THE RELATIONSHIP BETWEEN DIVIDEND PAYOUT AND FINANCIAL PERFORMANCE OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

BONIFACE MUEMA MUTISYA

D61/60712/2013

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, UNIVERSITY OF NAIROBI

NOVEMBER 2014
DECLARATION

This research project is my original work and has not been submitted for examination in any other University.

Signature: ........................................ Date: .............................................

Boniface Muema Mutisya.
Reg. No: D61/60712/2013

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

Signature: ........................................ Date: .............................................

Mr. Herick Ondigo
Lecturer,
Department of Accounting and Finance,
School of Business,
University of Nairobi.
ACKNOWLEDGEMENTS

I thank God for giving me the wisdom and courage and for guiding me throughout my life.

Special thanks go to my supervisor Mr Herick Ondigo, for providing unlimited, invaluable and active guidance throughout the study. His immense command, positive criticism and knowledge of the subject matter enabled me to shape this research project to the product that it is now.

To my family; my parents for the immense support and encouragement even to pursue studies beyond masters’ level, my 2 sisters Linet Mueni and Catherine Ndinda and my brother Victor Muia for their support during the research period.

Finally, gratitude to my fellow colleagues at work and at the university.
DEDICATION

This work is dedicated to my family
### Table of Contents

DECLARATION ........................................................................................................................................... ii
ACKNOWLEDGEMENTS .......................................................................................................................... iii
DEDICATION ................................................................................................................................................ iv
LIST OF TABLES ......................................................................................................................................... vii
LIST OF ABBREVIATIONS ........................................................................................................................ viii
ABSTRACT .................................................................................................................................................... ix
CHAPTER ONE ........................................................................................................................................... 1
  1.1 Background of the Study ..................................................................................................................... 1
     1.1.1 Dividend Payout .......................................................................................................................... 2
     1.1.2 Financial Performance ................................................................................................................. 5
     1.1.3 Effect of Dividend Payout on Financial Performance ................................................................... 6
     1.1.4 Nairobi Securities Exchange ...................................................................................................... 8
  1.2 Research Problem .................................................................................................................................. 8
  1.3 Objective of the Study .......................................................................................................................... 10
  1.4 Value of the Study ................................................................................................................................ 10

CHAPTER TWO ........................................................................................................................................ 12
  2.1 Introduction .......................................................................................................................................... 12
  2.2 Theoretical Review .............................................................................................................................. 12
     2.2.1 Dividend Irrelevance Theory ...................................................................................................... 12
     2.2.2 Bird-in-the-Hand Theory ............................................................................................................ 13
     2.2.3 Information Signalling Theory .................................................................................................... 14
     2.2.4 Agency Theory ............................................................................................................................. 15
     2.2.5 Tax Preference Theory ................................................................................................................ 16
  2.3 Determinants of Financial Performance of Listed Companies .......................................................... 16
  2.4 Empirical Literature Review .............................................................................................................. 18
     2.4.1 International Studies ................................................................................................................... 18
     2.4.2 Local Studies .............................................................................................................................. 21
  2.5 Summary of Literature Review ......................................................................................................... 23
CHAPTER THREE .............................................................................................................. 24
RESEARCH METHODOLOGY .......................................................................................... 24
  3.1 Introduction ............................................................................................................... 24
  3.2 Research Design ...................................................................................................... 24
  3.3 Population ................................................................................................................ 24
  3.4 Data Collection ........................................................................................................ 25
  3.5 Data Analysis .......................................................................................................... 25
    3.5.1 Analytical Model .............................................................................................. 25
    3.5.2 Test of Significance ......................................................................................... 26
CHAPTER FOUR ............................................................................................................. 27
DATA ANALYSIS, RESULTS AND DISCUSSION .......................................................... 27
  4.1 Introduction ............................................................................................................... 27
  4.2 Descriptive Statistics ............................................................................................. 27
  4.3 Inferential Statistics ................................................................................................ 28
    4.3.1 Regression Analysis ....................................................................................... 28
    4.3.2 Correlation Analysis ...................................................................................... 31
    4.3.3 Analysis of Variance ..................................................................................... 31
  4.4 Interpretation of the Findings ................................................................................. 33
CHAPTER FIVE ................................................................................................................ 35
SUMMARY, CONCLUSION AND RECOMMENDATIONS ............................................ 35
  5.1 Introduction ............................................................................................................... 35
  5.2 Summary .................................................................................................................. 35
  5.3 Conclusion .............................................................................................................. 36
  5.4 Recommendations for Policy ................................................................................. 36
  5.5 Limitations of the Study ......................................................................................... 37
  5.6 Suggested Areas for Further Research ................................................................. 38
REFERENCES ............................................................................................................... 39
APPENDICES ................................................................................................................. 45
Appendix I: Listed Companies at the Nairobi Securities Exchange as at June 2014 .......... 45
Appendix II: Letter of Introduction ............................................................................. 47
Appendix III: SPSS output ........................................................................................... 48
LIST OF TABLES

Table 4.1: Descriptive Statistics for companies listed in NSE......................35
Table 4.2: Regression Model Results......................................................36
Table 4.3 Correlation Coefficients..........................................................38
Table 4.4 Analysis of Variance.................................................................39
# LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>CFO</td>
<td>Chief Financial officer</td>
</tr>
<tr>
<td>CMA</td>
<td>Capital Markets Authority</td>
</tr>
<tr>
<td>EPS</td>
<td>Earnings Per Share</td>
</tr>
<tr>
<td>EBIT</td>
<td>Earnings Before Interest and Tax</td>
</tr>
<tr>
<td>EVA</td>
<td>Economic Value Added</td>
</tr>
<tr>
<td>FOSA</td>
<td>Front Office Savings Account</td>
</tr>
<tr>
<td>IPO</td>
<td>Initial Public Offer</td>
</tr>
<tr>
<td>MM</td>
<td>Modigliani and Miller</td>
</tr>
<tr>
<td>NPV</td>
<td>Net Present Value</td>
</tr>
<tr>
<td>NSE</td>
<td>Nairobi Stock Exchange</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on Assets</td>
</tr>
<tr>
<td>ROI</td>
<td>Return on Investment</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on Equity</td>
</tr>
<tr>
<td>SACCO</td>
<td>Savings and Credit Cooperative Society</td>
</tr>
<tr>
<td>SDDs</td>
<td>Specially Designated Dividends</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
</tbody>
</table>
ABSTRACT

Dividend payout policy is a very important issue in the current business environment for listed companies. This is because dividend policy remains one of the most important financial policies not only from the viewpoint of the company, but also from that of the shareholders, the customers, employees, regulatory bodies and the Government. For a listed company, it is a pivotal policy around which other financial policies rotate. This study sought to determine the relationship between dividend payout and financial performance of firms listed in the Nairobi Securities Exchange. A regression analysis was performed to establish the relationship between dividend payout and firm performance using data derived from the financial statements of listed firms in the Nairobi Securities Exchange. The financial data used for the study covered the period between 2009 and 2013. The explanatory variables included dividend payout which was measured as the ratio of dividend per share dividend and earnings per share. Firm size was the logarithm of total assets of the listed firms. The firms’ leverage was measured as the ratio of total debt divided by the book value of assets of the companies. The findings indicated that dividend payout was a major factor affecting firm performance. The results also showed significant relationships between return on assets, dividend payout, firm’s size and leverage. Based on the findings, the study concluded that for listed firms in Nairobi Securities Exchange, size and leverage do influence the return on assets. The positive association of firm’s size and return on assets indicated that increasing the firm size is associated with an increase in financial performance. The study recommends constant percentage of earnings dividend payout as it creates certainty in the shareholders expectations. The study also recommends that policies and laws governing dividend payment should be strengthened and enforced to ensure compliance in payment by firms in order to increase their market values through share price increases.
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The issue of corporate dividends has a long history and as Frankfurter and Wood (1997) observed, is bound up with the development of the corporate firm itself. Corporate dividends date back at least to the early sixteenth century in Holland and Great Britain when the captains of sixteenth century sailing ships started selling financial claims to investors, which entitled them to share in the proceeds, if any, of the voyages. At the end of each voyage, the profits and the capital were distributed to investors, liquidating and ending the venture’s life to reduce the possibilities of fraudulent practice by captains (Baskin, 1989).

Another issue of modern corporate dividend policy to emerge early in the nineteenth century was that dividends came to be seen as an important form of information (Miller & Modigliani, 1961). The scarcity and unreliability of financial data often resulted in investors making their assessments of corporations through their dividend payments rather than reported earnings. Investors were often faced with inaccurate information about the performance of a firm, and used dividend policy as a way of gauging what management’s views about future performance might be. Consequently, an increase in dividend payments seemed to be reflected in rising stock prices. As corporations became aware of this phenomenon, it raised the possibility that managers of companies could use dividends to signal strong earnings prospects and/or to support a company’s share price because investors may read dividend announcements as a proxy for earnings growth.

Dividend payout poses a very important aspect in the current business environment. Dividend policy is the regulations and guidelines that a company uses to decide to make dividend payments or not to shareholders (Nissim & Ziv, 2001). The dividend policy decisions of firms are the primary element of corporate policy. Dividend, which is basically the benefit of shareholders in return for their risk and investment, is determined by different factors in an organization. These factors include financing
limitations, investment chances and choices, firm size, pressure from shareholders and regulatory regimes.

The structures of corporate dividend policies vary over time and across countries, especially between developed, developing and emerging capital markets. Glen et al. (1995) found that dividend policies in emerging markets differed from those in developed markets. They reported that dividend payout ratios in developing countries were only about two thirds of that of developed countries. Ramcharran (2001) also observed low dividend yields for emerging markets.

The dividend payout of a firm is not only the source of cash flow to the shareholders but it also offers information relating to firm’s current and future performance. A considerable number of papers, including Bhattacharya (1980), Lintner (1962), Miller and Rock (1985) suggest that firm’s dividend payout is designed to reveal the earnings prospects to investors.

Dividend payout affects the financial structure, the flow of funds, corporate liquidity, stock prices, and the morale of stockholders. Today, dividend policy in large has gone beyond scope of addressing the frequency of paying its shareholders a cash dividend or to retain earnings, to include such issues as whether to distribute cash via share repurchase bonus shares or through specially designated rather than regular dividends. Some stockholders prefer receiving maximum current returns on their investment, while others prefer reinvestment of earnings so that the company’s capital will increase. If earnings are paid out as dividends they cannot be used for company expansion which thereby diminishes the company’s long-term prospects (Van Horne, 2002). Companies tend to reinvest their earnings more when there are chances for profitable expansion. Thus, at times when profits are high, the amounts reinvested are greater and dividends are smaller. For similar reasons, reinvestment is likely to decrease when profits decline and dividends are likely to increase.

1.1.1 Dividend Payout

Dividend payout is considered to be one of the most important financial decisions that corporate managers encounter (Baker & Powell, 1999). The payment of dividends didn’t

Dividend decisions are important because they determine what funds flow to investors and what funds are retained by the firm for investment (Ross, Westerfield & Jaffe, 2002). More so, they provide information to stakeholders concerning the company’s performance. Firm investments determine future earnings and future potential dividends, and influence the cost of capital (Foong, Zakaria & Tan, 2007). Dividend policy remains one of the most important concepts in finance not only from the viewpoint of the company, but also from that of the shareholders, the consumers, employees, regulatory bodies and the Government. For a company, it is a pivotal policy around which other financial policies rotate (Alii, Khan & Ramirez, 1993). Dividend policy is hence considered to be one of the most important financial decisions that corporate managers encounter (Baker & Powell, 1999).

According to the pecking order theory, Myers and Maljluf (1984) and Fama (1974) argue that firms should prefer to finance investments through retained earnings rather than debt or external equity. Therefore, dividends compete with investments for internally generated funds (Alli & Khan, 1993). A higher income retention ratio will therefore imply a lower dividend payment ratio. Asset expansion by firms has a potential to influence dividend payments, therefore an inverse relationship between dividend payments and new investments is expected (Partington, 1989).

Dividend theories that have been put across by academicians view dividends as either relevant or irrelevant in making financial decisions. Miller and Modigliani theory (1961) proposes that in a capital market where there are no imperfections such as taxes, transaction costs, asymmetric information and agency costs, the dividend policy of a company is irrelevant for the market value of its shares. It therefore implies that financial managers cannot alter the value of their firms by changing their dividend policy. They showed that firm’s value is enhanced by investing in productive assets and not by the way in which income is distributed to shareholders (Stulz, 2000). Several researchers
have come up to oppose the theory developed by Miller and Modigliani stating that it does not apply in the real world where there are a lot of imperfections (Dhanani, 2005).

Dividend payout among most of companies in the world differ and such include cash dividends which consist of regular cash dividends, extra dividends, special dividends and liquidating dividends (Ross, Westerfield, & Jordan, 2011). Regular cash dividends are made to shareholders in the regular course of business mostly four times a year. An extra cash dividend indicates that the extra part may or may not be repeated in the future. A special dividend is viewed as a truly unusual or one-time event and it won’t be repeated. Liquidating dividend means that some or all of the business has been liquidated (Ross et.al, 2011). Many firms appear to pay out cash to investors because the opportunities to steal or mis-invest it are in part limited by law, and because minority shareholders have enough power to extract it (La Porta, et al., 2000).

Firms that pay high dividends without considering investment needs may therefore experience lower future earnings. There is thus a negative relationship between dividend payout and future earnings. Again an increase in dividends in a quarter may be the result of the management’s policy to keep investors satisfied and prevent them from selling the stock at times when future earnings are expected to decline or current losses are expected to continue. This is a case of rising dividends followed by declining earnings. On the other hand, an increase in dividends may be the result of good performance in previous periods which may continue into the future. This supports the view of a positive causal relationship between current dividends and future earnings (Farsio et al., 2004).

Stable dividend policy is whereby the investors get dividends in a consistent manner. It’s the payment of certain minimum amount of dividend regularly. Stable dividend may be established in three forms: a) Constant dividend per share where firms follow a policy of paying fixed dividends per share irrespective of the level of earning year after year. b) Constant payout ratio means payment of fixed percentage of net earnings as dividend every year. The amount of dividend in such a policy fluctuates in direct proportion to the earnings of the company. c) Stable rupee dividend plus extra dividend which is a policy of paying constant low dividend per share plus extra dividend in the years of high profits. (Ross et.al, 2011).
Dividend payout is also based on residual income. The residual dividend policy holds that dividends paid by firms are residual, after the firm has retained cash for all available and desirable positive NPV projects. The gist of this theory is that dividend payment is useless as a proxy in determining the future market value of the firm. As such, the firm should never forego desirable investment projects to pay dividends. Investors who subscribe to this theory therefore do not care whether firms pay dividends or not, what they are concerned with is the prospect of higher future cashflows which might lead to capital appreciation of their stocks and higher dividends payouts.

1.1.2 Financial Performance

Financial performance is a subjective measure of the accountability of an entity for the results of its policies, operations and activities quantified for an identified period in financial terms (Van Horne et al., 2008). It can be measured through various financial measures such as profit after tax, financial ratios, return on assets (ROA), return on equity (ROE), return on investment (ROI), earnings per share (EPS) and any market value ratio that is generally accepted.

Profit after tax has been widely used as measures of firm’s performance and it’s the most widely used. Financial performance of firms is usually expressed as a function of internal and external determinants. The internal determinants originate from books of accounts (balance sheets and/or profit and loss accounts) and therefore could be termed as industry-specific determinants of performance. The external determinants are variables that are not related to firm’s management but reflect the economic and legal environment that affects the operation and performance of firms. A number of explanatory variables have been proposed for both categories, according to the nature and purpose of each study (Alam et al, 2011).

ROA measures profitability for all contributors of capital; it’s the ability of a firm’s management to generate income by utilizing company assets at their disposal (Bodie, Kane & Marcus, 2011). It further indicates the efficiency of the management of a company in generating net income from all the resources of the firm. A higher ROA
shows that the company is more efficient in using its resources. It’s often used as an overall index of profitability, and the higher the value, the more profitable the firm.

The ROE measures the rate of return on the owner’s equity employed in the firm business. It indicates the rate of return that the management has earned on the capital provided by shareholders after accounting for payments to all other capital suppliers (Brown & Reilly, 2009). A high ROE often reflects the firm’s acceptance of strong investment opportunities and effective expense management. It is useful to consider the ROE in relation to ROA to determine if the firm is making a profitable return on their borrowed money. Financial ratios are an index that relates two accounting numbers and is obtained by dividing one number by the other (Van Horne & Wachowicz, 2008).

1.1.3 Effect of Dividend Payout on Financial Performance

Dividend payout involves the determination and the proportion of a firm’s total distributable earnings that is payable to shareholders (Adesola & Okwong, 2009). Mizuno (2007) supports the fact that a firm ought to pay dividends to shareholders if it cannot identify suitable investments which would bring higher returns than those expected by the shareholders. Dividends are important to shareholders and potential investors in showing the earnings that a company is generating. Healthy dividend payout thus indicate that companies are generating real earnings rather than cooking books (Barron, 2002).

In a study that examined whether dividend policy influences firm’s performance in the Ghana Stock Exchange, Amidu (2007) found out that dividend policy affects firm performance especially the profitability measured by the return on assets. The results showed a positive and significant relationship between return on assets, growth in sales and dividend policy. This showed that when a firm has a policy to pay dividends, its profitability is influenced. The results also showed a statistically significant relationship between profitability and dividend payout ratio.

Various scholars have had conflicting views about dividend policy and payout. Miller and Modigliani (1961) demonstrated that under certain assumptions about perfect capital markets, dividend policy would be irrelevant. They argued that dividend policy has no
effect on either the price of firm’s share or cost of capital but by its business risk - the value of the firm depends only on the income produced by its assets, not on how this income is split between dividends and retained earnings. Gordon (1963), Lintner (1962) and Walter (1963) propose that cash dividends now are worth more than capital gains to be received in future (a bird in hand is worth more than 2 in the bush). Brigham and Houston (2004) assert that investors are interested in the income after tax. Dividends have higher tax rates than capital gains and thus investors prefer capital gains to cash dividends due to the tax effect.

Dividend payout can reduce agency problems between managers and shareholders and, in turn, enhance the firm’s value to shareholders (Dhanani 2005). Dividends are a way to solve agency problems where managers can use excess free cash flows to pursue their own interests. By paying dividends to shareholders, free cash flows are reduced and thus managers have no opportunity to make suboptimal investments (Bartram et al., 2009 & DeAngelo et al., 2006). A firm’s value and performance is therefore enhanced through higher returns from optimal investments. Dividend payments may force firms to raise funds externally for new investments, which in turn increases the level of external monitoring of corporate activities by the capital market regulator (Jiraporn et al. 2011). There is thus improved corporate governance which has a positive effect in the firm’s performance. Paying large dividends reduces risk and influences share price (Gordon, 1963) and is proxy for the future earnings (Baskin, 1989). The rate of return effect is that a firm with low payout and low dividend yield may tend to be valued more in terms of future investment opportunities (Gordon, 1963).

Lie (2005) argues that firms that increase payouts have excess financial flexibility and exhibit positive concurrent income shocks and decreases in income volatility, but there is limited evidence of subsequent performance improvements. His study revealed that firms that increase payouts have lower past volatility of operating income than other firms. The volatility decreases even further. This can be explained by the fact that managers increase the firm’s payout when they believe that the probability of sustaining the current level of income is high. Firms that decrease dividends on the other hand, have higher past volatility than other firms, and this volatility is on the rise.
1.1.4 Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) has sixty one listed companies. In 2001, NSE was restructured to give rise to three market segments namely; the Main Investments Market Segment (MIMS), the Alternative Investment Markets Segment (AIMS) and the Fixed Income Securities Market Segment (FISMS). The NSE classifies listed companies into ten sectors; Agricultural, Commercial and Services, Telecommunication and Technology, Automobiles and Accessories, Banking, Insurance, Investment, Manufacturing and Allied, Construction and Allied and Energy and Petroleum (www.nse.co.ke).

Among the requirements for companies that want to be listed in the NSE must fulfil, is that they should have a clear future dividend policy (Kenya Gazette Legal Notice No 60 May, 2002). This makes dividend policy worthy of serious management attention. The NSE provides an avenue where members of public can participate in buying and selling of shares, bonds and other stocks/securities either from the primary market through an IPO or from the secondary market. In return the owners of the shares get a dividend based on the dividend policy of the particular company. Investors can also benefit from capital gains if they decide to sell their shares to a third party.

1.2 Research Problem

Dividend payout and policy remains one of the most controversial and unresolved issue in corporate finance. For a long time now, financial scholars have engaged in modelling and examining corporate dividend policy. Black (1976) noted that, “The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that don’t fit together”. In over thirty years since then a vast amount of literature has been produced examining dividend policy. Frankfurter et al. (2002) just as Black and Scholes (1974) described it as a “puzzle”, and since then an enormous amount of research has occurred trying to solve the dividend puzzle and hence is one of the most challenging topics of modern financial economics. Research into dividend policy has shown not only that a general theory of dividend policy remains elusive, but also that corporate dividend practice varies over time, among firms and across countries.
Management are in a dilemma about whether to pay a large, small or zero percentage of their earnings as dividends or to retain them for future investments. This has come about as a result of the need for management to satisfy the various needs of shareholders. For instance, shareholders who need money now for profitable investment opportunities would like to receive high dividends now. On the other hand, shareholders who would like to invest in the future will prefer dividends to be retained by the company and be reinvested. In Kenya dividends are subject to 5% rate of withholding tax whereas capital gains on shares listed on NSE are exempt from tax. This makes capital gains on shares lowly taxed thus some shareholders prefer low dividends to high dividends in order to take the benefits accruing on capital gains.

Various studies by Arnott and Asness (2003), Farsio et al (2004), Nissim and Ziv (2001), Amidu (2007), Murekefu (2012), Nkobe, Simiyu and Limo (2013) have been done; however, dividend policy remains an unresolved issue in corporate finance. Most of these studies utilised secondary data only. Several theories have been proposed to explain the relevance of dividend payout and whether it affects a firm’s financial performance, but there has not been a universal agreement (Stulz, 2000, DeAngelo, 2006) hence the necessity for this study.

Amidu (2007) examined whether dividend policy influenced firm’s performance in Ghana. The analyses were performed using data derived from the financial statements of listed firms on the Ghana Stock Exchange for an eight-year period. Ordinary Least Squares model was used to estimate the regression equation. The results showed positive relationships between ROA, dividend policy, and growth in sales. The results also revealed negative associations between return on assets and dividend payout ratio, and leverage. Howatt (2009) also concluded that positive changes in dividends are associated with positive future changes in earnings per share. In contrast, Lie (2005) argues that there is limited evidence that dividend paying firms experience subsequent performance improvements.

Many research studies on dividend payout have been done in developed countries hence there is a need to further discover on the dividend payout and signalling effect of listed companies in developing countries. There has been minimal studies on how dividend policy decisions affect firm’s financial performance and how firm’s management reacted
to such and hence the need for study in Kenya to advance contribution in this growing body of literature. In Kenya, few empirical studies have been done to establish the relationship between dividend payout and firm performance. This study therefore sought to fill the void by establishing whether there was a relationship between dividend payout and firm performance among listed companies in Kenya. This study therefore intend to address the following research question: What is the relationship between dividend payout and the financial performance of firms listed at the NSE?

1.3 Objective of the Study

To establish the relationship between dividend payout and financial performance of firms listed at the Nairobi Securities Exchange.

1.4 Value of the Study

This study will add more knowledge on the concept of dividend policy and payout and give more empirical findings on the relationship between dividend payout and performance of listed firms. This will provide more literally material which will be of value to scholars, students and researchers. This study can also be used as a basis of further research and also in academics in the area of dividend policy in developing nations.

Corporate managers especially of listed companies can use the findings of this study in making decisions about how to pay, when to pay dividends, how much dividends to pay and who to pay those dividends. This is important to them since it forms an integral part of corporate finance and will also affect firm value. Investors can also use this study to help them interpret announcements of dividend payment and changes thereto. It would thus enable them make more informed decisions on investments they will make or their performance. It will help them to determine worthy investments through the firm’s value determined by the dividend policy.

Dividend policy is an important area of study for academicians since it forms a basis for other theories of finance such as asset pricing, capital structure and capital budgeting. It will therefore facilitate a deeper understanding of corporate dividend policy and hence
help academicians develop more advanced financial models. Academicians will find the findings of this research useful in forming a basis for further research or extending their studies.

Lenders and creditors will also find the findings of this research useful since they will be able to evaluate the creditworthiness of a company through its performance influenced by the dividend policy.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The review of literature in this section covers theoretical framework and empirical studies that have been carried out in the area of dividends.

2.2 Theoretical Review

A theory consists of a coherent set of general propositions that offer an explanation of some phenomena by describing the way other things correspond to this phenomenon. A theory is a formal, testable explanation of some events that includes explanations of how things relate to one another.

Several theories have been put across to explain dividend policy. These are: Dividend Irrelevance and relevance theory, Bird in hand theory, Information content/signalling theory, Agency theory, clientele theory, and tax preference theory.

2.2.1 Dividend Irrelevance Theory

Miller and Modigliani (1961) irrelevance theory forms the foundational bedrock of modern corporate finance theory. MM argued that dividend policy is irrelevant for the cost of capital and the value of the firms in a world without taxes or transaction cost. They showed that when investors can create any income pattern by selling and buying shares, the expected return required to induce them to hold firm’s shares will be invariant to the way the firm packages its dividend payments and new issues of shares. Since the firm’s assets, investments opportunities, expected future net cash flows and cost of capital are not affected by the choices of dividend policy, its market value is unaffected by any change in the firm’s payout pattern. Thus, dividend policy is irrelevant and firm can choose any payout pattern without affecting their value. MM theory implies that dividend payout will fluctuate as a by-product of the firm’s investments and financing decisions. This will not exhibit a systematic pattern over time. Miller and Modigliani
(1961) argued that the firm’s value is determined only by its basic earning power and its business risk.

MM based their argument upon idealistic assumptions of a perfect capital market and rational investors. The assumptions of a perfect capital market necessary for the dividend irrelevance hypothesis can be summarized as follows: (1) no differences between taxes on dividends and capital gains; (2) no transaction and flotation costs incurred when securities are traded; (3) all market participants have free and equal access to the same information (symmetrical and costless information); (4) no conflicts of interests between managers and security holders (i.e. no agency problem); and (5) all participants in the market are price takers. Given the importance of MM’s argument in the dividend policy debate provides their proof of irrelevancy.

2.2.2 Bird-in-the-Hand Theory

The "Bird in Hand" theory of Gordon and Lintner (1962) argues that outside shareholders prefer a higher dividend payout. They prefer a dividend today to a highly uncertain capital gain from a questionable future investment. A number of studies demonstrate that this mode fails if it is posited in a complete and perfect market with investors who behave according to notions of rational behaviour (Miller & Modigliani, 1961; Bhattacharya, 1979).

Bird in hand theory proposes that a relationship exists between firm value and dividend payout. It states that dividends are less risky than capital gains since they are more certain. Increasing dividend payments, ceteris paribus, may then be associated with increases in firm’s value. As a higher current dividend reduces uncertainty about future cash flows, a high payout ratio will reduce the cost of capital: Lintner (1962), Gordon (1963) Investors would therefore prefer dividends to capital gains (Amidu, 2007). Because dividends are supposedly less risky than capital gains, firms should set a high dividend payout ratio and offer a high dividend yield to maximize stock price.
2.2.3 Information Signalling Theory

Miller and Modigliani (1961) assumed that managers and outside investors have free, equal and instantaneous access to the same information regarding a firm’s prospects and performance. According to the signalling hypothesis, investors can infer information about a firm’s future earnings through the signal coming from dividend announcements, both in terms of the stability of, and changes in, dividends. However, for this hypothesis to hold, managers should firstly possess private information about a firm’s prospects, and have incentives to convey this information to the market. A signal should be true; a firm with poor future prospects should not be able to mimic and send false signals to the market by increasing dividend payments. Thus the market must be able to rely on the signal to differentiate among firms. If these conditions are fulfilled, the market should react favourably to the announcements of dividend increase and unfavourably otherwise.

It has been empirically established that when dividends are increased or initiated, prices of the associated common stocks tend to go up, and when dividends are cut or omitted, prices fall (Akhigbe, Borde & Madura, 1993; Omran & Pointon, 2003 and Egu, 2009). Lintner (1956) argued that firms tend to increase dividends when managers believe that earnings have permanently increased. This suggests that dividend increases imply long-run sustainable earnings. Many theorists contend that the rise in the stock price following a dividend increase conveys positive information, that is, managers use dividends to signal their views of future earnings prospects. The idea that changes in dividends have information content about the future earnings of the firm remains the received wisdom in corporate finance (Baskin, 1989; Ball et al., 1979; Bhattacharya, 1979).

The role of changes in dividends as information signalling devices was further stressed by Brickley (1983), who examined stock returns and dividend and earnings patterns surrounding specially designated dividends (SDDs) and compared them to those surrounding regular dividend increases. Brickley suggested that both SDDs and regular dividend increases appear to convey positive information about future dividends and earnings beyond the current period.
2.2.4 Agency Theory

Jensen and Meckling (1976) in their theory noted that one of the agency costs problem that may be influenced by dividend policy is the potential conflict between shareholders and bondholders. Shareholders are considered as the agents of bondholders’ funds. In this case, excess dividend payments to shareholders may be taken as shareholders expropriating wealth from bondholders. Shareholders have limited liability and they can access the company’s cash flow before bondholders; consequently, bondholders prefer to put constraints on dividend payments to secure their claims.

MM’s assumption of a perfect capital market is that there are no conflicts of interests between managers and shareholders. In practice, however, this assumption is questionable where the owners of the firm are distinct from its management. In these cases managers are always imperfect agents of shareholders (principals). Shareholders therefore incur (agency) costs associated with monitoring managers’ behaviour, and these agency costs are an implicit cost resulting from the potential conflict of interest among shareholders and corporate managers. The payment of dividends might serve to align the interests and mitigate the agency problems between managers and shareholders, by reducing the discretionary funds available to managers (Rozeff, 1982, Easterbrook, 1984, Jensen, 1986 & Alli, Khan & Ramirez, 1993).

Jensen (1986) contended that firms with excess (free) cash flow give managers more flexibility for using the funds in a way that benefit themselves but not shareholders’ best interests, dividend payments can thus be useful for the shareholders in order to control the over investment problem and preventing managers from undertaking negative NPV projects. Easterbrook (1984) argues that dividends reduce the over investment problem because the payment of dividends increases the frequency with which firms have to go to equity markets in order to raise additional capital. In the process of attracting new equity, firms subject themselves to the monitoring and disciplining of these markets.

Managers may not always adopt a dividend policy that is value-maximizing for shareholders but would choose a dividend policy that maximizes their own private benefits. Making dividend payment which reduces the free cash flows available to the
managers would thus ensure that managers maximize shareholders’ wealth rather than using the funds for their private benefits (DeAngelo et al., 2006).

### 2.2.5 Tax Preference Theory

Litzenberger and Ramaswamy (1979) in their Tax Preference theory argued that investors want companies to retain earnings and thus provide returns in the form of lower-taxed capital gains rather than heavily taxed dividends. In other words, low dividend payout ratio lowers the required rate of return and increases the market value of the firm’s shares.

Farrar and Selwyn (1967) assume that investors maximize after tax income. In a partial equilibrium framework, investors have two choices. Individuals choose the amount of personal and corporate distributions as dividends or capital gains. They reasoned that if the effective marginal capital gains tax paid by shareholders is less than the marginal rate of tax that would be paid on income from dividends then a shareholder is better off with zero dividends.

Brennan (1970) on the other hand extends Farrar and Selwyn’s results by considering how the prices of stocks might be affected by different dividend policies. He assumed that the market prices of stocks would adjust in such a way that the after tax rate of return received by holders of a company’s stock would be the same no matter what dividend policy the company adopts. In Brennan’s model, buyers and sellers of the stock would require the same after tax return from the stock even if the company adopts a different dividend policy. This means that if a firm adopts a high dividend payout policy, and if shareholders have to pay higher taxes as a result, the firm’s stock will have a lower price in order to maintain the same after tax rate of return that shareholders require.

### 2.3 Determinants of Financial Performance of Listed Companies

Performance of firms is of vital importance for investors and stakeholders because better performing business bring high and long-term returns for their investors. Several studies have been conducted to determine various financial and non-financial factors that can boost or have an adverse effect on the performance of firm. But still no single effective model has been established which captures maximum variation (Mirza & Javed, 2013).
Economic conditions of the country can affect a firm’s performance on multiple fronts. Cost of borrowings can negatively influence the firm's capability to generate finances and invest in projects (Ntim, 2009). Prices of utilities, high costs associated with plant and machinery due to either deterioration of currency or import costs, high inflation rate and low income level of people can decrease the demand for industrial goods and hence negatively impact the firm's performance (Forbes, 2002). Good corporate governance practices enhance the performance of the firm (Chugh et al., 2009). Corporate governance practices are the structures and behaviors that guide how a business entity sets its objectives, develops strategies and plans, monitors and reports its performance, and manage its risk (Reddy, 2010).

A firm requires finances so as to undertake its daily activities. These finances can either be generated internally (retained earnings) or hired from outside sources (loans and bonds). The decision of selection of the source of finance is based on the cost associated with them and the capital structure of firm. Capital structure is an important factor that determines the performance of a firm. Capital structure refers to the ratio of debt and equity financing. In case if more debt financing the company has to face certain bankruptcy risk, but there are also some tax and monitoring benefits associated with debt financing (Su and Vo, 2010). It also mitigates the agency conflict by reducing the free cash flow of the firm. There should be an appropriate capital structure that generates the maximum profit for the organization, as too less equity financing increases the control of the owners to a large extent (Abu-Rub, 2012).

Certain firm characteristics are associated with high performance of firm. These include size (Love & Rachinsky, 2007), growth rate, dividends, liquidity (Gurbuz et al., 2010) and sales (Forbes, 2002). The size of the company can have a positive effect on financial performance because larger firms can use this advantage to get some financial benefits in business relations. Large companies have easier access to the most important factors of production, including human resources. Also, large organizations often get cheaper funding.
Risk management of a firm may also impact its performance. Risky firms tend to attract only risk taking investors. The relationship of risk and returns has to be managed so that the investors do get the return associated and expected with the risk they are bearing.

2.4 Empirical Literature Review
This section covers various empirical studies that have been carried out in the area of dividend policy and payout. The section discusses both international and local studies separately.

2.4.1 International Studies
Black and Scholes (1976) used a long-term definition of dividend yield (previous year’s dividends divided by the year-end share price). Their results showed that the dividend yield coefficient was not significantly different from zero either for the entire period (1936-1966) or for any of shorter sub periods. That is to say, the expected return either on high or low yield stocks was the same. They concluded that they were unable to show that differences in yield led to differences in stock prices.

Building on Black and Scholes’ work, Ball et al. (1979) examined the effect of dividends on firm’s value using Australian data over the period 1960 to 1969. Ball et al., however, failed to find conclusive evidence to support MM’s irrelevance proposition. Baker, Farrelly and Edelman (1985) surveyed the chief financial officers (CFOs) of 562 firms listed on the New York Stock Exchange (NYSE) from three industry groups (150 utilities, 309 manufacturing, and 103 wholesale/retail). Based on 318 responses, they found that respondents strongly agreed that dividend policy affected common stock prices. Baker and Powell (1999) surveyed 603 CFOs of US firms listed on the NYSE, and observed that 90 percent of respondents believed that dividend policy affected a firm’s value as well as its cost of capital.

Richardson, Sefcik and Thompson (1986) tested a sample of 192 US firms that initiated dividends for the first time during the period of 1969 through 1982. They attempted to investigate whether the observed (post-dividend-initiations) increase in firms’ stocks trading volume is due to the signalling effect or was a product of investors in various tax
clienteles adjusting their portfolios. They found that the increased trading volume associated with dividend policy changes was mainly related to the information contained in the dividend announcement, and only a small part was related to clientele adjustment. Richardson et al. concluded that “...the evidence supporting the existence of clientele trading is somewhat weak”

DeAngelo et al. (1996) studied the signalling content of managers’ dividend decisions for 145 NYSE firms whose annual earnings declined after nine or more consecutive years of growth. They found virtually no support for the notion that dividend decisions help identify firms with superior future earnings. They concluded that dividends do not possess any reliable informative signals.

Arnott & Asness (2003) noted the positive relationship between dividend payout and growth in future earnings is that managers are reluctant to cut dividends. A high payout ratio indicates management’s confidence in the stability and growth of future earnings and a low payout ratio suggests that management is not confident of the stability of earnings or sustainability of earnings growth. Managers therefore pay low dividends to avoid dividend cuts when earnings drop.

Oskar et al. (2007) sought to explore the determinants of the dividend policy in Poland and to test whether corporate governance practices determined the dividend policy in the non-financial companies listed on Warsaw Stock Exchange between the period 1998-2004. Quantitative measures were used to determine the quality of the corporate governance for 110 non-financial listed companies. The results suggested that dividends may signal the severity of conflicts between controlling owners and minority shareholders. Those dividends in Poland had less of a signalling role than in the developed capital markets.

In a study to examine whether dividend policy influenced a firm’s performance in Ghana listed companies, Amidu (2007) used ordinary Least Squares model to estimate the regression equation. He found out that dividend policy affected firm’s performance especially the profitability measured by the return on assets. The results showed a positive and significant relationship between return on assets, growth in sales and dividend policy. This showed that when a firm had a policy to pay dividends, its
profitability was influenced. The results also revealed that bigger firms on the Ghana Securities Exchange performed less with respect to return on assets and also revealed negative associations between return on assets and dividend payout ratio and leverage.

Baba (2008) conducted a research to analyze the effect on Chinese firm’s dividend payout due to increase in foreign investor presence. Data was collected from 847 listed firms on Tokyo stock exchange using the consolidated financial statements of selected companies registered on Tokyo stock exchange. Dependent variable was dividend paid while independent variables were foreign investor control, profit, company volume expansion velocity of total property and market to book proportion. Data was analyzed using Random-effects binary profit method. Outcome showed a positive relationship among dividend payment and foreign possession as there was significantly higher probability of dividend payouts with higher level of foreign ownership.

Fidrmuc and Jacob (2009) conducted a research to explain the reasons for the discrimination in the dividend payment strategies all over the world. Data was collected from 5797 firms in 41 countries using standard & Poor’s Capital IQ directory. Dependent variable was dividend to income proportion and autonomous variables were individualism, power distance, uncertainty avoidance, size, return on assets, leverage, mandatory dividend, sales growth, share repurchases, corporate debt ratios, ownership structure, dividend to sales ratio, anti-director rights, anti-self-dealing index and tax advantage. Data was analyzed using regression model. Results showed that high distinctiveness, low power detachment and low insecurity evasion had noteworthy association with superior dividend payments. Culture also was a vital function in the decision of the dividend policy as it is a social aspect.

A study by Akbar and Baig (2010) on a sample of 79 companies listed at Karachi Stock Exchange for the period of 2004 to 2007 revealed that announcement of dividends either cash dividend or stock dividend or both had positive effect on stock prices. Share price is a key determinant of the value of the firm. If dividends are the key indicators of share price and the share price the key indicator of firm value, it is imperative that to maximize shareholders’ wealth, shareholders should be afforded the highest combination of dividends and increase in the share price.
Agyei and Yiadom (2011) examined the relationship between dividend policy and performance of banks in Ghana. The study used panel data constructed from the financial statements of 16 commercial banks in Ghana for a period of 5 years, from 1999-2003. The financial statements were obtained from the Banking Supervision department of Bank of Ghana. STATA was used for the data analysis. The study found out that dividend policy had an effect on firm’s value and that banks that paid dividends increased their performance.

Uwalomwa, Jimoh and Anijesushola (2012) investigated the relationship between the financial performance and dividend payout among a sample of 50 listed firms in Nigeria for the period 2006-2010. Variables used were ownership structure, size of firms and the dividend payouts. The study found out that there was a significant positive association between the performance of firms and the dividend payout of the sampled firms in Nigeria. Additionally it revealed that ownership structure and firm’s size has a significant impact of the dividend payout of firms as well.

2.4.2 Local Studies

Mulwa (2006) examined whether the signalling efficiency of dividend changed the future profitability of quoted companies at the NSE. The sample consisted of 48 companies listed at the NSE and covered a period of 5 years (1998 - 2002). Secondary data was obtained from NSE, Stockbrokers, Kenya National Bureau of Statistics (KNBS) and Capital Market Authority (CMA). Comparison of actual dividend changes in relation to the earnings of the firm and also regression analysis was employed. From the comparison, it was established that at least in the year of dividend payment a relationship existed. However, for the first and second year after, though a relationship existed, it was very insignificant.

Malombe (2011) in a study to establish the effects of dividend policy on profitability of SACCOs with FOSAs in Kenya used a descriptive research design focusing on 30 SACCOs. Secondary data was collected using the financial statements of the SACCOs sampled for the last five years. Regression model was used to establish the causal relationship between two variables, that is, a dependent (Dividend decisions) and an
independent variable (profitability). The study found out that the facets of dividend policy (dividend yield and dividend payout) affect the profitability of SACCOs. They either influenced it positively or negatively. The study also found out that the coefficient of SACCOs dividend yield varied from positive to negative. The study found out that the companies dividend payout varied in value although it was positive in most cases except for 2009. The study concluded that there is a positive relationship between dividend policy and the profitability of SACCOs with FOSAs in Kenya.

Mutie (2011) in a study to determine the relationship between prior dividends and financial performance of firms listed at the NSE sampled a total of 34 companies. The variables in the study were the firms’ financial performance (earnings per share) and the prior period dividends (dividend per share). The study relied on secondary data collected from the companies’ websites. The data was analyzed using the applications of Statistical Package for Social Scientists (SPSS) and then presented in the form of tables and graphs. The results of the study revealed that majority of firms enjoyed a better financial performance as indicated by their EPS after issuing dividends. As such, a relationship indeed existed between prior period dividend payments and financial performance of a firm.

Murekefu (2012) in a study to establish the relationship between dividend payout and firm’s performance among listed firms at the NSE used multiple regression analysis to establish the relationship. The period of study was a 9 year between 2002 and 2010. The findings indicated a strong and positive relationship in that dividend payout was a major factor affecting firm’s performance.

Nkobe, Simiyu and Limo (2013) in a study to determine the impact of dividend policy on share price volatility in Kenya used data from actively trading companies listed in the NSE for a period of 10 years, 1999-2008. They estimation used multiple regression analysis between dividend measures (dividend payout ratio and dividend yield) and share price volatility. Regression analysis showed dividends as a major determinant of share price volatility, thus the higher the payout ratio the less the share price volatility, and the higher the dividend yield the lower the share price volatility
2.5 Summary of Literature Review

The literature on dividend policy has produced a large body of theoretical and empirical research, especially following the publication of the dividend irrelevance hypothesis of Miller and Modigliani (1961). No general consensus has yet emerged after several decades of investigation, and scholars can often disagree even about the same empirical evidence. In perfect capital markets, MM asserted that the value of a firm is independent of its dividend policy. However, various market imperfections exist (taxes, transaction costs, information asymmetry, agency problems, etc) and these market imperfections have provided the basis for the development of various theories of dividend policy as discussed.

Many research studies on dividend payout have been done in developed countries hence there is a need to further discover on the dividend payout and signalling effect of listed companies in developing countries. There is need to identify which variable, owner or manager influences the dividend decision more. Dividend payout affects firm’s performance and that this relationship is strong and positive. It therefore shows that dividend policy is relevant and therefore affects the performance of a firm hence its value contrary to theories that view dividend policy as irrelevant. Although numerous studies have examined various issues of dividend policy, they have produced mixed and inconclusive results. Perhaps the famous statement of Fisher Black about dividend policy "the harder we look at the dividends picture, the more it seems like a puzzle, with pieces that just do not fit together" (Black, 1976) is still valid.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was used to carry out the study. The chapter considers in detail the methods that were used to collect secondary data required in the study. In this chapter, the researcher discusses the research design and population size used. The researcher also discusses how collected data will be analyzed giving details of any models or programmes that were used in analysis with reasons as to why these particular models or programmes were applied.

3.2 Research Design

Research design refers to the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in the procedure (Babbie, 2002).

A descriptive survey design was utilized in this study. Sekaran and Bougie (2011) asserts that a descriptive study is undertaken in order to ascertain and be able to describe the characteristics of the variables of interest in a situation while outlining their variability. This design refers to a set of methods and procedures that describe variables. It involved gathering data that describe events and then organizes, tabulates, depicts, and describes the data.

3.3 Population

Mugenda and Mugenda (2003) describe a population to an entire group of individuals, events or objects having a common observable characteristic. The study was a census survey of the 61 firms listed at the Nairobi Securities Exchange based on the availability of information. Companies suspended from the Nairobi Securities Exchange were also studied since they had the relevant data.
3.4 Data Collection
Secondary source of data collection was used in the study. The research gathered secondary data for a period of 5 years, 2009-2013 from the financial statements of listed firms available from the CMA website and respective companies annual reports most of which were publicly available.

3.5 Data Analysis
Multiple regression analysis was used in this case to determine the relationship between dividend payout and firm’s performance. The information gathered from secondary sources was sorted, coded and input into the statistical package for social sciences (SPSSv20) for production of descriptive statistics and inferential statistics. The information generated by the SPSS was used to make generalizations and conclusions of the study.

3.5.1 Analytical Model
The multiple regression model is as laid below. Included in the study were also control variables that affected the performance of the firm not captured by the dividend payout.

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \]

Where;

\( Y \) = Financial performance measured by ROA – ratio of pre-tax profits to total assets
\( X_1 \) = Dividend Payout ratio – Dividend per share/ Earnings per share.
\( X_2 \) = Firm’s Size - The Log of total assets for a firm
\( X_3 \) = Leverage – ratio of total debt to total capital of a firm
\( \alpha \) = the constant term
\( \beta_i \) = coefficient used to measure the sensitivity of the dependent variable to unit change in the predictor variables.
$\varepsilon$ is the error term to capture unexplained variations in the model and which is assumed to be normally distributed with mean zero and constant variance.

### 3.5.2 Test of Significance

Statistical indicators used were the F-test and t-test level of significance. The significance of each independent variable was tested. F-test was used to test the significance of the overall model at a 5 percent confidence level. The p-value for the F-statistic was applied in determining the robustness of the model. Independent variables with a p value of less than 5% were declared to have a significant effect on financial performance.
CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction
This chapter presents the findings and analysis of data. The study was done for 50 companies listed in Nairobi Securities Exchange. The data for analysis was drawn from the financial statements for a five year period, 2009 to 2013.

4.2 Descriptive Statistics
Descriptive statistics are indices that describe a given sample (Mugenda, 2003). This section presents an analysis that helps describe and summarize the data collected in a meaningful way allowing for simpler interpretation. Descriptive statistics provides simple summaries about the sample and about the observations that have been made. Descriptive statistics used in the analysis were mean, standard deviation and median.

Table 4.1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Maximum</th>
<th>Median</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>0.2118</td>
<td>0.3688</td>
<td>0.6987</td>
<td>0.0884</td>
<td>-2.8330</td>
</tr>
<tr>
<td>FIRM’s SIZE</td>
<td>15.8567</td>
<td>0.9456</td>
<td>18.3431</td>
<td>12.4566</td>
<td>14.1339</td>
</tr>
<tr>
<td>DIV.PAYOUT</td>
<td>0.6394</td>
<td>0.4461</td>
<td>1.0000</td>
<td>1.0000</td>
<td>0</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>0.6229</td>
<td>0.6123</td>
<td>7.8494</td>
<td>0.5443</td>
<td>0.0004</td>
</tr>
</tbody>
</table>

Source: Research Findings
The data presented on table 4.1 provides a summary of the descriptive statistics of the dependent and independent variables. The Independent variables include dividend payout was measured as the ratio of dividend per share dividend and earnings per share. Firm size was the logarithm of total assets of the listed firms. The firm’s leverage was measured as the ratio of total debt divided by the book value of assets of the companies. The mean Return on Assets (measured by firm pre-tax profit divided by total assets) of sampled firms was 0.2118, the median was 0.0884. The mean of dividend payout ratio was 63.94%. This means that on average more than 63.94% of the sampled firms listed on NSE have a policy to pay dividend with the average dividend payout ratio (measured as Dividend Per Share/ Earnings Per Share) being 37.21% and a median of 33.88%. This means, on the average, firms pay about 37% of their profits as dividends with the 63% of the earnings retained for future growth needs of the firm. The firm’s size, determined as the natural logarithm of total assets had a mean of 15.8567 and a median of 12.4566. Leverage, measured by total debt divided by total capital had a mean of 0.6229 and median of 0.5443.

4.3 Inferential Statistics

Inferential statistics in this study allowed use of sampled data to make generalizations about the population. Used to draw inferences about a given phenomenon in the population from randomly selected sample (Mugenda, 2003)

4.3.1 Regression Analysis

Regression analysis in this study was done to estimate the relationships among the different variables. The results show the relationship between the dependent variable and the independent variables and explain how the values of the dependent variable changed when one independent variable was varied with other independent variables held constant.
Table 4.2: Regression Model Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std.Error</th>
<th>t-statistics</th>
<th>P-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.093977</td>
<td>0.058221</td>
<td>1.798443</td>
<td>0.0943</td>
</tr>
<tr>
<td>Dividend Payout</td>
<td>0.465239</td>
<td>0.074195</td>
<td>5.841775</td>
<td>0.0000</td>
</tr>
<tr>
<td>Firm Size</td>
<td>4.89126</td>
<td>4.79815</td>
<td>2.301732</td>
<td>0.0001</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.007999</td>
<td>0.038758</td>
<td>-0.678883</td>
<td>0.5796</td>
</tr>
</tbody>
</table>

R-Squared  | 0.641514    | Mean dependant var. | 0.384826 |
Adjusted R-squared | 0.879794 | S.D dependent var. | 0.421128 |
S.E of regression | 0.314478 | Sum squared resid. | 7.314823 |
Probability(F- Statistic) | 0.000000 | F-statistic | 8.954332 |
Durbin-Watson stat | 1.983739   |

Source: Research Findings

Table 4.2 presents the regression results showing the relationship between the dependent variable (financial performance measured by ROA) and independent variables (Dividend Payout, Firm’s Size and leverage). The R-squared of 0.879794 indicates that about 87.9794% of the changes in the dependent variable (ROA) is explained by the changes in the independent variables (Dividend Payout, Firm Size and Leverage). The D.W statistic of 1.983739 indicates the absence of auto – correlation since the value is almost close to 2. Using the T- ratio to test for their statistical significant, the findings revealed that Dividend Payout and Firm Size variables are statistically significant. This is due to the fact that their observed T- values are positive and more than the ‘rule of thumb’ of 2 that is 5.84177 and 2.301732 respectively. Leverage was not statistically significant because its observed t-value was -0.678883 less than the rule of thumb of 2. The results show a positive and significant relationship between ROA and dividend payout. The significance and the positive coefficient of the regressor, dividend payout indicate that when a firm pays dividends, it positively influence its level of financial performance.

The established linear regression equation becomes:

\[ Y = 0.093977 + 0.465339X_1 + 4.89126X_2 + 0.007999X_3 + 0.0388 \]
The regression equation has a constant which equals to 0.093977; this implies that if Dividend Payout, Firm Size, and leverage are all rated as zero, the financial Performance of the companies listed in Nairobi Securities Exchange would be 0.093977.

The regression model obtained revealed that Dividend Payout was a significant factor that affected firm performance as indicated by the regression equation. The P value for dividends paid was 0% depicting that it was highly significant as shown in Table 4.2. This means that if the dividend payout increased by 1 unit, then Performance (ROA) would increase by 0.465239 units.

Firm’s size was also a significant factor that affected firm performance as shown by a P value of 0%. This shows that if the firm size increased by 1 unit, the firm performance (ROA) would increase the firm size by 4.89126 units. And Finally, Leverage was found to be insignificant factor that affected firm performance (ROA) as shown by a P value of 0.5796%. The coefficient obtained from the regression analysis was 0.007999 indicating that if leverage increased in by 1 unit, firm performance (ROA) would increase by 0.007999 units.

Table 4.2 also shows how some of the other firm level characteristics affect firm’s profitability on the Nairobi Securities Exchange. The study selected dividend payout, firm’s size and leverage. The results show that the coefficient of firm size and leverage are positive and statistically significant for the panel data estimations. The results suggest that for listed firms on Nairobi Securities Exchange, size and leverage do influence their return on assets. The positive association of firm’s size and return on assets indicates that, increasing the firm size is associated with an increase in financial performance. Firm size was found to have statistically significant positive associations with performance measured by ROA. This is indicative of the fact that, increasing the sizes of firms listed in the NSE has prospects of generating more returns for the shareholders as a growth in a firm’s size can be used as proxy for the firm’s future prospects and investment opportunities. The findings are consistent with the findings of Amidu (2007) that found that dividend policy affects firm performance especially the profitability measured by the return on assets.
4.3.2 Correlation Analysis

Correlation analysis employed in this study sought to determine the strength of the relationship between variables. The study identified variables which had a strong or weak relationship with each other.

Table 4.3: Correlation Coefficients

<table>
<thead>
<tr>
<th>Correlations</th>
<th>ROA</th>
<th>PAYOUT</th>
<th>FIRM SIZE</th>
<th>LEVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1.00**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAYOUT</td>
<td>.753**</td>
<td>1.00*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIRM SIZE</td>
<td>.776**</td>
<td>.363**</td>
<td>1.00**</td>
<td></td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>.695**</td>
<td>.639**</td>
<td>.267**</td>
<td>1.00**</td>
</tr>
</tbody>
</table>

** Source: Research Findings

** Significance at p < 0.001 level (2 tailed)  *Significance at p < 0.05 level (2 tailed)

The correlation analysis produced shows that Dividend Payout was positively correlated with return on assets as shown by 0.753 implying that an increase in dividend payout contributes to an increase in the Return on Assets. Dividend Payout and Leverage were positively correlated as shown with 0.639. ROA was also positively correlated with firm size as shown by 0.776. The findings also indicate positive correlation between leverage and firm size with a value of 0.267. The findings imply that the independent variables (Div payout, Firm Size, and Leverage) and the dependant variable (Return on Assets) all had a positive relationship.

4.3.3 Analysis of Variance

The study used ANOVA, a statistical method used to analyze and test the differences between and among group means. ANOVA provides a statistical test of whether or not the means of several groups are equal, and therefore generalizes the t-test to more than two groups (Mugenda, 2003).
Table 4.4 Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.635a</td>
<td>.641514</td>
<td>.879794</td>
<td>.0388</td>
</tr>
</tbody>
</table>

Source: Research Findings

Analysis in tables 4.4 and 4.5 shows that the coefficient of determination, R² (the percentage variation in the dependent variable being explained by the changes in the independent variables), equals 0.642 that is, Dividend Payout, Firm Size and Leverage leaving only 35.8 percent to unexplained variables not covered by the model. That is the three independent variables account for 64.2% (R Square, 0.641514) of the variations in the dependent variable, ROA.

Table 4.5 ANOVA Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>93.144</td>
<td>4</td>
<td>23.286</td>
<td>8.954332</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>53.739</td>
<td>40</td>
<td>.292</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>146.883</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Findings

Significance level: p < 0.001;

Overall model: F = 8.954332; p < 0.001; R² = 0.641514; Adjusted R² = 0.879794
The study conducted ANOVA to determine whether the model works. ANOVA findings (P-value of 0.001) in the table 4.5 above show that there is correlation between the predictor variables (Div Payout, Firm Size and Leverage) and dependent variable (ROA). The F value of 8.954332 at significance level of 0.001 calculated represents the variance between the groups, divided by the variance within the groups. A large F ratio indicates that there is more variability between the groups (caused by the independent variables) than there is within each group, referred to as the error term.

### 4.4 Interpretation of the Findings

The objective of this study was to establish the relationship between dividend payout and the financial performance of firms listed at the NSE. Descriptive statistics showed that dividend payout ratio (measured as Dividend Per Share/ Earnings Per Share) had a mean of 37.21% and a median of 33.88%. This means that on the average, firms pay about 37% of their profits as dividends with the 63% of the earnings retained for future growth needs of the firm. The firm’s size, determined as the natural logarithm of total assets had a mean of 15.8567 and a median of 12.4566. Leverage, measured by total debt divided by total capital had a mean of 0.6229 and median of 0.5443 meaning that on average 62.29% of firms studied financed their operations with debt and remaining 37.71% with equity.

Regression analysis with a Constant of 0.093977 shows that if Dividend Payout, Firm Size and Leverage were all rated zero, the performance of the firms listed in the NSE would be 0.093977. Dividend Payout, \( X_1 = 0.465239 \), shows that one unit change in dividend payout results in 0.465239 units increase in the performance of firms listed in NSE. Firm’s size, \( X_2 = 4.89126 \), shows that one unit change in firm Size results in 4.89126 units increase in the performance of firms listed in the NSE. Leverage, \( X_3 = 0.007999 \), shows that one unit change in firm leverage results in 0.007999 units increase in the performance of firms listed in the NSE.

The findings of the correlation coefficient results imply that the independent variables (Div payout, Firm Size, and Leverage) and the dependant variable (Return on Assets) all had a positive relationship. Coefficient of determination results show that the three
independent variables, dividend policy, firm size and leverage account for 64.2% (R Square, 0.641514) of the variations in the dependent variable, ROA.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction
This chapter presents summary of findings of the data analysis in chapter four and interpretations of the data analysis, conclusion and recommendations based on the findings.

5.2 Summary
The study sought to investigate relationship between dividend payout and the financial performance of firms listed in Kenya’s Nairobi Securities Exchange. In order to achieve the objectives of the study, data was obtained from 2009-2013 financial years of fifty companies quoted on the Nairobi Securities Exchange. From the data obtained, various variables were extracted and computed to enable adequate analysis to be carried out. From the result of the analysis, it was discovered that the dividend payout of the listed companies had a significant positive relationship with the firm’s financial performance measured by ROA.

The results show a positive and significant relationship between return on assets and dividend payout. The significance and the positive coefficient of the variable dividend payout indicate that when a listed firm has a policy to pay dividend it influences its level of financial performance as measured by ROA. This is in line with the information content of dividend or signaling theory by Bhattacharya (1979), John and William (1985) and Miller and Rock (1985). This finding is consistent with empirical evidence (Gordon, 1961, 1962; Ross, et al 2002; Easterbrook, 1984) that dividend policy affects a firm’s share price. Dividend payout in the model was to assess whether if a firm’s policy was to pay dividend and eventually paid dividends affected its return on assets. The results indicate a statistically significant and positive relationship between financial performance and dividend payout. The positive coefficient could mean that if a firm retains dividend it increases its retained earnings which affects a firm’s internally generated financing.
5.3 Conclusion

The findings of the study revealed a significant positive relationship between dividend payout of the companies listed in the Nairobi Securities Exchange and financial performance. The results showed a positive and significant relationship between the dependant variable, financial performance (ROA) and the independent variables (dividend payout, Leverage and Firm Size). This showed that a listed firm’s dividend policy influence their levels of financial performance. Similarly, a study by Howatt et al. (2009) also concluded that positive changes in dividends are associated with positive future changes in mean real earnings per share.

It can also be concluded that larger companies tends to pay more dividend due to the fact that larger firms have easier access to external financing and rely less on internal capital. Also firm size tend to have a significant positive impact on firms dividend payout ratio since larger firms have better access to the capital markets and also can easily raise funds at lower a costs.

Most firms tends to pay more dividends to reduce agency costs since they tend to face high agency costs as a result of dispersion of ownership and the inability of shareholders to monitor firm activity closely. A large dividend payout increases the need for external financing, which, in turn, leads to the increased monitoring of large firms by creditors and other key stakeholders.

Based on the findings of the study, it can therefore be concluded that dividend payout of companies listed in the Nairobi Securities Exchange influences the financial performance of the listed companies.

5.4 Recommendations for Policy

Based on the findings of the study, the following recommendations were made;

The companies listed in the Nairobi Securities Exchange should ensure that they have a good and robust dividend policy in place that can enhance their level of profitability and also attract investments.
The study recommends that policies and laws governing dividend payment should be strengthened and enforced to ensure a more frequent payment by firms in order to increase their market values through share price increases. Since profitability drives dividend and dividends influence the share prices of the listed firms, managers may use dividend payments to convey information on the competitiveness of their firms. For fiscal purposes, Government should monitor firms closely to declare their proper profits which form the bases of their tax obligation to the state so as to prevent them from channeling the greater proportion into higher dividend payments to shareholders as a way of tax evasion.

Managers can exploit other forms of dividends payout other than cash dividends such as bonus issue and stock splits. This will enable shareholders to at least receive another form of dividend when there are no cashflows to pay as cash dividends. Managers should consider profitability, pattern of past dividends, financial leverage, investment opportunities, legal rules, growth stage and capital structure in these decisions if they are to achieve an optimal dividend policy.

Capital Markets Authority should formulate policies that can help manage unclaimed dividends and also ensure that situations that give rise to such cases are minimized. The directors of the listed companies should therefore be made to update the records of shareholders including their next-of-kin to avoid a deliberate diversion or undue retention of unclaimed dividends.

More stringent conditions should be established by the Capital Markets Authority (CMA) to compel directors to invest only in profitable ventures, report the utilization of retention earnings through notes to the accounts.

5.5 Limitations of the Study

The study had certain limitations which included: The inability to obtain and analyze data from all the listed firms in Nairobi Securities Exchange and therefore the research had to use data from only fifty listed firms. Since the study was purely based on a sample of firms listed in the Nairobi Securities Exchange, the results of the study cannot be generalized to other companies that were not studied or those that are listed in other
security markets in the world. Furthermore, data representing the period of 5 years were used for the study and therefore the findings cannot be generalized to other periods due to other factors such as political instability, economic depression and inflation that usually occur at different periods of time affecting the financial performance of listed firms.

5.6 Suggested Areas for Further Research

It would be of interest if future research focuses on how the profitability and dividend policy of listed firms are affected by changes in tax policy, legal rules, financial leverage, pattern of past dividends, opportunities, capital structure and growth stage. Future research can also investigate the relationship between financial performance of listed firms and factors such as tax position of shareholders, ownership structure, shareholder’s expectations, industry practice growth stage capital structure and access to capital markets.

Similar studies should be carried out in for other companies not listed in the Nairobi Securities Exchange to determine if the findings of the research can be generalized. Again other forms of dividend can also be considered to establish their effect on firm performance, for example, the relationship between bonus issue and firm performance.

Similar studies should be carried out but now considering other financial performance measures such as return on equity (ROE) or profitability ratios as the dependent variables and including other control variables not covered in here. This will enable analyze and determine any variations if any. Again similar studies can be carried out but utilising data from a longer period, say 10 years.
REFERENCES


http://en.wikipedia.org/wiki/Nairobi_Securities_Exchange


APPENDICES

Appendix I: Listed Companies at the Nairobi Securities Exchange as at June 2014

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agricultural</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Eaagads Limited</td>
</tr>
<tr>
<td>2</td>
<td>Kakuzi Limited</td>
</tr>
<tr>
<td>3</td>
<td>Kapchorua Tea Company Limited</td>
</tr>
<tr>
<td>4</td>
<td>Limuru Tea Company Limited</td>
</tr>
<tr>
<td>5</td>
<td>Rea Vipingo Sisal Estate</td>
</tr>
<tr>
<td>6</td>
<td>Sasini Tea and Coffee</td>
</tr>
<tr>
<td>7</td>
<td>Williamson Tea Kenya Limited</td>
</tr>
<tr>
<td><strong>Automobiles and Accessories</strong></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Car &amp; General Kenya</td>
</tr>
<tr>
<td>9</td>
<td>CMC Holdings</td>
</tr>
<tr>
<td>10</td>
<td>Marshalls East Africa</td>
</tr>
<tr>
<td>11</td>
<td>Sameer Africa Limited</td>
</tr>
<tr>
<td><strong>Banking</strong></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Barclays Bank (Kenya)</td>
</tr>
<tr>
<td>13</td>
<td>CFC Stanbic Holdings</td>
</tr>
<tr>
<td>14</td>
<td>Diamond Trust Bank Group</td>
</tr>
<tr>
<td>15</td>
<td>Equity Bank Group</td>
</tr>
<tr>
<td>16</td>
<td>Housing Finance Company of Kenya</td>
</tr>
<tr>
<td>17</td>
<td>I&amp;M Holdings Limited</td>
</tr>
<tr>
<td>18</td>
<td>Kenya Commercial Bank Group</td>
</tr>
<tr>
<td>19</td>
<td>National Bank of Kenya</td>
</tr>
<tr>
<td>20</td>
<td>National Industrial Credit Bank(NIC)</td>
</tr>
<tr>
<td>21</td>
<td>Standard Chartered Kenya</td>
</tr>
<tr>
<td>22</td>
<td>Cooperative Bank of Kenya</td>
</tr>
<tr>
<td><strong>Commercial and Services</strong></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Express Kenya Limited</td>
</tr>
<tr>
<td>24</td>
<td>Hutchings Biemer Limited</td>
</tr>
<tr>
<td>25</td>
<td>Kenya Airways</td>
</tr>
<tr>
<td>26</td>
<td>Longhorn Kenya Limited</td>
</tr>
<tr>
<td>27</td>
<td>Nation Media Group</td>
</tr>
<tr>
<td>28</td>
<td>Scangroup</td>
</tr>
<tr>
<td>29</td>
<td>Standard Group Limited</td>
</tr>
<tr>
<td>30</td>
<td>TPS Serena</td>
</tr>
<tr>
<td>31</td>
<td>Uchumi Supermarkets</td>
</tr>
<tr>
<td><strong>Construction and Allied</strong></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Athi River Mining Limited</td>
</tr>
<tr>
<td>33</td>
<td>Bamburi Cement Limited</td>
</tr>
<tr>
<td>34</td>
<td>Crown-Berger (Kenya)</td>
</tr>
<tr>
<td>35</td>
<td>East African Cables Limited</td>
</tr>
<tr>
<td>36</td>
<td>East African Portland Cement Company</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Energy and Petroleum</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
</tr>
<tr>
<td>38</td>
</tr>
<tr>
<td>39</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Insurance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
</tr>
<tr>
<td>43</td>
</tr>
<tr>
<td>44</td>
</tr>
<tr>
<td>45</td>
</tr>
<tr>
<td>46</td>
</tr>
<tr>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Investment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
</tr>
<tr>
<td>49</td>
</tr>
<tr>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Manufacturing and Allied</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
</tr>
<tr>
<td>52</td>
</tr>
<tr>
<td>53</td>
</tr>
<tr>
<td>54</td>
</tr>
<tr>
<td>55</td>
</tr>
<tr>
<td>56</td>
</tr>
<tr>
<td>57</td>
</tr>
<tr>
<td>58</td>
</tr>
<tr>
<td>59</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Telecommunication and Technology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Growth Enterprise Market Segment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>61</td>
</tr>
</tbody>
</table>

**Source:** Nairobi Securities Exchange as at June 2014
Appendix II: Letter of Introduction

Boniface Muema Mutisya
University of Nairobi
Reg No. D61/60712/2013
August, 2014

Dear Respondent,

RE: REQUEST FOR FINANCIAL INFORMATION

I am a Master of Business Administration (MBA) Student at the University of Nairobi. As a partial requirement of the coursework assessment, I am required to submit a research project. My research topic is: The Relationship between dividend payout and the financial performance of firms listed at the Nairobi Securities Exchange.

I would highly appreciate if you could kindly allow me to use your audited financial statements for the last five years (2009-2013) to establish this causal relationship.

The results of the report will be used solely for academic purposes and will be treated with utmost confidence.

Thank you in advance.

Yours faithfully,

Boniface Muema
0722 344621
## Appendix III: SPSS output

```
GET FILE='F:\NSE DATA.sav'.
REGRESSION /MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT ROA
/METHOD=ENTER VAR00002 VAR00004 VAR00006.
```

### Regression

<table>
<thead>
<tr>
<th>Notes</th>
<th>03-Oct-2014 12:41:44</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output Created</strong></td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td>Data</td>
<td>F:\NSE DATA.sav</td>
</tr>
<tr>
<td>Active Dataset</td>
<td>DataSet1</td>
</tr>
<tr>
<td>Filter</td>
<td>&lt;none&gt;</td>
</tr>
<tr>
<td>Weight</td>
<td>&lt;none&gt;</td>
</tr>
<tr>
<td>Split File</td>
<td>&lt;none&gt;</td>
</tr>
<tr>
<td>N of Rows in Working Data File</td>
<td>34</td>
</tr>
<tr>
<td><strong>Missing Value Handling</strong></td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td>Definition of Missing</td>
<td>User-defined missing values are treated as missing.</td>
</tr>
<tr>
<td>Cases Used</td>
<td>Statistics are based on cases with no missing values for any variable used.</td>
</tr>
<tr>
<td><strong>Syntax</strong></td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td>REGRESSION</td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td>/STATISTICS COEFF OUTS R ANOVA</td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td>/CRITERIA=PIN(.05) POUT(.10)</td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td>/DEPENDENT ROA</td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td>/METHOD=ENTER VAR00002 VAR00004 VAR00006.</td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td><strong>Resources</strong></td>
<td>03-Oct-2014 12:41:44</td>
</tr>
<tr>
<td>Processor Time</td>
<td>0:00:00.016</td>
</tr>
<tr>
<td>Elapsed Time</td>
<td>0:00:00.079</td>
</tr>
<tr>
<td>Memory Required</td>
<td>2908 bytes</td>
</tr>
<tr>
<td>Additional Memory Required for Residual Plots</td>
<td>0 bytes</td>
</tr>
</tbody>
</table>