THE RELATIONSHIP BETWEEN EXECUTIVE COMPENSATION AND FIRM VALUE FOR FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

JUSTUS MUSYOKA MUTISO

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DECLARATION

This management research project is my original work and has not been presented for examination in any other university.

SIGNED...........................................DATE..........................

JUSTUS MUSYOKA MUTISO

REG. NO. D61/61445/2010

This research project has been submitted for examination with my approval as university supervisor.

SIGNED...........................................DATE..........................

DR. JOSEPHAT LISHENGA

LECTURER

DEPARTMENT OF FINANCE AND ACCOUNTING
SCHOOL OF BUSINESS

UNIVERSITY OF NAIROBI
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Lastly I recognize my friend Jonathan and others who have contributed to the success of this project. May God bless us all.
DEDICATION

I dedicate this work to my lovely Wife, Jacinta and my Children Japheth Muuo and Cleophas Mutiso.
ABSTRACT
This study investigates the relationship between executive compensation and firm value for firms listed at the Nairobi Securities exchange. After controlling for firm characteristics such as size and leverage, I find that executive compensation is significantly positively related to firm value, where the Tobin’s Q was used as a proxy for firm value. These findings are consistent with the view that the principal-agent problem can be mitigated through linking pay and performance. In particular it will address the agency conflict between management and shareholders, management and debt holders through judicious use of corporate debt and mitigate the agency conflict between minority and majority shareholders. This therefore would reduce agency costs as proposed in agency theory.

Key words Executive compensation, Tobin’s q, leverage, principal-agent problem
LIST OF ABBREVIATIONS

CAPM……………………………… Capital asset pricing model
CEO……………………………… Chief executive officer
D…………………………………… Long-term debt
D/E………………………………… Debt-Equity ratio
D0………………………………….. Current dividends
EBIT……………………………… Earnings before interest and tax
EPS…………………………………. Earnings per share
Execomp………………………….. Executive compensation
FCF…………………………………. Free cash flow
g…………………………………… Expected rate of growth in earnings and dividends
H1………………………………….. Alternative hypothesis
H0…………………………………. Null hypothesis
k…………………………………… Required rate of return
LNT……………………………… Natural logarithm of sales turnover
M&M……………………………… Modigliani and Miller
NPV……………………………… Net present value
NSE……………………………… Nairobi securities exchange
P/E Ratio………………………… Price earnings ratio
PO…………………………………. Value of the firm
PV…………………………………. Present value
r…………………………………… Required rate of return
RD…………………………………. Cost of debt financing
RE…………………………………. Rate of return on equity
rf…………………………………… Risk free rate of return
RU……………………………………. Cost of capital for unlevered firm
TC…………………………………….Corporate tax rate
TCC…………………………………Total cash compensation
TEV…………………………………Total enterprise value
Tobin’s Q…………………………..Tobin’s quotient
VF…………………………………Firm value
VL…………………………………Value of levered firm
VOP……………………………..Value of operations
VU………………………………..Value of unlevered firm
WACC…………………………….Weighted average cost of capital
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CHAPTER ONE: INTRODUCTION

1.1 Background
The modern history of executive compensation research began in the early 1980s and paralleled the emergence and general acceptance of agency theory. The separation of ownership and control in modern corporations is the central theme in agency problems suggested by Berle and Means (1932) and formalized by Jensen and Meckling (1976). Early studies in this area focused on documenting the relation between CEO pay and company performance (Coughlan & Schmidt, 1985; Murphy, 1985, Jensen & Murphy, 1990a, Leonard, 1990). Others examined whether CEOs are terminated following poor performance (Weisbach, 1988; Warner, Watts, & Wruck, 1988) and whether CEOs are rewarded for performance measured relative to the market or industry (Antle & Smith, 1986; Gibbons & Murphy, 1990).

Agency theory attempts to explain the agency relationships in which one party (the principal) delegates work to another party (the agent) (Grinblatt & Titman, 2002). Potential conflict arises where ownership is separated from management (Pike & Neale, 2009). Problems develop in agency relationships when the goals, interests, and risk-preference of the principal and agent diverge, with the principal being unable to verify that the agent has acted appropriately. This is due to asymmetric and/or imperfect information (Grinblatt & Titman, 2002) available to the principal and the agent which create opportunities for managers to make decisions in their own interest rather than owners (Emery, 1998). Principal agent relationships exist between stockholders and management, stockholders and creditors and between majority and minority shareholders. Agency conflict then leads to the problems of adverse selection and moral hazard.

Corporate Governance can be defined as a set of rules and procedures that guarantee management utilizes the principles of value-based management (Ehrhardt & Brigham 2004). It allows for the implementation of wealth maximization in line with key shareholder objective. Corporate governance issues include how major policy decisions are made in business corporations, how various stakeholders can influence the process, which is held accountable for performance, and what performance
standards are applied. (Blair, 2009). One way to mitigate the principal-agent problem is through executive compensation as proposed in agency theory.

Executive compensation is pay received by an officer of a firm, often as a mixture of salary, bonuses, and shares of and/or call options on the company stock (Bebchuk & Grinstein, 2005, Murphy, 1999), paid expenses (perquisites) or insurance. The combination of salary and bonuses is referred to as Total Cash Compensation (TCC). Executives may also be compensated with a mixture of cash and shares of the company which are almost always subject to restrictions/vesting (a long-term incentive) (Murphy, 1999). Managers use their managerial talent as they make wealth-enhancing decisions that seek to maximize the value of the firm.

The value of a firm is the present value of its expected cash flows, discounted back at a rate that reflects both the riskiness of the projects of the firm and the financing mix used to finance them. Firm value or total enterprise value (TEV), tells us how much a business is worth. The value of a firm can be measured as either asset based value or income based value (Watson & Head, 2007). If the objective function in corporate finance is to maximize firm value, it follows that firm value must be linked to the three corporate finance decisions; investment, financing, and dividend decisions.

These decisions create conflicts of interest that arise between stockholders and lenders to the firm, on one hand, and stockholders and managers, on the other, as managers try to maximize the value of the firm. Since managerial effort is rewarded via pay(Murphy, 1999), central to this study, is the relationship between executive compensation and firm value for firms listed at the NSE.

The expected theoretical relationship between executive compensation and firm value is of linear form such that firm value should increase with increase in compensation.

The Nairobi Securities Exchange (NSE) as a capital market institution helps in financial resource reallocation (Wambua, 2009) where funds are channeled from investors to borrowers for investment in positive NPV projects that ultimately contribute to economic development and growth. The Nairobi Securities Exchange is licensed and regulated by the Capital Markets Authority. It has the mandate of
providing a trading platform for listed securities and overseeing its Member Firms. The NSE has listed 59 firms in ten market segments.

The Central Depository and Settlement Corporation provide clearing, delivery and settlement services for securities traded at the Nairobi Stock Exchange. It oversees the conduct of Central Depository Agents comprised of stockbrokers and investments banks which are members of NSE and Custodians.

1.2 Statement of the problem

Problems develop in agency relationships when the goals, interests, and risk-preference of the principal and agent diverge, with the principal being unable to verify that the agent has acted appropriately due to information asymmetry (Grinblatt & Titman, 2002). Managers exhibit self seeking behavior at the expense of shareholders for instance through pursuing more perquisites, adopting low risk survival strategies and satisficing behavior (Pike & Neale, 2009). This conflict can be addressed by the company through adopting executive compensation schemes such as share options that help to convert managers from agents to principals by making them owners (Emery, 1998). Executive stock ownership and executive compensation may serve as a type of bond by which top executives are induced to act in the best interest of shareholders (Chung & Pruitt, 1996) possibly through maximization of firm’s value.

Much has been documented about executive compensation with regard to aligning the interests of agents (executives) and principals (shareholders). Most Empirical evidence by many researchers focuses on executive compensation and corporate performance with emphasis on financial measures of performance with little regard for non-financial measures of performance. However findings on the subject matter have been varied. Not much has been done to relate pay and firm value.

Jensen and Murphy (1990a) found low pay-performance sensitivity whereby the increase in executive compensation did not match increase in firm performance. However, Boschen and Smith (1995), Hall and Liebman(1998) disagreed with Jensen and Murphy evidence. Boschen and Smith found new evidence that suggest that the sensitivity of CEO pay to performance was underestimated by Jensen and Murphy. Conyon and He (2011), Unite, et al.,(2008) also found contrasting evidence that executive compensation is positively correlated significantly to firm performance in
China and Philippines respectively. Fatemi, Desal and Katz (2003) and other researchers support these findings.

Musyoka (2009) established that there exist inverse and insignificant relationship between pay and performance among large banks in Kenya. He observed that these results negated the role of performance in determining executive compensation. While examining the relationship between executive compensation and dividend payout, Wambua (2009) found that executive compensation has mild positive influence on dividend policies. Onsomu (2003) after studying the relationship between debt financing and the value of firms quoted at the NSE established that there is no significant relationship between debt and value. Additionally, Onyango (2004) found that ownership structure is highly correlated to firm value. Gathuya (2005) established that there is a strong positive relationship between net operating income and value of firms quoted at the NSE. Given this information, there exists no information to the best of my knowledge that a similar study linking compensation and firm value at the University of Nairobi has been done which informs my study.

In the light of the mixed results on theory and evidence with regard to aligning the interest of agents to those of shareholders through tying pay and performance, the question then is “what is the relationship between executive compensation and firm value?”. This study therefore sought to examine and document the relationship, if any, between executive compensation and firm value for firms listed at the NSE.

1.3 Research objective

The objective of the research was to examine the relationship between executive compensation and the firm value.

1.4 Importance of the study

In Kenya corporate governance failure has been evidenced by increasing number of firms being placed under statutory management and total failure of others. In the light of these problems related to corporate governance, the study aimed at examining whether executive compensation help to mitigate the principal-agent problem through maximization of firm value for firms listed at the NSE in Kenya. Specifically the study is important to the following parties as outlined below.
The shareholders
The results of the study will enable shareholders get an insight into the relationship between the compensation they make to their executive and the value of their firm. Shareholders who are investors will be able to understand whether agency conflict is being minimized and if the firm’s value is being maximized to justify the huge compensation to executives.

The government
Since the government is involved in investor protection through its various Legal and regulatory frameworks, results of this study will provide feedback on whether the measures the government has put in place are protecting investors effectively.

Additionally it will provide useful information whether the huge compensation to CEO’s is justified given that it has implications on corporate taxation which is a source of government revenue. Corporations can lower their tax bills by over compensating their executives.

Compensation committee members
The results of this study will provide valuable information to the executive compensation committee to reform their company’s executive compensation to align it with maximization of firm value. Such committee will strive to eliminate practices that are red flags for investors.

Chief executive Officers
The study is significant to CEO’s as they would understand how their compensation, a cost born by shareholders, is related to the firm’s value. The CEOs will assess themselves on whether their interests are aligned to the interests of their principals and effectively take decisions to minimize the principal agent problem and avoid loss of their jobs.

The Academicians
The study will be significant to other researchers as it will contribute to the literature on corporate governance and the recommendations for further research will be highlighted. This will fill the research gap that this study may not address.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction
This section involves a review of the theory on executive compensation and the capital structure theories on firm value. More importantly, a review of literature on executive compensation, measures of firm value and related empirical studies is also presented.

2.2 Agency theory
Agency theory attempts to explain the agency relationships in which one party (the principal) delegates work to another party (the agent) (Grinblatt and Titman 2002). Jensen and Meckling (1976) and Eisenhardt (1989) provided an initial framework for understanding agency relationship. There are various types principal-agent relationships that create agency conflict viz; stockholders versus management, creditors versus management and majority versus minority shareholders.

2.2.1 Conflict between Stockholders and Management and mitigation
A company can be viewed as simply a set of contracts, the most important of which is the contract between the firm and its shareholders. This contract describes the principal-agent relationship (Pike & Neale, 2009). The management team is the agent and equity investors (shareholders) are the principals. Might not, management pursue its own goals at stockholders’ expense? Left alone managers and shareholders will each attempt to act in their own selfish interest. The possibility of conflict of interest between owners and management create the principal-agent problem (Ross, Westerfield & Jordan, 2009; Brealey & Myers, 2002).

The main causes of principal-agent conflict include information asymmetry, different risk profiles of managers and sub-optimal decision making by agents on behalf of principals. Agency problems develop due to asymmetric and/or imperfect information available to the principal and the agent who make decisions in his own interest rather than owners (Emery, 1998). The separation of ownership and management induce managers to make decisions that diverge from the wishes of shareholders and instead seek a more leisurely or luxurious working lifestyle, may shun from unpopular decision or attempt to build an empire with shareholders money (Brealey & Myers, 2002).
Managers may also adopt low risk survival strategies such as foregoing risky investments to protect their jobs and satisficing behavior (Pike & Neale, 2009). The agency problem between stockholders and management can be mitigated via the following mechanisms that tend to force managers to act in shareholders’ interest; the threat of firing; the threat of takeover and proper structuring of managerial incentives.

The threat of firing has been used to address the principal-agent problem. Large institutional investors rather than individuals have the clout to exercise considerable influence over a firm’s operations. Institutional investors are more likely to work actively to oust an inefficient management (Brigham & Gapenski, 1988).

The threats of Takeover (hostile, where managers do not want the firm to be taken over) are most likely to occur when a firm’s stock is undervalued relative to its potential as a result of poor managerial performance. In a hostile takeover, the managers of the acquired firm are generally fired, and any who are left lose the autonomy that they had prior to the acquisition (Ross et al., 2009).

2.2 Conflict between Stockholders and bondholders and mitigation
Creditors lend funds to the firm at rates that are based on the riskiness of firm’s existing assets; expectations concerning the riskiness of future asset additions and the firm’s existing capital structure (Brigham & Gapenski, 1988). The creditors then set their required rates of returns and hence the cost of debt to the firm based on expectations regarding these factors. Management may take more risky projects than earlier anticipated by debtholders (Watson & Head, 2007). If the riskier capital investments turn out to be successful, the stockholders will take all the benefits because creditors get only a fixed return, but if things go sour, the bondholders will share the losses. (Brigham & Gapenski, 1988). In this case, the stockholders would be expropriating wealth from the creditors. To mitigate this conflict, providers of debt finance may impose restrictive covenants to prevent any significant change in risk profile of the firm. Such covenants may involve limiting amount of additional debt that could be issued by the company or it may require a target gearing ratio to be maintained, it may specify a target range for current ratio to encourage good working capital management. Bondholders may also refuse to deal with such firms or require
higher than normal rates of return to compensate for the risks of such possible exploitation.

2.2.3 Conflict between Majority and Minority shareholders and mitigation

Ownership structure is crucial for the determination of the relevant agency costs taking place in a given firm. In companies with concentrated ownership structures, it becomes more important to measure the agency costs of the controlling shareholders–minority shareholders relationship, since there is a permanent probability that the former will try to extract private benefits of control (Nenova, 2003; Dyck & Zingales, 2004)). Therefore, the main governance problem among companies occurs between controlling and minority shareholders and local disputes tend to happen upon attempts of economic expropriations by controlling shareholders through going private decisions, tunneling and biased related party transactions.

The controlling shareholder owes the minority shareholder a fiduciary duty of good faith to exercise their control for good of the corporation (Clerk & Kinder, 1991). This duty prevents the majority shareholder from engaging in transactions with the corporation that are not done in good faith and that are not entirely fair to the corporation. In most instances, the majority shareholder effectively, but not expressly, owes a fiduciary duty of loyalty to the minority shareholders. This duty of loyalty prohibits the person bound by that duty from (1) entering into an unapproved transaction with the corporation and unfairly profiting, at the corporation’s expense, from that transaction, (2) usurping an opportunity that rightfully belongs to the corporation and profiting, at the corporation’s expense, from that usurped opportunity, (3) competing with the corporation and profiting, at the corporation’s expense, from that competition and (4) transfer of control to individuals known to be unreliable or corporate looters (Clerk & Kinder, 1991).

The majority shareholder who controls the corporation has a duty not to circumvent the statutory requirements that allow the minority shareholders to participate in the process by which the corporation approves certain fundamental transactions, such as some mergers, share exchanges, transfers of substantially all of the assets of the company other than in the normal course of business, fundamental changes to the
articles of incorporation, and dissolutions (Reitzel, Lyden, Roberts & Severance, 1990). To enforce his right, the minority shareholder must bring an action to have the corporation dissolved or for the court to grant such other relief as it deems appropriate.

When the “scope of authority” or the type of business, that a corporation may engage in is limited by the corporation’s articles of incorporation or bylaws, the corporation may not then act beyond that limited scope of authority. If it does, the minority shareholder may bring an individual action against the corporation or a derivative action on behalf of the corporation to enjoin those unauthorized corporate activities. The companies Act in Kenya prohibits such illegal activities which are considered ultra-vires.

Besides the measures discussed above on addressing the principal agent problems, the company can also set up monitoring mechanisms such as presenting audited accounts of the company, management audits and additional reporting requirements.

2.2.4 Costs of conflicts
The costs of resolving conflict of interest between managers and shareholders are agency costs. Agency costs are the differences between the return expected from an efficient agency contract and the actual return given that managers may act more in their own interest than interests of shareholders (Pike & Neale, 2009). These costs are incurred when agents do not attempt to maximize firm value and shareholders incur costs to monitor the managers and influence their actions (Brealey & Myres, 2002).

Agency costs may take several forms: expenditures to monitor managerial actions; expenditures to structure the organization so that the possibility of undesirable behavior will be limited and opportunity costs associated with lost profit opportunities because the manager cannot take decisions on a timely basis unlike if he was the owner. Agency costs differ across firms due to the differing extent to which costly monitoring and incentives can be used to reduce shirking by management (Demsetz, 1995). Agency costs may also differ across firms because some boards fail to provide managers with the appropriate, optimal set of incentives.
2.3 Capital Structure theories and Firm Value

Capital Structure is the mix (or proportion) of a firm’s permanent long-term financing represented by debt, preferred stock, and common stock equity. These components determine firm’s value. Several theories of financing mix have been used to explain the value of a firm as outlined below.

2.3.1 Net Operating Income Approach

This is a theory of capital structure in which the weighted average cost of capital and the total value of the firm remain constant as financial leverage is changed. A critical assumption is that overall cost of capital, ko remains constant. An increase in cheaper debt funds is exactly offset by an increase in the required rate of return on equity. As long as the rate of return on debt, ki is constant, the rate of return on equity, ke is a linear function of the debt-to-equity ratio. Thus, there is no one optimal capital structure. According to the NOI approach the value of a firm can be determined by capitalizing a firm’s earnings at the overall cost of capital, ko(Gathuya,2005). Therefore the value of the firm can be computed as

\[
\text{value} = \frac{\text{EBIT}(1-T_C)}{K_0}
\]

Where;

EBIT is a firm’s earnings before interest and tax , T_C is the corporate tax rate and K_0 is the overall cost of capital or required rate of return on equity.

2.3.2 Traditional theory of capital structure and firm value

This is a theory of capital structure in which there exists an optimal capital structure and where management can increase the total value of the firm (Watson & Head,2007) through the judicious use of financial leverage(Gathuya,2005). Optimal Capital Structure is the financing mix that minimizes the firm’s cost of capital and thereby maximizes the value of the firm.

The cost of capital is dependent on the capital structure of the firm. Initially, low-cost debt is not rising and replaces more expensive equity financing and ko declines. The value of the firm is maximized at some level of debt financing where the gain from the tax shield on debt is offset by financial distress costs. Thus, there is one optimal
capital structure where ko is at its lowest point. This is also the point where the firm’s total value will be the largest (discounting at ko).

2.3.3 Modigliani and Miller proposition I (the no tax case)
According to Modigliani and Miller (1958) with no taxes, bankruptcy costs and other imperfections, the value of the firm levered \((V_L)\) is equal to the value of the firm unlevered \((V_u)\).

\[ V_L = V_U \]

\(V_U\) is value of the firm with no debt and \(V_L\) is the value of a firm with Debt and equity. \(V_L\) is then equal to Debt plus Equity.

Since the firm value is maximized when the weighted average cost of capital is minimized (Ross, Westerfield & Jordan, 2010) M&M II proposes that the cost of equity to be used to compute WACC is

\[ R_E = R_U + (R_U - R_D) \times D/E \]

where \(R_E\) is the cost of equity, \(R_U\) is cost of capital for the unlevered firm, \(R_D\) cost of debt financing and D/E is the Debt-Equity ratio.

M&M argue that total market value is not altered by the capital structure and therefore two firms that are alike in every respect except capital structure must have the same market value, otherwise investors can substitute homemade leverage for corporate financial leverage and through arbitrage drive the two firm values to be equal.

2.3.4 Modigliani and Miller proposition I (the tax case)
Modigliani and Miller (1963) propose that with taxes and no bankruptcy or financial distress costs, the value of the firm levered \((V_L)\) is equal to the value of the firm unlevered \((V_U)\) plus the present value \((PV)\) of the interest tax shield:

\[ V_L = V_U + T_C \times D \]

where \(V_L\) is the value of the levered firm, \(V_U\) is the value of unlevered firm, \(T_C \times D\) is the interest tax shield, \(T_C\) is the corporate tax rate and \(D\) is the amount of debt and \(V_U\) is computed as

\[ V_U = \frac{EBIT - Taxes}{R_U} = \frac{EBIT(1-T)}{R_U} \]

This implies that a firm’s value can be maximized at 100% debt which is illogical due to bankruptcy and/or financial distress costs associated with increased use of debt financing.
M&M proposes that with taxes the cost of equity to be used to calculate WACC is computed as
\[ R_E = R_U + (R_U - R_D) \times \frac{D}{E} \times (1 - T_C) \]

### 2.4 Executive compensation

Structuring of managerial incentives may also be used to mitigate the agency conflict that may exist between shareholders and management. Holmstrom (1979), Grossman and Hart (1983) among others, show that accounting for the moral hazard problem is essential when designing effective managerial compensation contracts. Holmstrom argues that, in order to alleviate the moral hazard problem, the board should align managerial incentives with those of shareholders by tying CEO compensation to observable outcomes (performance) that are correlated with a CEO’s activities. Shareholders can make efforts to align the managers’ interest to theirs’ by providing appropriate incentives for managers and monitoring their behavior (Ross, et al., 1990). Therefore, managers act in stockholders interest depending on how closely management goals are aligned with stockholder goals (the way managers are compensated) and how well shareholders control managers, possibly through voting (Ross et al., 2009).

Managerial agency costs can be reduced through managerial compensation since it is assumed that managers satisfied with their compensation scheme are less likely to exert inadequate effort or expropriate wealth and therefore will also lower their risk of job loss in the process. Reducing agency costs increases a firm’s value (Hart 1995). Under the Principal-Agent theory, as argued by Hart (1995), there is a trade-off between incentives and risk sharing; managers are motivated to work hard through “high powered” incentives while also protected from risk through “low-powered” incentives, such as, for example, compensation that is insensitive to a firm’s performance. Besides, since the agency theory argues that people are motivated by their own self-interest managers will aim to maximize the firm value only if it is in line with their own best interests (Letza et al., 2008).
Generally, executive compensation consists of various components, such as cash salary, benefits, bonus, stock, options and grants (Bebchuk & Grinstein, 2005). Agency theory suggests that using stock grants and options as a part of executive compensation helps to align the interests of firm shareholders with executives. Shareholders can enter into contracts with management and arrangements for compensation, for instance through stock option plans and performance shares which are based on target performance such as earnings per share. Executives may also be compensated with a mixture of cash and shares of the company which are almost always subject to restrictions (vesting) that is, a long-term incentive (Murphy, 1999).

There is debate about the quality of the pay setting process in publicly traded companies and the compensation arrangements that it produces (Bebchuk & Fried, 2004); Jensen, Murphy, & Wruck, (2004)). Two models of the pay setting process have been used to explain this; the arm’s-length bargaining model and the managerial power model (Bebchuk & Fried, 2004).

Under the arm’s length bargaining model, compensation arrangements are the product of arm’s-length transacting between executives selling managerial services and directors seeking to get the best deal for their shareholders. In such a market, the price can go up if the value to companies of executives’ services goes up (demand side), executives’ reservation value (resulting in part from executives’ outside options) goes up (supply side), or the job nature or requirements become more demanding or costly for executives (Bebchuk & Grinstein, 2005).

The managerial power perspective does not assume that directors seek to get the best deal for shareholders. Rather, directors are willing to go along with compensation arrangements more favorable to executives. Under the managerial power model, changes in compensation levels can be expected when the constraints that executives and directors face change. For instance due to weak monitoring by board, managerial entrenchment may arise leading to poorly structured compensation arrangements. Hermalin and Weisbach (1998) and Fich, Starks and Yore (2008) show that board monitoring efficacy weakens over time as the CEO gains power over the board. Therefore high executive compensation sometimes may be due to managerial
entrenchment or cronyism (Ivan, Oded & Wald (2005) resulting from an environment of ineffective monitoring.

There has been debate over why executives are highly compensated and what should determine executive pay. Apart from the explanation of high CEO pay by market forces of demand and supply for managerial labour and the managerial power perspective, studies have also shown that high remuneration is partly due to the level of skills and experience that executives should possess. Empirical evidence also suggests that a firm’s Tobin’s Q ratio and an executive’s job specific experience (Chung & Pruitt, 1996) as well as firm’s size (Murphy, 1999 and Frydman & Saks, 2007) are important determinants of executive compensation.

Executive compensation is frequently under moral pressure in public discussions. The tentative conclusion is that high executive compensation is generally justified, provided certain conditions are met: No fraud or breach of fiduciary duty must be involved. Also, the ethical rationale behind the market economy must be accepted. However, changes in rules regarding executive compensation can be ethically and economically desirable, such as greater disclosure of executive payment (Luetge, 2012)

2.5 Measures of Firm Value

The value of a firm is the present value of all its expected future free cash flows, discounted at the company’s weighted average cost of capital (Daves, Erhardt & Shrieves, 2004). In well functioning capital markets, the market value of a firm is the sum of the present value of all assets held by the firm. The total capitalization (market value of a firm) can also be taken as the sum of long-term debt (D), preferred stock (P) and equity (E), (Brealy & Myers, 2002). Value can be taken as either book value which is the company’s historical value as shown by its financial statements or market value, defined as the current price at which an asset may be bought or intrinsic value which is an estimate of value that a particular buyer places on an asset (Daves, et al., 2004). Firm value or total enterprise value (TEV), tells us how much a business is worth. The value of a firm can be estimated basically using two broad approaches, asset based valuation methods which focus on the value of a company’s assets or income based valuation models, sometimes called going concern valuation (Watson &
2.5.1 Asset based values

Stock market Valuation method involves taking the market value of the shares of a company multiplied by the equity shares outstanding. Market valuation provides a guide to the bidding company on the minimum likely purchase price of Target Company.

Net asset value (book value) method of determining firm value involves taking the book value of the assets of the company. Net asset Value (book value) = Fixed assets + Net current assets - Long-term debt. Proponents of this method argue that historical costs are factual and easily available although book value may offer only lower limit for company asset value.

Net asset value (net realizable value) includes determining the value that is gained by selling the target company’s asset on the open market. It is the residual value after selling assets, deducting liquidation costs and paying off liabilities. It’s often called liquidation value.

The Net asset value (replacement cost) method involves determining the cost of acquiring separate assets of Target Company on open market. This method is used mainly because estimates of asset values are more relevant than historical cost estimates but it is difficult to determine target company’s assets replacement costs.

2.5.2 Income based values

This involves valuing a company as a going concern. This involves such methods as; capitalized earnings valuation which entails firm valuation by capitalizing (discounting) a company’s annual maintainable expected earnings by appropriate earnings yield or returns on investment.

\[
\text{Earnings yield} = \frac{\text{earnings per share (EPS)}}{\text{Market price per share}} \times 100.
\]

The earnings yield is also the reciprocal of P/E ratio. However earnings figure may be inaccurate owing to different accounting policies and different treatment of exceptional and extra ordinary items.
Price earning valuation method helps to establish firm Value by multiplying target company distributable earnings by an appropriate P/E ratio

Where;

\[
P/E \text{ ratio} = \frac{\text{Market value of the company}}{\text{Distributable earnings}}
\]

Dividend growth model, first developed by Gordon in 1959, is also used to estimate value of a target company by calculating the present value (PV) of future dividends accruing to its shares.

\[
P_0 = \frac{D_0(1+g)}{r-g}
\]

where;

\[g\] = expected growth rate in earnings and dividends, \(r\) = required rate of return

\(P_0\) = value of the firm and \(D_0\) = Current total dividends paid.

The greater the growth rate \(g\), and the lower the discount rate \(r\), all other things being equal, the larger the discounted expected future dividends will be, resulting in a higher stock price (Levy and Post, 2005) or higher value. The growth rate of earnings and payout ratio of many firms vary with their changes in business conditions over time. This may cause changes in business risk. The discount rate therefore can be computed using the Capital Asset Pricing Model (CAPM) to take care of risk, stated as

\[
K = r_f + \beta \{E(R) - r_f\}
\]

Where

\(K\) = required rate of return, \(r_f\) = risk less rate, \(\beta\) = stock market beta and \(\{E(R) - r_f\}\) = expected future equity risk premium; the expected future return on market portfolio minus risk less rate.

**2.6 Corporate valuation model and intrinsic value**

This uses the discounted cash flow valuation. The intrinsic value of a firm is determined by the size, timing and risk of its expected future free cash flows (Daves et al., 2004, Erhardt & Brigham, 2011). The corporate valuation model doesn’t
depend on dividends and it can be applied to divisions and sub units as well as the whole firm.

According to Erhardt and Brigham (2011), corporate assets and by extension value consists of operating assets and non-operating assets which generate cash flows to the firm. Since managers have control over operating assets but not non-operating assets, value based management focus on operating assets.

Free cash flow (FCF) is cash flow from operations that is actually available for distribution to investors including stockholders, bondholders and preferred stockholders (Daves et al., 2004). The value of a firm is the present value of its expected future free cash flows from operations, discounted at its WACC plus value of its non operating assets (Erhardt & Brigham, 2011; Daves et al., 2004)

Value of operations \( V_{OP} = \) Present value of expected future free cash flows.

\[
V_{OP} = \frac{FCF_1}{(1+WACC)} + \frac{FCF_2}{(1+WACC)^2} + \ldots + \frac{FCF_\infty}{(1+WACC)^\infty}
\]

If the firm is expected not to have constant growth in earnings and dividends, the value of operations as a going concern can be determined using the non-constant growth model. The value of the firm’s operations is determined by taking the sum of the present value of the annual free cash flow for the non-constant growth period and the present value of the free cash flow for the constant growth period. The total intrinsic value of the firm is finally found by adding the value of operating assets and value of non-operating assets (Daves et al., 2004).

The expected free cash flow is computed as Net operating profit after tax less investment in operating capital. The value of operations at time \( N \) when a firm cash flow stabilize and begin to grow at constant rate can be determined using a variant of Constant dividend growth model as follows

\[
V_{op} \ (at \ time \ N) = \sum_{t=N+1}^{\infty} \frac{FCF_t}{(1+WACC)^t} \cdot N
\]

\[
= \frac{FCF_{N+1}}{WACC-g} = \frac{FCF_N \cdot (1+g)}{WACC-g}
\]
Where; \( FCF_N \) = free cash flow for the normal growth period, \( WACC \) = weighted average cost of capital and \( g \) = expected rate of growth in future free cash flows.

The total value of a firm can be computed from the balance sheet items and is summarized as;

\[
\text{Firm Value} = \text{non-operating assets} + \text{operating assets} = \text{market value of equity} + \text{market value of preferred stock} + \text{market value of debt} = \text{Book value of debt} + \text{Book value of preferred stock} + \text{book value of equity} + \text{Market value added}. \]

However, Market value added is the difference between the market value of equity and book value of equity capital supplied by shareholders.

### 2.7 Empirical Evidence

Much has been documented about executive compensation with regard to aligning the interests of agents (executives) and principals (shareholders). Most Empirical evidence by many researchers focuses on executive compensation and corporate performance with different findings on the subject matter. Many studies have been done which provide evidence that executive compensation significantly influence firm-level decisions such as corporate performance.

The predominant position is that non-contingent compensation is generally preferred by CEOs (Gomez, 2000) because it provides a stable, less risky, income stream (Cannella. & Monroe, 1997). Thus, all else being equal, CEOs prefer a weak link between pay and performance (Daily, Dalton, & Cannella, Jr., 2003). When pay and performance are decoupled, CEOs may pursue their own interests with lower risk and greater flexibility. Agency theory suggests that the more closely CEO pay reflects organizational performance, the more ably the compensation Committee has fulfilled its function (Barkema and Gomez-Mejia, 1998).

Jensen and Murphy (1990a) found low pay-performance sensitivity while Musyoka (2009) established that there exist an inverse and insignificant relationship between pay and performance among large banks in Kenya. He observed that these results negated the role of performance in determining executive compensation. However, Boschen and Smith (1995) and Murphy (1999) reported higher/increasing pay for
performance sensitivity in the US consistent with the findings of Conyon and He (2011); Fatemi, Desal and Katz (2003) and Mehran (1995).

Empirical evidence has also shown that increase in firm performance leads to disproportionate increase in pay across the various levels of management and across different firms as found by Brunello et al (2001). These findings were confirmed by Lewellen, Loderer and Martin (1987) and Murphy (1999).

Findings also suggest the form of executive compensation plays an important role in motivating managers to increase firm value. Thus firm value is positively correlated with executive compensation (Habib & Ljungqvist, 2003; Morck, Shleifer and Vishny (1988) and McConnell and Servaes (1990)). However it contrasts with later findings of no such relation by Loderer and Martin (1997), Himmelberg, Hubbard, and Palia (1999), Demsetz and Villalonga (2001).

Empirical studies have also shown that executive compensation is related to dividend payout (Wambua, 2009) with a mild positive influence on dividend policies. Onsomu (2003) found that there is no significant relationship between debt and value for firms quoted at the NSE while Onyango (2004) found that ownership structure is highly correlated to firm value. Gathuya (2005) established that there is a strong positive relationship between net operating income and value of firms quoted at the NSE.

Theories of hedging based on market imperfections imply that hedging should increase market value of firms. Likewise, the design of executive risk-incentive compensation is to align managerial interests with shareholders’ interests to maximize firm value. Jin and Jorion (2006) found that hedging effect is negative but insignificant on firm value. Allayannis and Weston (2001) found positive relation between firm value and foreign currency derivative use.

Managers undertake hedging activities for two possible reasons. First, hedging can be used to increase firm value by reducing expected tax (Mayers and Smith 1992; Smith and Stulz 1985), via reduction in the expected cost of financial distress (Smith and Stulz 1985), by reducing the problem of underinvestment (Froot, Scharfstein, and Stein, 1993; Carter, Rogers and Simkins, 2006), or by increasing a firm’s debt capacity (Leland 1998, Graham and Rogers, 2002).
Executive compensation may affect the executives' exposure to firm risk or induce risk taking behaviour, and hence affect investment behavior of the firm, as well as the financing structure behind the investment decisions. Based on the compensation contracts, executives make corresponding investment and financing decisions for their firms. Results show that when executive pay is more sensitive to firm stock price volatility (also known as Vega), the firm has more secured debt within their capital structure which influences firm investment, and firm secured debt usage. This would affect the firm value as proposed by capital structure theories.

Stock options have convex payoffs and may affect managers' incentives to take risks (Smith and Stulz, 1985, Milgrom and Roberts, 1992)). Empirical findings are generally consistent with this rationale. Options not only provide effort incentives, the convexity of their payoff function also affects choice of project risk (Lambert, Larcker, and Verrecchia, 1991). If risk-averse managers tend to choose lower-risk, lower-NPV projects over higher-risk, higher-NPV projects, boards may award options that make managers’ wealth more sensitive to risk. As noted by Guay (1999), this implies awarding options whose value increases more rapidly with risk, which in turn can be measured using the option’s vega.

Coles, Naveen and Lalitha (2006) provides evidence of the relationship between managerial compensation structures and firm investment and debt policies, and find that if the CEO’s wealth has a higher sensitivity to the firm's stock volatility, then these firms will take on riskier policies. Besides the factors discussed earlier that affect firm value, empirical evidence suggest that cross listing on a more (or less) prestigious stock exchange relative to its own domestic market also increase firm value (Cetorelli & Peristiani ,2010, Doidge, Karolyi, and Stulz, 2009; Gozzi, Levine, and Schmukler 2008)) They concluded that their findings are consistent with the view that cross-listing in a prestigious market enhances a firm’s visibility, strengthens corporate governance, and lowers informational frictions and capital cost.

Other studies have examined how executive compensation relate to corporate strategic decisions such as mergers and acquisition (Harford & Li, 2007), Lambert and Lacker (1987)) and Datta et al. (2001).
Summary of the Chapter

In Summary therefore, executive compensation affects firm level decisions such as performance, financing, investment and strategic decisions. In spite of the theoretical rationale for performance-based CEO pay, researchers have found conflicting results concerning the link between CEO pay and firm performance with regard to elimination of the principal-agent problem. These issues informed this research to investigate whether corporate governance practices such as executive compensation has significant relationship with firm value.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction
The purpose of this study was to examine the relationship between executive compensation and firm value. In this chapter the research design, target population, data collection and analysis methods and procedures are covered.

3.2 Research design
In this study the longitudinal research design was used as it allows researchers to study the change and development of a phenomenon over time. (Saunders et al., 2007). Review of related literature has shown that different researchers use the longitudinal research design to establish the relationship between variables of interest. This influenced the researcher to use the same research design in this study to examine the causal relationship between executive compensation and firm’s value for the firms listed at the NSE.

3.3 Population and Sampling
In this study the population consisted of all the companies were listed at the Nairobi Securities exchange for the period of study, 2007 to 2011. This period of five years was considered necessary as it would enable the researcher to study the relationship between firm value and executive compensation over the period. The source of the population was the Nairobi securities exchange.

3.4 Sample of the study
In the study, the sample consisted of all the 59 firms that were listed at the Nairobi securities exchange for the period 2007 to 2011.

3.5 Data collection
For the purpose of the research, and in order to achieve the objectives, data collected was secondary data. Secondary data about the listed firms was collected through publicly available information such as published company statements and other company data available at the NSE and Capital Markets Authority. Precisely company-specific accounting information collected included annual statements of financial position and annual statements of comprehensive income, company’s market
capitalization and Market price per share, the stock price of the firm at the end of the year and book value of debt for the period of study.

3.6 Data analysis
After collecting the data, the process of data analysis was performed. Yin (1994), states that, data analysis involves examining, categorizing, tabulating, or otherwise recombining the collected data. The author further argues that every investigation should have a general analytic strategy, which treat evidence fairly, produce compelling analytic conclusions, and rule out alternative interpretations. In this study, data collected was analyzed using the statistical package for social sciences (SPSS).

Variable definition and model specification
In this study the dependent variable was firm value variable and the independent variables were executive compensation variables. The Tobin’s Q was used as a proxy for firm value. This is a ratio is computed as the market value of a firm divided by the replacement value of firm’s assets. (Chung & Pruitt, 2004; Brealy & Myres, 2002).

Tobin’s Q = \frac{\text{Market value of equity} + \text{Book value of Debt}}{\text{Replacement cost of assets}}

The market value of equity was determined as the market price per share multiplied by the company’s equity shares outstanding. The book value of assets was used to approximate the replacement cost of assets consistent with Habib & Ljungqvist (2003); Morck, Shleifer and Vishny (1988); McConnell and Servaes (1990) and Chogii(2009).

The control variables were firm size, measured by the natural logarithm of the value of a firm’s sales turn over since corporate performance and hence value may be influenced by size (Dalton et al 2009) and financing mix, whose proxy was the debt-equity ratio.

The standard pay –value relationship was obtained from the regression model below

\[ V_F = \beta_0 + \beta_1 \text{size} + \beta_2 \text{execomp} + \beta_3 \text{DER} + u \]

Where

VF is firm value for firm i in time t. This was monitored by the Tobin’s Q.
Size is the company size as measured by sales turn over.
Execomp is the executive compensation as measured by directors’ emoluments

DER is the financing mix as measured by the Debt-Equity ratio.

U is the error term, found in many regression equations.

The regression model was then broken down as follows

\[ \text{TobQ}_{it} = \beta_0 + \beta_1 \text{LNT}_{it} + \beta_2 \text{Execomp}_{it} + \beta_3 \text{DER}_{it} + u \]

Where:

The first subscript \( i \) represent the firm and the second \( t \) represent the business year.

TobQ is the predicted value of the firm. The Tobin’s Q was computed as the ratio of Market Capitalization plus total liabilities divided by book value of total assets. My measure Tobin’s Q was borrowed from Himmelberg et al., it is an approximation of the textbook definition which would use market values rather than book values of debt in the numerator and the replacement cost rather than historic cost value of the assets in the denominator. Chung and Pruitt(1994) show that my simple Q approximates a Q based on replacement costs extremely well, with a correlation coefficient between the two in excess of 97%.

To control for effect of size on performance and hence value, the natural logarithm of sales turn over (LNT) consistent with Murphy (1999), was used, to account for the difference in firm size.

Execomp is the executive compensation as measured by directors emoluments which aggregated total compensation for both executive and non executive directors in financial statements of firms quoted at the NSE.

DER is the financing mix as measured by the Debt-Equity ratio. This was meant to control for effect of debt financing since review of literature has indicated that firm value can be maximized at a certain level of debt.

\( \beta_0 \) is the y intercept, the value of the firm holding all other factors constant

\( \beta_1, \beta_2 \) and \( \beta_3 \) are the regression coefficients which measure the sensitivity of dependent variable to unit change in the independent variables.

u is the error term, it represents the noise effect of all variables excluded from the regression model plus the effect of measurement error in the variables included in the model.
CHAPTER FOUR: DATA ANALYSIS RESULTS AND DISCUSSION

4.1 Introduction
This chapter focuses on the analysis of data on firm value and executive compensation for firms listed at the NSE. The data was analyzed to enable the researcher to draw meaningful conclusion after interpretation of the analyzed results. It helps to draw conclusions against the study hypothesis.

4.2 Data analysis
The data was analyzed for all the firms listed at the NSE except Financials whose debt structure is not clear as such firms only record their aggregate liabilities, making it difficult to determine leverage. The debt equity ratio was used to control for leverage in the study. In the analysis, financial institutions were excluded as their debt structure was not clear because all liabilities were aggregated. Eight firms were also excluded in which the director’s emoluments were aggregated with other staff costs. Uchumi remained delisted up to 2009 while Carbacid limited remained suspended in 2007. These were also excluded in the analysis. Safaricom limited was listed in 2008 and similarly it was left out. The data was analyzed using the statistical package for social sciences-version16.

Research hypothesis
The researcher was guided by the following hypothesis in order to achieve the research objective
Null hypothesis, $H_0: \beta_1=\beta_2=0$, there is no significant relationship between executive compensation and firm value.

Alternative hypothesis, $H_1: \beta_1\neq \beta_2\neq \beta_3\neq0$, there is a significant relationship between executive compensation and firm value. The hypothesis was tested at p-value of 0.05 which was used to test the significance of the beta coefficients to assess their importance as predictors in the model.
Checking the regression assumption of linearity
The assumption of linearity was tested using scatter plots of dependent and each independent variable which justified the use of linear regression as shown in appendix 2-4.

Checking the regression assumption of normality of the error term
The error term conformed to the regression assumption of normality as shown by the histogram in figure 1 below. The shape of the histogram follows the shape of the normal curve fairly well.

Figure 1: Histogram of the error term (Source: Analysis of research data-2012)

Checking Multicollinearity
Normal regression results indicated multi-co linearity problem where independent variables i.e. leverage and sales turnover were highly correlated. This was indicated by one Eigen value close to zero meaning that the predictors are highly correlated and that a small change in the data values may lead to large changes in estimated coefficients. This problem was also revealed through co linearity diagnostics by a high condition index of 42 far beyond the 15 mark considered benchmark. To fix the
multi-co linearity problem, the regression was re-run using the step-wise method of model selection.
4.3 Results and discussion

The results of this study are discussed in detail as shown here below;

Descriptive statistics

Table one below shows that the annual mean of firm value (Tobin’s q) for all the 24 listed firms studied for the five years was 1.25. This implies that on average the market has overvalued the firms by about 0.25 over and above the textbook benchmark of Tobin’s q for firms that are not under or overvalued. In the long run, competition would force the market value and replacement cost to be approximately equal i.e Tobin’s q is equal to one. The minimum firm value for the listed firms is 0.436 while the maximum is 3.706. The former indicates undervaluation of the firm by the market while the latter suggests overvaluation. If the Tobin’s q is less than one, meaning that market value is greater than one, new competitors would enter the market and lower the market value. The standard deviation of firm value indicate that the value of firms deviate by 0.689 from the mean value. The median firm value of 1.003 indicates that about half of the firms could be overvalued by the market.

The mean of sales turnover for the studied listed firms for the five year period was ksh 12,210,138,800. However given that the lowest annual sales turnover was ksh 263,078,000, this average value may have been influenced by outliers. The minimum and maximum annual sales turnover was ksh263,078,000 and ksh 105,590,360,000 respectively. The difference in performance in firms in terms of highest and lowest sales turnover was ksh105,327,282,000. This indicates that the listed firms are different in size. The deviation of sales from the mean was ksh 21,547,328,827. This deviation is huge given that minimum sales turnover was ksh 263,078,000. The median sales indicate that about half of the firms studied had sales turnover above ksh2,908,101,000.

The mean of executive compensation shows that the average annual pay to all the executives for the listed firms was ksh 32,255,798 for the study period. The deviation from the mean annual pay was ksh 29,874,707. This standard deviation was high given that the minimum annual pay to an executive for the period was ksh356,000. The minimum and maximum annual pay was ksh356,000 and ksh138,000,000.
respectively. The difference in these annual pay was ksh 137644000. The difference in pay could be attributed to the difference in firm and industry characteristics. Finally the annual median pay was ksh 21,855,000 meaning that about half of the executives of the studied listed firms earned an annual pay above this figure.

The mean of debt-equity ratio was 0.529 while the standard deviation was 0.6371. This indicates that the deviation of leverage from the mean was 0.529. The minimum and maximum debt-equity ratio was 0 and 4.0673. This shows that while one firm had no debt another firm had huge debt indicating high likelihood of plunging into bankruptcy and financial distress. The median leverage ratio was 0.3209 meaning that about half of the studied firms had debt-equity ratio above this figure. Firms below the median value could be facing relatively low bankruptcy and financial distress costs.

Table 1: Descriptive Statistics

This table analyzes the descriptive statistics which included the mean, standard deviation, minimum, median and maximum value for firm value, sales turnover, leverage and executive compensation. The statistics were computed for 120 firm-year observations.

<table>
<thead>
<tr>
<th>Firm Characteristics</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Median</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm value(TOBQ)</td>
<td>1.250</td>
<td>0.689</td>
<td>0.436</td>
<td>1.003</td>
<td>3.706</td>
</tr>
<tr>
<td>Sales turnover</td>
<td>12,210,138,800</td>
<td>21,547,328,827</td>
<td>263,078,000</td>
<td>2,908,101,000</td>
<td>105,590,360,000</td>
</tr>
<tr>
<td>Leverage (Debt-Equity ratio)</td>
<td>0.5290</td>
<td>0.6371</td>
<td>0.0000</td>
<td>0.3209</td>
<td>4.0673</td>
</tr>
<tr>
<td>Incentive variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executive Compensation</td>
<td>32,255,798</td>
<td>29,874,707</td>
<td>356,000</td>
<td>21,855,000</td>
<td>138,000,000</td>
</tr>
</tbody>
</table>

Source: Analysis of research data-2012

The Analysis of variance

In general, from table 2 below which shows the regression results corrected for multi-collinearity indicates that about 33% of the variation in firm value can be accounted for by the model (adjusted R² of 0.317). The ANOVA table also shows regression sum of squares of 18.541 out of total variation of 56.447 also pointing to the fact that
about 33% variation in the dependent variable is explained by the model. In addition, the significance value of the F-statistic is less than 0.05 which means that the variation in the dependent variable explained by the model is not by chance.

Table 2 Analysis of variance (ANOVA)

This table shows the analysis of variance which tries to illustrate the proportion of the total variance in the dependent variable that is explained by the regression model derived through stepwise regression. The table shows the regression sum of squares, residual and total sum of squares and the adjusted R². Displayed on the table also is the F statistic and its significance value. The symbol ** indicates the F statistic is significant at p<5%.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>18.541</td>
<td>28.615**</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>37.906</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>56.447</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adjusted R square 0.317

Source: Analysis of research data-2012

Regression Coefficients

The stepwise algorithm chose executive compensation and leverage as the predictors of firm value as shown in table 3 below. The significance value of executive compensation as a predictor is less than the p-value of 0.05 indicating that the variable is significant in predicting firm value. The β coefficient of executive compensation is positive indicating that there exist a significant positive relation between executive compensation and firm value.

Specifically, the results indicate that firm value as measured by the Tobin’s Q would increase by 0.096 for every one million increase in executive compensation. In fact from the standardized coefficients, executive compensation contributes more (0.416) to the model than leverage (-0.389).
The sample consists of all firms listed at the Nairobi securities exchange for the sample period for 120 firm-year observations. The table analyzes the regression results derived through the stepwise method of regression. The table shows the regression coefficients, t statistics and significance value of the t statistics. The key dependent variable is firm value. The symbol ** indicates the t statistic is significant at p<5%.

### Table 3: Firm value and executive compensation: Regression results

The dependent variable is Firm value (Tobin's q)

<table>
<thead>
<tr>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficients (Beta)</th>
<th>t statistic</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.163**</td>
<td>13.161</td>
<td>0.00</td>
</tr>
<tr>
<td>Execomp</td>
<td>0.0000000096**</td>
<td>0.416</td>
<td>5.488</td>
</tr>
<tr>
<td>Ln T</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DE</td>
<td>-0.421**</td>
<td>-0.389</td>
<td>5.137</td>
</tr>
</tbody>
</table>

Observations 120

Source: Analysis of research data-2012

These findings support agency theory assertions that the principal-agent problem can be mitigated through pay that is tied to performance. Through this mechanism, agency costs would also be minimized. These findings are also consistent with those in studies by (Habib & Ljungqvist, 2003; Morck, Shleifer & Vishny, 1988; and McConnell and Servaes, 1990)) who find a positive relation between executive compensation and firm value.

The significance value of leverage as a predictor is less than the p-value of 0.05 indicating that the variable is significant in predicting firm value. The β coefficient of debt-equity ratio is negative indicating that there exist a significant negative relation between leverage and firm value. In particular firm value as measured by the Tobin’s Q would decline by 0.42 for a unit increase in leverage. These findings seem to support the traditional theory of capital structure which proposes judicious use of debt to maximize firm value at a certain level of debt. The findings however seem to disapprove the Modigliani-Miller proposition 1, with taxes where firm value can be maximized at 100% debt.
The constant value shows that the value (Tobin’s q) of the firm would be 1.163. This indicates that even without leverage or pay to executives the value of the firm would be 1.167. This may mean that besides leverage and executive compensation, other factors also determine firm value.

**Variables excluded in the model due to multicollinearity**

Since the stepwise regression excluded sales turnover in the model due to multicollinearity as shown in table 4 below, the beta coefficient for sales turnover is not necessary here as a predictor of firm value. Table shows that in model 1 (normal regression) leverage and sales turnover were excluded due to multicollinearity problem but after correction of this problem through stepwise regression, model 2 excludes sales turn over. This means that the variables that will be in the model to predict firm value are executive compensation and debt-equity ratio (leverage).

**Table 4: Variables excluded in the model due to multicollinearity**

This table analyzes the Collinearity statistics. In model 1, the DE (leverage) and LNT (the natural logarithm of sales turn over) were excluded in the determination of variables significant to predict firm value. Tolerance is the percentage of the variance in a given predictor that cannot be explained by another predictor. The Collinearity statistics show tolerance, variance inflation factor (VIF) and minimum tolerance. When tolerances are close to zero there’s a high multicollinearity and the standard error of the coefficient will be inflated. A variance inflation factor of greater than two is usually considered problematic. The results of step wise regression indicate that the problem of multicollinearity was sorted in model 2.

<table>
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<th>Model</th>
<th>Beta</th>
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<th>Partial correlation</th>
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<td>1 DE</td>
<td>0.389a</td>
<td>5.14</td>
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<td>2 LNT</td>
<td>0.073b</td>
<td>0.79</td>
<td>0.434</td>
<td>-0.073</td>
<td>0.673</td>
<td>1.486</td>
<td>0.673</td>
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</table>

*Source: Analysis of research data-2012*
Overall, from the results of this study, the following regression model can be used to predict firm value:

\[ \text{TobQ} = 1.20 + 0.0000000096 \text{Execomp} - 0.42 \text{DER} \]

Where;

TobQ is the firm value, execomp is the total annual compensation for all executive and non-executive directors and DER is the debt-equity ratio for the listed company.
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the study
This study was motivated by corporate governance failure in Kenya as evidenced by increasing number of firms being placed under statutory management and total failure of others. In the light of these problems related to corporate governance, the study aimed at examining whether executive compensation help to mitigate the principal-agent problem through maximization of firm value for firms listed at the NSE in Kenya.

This study therefore investigated whether the principal-agent problem can be addressed through executive compensation to executives as suggested in agency theory. Conflicts of interest exist between Stockholders and Management, between Stockholders and bondholders and between Majority and Minority shareholders. The study focused on the relationship between executive compensation and firm value in the mitigation of these conflicts.

A thorough understanding of the relationship between pay (executive compensation) and firm performance was gained through a detailed review of previous studies that document the association between the two variables. A review of theoretical framework on the theories that explain about pay and firm value such as the agency theory and capital structure theories was done to gain a deeper understanding of these issues.

Data collected from the NSE and CMA on executive compensation and firm value was analyzed and the findings of the study indicated that there exist a positive and significant relation between executive compensation and firm value.

5.2 Conclusion of the study
Since the beta coefficient on executive compensation is positive and significant, from the study findings, it indicates that executive compensation is significantly related to firm value. The null hypothesis is rejected and I fail to reject the alternative hypothesis. Based on the study results, the significant positive coefficient on executive compensation suggests that executive compensation can be used to mitigate
the principal-agent problem between Stockholders and Management by tying pay and performance in Kenyan firms listed at the NSE.

Additionally, the results also support the view that to mitigate on agency conflict between minority and majority shareholders, the latter should vote members of the company board of directors diligently. This way majority shareholder would be exercising their duty of loyalty which prohibits the person bound by that duty from transfer of control to individuals known to be unreliable or corporate looters.

The significant negative coefficient on leverage points to the conclusion that to mitigate on the conflict of interest between Stockholders and bondholders, restrictive covenants are fundamental. These would force executives to use debt finance cautiously as lack of judicious use of debt can have serious ramifications on firm value.

Although Executive compensation is frequently under moral pressure in public discussions, the study findings show that the tentative conclusion is that high executive compensation is generally justified provided certain conditions are met: No fraud or breach of fiduciary duty must be involved. Also, the ethical rationale behind the market economy must be accepted. However, changes in rules regarding executive compensation can be ethically and economically desirable, such as greater disclosure of executive payment.

5.3 Policy recommendation
The results of this study have shown that executive compensation is significantly positively related to firm value. It is therefore imperative for executive compensation committees of listed firms to tie pay and performance as this can help to solve agency conflicts between principals and agents. Specifically executive pay can be tied to attaining a target firm value (Tobin’s q). This would incentivize managers to make the three corporate finance decisions of financing, investment and dividend decisions in a manner that seeks to maximize firm value.

5.4 Limitations of the study
The main shortcoming of the study was lack of all data on executive compensation for eight firms where directors’ emoluments were aggregated with other staff costs. These
firms were excluded from the analysis. Additionally financial companies were excluded in the analysis.

5.5 Recommendation for further research
The analysis of data in chapter four showed that the regression model accounts for about one third of the variation in firm value. Therefore future research on firm value can incorporate other factors that have effect on firm value besides executive compensation and leverage. A similar study may be repeated later that would include all the excluded firms and more control variables for firm and industry characteristics.
REFERENCES


APPENDICES

Appendix 1. Companies listed at the NSE

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Appendix 2: Graph of scatter plot of firm value against executive compensation

Figure 2: Scatter plot of firm value against executive compensation
(Source: Analysis of research data.)
Appendix 3: Scatter plot of firm value against leverage

Figure 3: Scatter plot of firm value against Leverage (Source: Analysis of research data)
Appendix 4: Scatter plot of firm value against sales turnover

Figure 4: Scatter plot of firm value against sales turnover (Source: Analysis of research data: 2012)