution literature to help explain cross-cultural differences in top management team pay. I present three propositions relating to the influence of organizational constitution and valuation constitution on the level of pay, as well as the allocation of pay in top management team compensation schemes. I rely on evidence from studies examining the pay of executives in the United States and Japan.

Key Words: agency, executive compensation, organizational constitution, valuation constitution, Japan

Introduction

Top management teams are the most empowered employees in most organizations. They make organizational decisions in the face of considerable uncertainty and information asymmetry (Mills & Ungson, 2003), which may

render traditional control mechanisms such as monitoring by the board of directors (BOD) ineffective. In light of potential board monitoring difficulties and the potential misalignment of goals between TMTs and shareholders, agency theorists have focused on control mechanisms. Within the discussion of managerial controls, a plethora of studies have examined how executive pay can be leveraged as an outcome-based control mechanism. This literature varies widely and includes studies on determinants of executive pay (Banghoj et al., 2010, Wade, O'Reilly, & Pollock, 2006), pay-for-performance (Brick et al., 2010; Carpenter & Sanders, 2002), managerial decision-making (Amihud & Lev, 1981; Coles et al., 2006), and the relationship between executive compensation and firm risk (Deutsch, Keil & Laamanen, 2011). However, the agency literature focusing on executive pay has been silent regarding organizational constitution and valuation constitution within the principal (shareholder)/agent (TMT) relationship.

In this paper, I focus on the moderating effects that organizational constitution and valuation constitution have on the level of TMT pay (in absolute terms) and also on the forms of pay in typical compensation schemes. I develop three propositions by drawing on the empowerment and executive pay literature. I focus specifically on the executive literature in the United States and Japan. This context provides a solid foundation for a cross-cultural pay comparison and highlights structural differences between two of the most modern and industrialized countries in world. I argue that recent empirical studies showing

Japanese executives receive one-fifth of what their U.S. counterparts receive (Nakazato, Ramseyer, & Rasmusen, 2011; Abowd & Kaplan, 1999), and highlighting pay allocation differences (Yoshikawa, Rasheed, & Del Brio, 2010), suggest that other institutional factors serve as controls in the principal-agent relationship.

On the surface, it appears as though there is consistency across international boundaries with regard to pay schemes. Compensation committees in both cultures appear to believe some form of pay, other than salary, is required for goal alignment. However, deeper cross-cultural pay analysis raises some interesting questions. How can Japanese executives be motivated to take more risk with just bonus pay, while American counterparts require option-based incentives and common equity holdings to take more risk? This is especially important when working with empowered individuals such as TMTs because of their decision-making responsibilities. There are no codifiable rules to dictate future actions, thus rendering it difficult to effectively monitor executive behavior and decisions. The contributions of this paper are three-fold. First, I draw on insights from agency theory, organizational constitution, and valuation constitution to develop propositions that may help explain cross cultural differences in TMT pay. Extant studies utilizing agency theory to examine TMT pay have been silent about organizational constitution and trust. This study begins to address this issue. Second, the majority of the studies on executive pay are grounded in agency theory and are based on data from American firms (Yoshikawa et al., 2010).

While the focus on U.S. firms provides a context that informs compensation committees serving domestic companies, many scholars posit that international research requires the incorporation of institutional contexts from across the world (Buck, Bruce, Main, & Udueni, 2003; Bruce, Buck, & Main, 2005). The value of comparative research lies in the decomposition of agency prescriptions with an eye on institutional forces that influence the relationship between forms of pay and managerial actions. As such, I rely upon existing studies of executives in the United States and Japan as a foundation for comparative analysis and thus my propositions. Finally, this study offers some direction for compensation committees and stakeholders designing compensation packages. More specifically, I provide evidence of institutional forces that can potentially influence pay design and ultimately organizational outcomes.

Conceptual Framework and Theory

Agency Theory and Organizational Control Mechanisms

Agency theorists argue that due to personal preferences about risk and return, the goals of executives will sometimes differ from those of their employer firm, thereby leading to agency costs which are grounded in moral hazard (agent may shirk) and adverse selection (inability to verify agent talent) (Eisenhardt, 1989). The board of directors plays an important role in managing these costs since they have direct access to the TMT. Agency theorists contend that the BOD, particularly its outside directors, is a cornerstone of effective governance (Geletkanycz & Boyd, 2011), and that it should monitor top management to

maintain alignment between the preferences of management and the shareholders (Jensen & Meckling, 1976; Fama, 1980; Mizruchi, 1983). In general, the BOD can utilize input-oriented (hire the most talented agent), behavioral-oriented (monitor agent actions), output-oriented (monitor and measure agent performance) (Snell & Dean, 1994), or clan control mechanisms (indoctrinate management with the company mission) (Ouchi, 1980).

The power of input-oriented control hinges on the accurate assessment of agent talent ex-ante. After TMTs are employed, control mechanism design depends on which of the remaining control alternatives is best aligned with the tasks of the agent. Contingency theorists have identified numerous contextual factors that influence control/incentive systems. These contextual factors include project risk (Bloom & Milkovich, 1998; Miller & Wiseman, 2002), segment served (high-end vs low-end) (Banker, Lee, Potter, & Srinivasan, 1996), incentive intensity (Zenger & Marshall, 2000), resource configuration (He & Wang, 2009), pollution prevention strategies (Berrone & Gomez-Mejia, 2009), and subsidiary development (Muralidharan & Hamilton, 1999), as well as the amount of trust embedded in corporate culture (Shaw, Gupta, & Delery, 2000). Others have noted that control can be established via non-pay incentives like praise (Luthans & Stajkovi, 1999) or efficient punishment systems (Trevino, 1992).

Consistent with a contingency perspective, control systems need to account for the specific circumstances surrounding the underlying task that is being

controlled. For example, the usage of behavior-oriented controls will depend on task programmability, which is the extent that agent behavior can be specified ex-ante: outcome-based controls will depend on the measurability of outcomes and the willingness of the agent to accept risk transfer (Eisenhardt, 1989; Hamilton & Kashlak, 1999). Since executives make decisions in situations of extreme uncertainty, task programmability is quite low, thus making it difficult to utilize behavior control mechanisms. In situations such as this, BODs can substitute output-oriented controls to foster goal alignment. Output-based controls in the realm of executive pay generally consist of adding option-based pay to compensation schemes or encouraging common equity ownership. A shift to these forms of control reflects the ease in which outcomes can be measured (i.e., stock price at the day's close). The usage of equity-based incentives also reflects the assumptions that pay in the form of salary provides an incentive for managers to reduce firm risk (Hill & Snell, 1989) so that they can manage employment security and future income streams (Wiseman & Gomez-Mejia, 1998; Hu et al., 2011). However, given that shareholders (risk-neutral principals) can diversify away firm-specific risk more easily than executives, they favor riskier strategic initiatives. This difference in risk aversion often leads to incentive-based forms of pay (options and bonus pay) that entice risk-taking. For the same reasons, agency scholars argue that common equity ownership contributes to goal alignment between shareholders and managers. This represents the prevailing thought in American firms as evidenced by the frequency of equity-based incentives: options and common equity holdings (Sanders & Hambrick, 2007).

According to recent studies, equity-based incentives approximate one-third of executive pay packages (Balsam, 2007).

Stock option contracts are often the control of choice due to the asymmetric return profile of options contracts. As share price increases, option value increases, which theoretically leads to goal alignment between shareholders and TMTs. While TMTs share in stock price appreciation they share risk on the downside with other firm stakeholders (Anderson et al., 2003). Despite the asymmetric return profile (full upside and limited downside risk) options are used frequently in U.S. pay packages. Common equity ownership also provides some goal alignment between the shareholders and TMTs, but it exhibits more symmetric payoffs. When TMTs hold shares in the firm, they feel the effects of stock price increases and declines equally.

External Controls

Where internal control mechanisms aren't strong enough, external control exerted by institutional shareholders, the government (Davis & Thompson, 1994), or corporate raiders (market-based control mechanisms) may contribute to the balance of power (Walsh & Seward, 1990). Shareholder activists and institutional shareholders follow managerial actions and serve a monitoring function. Institutional shareholders generally consist of banks, pension funds, mutual funds, and insurance companies (Davis & Thomspson, 1994), which exert pressure on TMTs by wielding considerable voting power for their own interests. In the U.S.,

the government controls managerial actions through legislation, the most powerful of which stems from the Securities Acts of 1933 and 1934. Finally, potential corporate raiders instill discipline in TMTs to some degree since they can purchase controlling interests in public firms and fire underperforming top management teams (Fama & Jensen, 1983). This control is commonly referred to as the market for corporate control. Collectively, these controls work in tandem with existing internal controls (Walsh & Seward, 1990).

The Control System

Goold and Quinn (1990) define a strategic control system as "a process which allows senior management to determine whether a business unit is performing satisfactorily, and which provides motivation for business unit management to see that it continues to do so." (p. 43). This system is established to coordinate effort (Barnard, 1938), motivate management particularly if there is a separation of ownership and management (Jensen & Meckling, 1976), and to monitor performance. While this definition encompasses internal control mechanisms including board monitoring and executive compensation packages, I define the corporate control system more broadly. In addition to input-based, behavioral-based, output-based, and clan controls, I include external controls (corporate take-overs, institutional shareholders, common shareholders, and government regulations) in my conceptualization of the corporate control system. Internal and external controls are complementary and are often both required to minimize agency costs with TMTs (Walsh & Seward, 1990). A holistic view of the

corporate control system reflects the fact that while managers have significant control of operations, there are environmental factors, which are out of their control, affecting organizational success (Hannan & Freeman, 1977). As a result, the BOD is tasked with being cognizant of environmental forces, and blending various control mechanisms so that pay schemes are equitable (Eisenhardt, 1985). Strong control in one area (internal or external) lessens the need for other forms of control (Grundfest, 1990; Kaplan, 1994). In Japanese control systems for example, shareholdings by large institutional shareholders, and cross-share-holding arrangements by banks, business partners, and client firms lessen the need for managerial incentives (Kaplan, 1994; Yoshikawa et al., 2010). When clustered into identifiable groups or "keirtsu" (Gerlach, 1992), cross ownership supports strategic decisions with a long-term orientation (Porter, 1992) and shelters the management team from investors with short-term preferences. This fosters goal alignment and alters the control system. Supporting the control system theme, research on Japanese executive pay and equity holdings suggests that the usage of option-based incentives is negatively related to executive common stock ownership, "which is consistent with the idea that incentives provided by stock options are less beneficial when alternative incentive and monitoring mechanisms are already in place" (Kato et al., 2005, p. 437).

Propositions

I rely upon Mills and Ungson's (2003) conceptualization of an organizational constitution where they reference multiple studies in an effort to capture the

essence of this concept. They focus primarily on the definition provided by Zald (1970) that an organizational constitution is "a set of agreements and understandings that define the limits and goals of the group as well as the responsibilities and rights of participants standing in different relations to it." (p.225) To add depth to this definition, they argue that organizational constitution mirrors the concepts of clan control (Ouchi, 1980) and control dimensions of organization culture (Schein, 1992). Ouchi describes organizations as resembling clan forms when social mechanisms produce a strong sense of community and where individual and organizational goals are aligned. He notes that when an organization's employees embrace common values and beliefs, opportunistic behavior becomes less probable and it becomes possible to maintain control with limited reliance on outcome or behavior controls. Schein (1992) argues organizational culture shapes the rules of behavior and contributes to consistency in activities and viewpoints.

Mills and Ungson (2003) echo a similar sentiment when they note that the similar to clan control, "organizational constitution emerges from social relations and can function to discourage malfeasance." (p. 147) This stance is consistent with previous research demonstrating that strong cultures contribute to the control system when they facilitate internal behavioral consistency (Sorenson, 2002; Burt Gabbay, Holt, & Moran, 1994; Gordon and DiTomaso, 1992). Therefore, with a strong organizational constitution the need for other controls in is lessened. Recent evidence supports this notion confirming anecdotal and survey evidence

suggesting that Japanese executives were paid less than American executives (Nakazato et al., 2011). Nakazato et al. (2011) found that Japanese executives earn less than one-third of the pay of their American counterparts, and after adjusting for capital income and firm size, the ratio falls closer to one-fifth. Abowd and Kaplan (1999) estimate that Japanese executives received compensation of about $200,000 while U.S. CEOs received about $550,000 plus and an additional $260,000 in long-term incentives such as option grants, which is about one-fourth of American compensation. I argue that this pay discrepancy partially reflects, the difference in organizational constitutions in the United States and Japan.

Japan has developed business traditions that foster a sense of community (Fukuhara, 2011). These traditions are built upon the foundation of a broader empowerment theme that encompasses two complementary perspectives: socio-structural empowerment (macro) and psychological empowerment (micro) (Spreitzer, 2007). Grounded in employee participation and labor-management cooperation programs, Japanese management teams reinforce organizational and employee alignment through employee empowerment initiatives, seniority ranking systems, and lifetime employment (Fukuhara, 2011; Kato et al., 2005). Informal employee interactions such as frequent office get-togethers and social gatherings develop a personal sense of belonging (Fukuhara, 2011), while more formal participatory programs like Small Group Activities (SGAs) and Shop-Floor Committees (SFCs) facilitate two-way dialogue between employees and

management. SFCs are common at greater than 40% of public firms, and encompass discussions about shop-floor operations and working environments (Kato, 2000). SGA programs are common practices at greater than 80% of public firms with greater than 5,000 employees and consist of quality control circles, voluntary work plans and goals (Kato, 2000). These programs foster employee participation and two-way information exchange, which serves to function as both structural empowerment (information exchange and trust) and psychological empowerment (employees feel inspired) (Spreitzer, 2007).

Coupled with employee empowerment initiatives are seniority ranking systems, and lifetime employment. Seniority ranking systems reward longevity and organizational commitment by setting salary levels based on seniority. At the bottom of these ranking systems are the newly hired employees, which tend to be younger employees following graduation. A Japanese norm is to develop these hires throughout their career (Fukuhara, 2011), which instills a sense of belonging in the organization and fosters firm goal alignment. Further, with lifetime employment dominating the landscape, there are even more incentives for goal alignment between the organization and the employee. For example, if one expects to be employed with a firm for life, it is likely that they will make decisions that contribute to the long-term wellbeing of the firm since their future career prospects are intertwined with organizational success. Empirical research supports this claim that Japanese executives support initiatives that favor long-term growth (Blinder, 1991). In addition, Japanese TMTs accept projects aligned

with other long-term initiatives like market share growth as opposed to short-term efforts to increase firm stock price (Abegglen & Stalk, 1985).

While many are of the above-mentioned programs are instituted to empower subordinates, executives are not immune to the effects. Many senior executives have experienced the firm programs as they rose through the ranks. In relation to American executives, Japanese executives are older and have longer tenures with their firms (median tenure of 39 years), but have shorter tenures in executive positions (Kaplan, 1994). This reflects the lifetime employment policy and supports the notion that executives have experienced company empowerment programs and goal alignment initiatives during a significant portion of their careers. It is this exposure to collective thinking that explains why "Japanese executives have customarily avoided standing out as highly compensated individuals" (Kato, 2005, p.438).

Collectively these policies and programs create a markedly different employment situation from the U.S. and contribute to stronger organizational constitutions in Japan. This concept is reinforced in the cultural studies popularized by Hofstede (1980). Culture captures the collective thinking that separates one group of people from another. It incorporates language, education, practices, rituals, and values. National culture influences the institutions within its boundaries, as well as the perceptions of the local population. Culture influences law, organizational

structure, stakeholder power, internal and external control mechanisms, and internal worker motivation.

A dimension from Hofstede's (1980) research that is particularly relevant to my discussion of organizational constitution is Individuality/Collectivism (U.S.- 91 and Japan – 46). According to Hofstede's (1980) research, Americans exhibit a high level of individualism and the Japanese exhibit a high level of collectivism. Japanese collectivism reflects feelings about the greater good, which may reduce the desire for individual pay or allow for the substitution of pay for praise. More recent data collected through the Global Leadership and Organizational Behavioral Effectiveness (GLOBE) project support Hofstede's (1980) findings related to this dimension. According to GLOBE, Japan, which is included in the Confucion Asia cluster, is characterized as emphasizing "networks of relationships based on trust", while "Anglo cultures place a premium on individualism." (Ashkanasy, 2002, p. 159) Cross-cultural research such as this is broader in scope, but provides additional support for the idea that organizational constitutions may differ in different regions of the world.

Japanese organizations exhibit stronger organization constitutions than American firms as a result of their employee participation and labor-management cooperation programs which include employee empowerment initiatives, seniority ranking systems, and lifetime employment (Fukuhara, 2011; Kato, 2005). These programs and policies have reinforced the collectivist nature of Japanese citizens.

Employee-firm goal alignment is reflected in long-term orientation seen in corporate decisions and measures in the international business literature (Hofstede, 1980). It is also reflected in the posture of Japanese executives who avoid standing out from others in the organization (in terms of pay). In addition, since lifetime employment is commonplace, it means that there will be lower employment risk, which decreases the need for higher base and incentive pay (Boyd & Salamin, 2001). On this basis I propose:

Proposition 1 – The strength of an organizational constitution will be inversely related to the level of TMT total compensation.

While an organization constitution can increase trust and lessen the need for higher total compensation, it can also impact the forms of pay in executive compensation packages. The architects of organization controls and executive payment schemes consider both internal and external controls in order to create the optimal compensation mix. Compensation committees can pay executives in the forms of salary, bonus, options, restricted stock, stock grants, and long-term incentives. The allocation to such forms of pay will be contingent on the strength of each form (Grundfest, 1990; Kaplan, 1994).

When examining cross-cultural pay differences it is important to note differences in regulatory environments. For example, prior to 1997, Japanese law forbade the usage of stock options in employee compensation packages, thus limiting the Japanese pay alternatives. Effective June 1st of 1997, the Diet (Japanese

Parliament) amended the commercial code (Kato et al., 2005) and allowed option awards. However, differences between American and Japanese option awards still exist. In the U.S., stock options generally have a 10-year life and are issued at-the-money (strike price is equal to the stock price) on grant date, while Japanese options generally have a 5-year life and are out-of-the-money (strike price exceeds the stock price) by about 5% at the grant date (Kato et al., 2005). These two differences enhance the value of the options that are given to the American executives since stock option value is positively associated with longer option lives and higher stock value on the grant date.

Another notable difference between American and Japanese pay packages is the application of bonus pay. According to The Japan Institute for Labour Policy and Training, in stark contrast to the U.S., bonus pay in Japan is looked upon as subsistence pay for employees, consisting of bi-annual payments equivalent to several months worth of salary. This discrepancy helps to explain the somewhat counterintuitive findings in some recent pay studies. For instance, in a study of Japanese firm strategy and executive bonuses, Yoshikawa et al. (2010) found a positive association between bonuses and R&D investment decisions, as well as diversification strategies. These authors contend that bonuses were added to compensation schemes to entice Japanese executives to accept alternatives like R&D investments that have long time horizons and high risk. However, it is impossible to clearly link the bonus pay to either the temporal or risk dimensions. Given the nature of bonus pay in Japan, it would be reasonable that bonus pay

would be linked to long-term decisions since it is appears to be an extension of salary. Despite this potential inconsistency, the authors provide support for the argument that different forms of pay can be used to foster goal alignment. Agency theorists studying American firms follow similar logic but argue that equity-based incentives, not bonuses, are required to align preferences of risk and return (insert cite). In a study of American executives, Coles et al. (2006) studied the association between compensation schemes and R&D investments. They found a positive relationship between option-based incentives and R&D decisions. What is particularly interesting about the studies noted above is that both examine the linkage between executive pay and strategic decisions such as R&D investment. Both studies provide support for arguments that different forms of pay have different payoff structures, which direct executives towards a desired shareholder outcome. These studies also illustrate that different forms of pay, specifically bonuses and options, represent viable choices depending on institutional contexts.

Other studies providing evidence of the power of different institutional contexts are studies examining the same pay-for-performance relationships in different countries. For example, Kato et al. (2005) find no relationship between option-based pay and dividend policy in Japan, nor did they find a positive association between option-based pay and firm volatility. However, studies of examining the same relationship in U.S. executive pay schemes found a linkage between option-based pay and dividend reductions (Lambert, Lanen, & Larcker, 1989), and firm

stock price volatility (Chen et al., 2006, Wright et al., 2007). The inconsistent findings of these studies suggest that executives don't react consistently to similar stimuli, when different controls or institutional forces are present.

Previously I argued that an organizational constitution serves as an organizational control, and that this form of control is stronger in Japanese firms. Given this stronger control, other control alternatives such as output-based executive pay, does not appear to be required in the same proportions as in the U.S. As such, I posit that goal alignment will be higher in situations where strong organizational constitutions are present, and correspondingly, the need for incentive pay will be lower. On this basis I propose:

Proposition 2 – The strength of an organizational constitution will be inversely related to equity-based incentives as a percentage of total compensation.

There are two types of organizational constitution: procedural constitution and valuation constitution. I rely on definitions offered by Mills and Ungson (2003) who define procedural constitution as "norms that are established to address relatively commonly occurring activities or behaviors, particularly activities of low exchange value." (p. 147) They note that procedural constitution covers routine activities. They argue that valuation constitution "involves norms established to address nonrecurring forms of transactional exchange" (p. 148), which guides how nonprogrammable activities are conducted. Valuation

constitution is relevant in the TMT compensation discussion because strategic decision-making must respond to rapid environmental change where task programmability is low.

This concept of valuation constitution is grounded in the literature on social control. One form of social control, social distancing, has been examined as it pertains to corporate Boards (Westphal & Kanna, 2003; Useem, 1984). Drawing from the literature in Anthropology and Sociology, management scholars have examined how social distancing of the corporate elite, influences monitoring activities within corporate control systems. Studies have found that social pressure encourages group members to distance themselves from other group members that require sanctioning (Coleman, 1994). Strong group sanctioning then controls future deviant behavior. Group dynamics and social interactions establish norms for governing firm activities.

Valuation constitution contributes to the corporate control system because of the embedded power of reciprocity (Gouldner, 1957; Ungson & Mills, 2003). TMTs and the organization "build a social consensus regarding equity, rewards, and norms for future exchanges and performance" (Ungson & Mills, 2003, p. 148). Over time, valuation constitution strengthens as a result of mutual expectations and collective thinking. I argue that valuation constitution is stronger in Japan than in the U.S. due to different employment policies. The Japanese policy of lifetime employment fosters expectations of future exchange. Japanese firms

develop such strong TMT relationships that even when executives are replaced, they tend to stay involved in firm operations. Kaplan (1994) found that once firm presidents leave their position, they become members of board and the executive/firm relationship continues. Therefore, given the nature of reciprocity embedded in lifetime employment, and the opportunity to rely on valuation constitution as a form of control, I propose the following:

Proposition 3 – In organizations with longer durations of employment, there will be greater reliance on valuation constitution to assure goal and performance goals.

Conclusion

In this paper I have developed a series of propositions related to organization constitution and executive pay packages. Reviewing executive pay studies in the U.S. and Japan, I focused specifically on the institutional forces within the control systems, which govern corporate activities. I argued that the extant literature on executive pay provides a foundation for examining the moderating effects of organization constitution on principal/agent contracts within different contexts.

When certain controls are strong it lessens the need for other system controls thereby altering the level of executive pay in such systems and changing the allocation of different forms of pay in the compensation schemes. I have provided support for the argument that an organization constitution serves as one such control mechanism. Building on this logic and extant executive pay

literature, I incorporated organization constitution into the ongoing debate about TMT pay design. In doing so I provide support for the critics of classic models used to explain social activites. Theorists sometimes examine social actions by drawing on contract-based theories such as agency theory (Jensen & Meckling, 1976; Fama, 1983) and TCE (Williamson, 1985) and or theories related to organizational politics (Knoke & Laumann, 1987), social movements (McCarthy & Zald, 1977), and class theory (Offe & Wiesenthal, 1980). The conceptual wedge between these theorists hinges on whether or not individuals act solely in their own interests or if they have concern for a broader group. Granovetter (1985) criticized contract-based frameworks, arguing that TCE and agency theory assume that individuals act in isolation. In this paper, I present some evidence that an all-or-nothing view of individual motivation may be misguided.

Future Research

While significant evidence exists, illustrating organization constitution differences in the U.S. and Japan, I acknowledge that there are other forces influence controls systems in the United States and Japan. I summarize salient studies that highlight forces that influence control system design and implementation.

Japanese firms generally take a more collaborative stance with stakeholders than U.S. firms (Kaplan, 1994; Kato & Kubo, 2006; Abegglen & Stalk, 1985). This collaborative stance permeates the relationships with Boards and banks. As opposed to outsider-dominated boards in the U.S., Japanese boards are composed

primarily of corporate insiders (Kaplan, 1994; Prowse, 1992). In the view of agency theorists, insider-dominated boards should be less effective monitors than outside-dominated boards. In addition, boards in Japan typically include bank appointed board members, which are considered effective monitors (Abe, Gaston, & Kubo, 2005). The banks of Japanese firms appoint a director to attend board meetings and analyze their financial statements. This is very different from the traditional monitoring done by U.S. boards. Research suggests that boards in the U.S. may be ineffective due to social distancing (Westphal and Kanna, 2003), or allegiance to the TMT because of their position. Bank appointed board members in Japan may be less likely to be influenced by such tendencies.

There are also ownership differences in the U.S. and Japan. Ownership is more dispersed in the U.S. (Posner, 2009) and more concentrated in Japan. Along with more concentrated ownership, Japanese shareholders are more informed than in the U.S. (Jacobson & Aaker, 1993). Together, more concentrated and informed stakeholders have more power and are more likely to effectively monitor executive compensation. However, the Japanese relationship-based system of bank and affiliated company ownership hampers efficient corporate takeover/restructuring activities (Inoue et al., 2008). "Evergreening", which incorporates extending additional debt relief by banks and affiliated companies, essentially reflects poor investments because of strong affiliations (Peek & Rosengren, 2005). As such, impartial third-party external control is not pervasive in Japan.

The differences noted herein create tremendous potential for cross-cultural analysis related to executive pay, managerial decision-making, and fundamental agency theory tenets. However, the development of the literature in these areas is dependent on the creation of new measures for control mechanisms and control systems. In order to determine the optimal control system in different contexts, researchers need to quantify the internal and external controls that contribute to organizational control systems. While output-based controls are readily available in the form of compensation data, behavior-based controls are not so easily measured. Proxies for organizational commitment to procedural controls need to be measured through surveys. Likewise, the market for external control needs to be quantified. Acquisition data quantifying the probability of hostile takeovers could serve as a proxy for the strength of the market for external control in different countries. An examination of institutional ownership and cross-holdings could also shed light in this area. Further, measures of organization constitution and valuation constitution need to be developed. At the country level, survey methods consistent with those used by Hofstede (1980) and GLOBE project could be utilized. I note however, that there is an ongoing debate between the Hofstede and GLOBE camps, which is not likely to be resolved anytime soon. Country level measures will further the efforts in cross-cultural studies. Finally, at the firm level, organization constitution and valuation constitution measures can generate insights into the relationship between firm controls and performance within specific contexts.

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