*Journal Of Financial And Strategic Decisions*
Volume 9 Number 3 Fall 1996

# AGENCY CONFLICTS, MANAGERIAL COMPENSATION, AND FIRM VARIANCE

Robert L. Lippert*

## Abstract

This paper presents a theoretical model of the agency conflict between managers and shareholders. The problem is examined in an expected-utility-maximization scenario in which the explicit cost of the agency conflict that arises between the manager and shareholders is derived. The model determines the effect of changes in firm variance on various compensation components. Development of this model depends upon the recognition that an individual firm's propensity for variance is firm specific and that the manager has limited control over the risk of the firm's future cash flows. The ability of the manager to affect the variance of the firm's future cash flows is shown to be an important characteristic in the development of an effective incentive compensation package.

## INTRODUCTION

Compensation of chief executive officers (CEOs) both in terms of amount and composition has received an increasing amount of attention over the last few years. The arguments typically center around either the "exorbitant" pay levels or the compensation arrangements themselves. Jensen and Murphy (1990) suggest that the pay levels are not exorbitant and, if compared to the CEO pay levels of the 1930s, CEOs today may be underpaid. They argue that "how much" CEOs are paid is not that important; however, "how" they are paid is very important. Jensen and Murphy (1990) provide evidence that the link between pay and performance is relatively weak, thus the composition of the compensation package needs further attention. This study attempts to model *how* CEOs are paid and in doing so illustrates how incentives can influence the managerial decision making process particularly in terms of risk bearing.[1] This model provides some insight into why the link between pay and performance is relatively weak why there appears to be a gap between the theory and practice of providing top-management incentives (Baker, Jensen, and Murphy (1988)).

The recent literature[2] on agency conflicts between managers and shareholders is characterized by studies that test whether the implementation of incentive compensation schemes mitigate the manager-shareholder conflict. While these studies present evidence that incentives do influence managerial decision-making, no dominant class of incentives has been found. This finding is consistent with evidence that suggests firms must compensate according to their particular characteristics.[3] This study will consider incentive compensation in relation to the manager's ability to increase the risk of future cash flows. In this context the relationship between compensation, risk taking, and managerial behavior can be evaluated. This study also provides a top management compensation corollary to Jensen and Meckling's (1976) finding that fixed claimants seek to reduce volatility while residual claimants seek to increase volatility. By focusing on executive compensation this study contributes to the literature in two ways: 1) it provides an examination of the agency conflict between managers and shareholders in an expected-utility-maximization framework.; and 2) it provides testable propositions.

Previous studies have evaluated how compensation influences management behavior (Agrawal and Mandelker (1987)). However, it is difficult to determine the true influence of incentive compensation due to the often high degree of information asymmetry between managers and shareholders. Because managers have private and often superior information about the expected value of future projects (Bizjak, Brickley, and Coles (1993)) and their

*Rutgers University

associated risks, it is difficult to observe management's true effort. Lewellen, Loderer, and Martin (1987) predict that managers of growth firms will receive a larger proportion of their pay from long-term forms of incentive compensation than those of non-growth firms. This relationship between compensation and growth is inseparable from the relationship between compensation and risk. Thus this study extends previous research by focusing on the manager's ability to influence the risk of future cash flows as an important consideration in designing the most appropriate compensation package. By analyzing the effect of risk changes on management compensation, one is able to determine the most appropriate incentives for a particular firm. Lewellen, Loderer, and Martin (1987) argue that managerial risk aversion may be reduced by the increased use of stock-based remuneration. This increase would raise the cost to the manager of variance reducing projects and raise the rewards for variance increasing projects. In more general terms, Mehran (1995) presents evidence that suggests managers are motivated by the form rather than the level of compensation. Consequently, the ability of compensation schemes to alter the risk-taking behavior of the manager is of great interest and is the focus of the model presented in the study.

In terms of compensation levels, Smith and Watts (1982) argue that growth firms will pay relatively higher wages to managers than non-growth firms to compensate them for the difficult task of selecting investment projects as opposed to the relatively easier task of managing assets that are currently in place. In addition, since growth firms are likely to be riskier than their non-growth counterparts, managers of growth firms will demand a compensation premium for bearing this additional risk (Smith and Watts (1992)).

Thus, the model in this study will incorporate the manager's ability (or inability) to influence the riskiness of the firm in addition to considering the manager's incentives (compensation) to maximize firm value. The results suggest that a firm's manager may not always be acting exclusively in the shareholder's best interests. He may alter the risk characteristics of the firm in a way that transfers wealth from one economic participant to another. This conflict may be exacerbated or mitigated by the design of management incentives.

## THE MODEL

The model is based on several assumptions about the manager's behavior and the economic environment in which he operates. The analysis is limited to a single period of time bounded by two dates known as *t=0* and *t=1*. An initial allotment of wealth, denoted *Y*, is held upon arrival at *t=0*. The manager's initial wealth is a function of firm *j*'s securities for which the manager works and a fixed wage also provided by firm *j*. The amount of the fixed wage is determined by the company's Board of Directors in conjunction with the competitive managerial labor market. Thus, the manager's total compensation is equal to the combined value of nondividend-paying common stock, restricted stock, and the present value of the expected wage.[4] The inclusion of both common stock and restricted stock incorporates the inherent differences in the short- and long-term characteristics of the incentives provided. This distinction between short-term incentives and long-term incentives is crucial to managerial decision making and his incentive to maximize shareholder wealth (DeFusco, Zorn and Johnson (1991), Brickley, Bhagat and Lease (1985)). Common stock can be liquidated instantaneously and costlessly in the present period, while the restricted stock[5] and wages cannot be liquidated until *t=1*. Further, perfect monitoring does not exist, the manager owns less than one-hundred percent of the firm, and the manager is less than perfectly diversified.[6]

The manager maximizes his expected utility of consumption over a single period by taking into account that, at the end of the period, all wages and portfolio holdings are simultaneously liquidated and consumed. The maximization is accomplished by optimally balancing current consumption and investment at *t=0*. Endowed wealth, which is not consumed at *t=0*, remains in the investment portfolio[7]. The manager's ultimate portfolio decision will reflect his endowed wealth and expected compensation to be received at *t=1* from firm *j*, which includes wages, common stock, and restricted stock.[8]

The manager's endowed wealth, *Y*, is comprised of $\alpha_j$ shares of common stock ($s_j$), $\gamma_j$ shares of restricted stock ($R_j$), and $\delta_j$, wages ($W_j$), where $\alpha_j$ , $\gamma_j$, and $\delta_j$ are the manager's percentage claim on the market value of firm *j*'s common stock, restricted stock, and wages, respectively, that sum to one or 100 percent of the manager's wealth. An expectation operator precedes $R_j$ and $W_j$ to indicate that restricted stock and wages contribute to the manager's wealth but are not available for consumption at *t=0*. Similarly, common stock is denoted as lower case s to signify that it may be liquidated at *t=0* in contrast to restricted stock and wages denoted in upper case letters to signify that they may only be liquidated at *t=1*. The manager's total wealth is assumed to be comprised of firm *j* securities and firm-specific human capital. The expression for the manager's initial wealth at *t=0* can be written as follows:

Equation 1

$$Y = \overline{\alpha_j} s_j + E(\gamma_j R_j) + E(\delta_j W_j)$$

Each manager consumes some portion of his allotted wealth in the amount $C^0$ at *t=0* by liquidating a portion of the common stock. The optimally balanced consumption decision made at *t=0* dictates the investment decision because the portion of the initial endowment that is not consumed is saved.

The one-period model implies that the manager's wealth at *t=1* is equal to the market price of each security multiplied by the proportion of total outstanding securities held plus the wage paid by firm *j*. These payoffs at *t=1* are state contingent where $\phi$ denotes the state. The payoffs at *t=1* are as follows:

$S_j(\phi)$ = payoff on firm *j* common stock at *t=1*[*]

$R_j(\phi)$ = payoff on firm *j* restricted stock at *t=1*

$W_j(\phi)$ = wages paid by firm *j* at *t=1*

[*]At *t=1*, the per-share payoff on common and restricted stock will be equal.

The total value of the manager's wealth is the sum of common stock, restricted stock, and wage payoffs at *t=1*.

For the manager to maximize his utility at *t=0* subject to a budget constraint, he must incorporate expected payoffs at *t=1*. It is assumed that the utility function may be separated into the utility of consumption at *t=0*, denoted $V^0(C^0)$, and the expected utility of consumption at *t=1*, denoted $E[V^1(C^1)]$. The total utility function contains known, or observed, values of $s_j$ and an expectation component formed at *t=0* regarding *t=1* payoffs.

The consumption decision at *t=0* requires that the amount of common stock held must change. The wage and restricted stock components cannot be consumed until *t=1*; therefore, they are absent from the consumption equation. Substituting this relationship for $C^0$, as well as for $C^1$, into the maximization problem produces equation (2):

Equation 2

$$Max\ \{V^0[(\overline{\alpha_j} - \alpha_j)s_j] + EV^1[\alpha_j S_j(\Phi) + \gamma_j R_j(\phi) + \delta_j W_j(\phi)]\}.$$

The maximization problem (2) incorporates the budget constraint and forms the basis for much of the remaining analysis.

In order to observe the effect of agency conflicts on the various participants in this economic world, expected utility is examined under increased variance. The manager is able to alter the risk of the firm through his selection of projects. The choice at *t=0* of a risky project changes the payoff distribution at *t=1*. The payoffs[9] on firm securities at *t=1* are joint functions of the state of nature and the variance parameter. For notational convenience, the risk parameter is suppressed, thus $S_j(\phi)$, $R_j(\phi)$, and $W_j(\phi)$ represent the state-contingent payoffs as a function of risk.

In a one-period world where capital markets immediately and efficiently incorporate all publicly and privately available information and firms are prohibited from creating unique securities, value changes attributable to agency conflicts affect those securities currently held, as well as the wage and restricted stock paid to the manager at the end of the period. Thus, the change in expected utility resulting from an increase in the firm's riskiness can be shown to contain a "common stock effect" and a "wage and restricted stock effect."

Equation 3

$$\frac{\partial E[U]}{\partial \sigma_j} = \alpha_j \frac{\partial V^0}{\partial C^0(\partial s_j / \partial \sigma_j)} + \gamma_j \frac{\partial EV^1}{\partial C^1(\partial R_j(\phi) / \partial \sigma_j)} + \delta_j \frac{\partial EV^1}{\partial C^1(\partial W_j(\phi) / \partial \sigma_j)}$$

Equation (3) incorporates the agency costs resulting from an increase in risk. The net agency cost is the sum of the common stock effect, which results from a reassessment of security prices in reaction to the change in risk, and the wage and restricted stock effects, which result from the wage and restricted stock values being functionally dependent on the value of the firm.[10] To determine the direction and magnitude of the change in expected utility of consumption, assumptions on the pricing of securities are required.

The focus of this analysis is to relate firm value at *t=1* to changes in risk at *t=0*[11]. Assume firm *j* is financed with risky bonds, with face value $F_j$, and common stock. Furthermore, the promised wage payments, denoted $W_j$, are assumed to be paid before obligations to bondholders are met. Firm value, denoted $X_j$, determines the actual payoffs at *t=1*.

Assume that three states of nature exist and that the wage and security payoffs are jointly determined by a probability distribution that allows equity and wage values to react independently to changes in risk. For generality and simplicity, the distribution will be limited to one which is uniquely described by its first two moments. These assumptions indicate that the probability of states 1, 2, and 3 occurring are equally likely and that altering the risk of the firm's expected cash flows leaves the mean of the distribution unchanged. The three states of nature are represented below, as:

$$N = \begin{cases} N^*, & \text{if state 1 occurs, no default} \\ 0, & \text{if state 2 occurs, default, but wages are paid} \\ -N^*, & \text{if state 3 occurs, default on wages} \end{cases}$$

The assumption that wages are paid first implies that at *t=1* wage earners will receive the minimum of $W_j$ or $X_j$. This payoff schedule captures the fact that if the firm is in default, wages have senior claim on the income at *t=1*. Bondholders are entitled to receive $F_j$ only after all claims to $W_j$ have been paid; therefore, bondholders receive the minimum of $F_j$ or $X_j - W_j$. If $X_j$ is sufficiently high to pay $W_j$ and $F_j$, bondholders receive full payment; otherwise, they receive *t=1* payoffs less claims paid in the form of wages. Finally, shareholders will receive the maximum of $X_j - W_j - F_j$ or zero. Shareholders are residual claimants; consequently, they receive payoffs only after all wage and bondholder claims have been satisfied. If $X_j$ exceeds the sum of both $W_j$ and $F_j$, stocks will have value. The payoffs to market participants are summarized below.

Equation 4

$W_j = MIN\ (X_j, W_j)$ Payoff to wage earners.

Equation 5

$B_j = MIN\ (F_j, X_j - W_j)$ Payoff to bondholders.

Equation 6

$S_j = MAX\ (X_j - W_j - F_j, 0)$ Payoff to shareholders.*

*Shares of common stock and restricted stock would be of equal value at t=0.

For expositional purposes, assume that firm value, $X_j$, is jointly determined by the three states of nature ($N_j$) that are possible at *t=1*, denoted $\phi_1$, $\phi_2$, $\phi_3$, and decisions made by the *jth* firm's manager at *t=0*. The outcome of $X_j$ is influenced by the state of nature according to $X_j = \mu_j + N_j\sigma_j$, where $\mu_j$ is the mean firm value and $\sigma_j$ represents a component of the standard deviation of the distribution of $X_j$[12].

In analyzing the relationship between management compensation and the variance of the firm's cash flows, several factors must be considered. First, stock and bond prices are based upon expected future payoffs which are, in part, determined by the realized state of nature ($N^*$)[13]. This permits the construction of a *t=0* price schedule for wages ($w_j$), bonds ($b_j$), and stocks ($s_j$). The lower case symbols represent the asset values at *t=0*.

Equation 7

$$w_j = (\phi_1 + \phi_2)W_j + \phi_3(\mu_j - N^*\sigma_j)$$

Equation 8

$$b_j = \phi_1 F_j + \phi_2(\mu_j - N^*\sigma_j - w_j)$$

Equation 9

$$s_j = \phi_1 (\mu_j + N^*\sigma_j - W_j - F_j)$$

Second, because the manager has some control over firm variance, he can influence the probability of a state occurring. Finally, the expected value of the manager's compensation package is dependent on the state of nature which occurs. Thus, if the manager can influence the probabilities and his compensation is dependent upon firm value, then the proportional mix of his fixed and residual claims will determine whether or not his behavior is value-maximizing.

The expressions in equations (7) - (9) represent the value of the wages ($w_j$), debt ($b_j$), and equity ($s_j$) of firm $j$ based on the possible states of nature and expected payoffs. The value of a particular claim is the sum of the probability of each state occurring multiplied by the value in each respective state.

The importance of the $\sigma_j$ parameter is demonstrated below. Prior to $t=0$, security prices reflected all available information including $\sigma_j$. Since security prices are a function of $\sigma_j$, a change in $\sigma_j$ will have a direct impact on security prices. Thus shifting $\sigma_j$ will affect the wealth of the economic participants differently.

Effects of changes in $\sigma_j$ on expected wages, bond, and stock prices are derived by differentiating equations (7) - (9) with respect to $\sigma_j$. The effect on individual securities is shown below.

Equation 10

$$\partial W_j / \partial\sigma_j = \phi_3 (-N^*) < 0$$

Equation 11

$$\partial B_j / \partial\sigma_j = \phi_2 (-N^*) < 0$$

Equation 12

$$\partial S_j / \partial\sigma_j = \phi_1 (N^*) > 0$$

The equations above demonstrate that bond and expected wage values react negatively to increases in $\sigma_j$; whereas, stock values react positively. This result parallels Galai and Masulis (1976). Furthermore, this expropriation of wealth could take place while overall firm value remained unchanged. This transfer of wealth among economic participants through the manipulation of the firm's payoff dispersion represents a tangible agency cost.

The bondholder's aversion to dispersion is similar to that of a manager who receives a large fixed wage. According to equations (10) and (11) both wage and bond payoffs are negatively affected by increased dispersion because any values beyond these fixed claims are of no concern. This result implies that the interests of the manager and the bondholder become increasingly aligned as the manager's fixed wage increases. In the case of the pure fixed wage earner or pure bondholder, minimizing $\sigma_j$ increases expected utility. Specifically, in this scenario, bondholders and wage earners have interests that are naturally aligned.

The foregoing analysis results in two propositions.

**Proposition 1:** As the manager's fixed wage as a percentage of total compensation increases, the manager's interests become more aligned with bondholders.

**Proposition 2:** The direction of the change in the manager's expected utility with respect to an increase in variance will depend on the relative amounts of fixed wages and equity-related[14] claims to which the manager has a claim.

The fact that a large wage component in the compensation scheme results in the manager's interest becoming aligned with bondholder interests is in direct conflict with the manager's role as an agent for the shareholders. The manager should consider bondholders interests to the extent that they impact the value of the firm but there should

not be a direct alignment of interest between the manager and bondholders because this would violate the agency agreement between the shareholders and the manager and ultimately lower the value of common equity. Thus, the incentive compensation scheme must encourage the fulfillment of the principal-agent relationship.

In contrast to wage earners and bondholders, stockholders prefer increases in $\sigma_j$. Stock only has value when firm value exceeds the promised managerial wage and fixed claim by bondholders. Therefore, shareholders prefer more dispersion to less because it increases the probability of their stock having value.

This divergence of interest among economic participants provides the fundamental determinants of agency costs. A manager, who is less than perfectly diversified, typically has a significantly different payoff structure from stockholders which provides him the incentive to expropriate wealth from stockholders. The limit to this transfer of wealth is bounded by the manager's ability to alter firm variance.

This finding results in a third proposition.

**Proposition 3:** The specific characteristics of the firm and its potential variance limits should be important determinants of the managerial payoff structure.

If the manager has significant control over the dispersion of firm values, the compensation scheme should reflect this fact by providing a lower fixed wage and more equity-related rewards. If, however, the manager has little control over the dispersion, a different type of remuneration package should be developed which limits the manager's exposure to risk which is beyond his control.

The signs of the effect of $\sigma_j$ on the expected wage, stock, and bond values were provided in equations (10), (11), and (12). Incorporating these signed components into the change in expected utility equation provides the basis for further analysis.

Equation 13

$$\frac{\partial E[U]}{\partial \sigma_j} = \alpha_j \frac{\partial V^0}{C^0[\phi_1(N^*)]} + \gamma_j \frac{\partial V^1}{C^1[\phi_2(-N^*)]} - \delta_j \frac{\partial EV^1}{\partial C^1[\phi_3(-N^*)]}$$

After noting that both expected wages and bond value are negatively related to the dispersion of firm value, it is apparent that it would not be in the best interests of a manager to hold both bonds and wage claims on firm *j*. Assuming that the manager receives a wage, equation (13) would imply that to diversify his risk, a manager should hold enough stock to offset any potential loss in wages. For example, if firm *j* is subject to large dispersions in value over which the manager has no control, the manager could hedge against a possible loss in wages by holding an amount of stock proportional to his wage claim. This wealth allocation would allow him to offset his potential loss of wages with potential capital gains. This finding leads to a fourth proposition.

**Proposition 4:** If the change in wage value is large relative to an increase in dispersion and the manager has little control over the dispersion, then the manager should hold stock to offset the potential loss in wages.

In direct contrast to this outcome, the manager who held bonds would increase his downside potential without providing any potential gains thus it would not be plausible for the manager to hold bonds in firm *j*. Consequently, a final proposition arises.

**Proposition 5:** The role of bonds in aligning manager's and shareholder's interests is diminished to the extent that the manager's fixed wage is large.

## EMPIRICAL IMPLICATIONS

Given the assumptions of this paper, the above analysis leads to several empirical implications.

(a) Managers who receive a large portion of their total compensation in fixed wages will make efforts to reduce the variance of future cash flows.

(b) Managers who receive a large portion of their total compensation in the form of fixed wages will have interests aligned to those of bondholders.

(c) Managers who receive a large portion of their total compensation in equity-related securities will make efforts to increase the variance of future cash flows.

(d) Managers who receive a large portion of their total compensation in equity-related securities will have interests aligned to those of shareholders.

(e) Managers of risky firms who have little control over the dispersion of future cash flows and earning high wages will choose to hold larger amounts of the firm's equity-related securities.

(f) Managers of stable firms who have little control over the dispersion of future cash flows and who earn high wages should receive fewer equity-related rewards from the firm.

(g) Firms which provide their managers with the ability to increase the dispersion of future cash flows should include more equity related rewards in the manager's compensation system.

(h) The existence of compensation in the form of stock options lowers the incentive of managers to expropriate wealth from shareholders and increases the incentive to expropriate wealth from bondholders.

(i) The role of bonds in aligning manager's and shareholder's interests is diminished to the extent that the manager's salary is large.

While prior research has focused on managerial compensation and its motivational qualities; this model suggests that firm-specific characteristics relating to the propensity for firm variance and the degree of control that the manager has over this variance should be the fundamental determinants of managerial remuneration.

## CONCLUSION

The theoretical, single-period model presented in this paper exposes the agency problems inherent in today's corporate structure. In a world of imperfect contracting where markets immediately and efficiently incorporate all available information, and companies are prohibited from creating unique securities, agency costs exist. Given the assumptions of this model, the single period investor is always subject to instantaneous and permanent changes in the value of the securities held. It is assumed that the wage is not determined by the manager; however, the dispersion parameter which is the catalyst for expropriations of wealth, is under the control of the manager in many firms. Therefore, the utility-maximizing manager will manipulate the dispersion parameter to his benefit. If the manager's behavior is not value maximizing, then agency costs arise. To reduce these agency costs, there are compensation techniques which can be implemented to ameliorate this situation.

The limit to the expropriation of wealth from security holders is dependent upon the firm's variance characteristics and the manager's control over this variance. Consequently, it is imperative to consider firm-specific characteristics when constructing the appropriate compensation package. In contrast to prior studies which have analyzed the impact of managerial compensation on variance-altering decisions and firm performance, this study starts from the basics of utility theory and asset pricing to present an evaluation of firm-specific characteristics necessary to implement a comprehensive compensation system that minimizes agency problems. It also provides numerous assertions that must be tested in order to ascertain the empirical validity of this model.

## ENDNOTES

1. See Beatty and Zajac (1990) for an empirical examination of CEO incentives, risk bearing, and monitoring.

2. See Jensen and Murphy (1990) and the citations therein for recent examples.

3. See John and John (1993) for a theoretical model which relates CEO compensation to financing and investment decisions, Simpson (1994) and Gaver and Gaver (1993) for empirical investigations of the relationship between the investment opportunity set and corporate financing, dividend, and compensation policies, and Lippert and Moore (1994) for empirical evidence on the relationship between pay-performance sensitivity and firm-specific characteristics.

4. The manager's wage (in dollars) is assumed to have a known probability distribution.

5. Restricted stock is common stock that the manager receives but is prohibited from liquidating prior to specified dates.

6. The assumption that the manager is less than perfectly diversified is realistic. Senior management, whose compensation-related wealth is determined by the fortunes of the firm and whose human capital are firm specific and nondiversifiable, are concerned about their lack of diversification and are likely to demand a premium for accepting this position.

7. The remaining investment portfolio is not chosen arbitrarily; it is the result of the optimal consumption and investment decisions made at $t=0$ in anticipation of expected payoffs at $t=1$.

8. Since both short- and long-term remuneration components are typically employed in the manager's incentive scheme, the presence of common stock, restricted stock, and wages provides a realistic, and commonly used, incentive compensation system.

9. At $t=1$ the firm's security payoffs are identical to the firm's security prices.

10. Recall that the value of the firm is directly related to the manager's choice of risky projects.

11. Total firm value is of concern because stock and wage payoffs are determined by the liquidation of firm value at the end of the period.

12. By limiting $\sigma_j$ to a component of the standard deviation, rather than allowing it to represent $Xj$'s entire volatility, management's control over the firms payoff dispersion is limited.

13. The realized state of nature has different implications for each of the claim holders on the firm; full, partial or no payment may be made.

14. Equity-related securities include stock, restricted stock, phantom stock, stock appreciation rights, executive stock options, and similar securities.

## REFERENCES


[1] Agrawal, A. and G.M. Mandelker, "Managerial Incentives And Corporate Investment And Financing Decisions," ***Journal of Finance***, September 1987, pp. 823-837.

[2] Baker, G.P., M.C. Jensen, and K.J. Murphy, "Compensation And Incentives: Practice Vs. Theory," ***Journal of Finance***, July 1988, pp. 305-350.

[3] Beatty, R.P. and E. J. Zajac, "Top Management Incentives, Monitoring, And Risk-Bearing: A Study Of Executive Compensation, Ownership, And Board Structure In Initial Public Offerings," 1990, Working Paper, The University of Chicago.

[4] Bizjak, J.M., J.A. Brickley, and J.L. Coles, "Stock-Based Incentive Compensation And Investment Behavior," ***Journal of Accounting and Economics***, January/ April/July 1993, pp. 349-372.

[5] Brickley, J.A. , S. Bhagat, and R.C. Lease, "The Impact Of Long-Range Managerial Compensation Plans On Shareholder Wealth," ***Journal of Accounting and Economics*** 7, 1985, pp. 115-129.

[6] DeFusco, R.A., T.S. Zorn, and R.R. Johnson, "The Association Between Executive Stock Option Plan Changes And Managerial Decision Making," ***Financial Management***, Spring 1991, pp. 36-43.

[7] Galai, Dan and Ronald W. Masulis, "The Option Pricing Model And The Risk Factor Of Stock," ***Journal of Financial Economics***, January/March 1976, pp. 53-81.

[8] Gaver, J.J. and K.M. Gaver, "Additional Evidence On The Association Between The Investment Opportunity Set And Corporate Financing, Dividend And Compensation Policies," ***Journal of Accounting and Economics***, January/April/ July 1993, pp. 125-160.

[9] Jensen, M.C. and W.H. Meckling, "Theory Of The Firm: Managerial Behavior, Agency Costs And Ownership Structure," ***Journal of Financial Economics***, October 1976, pp. 305-360.

[10] Jensen, M.C. and K.J. Murphy, "Performance Pay And Top Manager Incentives," ***Journal of Political Economy***, April 1990, pp. 225-264.

[11] John, K. and T. John, "Top-Management Compensation And Capital Structure," ***Journal of Finance***, July 1993, pp. 949-974.

[12] Lewellen, W., C. Loderer, and K. Martin, "Executive Compensation Contracts And Executive Incentive Problems: An Empirical Analysis," ***Journal of Accounting and Economics***, December 1987, pp. 287-310.

[13] Lippert, R.L. and W.T. Moore, "Compensation Contracts Of Chief Executive Officers: Determinants Of Pay-Performance Sensitivity," ***Journal of Financial Research***, Fall 1994, pp. 321-332.

[14] Mehran, H., "Executive Compensation Structure, Ownership, And Firm Performance," ***Journal of Financial Economics***, 1995.

[15] Simpson, W.G., "Optimal Managerial Compensation And The Financing And Investment Decisions Of Commercial Bank Holding Companies," 1994, Working Paper, Oklahoma State University.

[16] Smith, C.W. and R.L. Watts, "Incentive And Tax Effects Of U.S. Executive Compensation Plans," ***Australian Journal of Management***, December 1982, pp. 139-157.

[17] Smith, C.W. and R.L. Watts, "The Investment Opportunity Set And Corporate Financing, Dividend And Compensation Policies," ***Journal of Financial Economics***, December 1992, pp. 263-292.