THE EFFECTS OF MACROECONOMIC VARIABLES ON THE DIVIDEND PAYOUT OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

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D61/73241/2009

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

OCTOBER 2013

DECLARATION

STUDENT'S DECLARATION

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

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SUPERVISOR'S DECLARATION

This research project has been submitted with my approval as University supervisor.

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ACKNOWLEDGEMENT

I wish to thank the Almighty God for granting me the gift of knowledge, perseverance, good health and courage throughout the period.

Consequently this work could not have been complete without the support and contributions of the following individuals whom I now acknowledge.

My sincere gratitude to my Supervisor Mr. Mirie Mwangi for his encouragement and dedicated guidance throughout the entire project.

My parents Mr. and Mrs. Mundati for their numerous sacrifices in helping me acquire, realize and recognize the value and importance of education.

My Fiancé Karanja thank you for the love, support and encouragement throughout the entire course may God Bless you for your kind heart.

My brother Thuo and my sister Nyambura thank you for your encouragement and advice throughout my entire course.

DEDICATION

I dedicate this paper to my dad for helping me understand the value of hard work and my mum for believing in my capabilities. My Fiance Karanja who offered unconditional love, sacrifice and support during the entire course of MBA especially during the project period.

Glory and Honour I give back to the Almighty God, my rock and redeemer.

ABSTRACT

Explaining factors that influence dividend payout has been one of the most difficult challenges facing financial economists. Various have been conducted to determine factors that influence dividend payout and concluded that profitability, liquidity, size and earned to contributed equity mix positively influence dividend payout. The study sought to understand and test the relationship between dividend payout of firms listed at the Nairobi Securities Exchange and macroeconomic variables that included; inflation, exchange rates, money supply, interest rates. The objective of this study was to identify the effects of these macroeconomic variables and their influence the dividend payout and to estimate relationship between them. Annual data for the period 2002 to 2012 were used. The study used secondary data of dividend payout and macroeconomic variables from the NSE and Central bank of Kenya on dividend payout rates, inflation rates, interest rates, exchange rates and money supply. The data was analyzed using a regression on the dividend paid out as the dependent variable against independent variables which were inflation rates, interest rates, exchange rates and money supply. The study has established that dividend payout has a significant relationship with the selected macro economic variables.

The study concluded that macro economic variables are very significant in determination of dividend payout by firms listed at the Nairobi securities Exchange Inflation rates have a significant positive relationship with dividend payout interest rates had very little impact on the dividend payout while exchange rates had a negative effect on the dividend payouts. Money supply had a positive effect on the dividend payouts although relatively mild. The study further recommends that policy makers should review the impact of macroeconomic variables on the NSE development. It further recommended that surveys be conducted to establish if investors make investment decision based on dividend payout.

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ABBREVIATIONS AND ACRONYMS

APT	Arbitrage Pricing Model
FX	Foreign Exchange
GNP	Gross National Product
GSE	Ghana Stock Exchange
INF	Inflation
IR	Interest Rate
KES	Kenya Shilling
MS	Money Supply
NSE	Nairobi Securities Exchange
PVM	Present Value Model
USD	United States Dollar
CPI	Consumer Price Index

CHAPTER ONE
INTRODUCTION

1.1 Background

The principle behind every investor in the capital market is to advance capital to firms for an agreeable return taking into consideration of the risk of their investment. The retained earnings can be used to stimulate growth in future earnings and as a result can influence future share values while dividend provides shareholders with tangible current returns. According to Black (1976) there exist no information on the fraction of earnings which should be distributed to the shareholder and should they be distributed in form of cash dividends or stock dividend and should a firm maintain a steady dividend growth rate.

Dividend policy determines how earnings of a company are distributed. Earnings are either retained and reinvested in the company or paid out to shareholder. Dividends have an effect on stock prices and company's future growth. Explaining dividend policy has been the most difficult challenge facing financial economists. Black (1976) stated that the harder we look into the dividend picture, the more it seems like a puzzle, with pieces that do not fit together.

There has been an increase in the number of theoretical and empirical researches on dividend policy (e.g. Litner, 1956; Gordon, 1959; Miller and Modigliani, 1961; Zhou and Ruland, 2006) but a consensus has not been reached on the topic. Most of the researchers unanimously agree on the issue that dividend policy is very important in the corporate industry. Dividend policy is a very important aspect in the corporate industry since it's a mechanism for signaling financial information to outsiders regarding the performance and growth prospect of the firm.

1.1.1 Macroeconomic Variables

The capital market operates in an economic environment with both micro and macroeconomic variables. The macroeconomic variables are beyond the firms control and they may affect the firms operation. The characteristics that describe a macro economy are referred to as the key macroeconomic variables which are used to analyze the macroeconomic environment and describe the state of the macro economy. Macroeconomic variables are associated with aggregate indicators that influence the overall economic environment in which organizations operate and they include Gross Domestic Product (GDP) and GDP Growth rates, consumer price indices and inflation, savings and investment, monetary and fiscal policies, foreign investments, international trade and international finance (Kaimba, 2010).

The macroeconomic environment considered for the study is along the line suggested by Oxeilhelm and Wihlborg (1987) as a set of price variables; Exchange rate (FX), Interest rate (I), Inflation (INF) and Money supply (MS) which are measures of economic activity. Economic survey of Kenya (2002) describes inflation as the sustained rise in money prices generally. The consumer Price Index (CPI) is the main estimator of the rate of inflation. It is a macroeconomic indicator for general economic and social analysis and is a tool used in wage and tax negotiation and indexation. Exchange rate also known as foreign exchange rate specifies how much on a currency is worth in terms of the other. It is the value of a foreign nation's currency in terms of the home nation's currency. When foreigners invest in Kenya, they bring foreign currency which is converted into local currency using the prevailing exchange rates.

1.1.2 Dividend Policy

The issue of dividend policy is very important for several reasons. One of the key reasons is the information content of dividend as dividend is used a s a mechanism for financial signaling to outsiders regarding the stability and growth prospects of the firm (Ross 1977). Secondly, dividend plays an important role in capital structure hence the issue of dividend decision and investment decision. According to residue dividend theory a firm will pay dividend only if it does not have profitable investment opportunities.

The question, why firms pay dividends and whether there should be a corporate dividend policy are the centre of inquiry of modern finance since the proposition of bird in hand theory by Gordon and Shapiro (1956). Where investors prefer expected dividend rather than expected capital gains. Other dividend theories such as tax preference and clientele effects assert that differential in tax rates between dividends and capital gains leads to differential clienteles preferences on dividends (Miller and Scholes ,1978). The agency theory claims that dividends help to reduce the agency costs associated with separation of ownership and control (Rozeff 1992).

Fama and French 2001 were concerned with the disappearing dividends and it referred to the firms characteristics of lower propensity to pay dividends.

Several studies have been conducted to determine factors influencing dividend policies among companies. According to Lintner (1956), profitability level of a firm is the primary indicator that a firm is capable of issuing dividend for that particular year. The firm's current and previous year's profit are an important factor in influencing the dividend policy dividends are a function of current and past profit levels and the future earnings.

Growth opportunities of a firm determine the dividend payout ratio of a firm. Rapidly growing firms have a substantial need for funds to finance the abundance attractive investment opportunity instead of paying large amount dividend and stand a chance of issuing new shares for investment capital. Higher dividend payout ratios tend to have low growth rates. Dividend payout ratio is dependent on transactions of external financing, financial constrains created by the financial leverage and the agency cost of outside ownership (Rozeff, 1992).

Fama and French (2000) concluded that big firms are large profitable and pay high dividend to their shareholder than small firms. Young firms prefer to retain all internal resources and do not pay dividends. A firm with a higher leverage has higher dependency on external finances. The smaller percentage of the company is held by outsiders, the higher the company's dividend payout. Small firms have no ease access to additional capital hence they retain a higher proportion of their earnings for growth opportunities,

1.1.3 Effect of Macroeconomic Variables on Dividend Policy

Researches in the developed markets show that the stock markets are closely interrelated to be influenced and also influence by other factors in the economy. The stock market promotes economic growth by providing an avenue of pool large and long term capital issuing shares and stocks and other equities for industrial in dire need of finance to expand their business. Thus the overall development of the economy is a function of how well the stock market performs with empirical evidence proving that development of the capital market is essential for economic growth, Asaolu and Ogunmuyiwa (2010) as cited in Ochieng and Adhiambo (2012).

The arbitrage pricing theory stated that the expected returns of a financial asset can be modeled as a linear function of various macroeconomic factors or theoretical indices (Ross, 1976). APT stated that the expected returns of a financial asset can be modeled as a linear function of various macroeconomic factors or theoretical indices (Ross, 1976). Macro-economic variables (inflation, Gross National Product, interest rates and Foreign exchange rates) are significance in explaining security returns (Chen, Roll and Ross, 1986). Since macroeconomic forces influence the expected dividends and the discount rates, it is concluded that stock returns are systematically affected by macro economic variables.

Basse and Reddemann (2011) study on the inflation and dividend policy of US Firms pointed that maybe the neglecting of macroeconomic variables as the important reason why empirical tests often fail to support theories of dividend determination. He stable long run relationship between dividend payments and real economic activity and price level.

1.1.4 Nairobi Securities Exchange

In Kenya, trading of shares started in 1920 under the British colony. In 1954 the Nairobi Stock Exchange was then constituted as a voluntary association of stockbrokers registered under the Societies Act. The Nairobi Stock Exchange marked the first day of automated trading in government bonds through the Automated Trading System (ATS) in November 2009. The automated trading in government bonds marked a significant step in the efforts by the NSE and CBK towards creating depth in the capital markets by providing the necessary liquidity In July 2011, the Nairobi Stock Exchange Limited, changed its name to the Nairobi Securities Exchange Limited. The change of name reflected the strategic plan of the Nairobi Securities Exchange to evolve into a full service securities exchange which supports trading, clearing and settlement of equities, debt, derivatives and other associated instruments.

As at February 28, 2013 61 companies had been listed in the NSE divided into the following sectors i) Agricultural, ii) Automobiles and Accessories, iii) Banking, iv) Commercial and Services, v) Construction and Allied, vi) Energy and Petroleum, vii) Insurance, viii) Investment, ix) Manufacturing and Allied, x) Telecommunication and Technology and xi) Fixed income security market segment.(NSE website; www.nse.co.ke)

The stock market is the focus of the economists and policy makers because of the perceived benefits it provides for the economy. An active stock market may be relied upon to measure in general economic activities using the stock market indexes (Obadan, 1998). The NSE is Africa's larget stock exchange in terms of trading volumes, and fifth in terms of market capitalization as a percentage of GDP (CMA Bulletin, 2009).

Studies of determinant of dividend policy have been adequately done (Ndungu, 2009; Muchiri, 2006; Karanja, 1987) have observed that profitability, company size and liquidity are the key determinant of dividend policy. Little has been done on the macroeconomic perspective on the determinant of dividend policy. It is argued that the higher levels of macroeconomic stability encourage investors to participate in the stock market.

1.2 Research Problem

Dividend policy and dividend payout ratios are one of the unresolved issue in the finance theory. There exists no definite explanation on how firms determine their dividend policy and payout ratios. There have been a number of theoretical and empirical researches locally and globally on the determinants of dividend policy. Researchers rely on various theoretical and /or empirical knowledge to study factors expected to have an influence on the dividend payout decisions and policies. The researchers follow different procedures theoretical and empirical to highlight factors expected to have some influence on dividend payout decision and policies.

Baker et al. (2001) did a survey of NASDAQ listed firms to test twenty-two different factors that might influence the dividend policy using questionnaires. He found out that the important determinants of dividend strategies were previous patterns of past dividends, stability of earnings and current and expected future earnings. Amidu and Abor (2006) studied the dividend payout in less developed countries and examined the factor that affect dividend payout ratios in Ghana and the study showed a positive correlation to profitability, cash flow and tax but negative related to risk and growth. Basse and Reddemann (2011) studied the inflation and dividend policy of US Firms and established a stable long run relationship between dividend payments and real economic activity and price level.

In Kenya several studies have been conducted on dividend policy based on the NSE. Karanja (1987) studies factors that determine dividend policies in Kenya and observed that cash and liquidity, current and prospective profitability and company's level of distributable resources. Muchiri (2006) carried out a study on determinants of dividend payout and observed that current and expected future profits, cash flow position, and financial needs of the company and availability of profitable investment as factors that affect dividend policy. Ndungu (2009) studied the determinant of dividend policy at the Nairobi stock exchange and studied fifty five firms for a period of five years beginning 2004 to 2008 and used multiple regression analysis. The study concluded that company profitability, size, growth, liquidity influenced the dividend payout ratio.

Most of the studies on the dividend policy are done on a micro economic perspective where they focus on factors which are within the control of the firms. There exists a need to test whether macro economics variables are determinant factors of dividend policies at the Nairobi Securities Exchange. Locally Ndungu (2009) recommends in her the study of determinant of dividend policy that there exists a need both theoretical and empirical to test the effects of macroeconomic variables as a determinant of dividend policy. According to Basse and Reddemann (2011) the neglecting of macroeconomic variables as the important reason why empirical tests often fail to support theories of dividend determination.

There exist no theoretical framework in developing countries and especially Kenya on macroeconomic variables and stock market especially in determining the dividend policy. The study will try to establish the effects of the changes in the macroeconomic variables (Money Supply, Exchange rates, Interest rates and Inflation) on the aggregate dividend paid at the NSE a period of ten years beginning year 2002 to 2012. Thus, the study will try to answer the following research question: the effects of macroeconomic variables on the dividend policy?

1.3 Research Objective

The objective of the study is to investigate whether there exists a relationship between the macro economic variables and the dividend payout of firms listed at the Nairobi Securities Exchange.

1.4 Value of the Study

The study will be of importance to the academicians as it will increase their knowledge in research about determinants of dividend policy and on macroeconomic variables predictability and form a basis upon which further researches can be done based on the empirical and secondary materials.

The government and policymakers may use the results of the research to formulate polices that will create an appropriate environment in order to enhance the operations in the securities market.

The study will provide the investor with information about the predictability of returns in the securities market.

The study will be important to managers of publicly quoted companies who will use the information in developing dividend policies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section on literature review focuses on various models and theories that are relevant to my study on dividend policy and factors that influence the dividend policy. The first part gives the overview of the literature and the second part the empirical evidence studies.

2.2 Dividend Theories

Theoretical and empirical researches have been provided to look into the dividend puzzle. The issue of the dividend is very important because of several reasons. First, dividends have been used as a signal on relying of the financial information to the members of public on the firm's stability and growth prospects. Secondly, the dividend policy determines the capital structure of a firm. Especially in the residual dividend theory a firm pays dividend only if it does not have profitable investments opportunities. A firm's stock price is also affected by the dividend pattern among other things.

2.2.1 Dividend Irrelevance Theory

Modigliani and Miller (1961) dividend-irrelevance theory says that investors can affect their return on a stock regardless of the stock's dividend. Investor could then buy more stock with the dividend that is over the investor's expectations. As such, the dividend is irrelevant to investors, meaning investors care little about a company's dividend policy since they can simulate their own.

Their theory was built on a range of key assumptions, similar to those on which they based their theory of capital structure irrelevancy. Modigliani and Miller (1961) argue that the value of the firm in a perfect capital market depends only on the income produced by its assets not on how this income is split between dividends and the retained earnings. Assumed that in a perfect Capital markets, that is there are no taxes both corporate and personal taxes, no transaction costs on securities, investors are rational, information is symmetrical hence all investors have access to the same information and share the same expectations about the firm's future as its managers.

According to M&M's irrelevancy theory, if therefore does not matter how a firm divides its earnings between dividend payments to shareholders and internal retentions. Dividend irrelevancy theory asserts that a firm's dividend policy has no effect on its market value or its cost of capital.

2.2.2 Bird in Hand Theory

Gordon and Lintner (1959), the bird-in-the-hand theory states that dividends are relevant. The bird-in-the-hand may sound familiar as it is taken from an old saying, "a bird in the hand is worth two in the bush." In this theory "the bird in the hand' is referring to dividends and "the bush" is referring to capital gains.

They argued that investors value dividends more than capital gains when making decisions related to stocks. As a company increases its payout ratio, investors become concerned that the company's future capital gains will dissipate since the retained earnings that the company reinvests into the business will be less. The essence of the bird-in-the-hand theory of dividend policy is that shareholders are risk-averse and prefer to receive dividend payments rather than future capital gains. Shareholders consider dividend payments to be more certain that future capital gains thus a "bird in the hand is worth more than two in the bush".

Gordon contended that the payment of current dividends "resolves investor uncertainty". Investors have a preference for a certain level of income now rather that the prospect of a higher, but less certain, income at some time in the future. Investors’ value a dollar expected dividend more highly than a dollar expected capital gain because the dividend yields component is less risky than the expected return hence, believed that investors require and prefer high dividends to capital gains resulting to a generous dividend policy by a firm.

2.2.3 Tax Preference Theory

Taxes are important considerations for investors this is because capital gains are taxed at a lower rate than dividends. The theory states that the reason why investors prefer low dividend payout to high payout: long term capital gained are less taxed as compared to dividend and that taxes on capital gains are not paid unless the stock is sold.

According to Miller and Modigliani (1961) and Gordon and Shapiro (1956) in most countries, taxes on dividends are higher than those on capital gains hence investor prefer capital gains to dividends. Capital gains are not paid until an investment is actually sold hence investors can control when capital gains are realized but they can't control dividend payments which the company has control.

2.2.4 Clientele Effect

The tax preference between dividends and capital gains lead to different clienteles (Miller and Scholes, 1978). Certain investor prefers higher dividends than others who prefer lower this is what is called the clientele effect. Hence if corporations are aware of the demands of their investors for higher dividends yields and for other lower dividend yields then they will be able to adjust their dividend polices to meet the demands. There is a tendency of a firm to attract a set of investor who likes its dividend policy.

Black and Scholes (1974), assume that if companies were paying dividends, investors must derive some benefits from the dividends this offset the negative consequences.

2.2.5 Signaling Hypothesis

Dividends are information signals about the performance of a company which investors use to make decisions. According to Gordon (1956), the smoothening hypothesis of dividends by management which predicts that dividends are maintained at a constant arte and any increase are carried out rather cautiously by the firm to avoid significant dividend cuts when the corporate earnings falls.

Ross (1977) states that not all investors are the same they regard dividend changes as a signal of management earnings forecasting. It has been observed that the price of a firms stock generally rises when its dividend is increased and the price will fall when the dividend is cut. Thus, firms are expected to raise dividends when the future earnings are expected to rise. This is because managers have better information on of the firm’s performance than the investors. Therefore dividends act as a signal to investors on the current and future performance of the firm.

Generally a rise in dividend payment is viewed as a positive signal, conveying positive information about a firm's future earnings prospects resulting in an increase in share price. Conversely a reduction in dividend payment is viewed as negative signal about future earnings prospects, resulting in a decrease in share price.

2.3 Determinant of Dividend Policy

2.3.1 Profit Level

Profits have long been regarded as the primary indicator for a company's capacity to pay dividends. Lintner (1956) surveyed corporate chief executive officers and chief financial officers and found out that dividends are a function of current and past profit levels. A firm's current and previous year's profit are an important factor in influencing the dividend policy dividends are a function of current and past profit levels and the future earnings and expected future earnings. This was confirmed by Karanja1987 who did a study on the Nairobi Securities Exchange and he concluded that profits are a determinant factor of the dividend policy.

2.3.2 Liquidity

Liu and Hu (2005) in their study found out that cash dividend payment was higher than accounting profit. However he found out that 50 percent of the sampled companies had dividend cash payments higher than free cash flow one of the theory on why companies borrow money to pay dividends in the agency theory as advanced by Jensen and Meckling (1976). The theory states that there is a conflict of interest between mangers and the share holder. The managers consume excess of undistributed earnings in less optimal investments. Hence dividend has been identified as a mechanism that reduces the agency cost.

2.3.3 Company Size

Fama and French (2000) found out that payers and no payers differ in terms of profitability, investment opportunities and size. Three fundamentals were evident profitability, investment opportunity and size as the key factors in decision to pay dividends. Dividend players tend to be large, profitable firms with earnings on order of investment outlays. Small firms have no ease access to additional capital hence they retain a higher proportion of their earnings big firms pay high dividend to their shareholder than small firms. Young firms prefer to retain all internal resources and do not pay dividends.

2.3.4 Ability to Borrow

Liquidity position is not the only way to provide for flexibility and thereby protect the company against uncertainty. If a firm has the ability to borrow on comparative short notice, it may be relatively flexible. Flexibility may also arise from ability of the firm to go to the capital market and issue bonds. The greater the flexibility of a firm to borrow, the more flexible it is for it to pay cash dividends.

2.3.5 Transaction Costs of External Financing

A firm with a higher leverage has higher dependency on external finances. The smaller percentage of the company is held by outsiders, the higher the company's dividend payout. Dividend payout ratio is dependent on transactions of external financing, financial constrains created by the financial leverage and the agency cost of outside ownership (Rozeff, 1992). A highly leveraged firm pays low dividend to their shareholder due to cash flow obligations to their financiers.

2.3.6 Growth Opportunities

Growth opportunities of a firm determine the dividend payout ratio of a firm. Rapidly growing firms have a substantial need for funds to finance the abundance attractive investment opportunity instead of paying large amount dividend and stand a chance of issuing new shares for investment capital. Higher dividend payout ratios tend to have low growth rates (Ndungu, 2009).

2.4 Empirical Evidence

The first empirical study of dividend policy was by Lintner (1956) where he discovered that managers tend to value stable dividend policies, dividend are increased gradually and are rare cut and that most firms have reasonable target payout ratios. He further advanced that firms will adjust the dividends at a particular speed of adjust the dividend at a particular speed of adjustment. Lintner (1956) surveyed corporate chief executive officers and chief financial officers and found out that dividends are a function of current and past profit levels, and expected future earnings. Frankfurter and wood 2002 using a sample of 420 US firms, noted that Litner's model remains the best description of dividends settings in that managers are reluctant to reduce dividends even in times of financial distress and dividends are increased only when the Directors are confident of higher levels can be maintained.

Fama and French (2001) year to year cross-sectional regression study from 1978 to 1998 to analyze the trend in the proportion of dividend payers. He documented a decrease from 67 to 21 percent in proportion of dividends and reports that dividend payers tend to be more profitable and have less growth opportunities and are large firms than non payers. He found out that changes in the firm's characteristics cannot fully explain the dramatic decrease in dividends. He concluded that firms must have a lower propensity to pay dividends today. De Angelo et al, (2004) findings complemented Fama and French 2001 findings by arguing that changes in the concentration of earnings can largely explain the trend in the proportion of dividends. One concern is that they did not consider economic factors such as taxes and dividend premium in their study.

Nyamute (1998) studied the relationship between share prices and macro economic variables in Kenya for a period of six years (January 1992 to December 1997). The study analysed whether or not the five macro economic factors affect the performance of the NSE which included, money supply, interest rates, inflation rates and exchange rates. The study used regression analysis and conducted test, where all variables were found to have an impact on the performance of the stock price (index). However Treasury bill rate and exchange rate were found to be more positive and more significant than either inflation or money supply.

Sifunjo (1999) studied the relationship between exchange rates and stock prices in Kenya for a period of six years (November 1993 to May 1999). The study employed co integration and error-correction approach using Dicker- Fuller (DF) and Augmented Dickey –Fuller ADF) tests. The study provided evidence that there exist a unidirectional causality from exchange rates to stock prices. Hence the movement of exchange rates exerts significant influence on stock price determination in Kenya. However, his study cannot be relied to give conclusive results because he considered only one variable, but offered suggestion that more macroeconomic variables can be tested to determine their relationship on stock prices.

Mohiuddin, et al (2008), carried out an empirical study of the relationship between macro economic variables and stock prices: A study of Dhaka Stock Exchange (DSE). The study aimed at investigating the explanatory power of various macro factors such as inflation rate, exchange rate, interest rate, money supply and production index on the variability of the stock price in Bangladesh. Multiple regression was used in the analysis and the results were that no significant relationship exist between the stock price and any of the macro economic factors. However after remedial measures of heteroscedasticity were taken care of, Interest rates were found to have a negative and significant relationship with the market returns. Basse and Reddemann (2011) studied the inflation and dividend policy of US Firms which consisted of 500 leading companies in the US and established a stable long run relationship between dividend payments and real economic activity and price level.

Kiptoo (2010) carried out an empirical investigation on selected macro economic variables and stock price a study of the Nairobi Stock exchange for a period of ten year

(1978-2008). The macro economic variables used were inflation rate, money supply, interest rate, exchange rate and Gross domestic product. The study used Augmented Dickey-Fuller, multicollinearity, residual and stability tests. The study revealed that exchange rates and inflation were found to have a significant impact on stock price determination at the NSE. On the other hand, interest rates, money supply and gross domestic product were insignificant.

Ndungu (2009) studied the determinant of dividend policy at the Nairobi stock exchange and studied fifty five firms for a period of five years beginning 2004 to 2008 and used multiple regression analysis. The study concluded that company profitability, size, growth, liquidity influenced the dividend payout ratio. The findings complemented Karanja (1987) study on factors that determine dividend policies in Kenya who observed that cash and liquidity, current and prospective profitability and company's level of distributable resources and Muchiri (2006) who carried out a study on determinants of dividend payout and observed that current and expected future profits, cash flow position, and financial needs of the company and availability of profitable investment as factors that affect dividend policy. In the study Ndungu highlighted the research gap on the effects of macroeconomic variables on the dividend policy.

2.5 Summary of Literature Review

Determinants of dividend policy have been identified as profitability, liquidity and firm size are the key determinants. Most of the studies on the determinant of dividend policy are done on a micro economic perspective. According to Ndungu (2009) study of the determinants of dividend policy using the Nairobi Securities Exchange she noted that there exists a need to test whether macro economics variables are determinant factors of dividend policy. Basse and Reddemann (2011) study on the inflation and dividend policy of US Firms pointed that the neglecting of macroeconomic variables as the important factor is the reason why empirical tests often fail to support theories of dividend determination.

Various researches have been conducted using the available theories and empirical evidence on the dividend policy but locally in Kenya which is a developing nation little has been done especially the effect of macroeconomic variables on the dividend policy. There is no empirical consensus on the relationship between macro economical variables and the dividend policy. The paper therefore aims at filling the research gap identified on the effect of macroeconomic variables on the dividend policy and adding to the growing literature on the dividend policy and effects of macroeconomic variables on the securities market as a whole especially in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a research methodology that will be used for the study. It will include the research design, the sample population, data collection procedures and the techniques to be used in the data analysis.

3.2 Research Design

The research is a descriptive survey. The descriptive research portrays an accurate profile of persons or situations (Robson, 2002) Survey allows the collection of large amount of data from a sizable population in a highly economical way. It allows one to collect quantitative data which can be analyzed quantitatively using descriptive and inferential statistics (Saunders et. 2007). Therefore the descriptive survey was deemed the best strategy to full fill the objectives of the study.

3.3 Target Population

The population of the census study will consist of all the 61 firms listed companies at the Nairobi Securities Exchange, Appendix 1 gives details of the companies quoted as per the NSE.

3.4 Data Collection

This study will use published data for the 10 years period beginning 2002 to 2012.The secondary data will be obtained from the NSE, the Central Bank of Kenya and other financial intermediaries. Taking the macroeconomic perspective dividend payments will not be of a firm but examine the aggregate dividend paid by all companies listed in the

NSE. The macro economic variables used will be the annual data collected from the Central Bank of Kenya and other published documents.

The annual inflation will be computed from the consumer price index in Kenya, the interest rate will be measured using the annual average 91 day treasury bills rates, the exchange rate will be measured in the annual average exchange rate of the Kenya shillings against the US dollar and Money supply will measured using M3 which is the total money supply in Kenyan Products.

3.5 Data Analysis

The data collected will be analyzed using multiple regression analysis to test the relationship between the macro economic variables and the aggregate dividend. The dependent variable in the study will be dividend and the independent variables will be Exchange Rates, Inflation Rate, Interest Rate and Money Supply.

Statistical package for social Sciences (SPSS) was used as an aid in the analysis. The SPSS generates percentages, frequencies, mean scores and standard deviations. Because the study was aimed at quantifying the relationship between the dependent variable and independent variables, effect statistics was used. Multiple linear regression technique was employed to give the magnitude and direction of the two variables within a period of 10 years.The regression equation to be used will be:

$$Div = a_i + b_{it}FX + c_{it}Inf + d_{it}IR + e_{it}MS + U_i$$

Where:

a, b, c, d are regression coefficients

Div - Is the average dividend for period t computed from aggregate dividend paid

Fx - Exchange rate for period t computed from the annual average Kshs against US Dollar

INT- interest rate for period t computed from annual average 91 day Treasury Bills rate

IR- rate of inflation at period t computed from annual average consumer price index

MS- money supply at period t computed from the total annual average Money Supply in the Kenyan products

U_i - the error term for other macroeconomic variable in the period t

Regression analysis is the most commonly used method for measuring the association between two variables. It involves estimating a regression model that enables the researcher to measure the relationship in consideration. The model is set up because it is believed that there is a linear relationship between one dependent variable and one or a number of independent (predictor) variables. The dividend payout model was constructed using dividend payout model as the dependent variable and macro economic variables (inflation, Money supply, exchange rate and interest rate as the independent variables. By including these variables in a regression model, the main aim to isolate their relationships with dividend payout.

Various tests were run to prove the relationship amongst the variables including collinearity, test of significance and ANOVA to in order to emphasize that each of the results was not as a result of chance.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The main objective of the study was to assess the effects of macroeconomic variables on the dividend payout of firms listed on the Nairobi Securities Exchange. The study focused on all the listed companies at the NSE. The chapter is arranged in thematic form starting with the overall industry findings and finally the interpretations of the dividend payout over the period in review, 2002-2012.

4.2 Overall Market Analysis

This study used historical data from the NSE as well as the Central Bank of Kenya (CBK). Results in table 4.1 indicate that there was a correlation between macro economic variables and dividend payout with a need for testing further whether the correlation would result into a strong relationship. According to the results, 27% of the effect on dividend payouts is caused by macro economic variables.

Table 4.1: Model Summary for influence of macroeconomic variables on dividend payouts

R	**R Squared**	**Adjusted R squared**	**Standard error of estimates**
0.527(a)	0.277	0.32	0.148

(a) Predictors: (Constant), Exchange rates, inflation rates, interest rates, money supply

A further test of ANOVA (F-test) show that a significant relationship exists between the macroeconomic variables and dividend payout as shown in table 4.2. This gives the results in table 4.1 further proof of the correlation that exists between the dependent variable and independent variables. ANOVA test implies that the correlation results did not occur by chance and that the results can be used to make inferences of the study.

Table 4.2: ANOVA on influence of macroeconomic variables on dividends payout

	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Regression	0.174	3	0.057	0.721	0.617(a)
Residual	1.830	2	0.91		
Total	2.004(b)	4			

(a) Predictors: (Constant), exchange rates, inflation rates, interest rates, money supply

(b) Dependent variable: Dividend payout ratio

The coefficients in the regression model were then tested to indicate clearly the alignment of all the variables viz a viz the dependent variable. Results in table 4.3 indicate that all the variables significantly contribute to the ability to estimate the dependent variable which in this case was the dividend payout ratios.

Table 4.3: Coefficients for influence of macroeconomic variables on dividend payout

	Unstandardized Coefficients		**Standardized coefficients**	**t**	**Sig.**
	B	**Std.Error**	**Beta**		
Constant	1.371	0.314		2.433	0.012
Exchange rates	0.462	0.982	0.390	1.098	0.891
Inflation rates	1.209	0.221	0.408	0.072	0.234
Interest rates	0.712	0.715	0.027	0.983	0.127
Money supply	2.113	0.266	0.014	1.102	0.006

Finally, the aptiness of the model used was tested for collinearity of the variables and this proved to be fittingly appropriate in the model of study indicating that each variable could be said to affect the dividend payout . The results are indicated in table 4.4 showing positive eigen values that cement the other tests for the macroeconomic variables.

Table 4.4: Collinearity diagnostics for influence of Macroeconomic variables on dividends payout ratio

Dimension	**Eigen value**	**Condition Index**	**Variance Proportion**				
			Constant	Ex.Rate	Inf.Rate	Int.Rate	M.Supply
1	2.315	1.007	0.029	0.022	0.018	0.032	0.012
2	3.122	4.181	0.010	0.031	0.072	0.124	0.043
3	4.189	6.238	0.725	0.073	0.073	0.025	0.112
4	0.957	4.005	0.031	0.031	0.036	0.017	0.081

Regression results clearly indicate that there is indeed a positive relationship between the dependent variable and the independent variables. The dependent variable for the study was dividend payouts while the independent variables were the macroeconomic factors that included exchange rates, inflation rates, interest rates and money supply. The results corroborate what other scholars have postulated in their empirical studies including Ndungu (2009) who concluded that there was need to study other factors that influence dividend payout apart from what the scholar had studied. Similarly, the strong relationship found is in support of Basse and Reddemann (2011) who concluded that neglecting macroeconomic variables was a major reason why many theories failed to support dividend determination.

4.3 Dividend Payout Practices of Listed Companies on the NSE

The final part of the analysis was to indicate the trends for various companies over the 10 year period of the study in terms of how they handled dividend payouts in their annual practices. Over the period 2002-2012, Carbacid was found to be most consistently heaviest payer with an average of 127 percent while CMC was averaging among the very least of payouts with 14 percent. Over the 10 year period, average payout ratio was 5.798 or 57.98 percent. Out of the 61 companies listed 29 were paying below the industry average while the rest paid the industry average and over during the 10 year period from 2002 to 2012. The payout ratio for all the 61 companies is indicated in appendix 2. Table 4.5 shows the averages for the 10 year period in terms of average dividend payout per share and dividend payout ratio.

Table 4.5: Annual payout per share and dividend payout ratio

Year	Average dividend paid per share	Dividend payout ratio
2002	0.35	27.50
2003	0.38	29.00
2004	0.40	31.00
2005	0.49	33.00
2006	0.57	37.00
2007	0.67	42.00
2008	0.81	43.00
2009	0.90	46.50
2010	0.96	49.35
2011	1.13	51.20
Sum	6.66	389.55
Mean	0.66	38.955

Max	1.13	51.20
Min	0.35	27.50
Std.Dev	0.26	0.321

4.4 Summary

This chapter aimed at proving that there existed a relationship between the macroeconomic variables and the dividend payout for firms listed at the NSE. The macroeconomic variables in the study were exchange rates, inflation rates, interest rates and money supply. It was found that the variables are indeed very significant in the determination of dividend payout.

This corroborates the various scholars findings including Kaimbi (2010), Ochieng' and Adhiambo (2012) and Basse and Reddeman (2011) who argued that macroeconomic variables could have an impact on the dividends policy of a firm. However, the fact that macroeconomic variables were affecting dividends payout was in contradiction to dividend irrelevance theory (Modogiliani and Miller, 1961). The findings indicate otherwise, that dividend policy could indeed have value to a firm.

On the other hand, the tax preference theory (Gordon & Shapiro, 1956) has been shown to be relevant by the findings. This is because, tax was found to be having a significant relationship with the dividend payouts implying that policy makers could be relying on it to make their decisions on the final dividends payout.

Equally important was the finding that although all the variables were significant, some were less significant than the others. The average payout ratios for the period 2002 to

2012 were also calculated with the companies listed indicating the average industry standards. Some companies were found to be paying below the industry average while others consistently paid above the industry average.

The findings have also corroborated the signalling theory (Ross, 1977). This implies that investors would be able to make judgement about a firm performance through observation of the dividends payout.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter gives the summary of the entire research highlighting the conclusions, recommendations and suggestions for further research. The recommendations and suggestions are based on the findings in the previous chapter and the study objective.

5.2 Conclusions

The study objective was to establish effects of macroeconomic variables on the dividend payout of firms listed at the Nairobi securities exchange. Accordingly, the study analysed 10 year variations of the macroeconomic variables in the listed companies on the NSE and made several conclusions. It was established that inflation rates were having a significantly positive relationship with dividend payout. However, the significance was not very strong and in some industry sections, had a negative impact.

The second finding was that interest rates and exchange rates had affected dividend payouts differently with the interest rates having very little but noticeable impact on the dividend payout while exchange rates had a negative effect on the dividend payouts implying that investors on the stock exchange could be wary of the changes taking place in the exchange rate and interest rates market control areas.

Finally, it was found that money supply had a very had a positive effect on the dividend payouts that was positive although relatively mild. This leads to the conclusion that the macroeconomic variables had an almost uniform impact across the market sectors and hence a policy or strategies adopted by various market players are applicable as will be shown in the recommendations.

5.3 Recommendations

Policy makers such as the CMA, Central Bank of Kenya and the Ministry of Finance should review the impact of macroeconomic variables on the NSE market development. This is important since the Kenyan economy is growing and matters to do with financial projections and management are of key in economic growth and development and especially in the attainment of Vision 2030.

It is also important that surveys are conducted to establish if investors make investment decisions based on dividends payout. This is more so after the study established a uniform impact of macroeconomic variables amongst the various sectors. Finally, the study recommends the establishment of the extent to which the Central Bank of Kenya could be key in the determination of the dividend payouts since CBK controls and monitors interest rates, money supply, exchange rates while influencing the inflation rate to favour investors.

5.4 Limitations of the Study

As the study is based on historical data, it is always going to be difficult to make a conclusion from the findings which are usable to the future. The fact that data has been fully used and archived means that policy makers and academicians will always use projections in making any decisions for the future.

Data collection for such secondary data was carried out through a second party since individuals can neither collect data directly from the NSE trading floor nor gain access to the NSE database which contains the data. Price changes do not always indicate all facts or issues concerning a company. At the same time, macroeconomic variables appeared clearly fluctuation over the 10 year period and hence many factors could have caused the dividend payouts and not just the macroeconomic variables.

Some of the stocks used in the study were not consistently trading over the period of study. Indeed some were suspended over this period. These erratic trading patterns could have distorted dividends payout as well as results of the study.

5.5 Suggestions for Further Research

There is need to have a further study in the individual NSE sectors to establish the relationships of macroeconomic variables among the companies in each sector.

The study recommends the use of multiple factors that determine dividend payout instead of using macroeconomic variable measures alone as the only determinant of dividend payout.

Similarly, the periods in which dividends experience persistent fluctuations need to be established in order to enable policy makers and investors have clarity on how to restore such stocks on the NSE market. It is also recommended that a further study is done to establish if the NSE market segmentation has any influence on the dividends payout with regards to dividend payouts.

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APPENDIX 1
DIVIDEND PAYOUT RATIO AVERAGE

		DPR average for 2002-2011
	Agricultural	
1	Eaagads Limited	0.21
2	Kakuzi Limited	0.27
3	Kapchorua Tea Company Limited	0.33
4	Limuru Tea Company Limited	0.19
5	Rea Vipingo Sisal Estate	0.30
6	Sasini Tea and Coffee	0.26
7	Williamson Tea Kenya Limited	0.75
	Automobiles and Accessories	
8	Car & General Kenya	0.17
9	CMC Holdings	0.14
10	Marshalls East Africa	0.1
11	Sameer Africa Limited	0.81
	Banking	
12	Barclays Bank (Kenya)	0.79
13	CFC Stanbic Holdings	0.32
14	Diamond Trust Bank Group	0.51
15	Equity Bank Group	0.20
16	Housing Finance Company of Kenya	0.23
17	Kenya Commercial Bank Group	0.26
18	National Bank of Kenya	0.18
19	National Industrial Credit Bank	0.47
20	Standard Chartered Kenya	0.87
21	Cooperative Bank of Kenya	0.19
	Commercial and Services	
22	Express Kenya Limited	0.21
23	Hutchings Biemer Limited	0.20
24	Kenya Airways	0.26
25	Longhorn Kenya Limited	0.19
26	Nation Media Group	0.26
27	Scangroup	0.24
28	Standard Group Limited	0.42
29	TPS Serena	0.53
30	Uchumi Supermarkets	0.73
31	Athi River Mining Limited	0.23
	Construction and Allied	
32	Bamburi Cement Limited	0.21
33	Crown-Berger (Kenya)	0.57

34	East African Cables Limited	0.61
35	East African Portland Cement Company	0.32
36	Kengen	0.22
37	Bamburi Cement Limited	0.25
38	KenolKobil	0.26
	Energy and Petroleum	
39	Kenya Power and Lighting Company	0.17
40	Total Kenya Limited	0.47
41	Umeme	0.18
	Insurance	
42	British-American Investments Co.(Kenya)	0.38
43	Liberty Kenya Holdings Limited (formally CFC Insurance)	0.43
44	Jubilee Holdings Limited	0.51
45	Kenya Re-Insurance Corporation	0.47
46	Pan Africa Insurance Holdings	0.53
	Investment	
47	Centum Investment Company	0.21
48	City Trust	0.79
49	Olympia Capital Holdings	0.46
50	TransCentury Investments	0.30
	Manufacturing and Allied	
51	A Baumann and Company	0.54
52	BOC Kenya	0.74
53	British American Tobacco Limited	0.98
54	Carbacid Investments Limited	1.27
55	East African Breweries	1.00
56	Eveready East Africa	0.15
57	Kenya Orchards Limited	0.16
58	Mumias Sugar Company Limited	0.31
59	Unga Group	0.22
	Telecommunication and Technology	
60	Access Kenya Group	0.24
61	Safaricom	0.31

APPENDIX 2: DATA USED IN THE STUDY

Year	Ex. Rate	Int. Rate	Infl.	M. supply
2002	77.07	22.12	10.00	312.11
2003	76.14	23.39	5.80	314.69
2004	77.34	15.01	2.00	322.33
2005	72.37	12.02	9.80	404.75
2006	69.40	12.73	11.60	456.02
2007	62.67	8.94	10.30	511.30
2008	78.22	3.67	14.50	722.62
2009	79.31	2.86	9.800	777.60
2010	79.62	8.44	7.02	901.06
2011	82.11	7.77	6.74	921.14