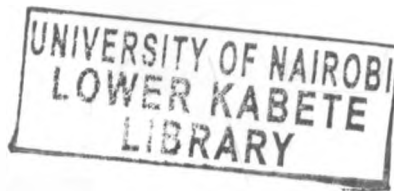


**RELATIONSHIP BETWEEN INFLATION AND DIVIDEND  
PAYOUT FOR COMPANIES LISTED AT THE NAIROBI  
SECURITIES EXCHANGE**

**BY**

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**RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF  
THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION  
(MBA), SCHOOL OF BUSINESS,  
UNIVERSITY OF NAIROBI**

**NOVEMBER, 2012**

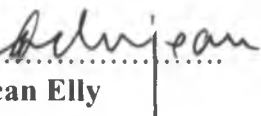
## DECLARATION

I declare that this is my original work and has not been submitted to any other university for any award.

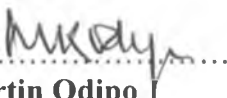
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God bless them all.

## **DEDICATION**

My dedication goes to my wife Bahati and my mother Memzee.

## **ABSTRACT**

Earlier studies conducted have a mixed opinion on the effect of inflation on dividend payout. Due to the nominal increase in the volumes of money, which result from the increase in inflation, at least for a short run, some studies have concluded that inflation has a positive effect on dividend payout. However, in the long run, studies in general seem to show that the inflation rate and stock returns are negatively related.

This study, which considered a sample of all the firms that consistently paid dividend between the year 2002 to 2011 and were listed at the Nairobi Security Exchange showed that, inflation rate has no impact on the dividend payout. The sample consisted of 20 firms across all the sectors of economy represented at the Nairobi Securities Exchange.

However, other variables considered, that is the Dollar exchange rate to Kenya Shillings, the Volumes of Money Supply, and the T-Bill rate (91 day rate), showed a mixed result. This study revealed that, the exchange rate and the T-Bill rate have a positive correlation with dividend payout, while volume of money supplied had no impact on the dividend payout.

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## ABBREVIATIONS

AIG	American insurance group
CBK	Central bank of Kenya
CPI	Consumer price index
DP	Dividend payout
DSE	Dhaka stock exchange
EPS	Earnings per share
EXR	Exchange rate
F	Function
GDP	Gross domestic product
INF	Inflation
INTR	Interest rate
KNBS	Kenya national bureau of statistics
MS	Money supply
NASI	Nairobi all securities index
NSE	Nairobi securities exchange
UK	United Kingdom
USA	United States of America
WAN	Wide area network



# CHAPTER ONE

## 1. INTRODUCTION

### 1.1 Background

Lintner (1956) conducted a study on the behavioural aspects of dividend policy. He split the reasons for a dividend policy into two; firstly, most management sought to avoid making changes in their dividend rates that might have to be reversed within a year, this caution leads to a consistency in dividend payments over time. Secondly, companies pay dividends on the basis of their earnings. Companies had a flexible – but definite – payout policy, with incremental adjustments being employed to achieve the target payout level. Lintner further suggested that there is a behavioural model of dividend policy where the current year's dividend depended upon the earnings in the current and the dividend in the previous year.

In understanding dividend policy, Merton Miller and Franco Modigliani made three assumptions: the market is perfect, there is perfect certainty of events and that the managers are perfect stewards of investors. Based on these assumptions, dividend policy is a positive residual of the firm's requirement for funds. It does not therefore matter how the earnings are divided between payments to shareholders and reinvestments. An optimal policy does not exist. Hence a firm's dividend policy has no effect on either its value or its cost of capital (Miller & Modigliani, 1961).

Between 1980 and 1985 the New York Stock Exchange (NYSE) listed firms experienced a protracted financial distress. This included a high level of inflation. During this crisis,

major reduction of dividend was witnessed. However, very few firms omitted the dividend payout despite the crisis. Managers were unwilling to omit dividends payout especially to firms that had a strong history of paying dividend (DeAngelo & DeAngelo, 1990).

There seems to be a positive relationship between inflation and dividend payments. This can be interpreted in two different ways: managers may try to follow a dividend policy, which is perceived to be optimal, believing that there is a desirable level of real income to be paid to their investors. On the other hand, inflation may simply increase the nominal value of corporate earnings and therefore the dividends paid. Independently from this interpretation, inflation should definitely be considered in analyzing dividend payout (Basse & Reddemann, 2011).

Explaining dividend payout has been one of the most difficult challenges facing financial economics. Despite decades of study, a complete understanding of the factors that influence dividend payout and the manner in which these factors interact is yet to be known. Two decades ago, Black (1976) wrote, "the harder we look at the dividend picture the more it seems like a puzzle, with pieces that just do not fit together." The situation is pretty much the same today (Bhattacharyya, 2007).

### **1.1.1 Dividend payout**

Brealey and Myers (2000) define dividend policy as the trade - off between retaining earnings on the one hand and paying out cash and issuing new shares on the other.

Ross, Westerfield and Jordan (2000) refers dividend to cash paid out of earnings. If payment is made from sources other than current or accumulated retained earnings, the term distribution, rather than dividend, is used. However, it is acceptable to refer to a distribution from earnings as dividend and distribution from capital as a liquidating dividend. More generally, any direct payment by a corporation to the shareholders may be considered a dividend or part of dividend policy.

Van Horne and Wachowicz (2008) postulates that dividend policy is an integral part of the firm's financing decision. The dividend – payout ratio determines the amount of earnings that can be retained in the firm as a source of financing. However, retaining a greater amount of current earnings in the firm means that fewer funds will be available for current dividend payments. A major aspect, then, of dividend policy of the firm is to determine the appropriate allocation of profits between dividend payments and additions to the firm's retained earnings. But also important are other issues pertaining to a firm's overall dividend policy: legal, liquidity, and control issues; stability of dividends; stock dividends and splits; stock repurchases; administrative considerations and market responses.

### **1.1.2 Inflation**

Inflation is defined as the general (persistent) upward price movement of goods and services in an economy (often caused by an increase in the supply of money), usually measured by the consumer price index and the producer price index. Over time, as the cost of goods and services increase the value of a shilling is going to fall because a person won't be able to purchase as much with that shilling as he/she previously could

(Investorwords.com, 22<sup>nd</sup> February 2012). Inflation can also be defined as the persistent rise in aggregate level of prices of goods and services in an economy. Repetitive price increases erode the purchasing power of money and other financial assets with fixed values creating serious economic distortions and uncertainty. Adrangi, Chatrath and Sanvicente (2000) point out that some portion of inflation rate will be anticipated by economic agents and capital markets. However the unanticipated portion of inflation may surprise equity markets and affect returns.

McGuigan, Kretlow and Moyer (2009) argue that in an inflationary environment, funds generated by depreciation often are not sufficient to replace a firm's assets as they become obsolete. Under these circumstances, a firm may be forced to retain a higher percentage of earnings to maintain the earning power of its asset base. Inflation also has an impact on a firm's working capital needs. In an atmosphere of rising prices, actual shillings invested in inventories and accounts receivable tend to increase to support the same physical volume of business. And, because the shilling amounts of accounts payable and other payables requiring cash outlays are higher with rising prices, transaction cash balances normally have to be increased. Thus, inflation can force a firm to retain more earnings as it attempts to maintain its same relative pre inflation working capital position.

### **1.1.3 Dividend payout and inflation**

Inflation has a major effect on interest rates because it erodes the purchasing power of a shilling and lowers the real rate of return on investments. Investors are concerned with

inflation, and they factor this into account when making an investment decision. The realized real return for a security can be expressed as;  $R=r-p$

Where R is the return (dividend payout) for a security, r, is the return for the security in nominal terms, and p is the inflation during the period. If inflation is highly predictable, investors simply add an inflation premium on to the real return (dividend payout) they require.

Expectations for future inflation are closely, but not perfectly, correlated with rates experienced in the recent past. Therefore, if the inflation rate reported for the last month increases, investors often raise their expectations for future inflation, and this change in expectations will cause an increase in dividend payout (Brigham & Daves, 2010).

#### **1.1.4 Nairobi Securities Exchange**

The Nairobi securities exchange (formally Nairobi stock exchange) is the principal stock exchange of Kenya. It began in 1954 as an overseas stock exchange while Kenya was still a British colony with permission of the London stock exchange. The NSE is a member of the African stock exchange Association. It is African's fourth largest stock exchange in terms of trading volumes and fifth in terms of market capitalization as a percentage of Gross Domestic Product (GDP). The exchange work in cooperation with the Uganda securities exchange and the Dar es Salaam stock exchange, including the cross listing of various equities. Trading is mainly conducted from the brokers' offices through the wide

area network (WAN). However, brokers under certain circumstances can still conduct trading from the floor of the NSE.

Two indices are popularly used to measure performance. The NSE 20-share index has been in use since 1964 and measures the performance of 20 blue-chip companies with strong fundamentals and which have consistently returned positive financial results. Included in the index are Mumias sugar, Express Kenya, Rea Vipingo, Sasini Tea, CMC holdings, Kenya Airways, Safaricom, Nation Media Group, Barclays Bank Kenya, Equity Bank, Kenya Commercial Bank, Standard chartered Bank, Bamburi cement, British American Tobacco, Kengen, Centum investment company, East African Breweries, EA cables, Kenya Power & Lighting company Ltd and Athi River mining. This index primarily focuses on price changes amongst these 20 companies.

In 2008 the NSE All share Index (NASI) was introduced as an alternative index. Its measure is an overall indicator of market performance. The index incorporates all the traded shares of the day. Its attention is therefore on the overall market capitalization rather than the price movements of select counters.

There is however a third; the AIG 27 index that compares price movements of 27 companies identified as relatively stable. The rationale behind this index is comparable to that of the NSE 20-share index. But, whereas the AIG is primarily defined by the AIG company (a financial service company and part of the AIG group), the 20-share index is from the NSE itself.

Hence Nairobi Stock Exchange is composed of various firms of different sizes and from different industries. The firms also are at different levels of growth. Hence variables that are expected to affect dividend policy such current earnings, past earnings, liquidity position, growth stage, past payment records, inflation , financial crisis, age of the firm, profitability, can be measured. Choice of the NSE quoted firms therefore provides a clear observation of the happenings across industries, especially through the NSE 20 share index (<http://www.nse.co.ke/about-nse/history-of-organization>).

## **1.2 Research problem**

Enduring interest to academics, investment professionals and monetary policy makers has been the empirical relationship between inflation and stock prices. Fisher (1930) hypothesis states that nominal asset returns move one for one with expected inflation so that real stock returns are determined by real factors independent of the rate of inflation. According to Fisher, assets that represent claims to physical or real assets, such as stocks should offer a hedge against inflation, providing a hedge against rising prices. If the implied positive relationship between stock prices and the inflation does not hold, stocks investors will be vulnerable to inflation.

Effects of inflation on performance of Kenyan firms seem to vary, depending on which sector a firm is in. retailers (commercial sector) particularly do not well during periods of inflation. Uchumi supermarkets, recently back on the bourse after long hiatus may see its recovery stifled, CMC will also be hit if the inflation persists. In financial sector, banks

also face risk of losing customer deposits to the high interest Government securities. Banks are borrowing from the CBK and putting the same money into T-bills. In the industrial sector, Unga holdings may experience less demand for its products as the biting inflation forces Kenyans to change eating habits in favour of cheaper foods. The agricultural sector presents a mixed bag. While they earn more money from exports as a result a result of cheaper shilling, expenditure will also rise as costs such as fuel increase. Sasin Tea & Coffee is in the process of adding value to its products and be involved from production to the market place ([articlebase.com/investing-articles](http://articlebase.com/investing-articles)). There is therefore a need for study to be conducted in order to establish the link between inflation (which affect firm performance) and dividend payout.

Mibei (2010) carried out an exploratory study to determine the impact of the 2007-2009 world financial crisis on share price behaviour at the Nairobi Stock Exchange. She used secondary data obtained from the NSE databases, using daily prices of all firms at the NSE between January 2005 to December 2009. She conducted time series and trend analysis and the findings were; the 2007-2009 financial behaviour had a negative impact on share price behaviour at the NSE. However, the study relied on non accurate and incomplete data. The impact of each factor that led to the slump in prices were also not separately examined. Consequently, the study never examined the effects of the crisis on stock returns.

Kiptoo (2010) carried out an empirical investigation of the relationship between selected macroeconomic variables and stock prices at the NSE between 1978 to 2008. The



variables were Inflation rate, money supply, interest rate, exchange rate and gross domestic product. On the variables studied exchange rate and inflation were found to have significant impact on stock price determination at the NSE. On the other hand, Interest rates, Money supply and Gross domestic product were insignificant. The study however collected data from different sources with different base years, deposit rate or lending rate was not used, but the study favoured the Treasury bill rate. The events (variables) covered were also very broad. The results were a multiple effect, for instance stand alone effects, for example inflation was never determined neither the effects of the variables on stock returns, for instance dividends. Consequently the study window was large enough to be affected by some confounding effects.

Basse and Reddemann (2011) carried out a study on Inflation and the dividend policy of USA firms. The purpose of the study was to analyze the dividend policy of firms from a macroeconomic perspective in consideration of inflation and real growth rate. The paper indicated a positive relationship between inflation and dividend payments. This can be interpreted in two different ways: managers may try to follow a dividend policy, which is perceived to be optimal, believing there is a desirable level of dividend income to be paid to their investors. On the other hand, inflation may simply increase the nominal value of corporate earnings and therefore the dividends paid. Independently from the interpretation of the results, inflation should definitely be considered in analyzing dividend policy. The study was also conducted in a developed country, and how a developing country behaves under inflation as far as dividend payment is concerned

needs to be known. This study therefore answers the research question; what is the effect of inflation on dividend payout.

### **1.3 Research Objectives**

The research project will encompass the following specific objectives;

- (i) To examine the impact of inflation on dividend payout for companies listed at the Nairobi Securities Exchange.
- (ii) To determine the extent to which other factors, other than inflation determine the dividend payout.

### **1.4 Value of the study**

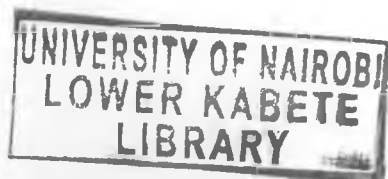
The paper will provide a widely ignored link between the micro- and macroeconomic sphere examining one of the most important problems of financial economics. It should be noted that neglecting the effects of inflation on dividends may, among others, be one reason for the mixed empirical findings testing theories of dividend determination.

Managers will be able to understand how inflation affects dividend decisions and hence financing decisions as well. This will make managers come up with ways of combating the effect of inflation and hence maximize the value of the firm. The study will also assist managers in examining the inflationary environment formulating an adequate dividend policy for their firms.

Investors on the other hand will be able to analyze how their investments are affected by the level of inflation, which industry is highly susceptible to inflationary effects and hence come up with a more informed investment decisions in inflationary periods.

Scholars of financial matters with an interest in dividend policy will be able to use the findings of this research as a basis for conducting further research on the effects of inflation on dividend policy.

The government on the other hand will be able to ascertain how its tax policy impacts more on dividend income and how the effects of inflation contribute to the National income/Growth domestic product of the country. In view of this, government may consider a special relief on tax on dividend income, as an encouragement to attract more investors, where upon the effects of inflation have been known to be negative



## **CHAPTER TWO**

### **2. LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews dividend theories as advanced by various schools of thought. The chapter also reviews current empirical studies on financial crisis and their effects at both global and local context. Whereas the last section gives the chapter summary.

#### **2.2 Theoretical framework**

##### **2.2.1 Dividend irrelevance theory**

Miller and Modigliani (1961) argued that the value of a firm depends on its earning power and therefore it is independent of the dividend policy adopted by the firm. According to Miller and Modigliani dividend policy is a positive residual of the firm's requirements for funds. It does not therefore matter how the earnings are divided between payments to the shareholders and reinvestment in the firm. An optimal dividend policy does not exist. This theory purports that a firm's dividend policy has no effect on either its value or its cost of capital. In coming up with this theory, Miller and Modigliani assumed that the market is perfect, there is perfect certainty of events and that the managers are perfect stewards of the investors.

Miller and Modigliani (1961) recognize that any shareholder can in theory construct his/her own dividend policy. For example, if a firm does not pay dividends, a shareholder who wants a dividend can create it by selling part of his/her stock. Conversely, if a company pays a higher dividend than investor desires, the investor can use the unwanted dividend to buy additional shares of the company's stock. If investors could buy and sell

shares and thus create their own dividend policy without incurring costs, then the firm's dividend policy would truly be irrelevant (Brigham & Daves, 2010).

### **2.2.2 Bird in hand theory**

Gordon and Lintner (as cited in Hussainey, Mgbame & Mgbame, 2011) argued that shareholders are risk averse and therefore prefer to receive dividend rather than capital gains. Hence bird in hand (dividend) is worth two in the bush (capital gains). This is mainly because dividend payment is certain and capital gains are uncertain. For this purpose they use a higher discount rate in capitalizing gains than dividends.

The possibility of agency costs on the other hand leads to a similar conclusion. First, high payout reduces the risk that managers will squander cash because there is less cash on hand. Second, a high – Payout Company must raise external funds more often than a low – Payout Company, all else held equal. If a manager knows that the company will receive frequent scrutiny from external markets, then the manager knows that the company will be less likely to engage in wasteful practices. Therefore, high payout reduces the risk of agency costs. With less risk, shareholders are willing to accept a lower required return on equity (Brigham & Daves, 2010).

### **2.2.3 Signaling effect theory**

Management who look after the firm tends to have more precise and timely information on about the firm than outside investors. This therefore creates a gap between managers and investors. To bridge this gap, management use dividends as a tool to convey private information to shareholders (Al-Malkawi, 2007). Petit (1972) observed that the amount of dividends paid seems to carry great information about the prospects of a firm. Lintner (1956) observed that management are reluctant to reduce dividends even when there is a need to do so, and only increase dividends when it is believed that earnings have permanently increased.

Bhattacharya (1979) assumes that outside investors have imperfect information about firm's profitability and that cash dividend is taxed at a higher rate than capital gains. Under these conditions, dividends function as a signal of expected cash flows.

### **2.2.4 Agency cost and the free cash flow theory**

Agency cost is the cost of the conflict of interest that exists between shareholders and management (Ross, Westerfield & Jordan, 2008). Managers are bound to conduct some activities, which could be costly to shareholders, such as undertaking unprofitable investments that would yield excessive returns to them, and unnecessarily high management compensation (Al-Malkawi, 2007). These costs are borne by shareholders. Hence firms with excess cash flow would require high dividend payments instead. Bond holders on the other hand, require fewer dividends than shareholders by putting in place a debt covenant to ensure availability of cash for their debt repayments.

Jensen (1986) contends that in corporations with large cash flows, managers will have a tendency to invest in low return projects. According to Jensen, debt counters this by taking away the free cash flow. Jensen, again, contends that takeovers and mergers take place when either the acquirer has a large quantum of free cash flow or the acquired has a large free cash flow which has not been paid out to stakeholders.

### **2.2.5 Tax-differential theory**

Litzenberger and Ramaswamy (1979) hold that the tax rate on dividend is higher than tax rate on capital gain. When a company pays dividend in cash investors lose part of the company value to the government in form of taxes. They therefore concluded that dividend decisions are relevant, but the lower the dividend, the higher the value of the firm.

Additionally, capital gains are not paid until an investment is actually sold. Investors can have control when gains are realized, but can not control dividends payments, over which the related company has control. Capital gains are not realized in an estate situation (Litzenberger & Ramaswamy, 1979).

### **2.2.6 Clientele effect theory**

Petit (1977) contends that investors tend to prefer stocks of companies that satisfy a particular need. This is because investors face different tax treatment for dividends and capital gains and also face transaction costs when they trade securities. Miller and

Modigliani (1961) argued that for the costs to be minimized, investors tend towards firms that would give them desired benefits. Likewise, firms would attract different clientele based on their dividend policies.

Graham and Kumar (2006) argue that retail investors' stock holdings indicate a preference for dividend yield that increases with age and decreases with income, older, low income investors disproportionately purchase stocks before the ex dividend day. Furthermore, among small stocks, the ex-day prices drop decreases with age and increases with income, consistent with clientele effects.

### **2.3 Review of empirical studies**

DeAngelo and DeAngelo (1990) studied dividend policy adjustments of 80 New York stock exchange firms to protracted financial distress as evidenced by multiple losses during 1980-1986. Almost all sampled firms reduced dividends, and more than half apparently faced binding debt covenants in years they did so. Absent binding debt covenants, dividends are cut more often than omitted, suggesting that managerial reluctance is to the omission and not simply the reduction of dividends. Moreover, managers of firms with long dividends histories appear particularly reluctant to omit dividends. Finally, some dividend reductions seemed strategically motivated, for example, designed to enhance the firm's bargaining position with organized labour. Hence in DeAngelo and DeAngelo study, it shows that dividend decisions are subject to behaviour patterns, the prevailing economic conditions and debt covenants which come up as a result of change in economy. They however did not point out the clear effect of



inflation. Again the study period was long enough to accommodate confounding effects besides analyzing a developed country.

Basse and Reddemann (2011) sought to examine the relationship between dividends, corporate earnings, real growth and inflation in the United States of America by applying cointegration techniques. In their framework, impulse responses analysis was used to test the two popular theories of dividend determination. The study found out that dividend smoothing seemed to be a relevant phenomenon. Further, inflation has a positive effect on dividends. In this study Basse and Reddemann hence determined that the nominal increase in earnings due to inflation have the same effect on dividend payout.

Hussainey, Mgbame and Mgbame (2011) examined the relationship between dividend policy and share price changes in the UK stock market. Multiple regression analyses were used to explore the association between share price changes and both dividend yield and dividend payout ratio. A positive relationship was found between dividend yield and stock price changes, and a negative relationship between dividend payout ratio and stock price changes. In addition, it was shown that a firm's growth rate, debt level, size and earnings explain stock price changes.

Khan, Burton and Power (2011) set out a study to find out the influence of dividend policy in Pakistan. They interviewed 23 Principal Officers charged with companies' decisions by an aid of a questionnaire. The results suggested that, despite differences in environmental idiosyncrasies, past dividends do not influence current dividends levels in

Pakistani, respondents were not reluctant to announce news of dividend cut, firms focus only on the current earnings and company liquidity when deciding on a disbursement levels. The study therefore showed that dividend payout has a behavioural aspect. Managers do not like dividends cuts and that the industry in which a firm falls determine dividend payout decisions as well.

Bhattacharya (2007) in his paper aimed to briefly review principal theories of dividend policy and to summarize empirical evidences on these theories. He compared the various dividend theories on a number of parameters and found out that the famous dividend puzzle is still unresolved. Black (1976) in his paper, the dividend puzzle, noted that what the firm can do the investor can also do, however, firms still pay dividend. Black is yet to find the reason as to why firms pay dividend. Hence Empirical evidence is still equivocal and the search for new explanation for dividends continues. Also a number of stylized empirical facts about dividends discovered by researchers were noted.

Caneghem and Aerts (2011) set out to study the impact of intra-industry conformity tendencies on dividend policy among a large sample of USA firms. The paper measured mimetic pressures as institutional prevalence or the pervasiveness of a feature of dividend policy within a firm's relevant environment. The results revealed a significantly positive relationship between the lagged density of firms in the industry that pay a dividend, and the probability of a focal firm paying dividend. Moreover, for firms paying a dividend, results indicate that higher similarity in dividend payout practice. Overall, results are consistent with limitation in dividend policy. According to Caneghem and Aerts therefore

a firm that is seen as the focal point in a particular industry can indeed determine payout levels by companies in that particular industry.

Basse (2009) argued that many investors seem to believe that stocks are a useful hedge against inflation. Generally speaking, this assumption is based on the argument that stocks are claims on real capital. At first sight it seems to be very convincing to assume that inflation by definition increases the nominal value of real capital and therefore leads to higher stock prices. A more detailed view on the relationship between inflation and the stock market reveals a quite simple mechanism that can help to explain why there should be a positive relationship between inflation rates and stock returns: higher prices increases the revenues of firms leading to higher corporate earnings and- ultimately- to an increase of stock prices. While this mechanism intuitively appealing, there are some obvious problems.

As a matter of fact Campbell and Shiller (1988) pointed out that two countervailing trends are present. First of all and as already noted – inflation raises corporate earnings and increases future expected dividends. This effect is, of course, positive for stock returns. But there is also a second important effect of higher inflation rates. Namely, inflation increases the discount rate (via the fisher effect) and therefore lowers stock prices. Given the existence of these two countervailing trends the mixed empirical evidence documented in the literature is no surprise at all. At least, in the short run there is no clear picture. In fact many econometricians have reported that stock returns and inflation rates are negatively correlated. Brenner and Galai (1978), for example, have

presented a survey of earlier empirical studies. These studies in general seem to show that the inflation rate and stock returns are negatively related. Therefore, the empirical evidence published in the seventies seems to indicate that stocks are a poor hedge against inflation. In spite of the negative contemporaneous correlation of stock returns and inflation most financial economists today seem to accept the idea that inflation has a positive effect on stock returns in the long run. Boudoukha and Richardson, 1993 and Kolari and Anari, 2001 reported empirical evidence indicating that stocks can indeed serve as long-term inflation hedge.

Fama (as cited in Kiptoo, 2010) contends that there is wide agreement among economists that changes in the quantity of money have important influences on the movement in equity prices. Growth rate of money supply would affect the aggregate economy and hence the expected stock returns. An increase in money supply would indicate excess liquidity available for buying securities, resulting in higher security prices. It would also lead to inflation, and may increase discount rate and reduce prices. The negative effects might be countered by economic stimulus provided by money growth, also known as corporate earnings effect, which may increase future cash flows and stock prices. Moderate growth can have a positive impact on the economy and the market. Rapid growth, however, is inflationary detrimental to the stock market.

#### **2.4 Chapter summary**

There is no empirical consensus on the relationship between inflation and dividend payout. Specifically, the direction of the inflation and stock returns is not resolved. This

study has identified various drawbacks in related studies. The effects of inflation have not been specifically looked into in Kenya. Attempts have been made but in developed countries, which are relatively more market efficient and have different economic conditions besides a more public awareness of stock trade. Developed countries have a greater variety of financial assets and there is need for a model that is suitable to our economy. Therefore this study aims to fill the gap identified and add to the growing literature on the relationship between inflation and dividend payout.

## **CHAPTER THREE**

### **3. RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter identifies the research design to be used in this study and the reason behind its selection. The population of interest, sample and sampling method has been discussed in the ensuing sections. The chapter also reveals on the type of data used and how it was collected. Whereas the last part gives the details of how the data was analyzed through a selected model.

#### **3.2 Research Design**

A correlation study was conducted. This is because the focus of the study was on the Nairobi Securities Exchange listed companies, with a view of obtaining the insight of how inflation is related to dividend payout in any dividend paying firm.

A correlation study involves collecting data in order to determine whether and to what degree a relationship exists between two or more quantifiable variables. This design permits a researcher to analyze inter-relationship among a large number of variables in a single a study. Additionally, a correlation study also allows a researcher to analyze how several variables either singly or in combination might affect a particular phenomenon being studied.

### **3.3 Population of the study**

The population of interest was all listed companies at the NSE in Kenya. The current population of all the listed companies as at July 15, 2012, stood at 59 (www.nse.co.ke, July, 2012). The period of interest was from 1<sup>st</sup> January, 2002 to 31<sup>st</sup> December, 2011; a period of ten years. The period starting the year 2007 to 2011 was purposely chosen due to the high rates of inflation experienced in these times in Kenya. While the period from the year 2002 to 2007 was chosen due to the economic stability enjoyed. Hence the two periods provided comparison for the impact of inflation. The estimation technique used is the error correction mechanism, which takes into account the time series characteristics of the variables.

### **3.4 Sample and sampling method**

A sample was selected from all listed companies at the NSE in Kenya as at 31<sup>st</sup> December 2011 that had maintained positive average earnings per share (EPS) and had been consistently listed at the NSE over the past ten years, that is from 2002 to 2011. All the industries were considered. This was done in order to know how each industry reacted to inflation as far as dividend payout is concerned. However, consistency was applied to come up with firms that had been continuously listed for the above period besides maintaining a positive EPS. Bearing the above consideration, a sample of 20 firms was considered. The sample was collected from all sectors represented at the Nairobi Securities Exchange.

### **3.5 Data collection method**

Secondary data was used. Annual rates of dividend paid were collected from records of the NSE. The dividends payout figures are in nominal terms. Hence, this were actual figures as paid out without factoring out the inflation rate. These were obtained from at least one company from each industry. A company that had been consistently listed at the NSE for the last 10 years ending 31<sup>st</sup> December 2011 was considered. Annual figures of inflation rate levels were collected from the Kenya National Bureau of Statistics (KNBS). Volumes of Money Supply, Exchange rate levels data was collected from the KNBS as well as the Treasury bill rate. All the data collected were for the last ten years ending 31<sup>st</sup> December.

### **3.6 Research model**

Several studies reviewed show that inflation has an effect on divided payout. However, these studies do not uniformly concur on the general direction of the effect. Inflation in itself is measured by the consumer price index (CPI) which on the other hand has an effect on Gross Domestic Product (GDP). Other factors that have been considered are annual money supply, prevailing exchange rate and Treasury bill rate.

The model used in this study is adopted from the work of Mohiuddin and Shahid (2008) in their study of Dhaka Stock Exchange (DSE). The main variables in the model are dividend payout and inflation rate. While money supply, exchange rate and annual Treasury bill rate are considered as confounding variables. In this study yearly data as opposed to quarterly data by Mohiuddin and Shahid (2008) was used. The implied form of the model is;



$DP = F(\text{INF}, \text{MS}, \text{EXR}, \text{INTR})$

Where;

DP – Dividend payout

INF – Inflation rate (annual)

MS – Money supply (annual)

INTR – Interest rate (annual Treasury bill rate)

### **3.7 Data analysis**

A correlation analysis was used. Graphs were used to show the relationship between the variables. Regression analysis was applied in order to determine a relationship equation of the variables. By use of a correlation coefficient, further relationship of the variables were revealed, through the use of coefficient of determination ( $r^2$ ), the study determined the extend at which inflation affects dividend payout other factors notwithstanding. Since dividend payout is not only sensitive to inflation other factors such as exchange rate, Treasury bill interest rate and money supply were considered. These factors were chosen due to their direct influence on the capital market activities which give direction to the level of Gross domestic product. In order to control the effects of other variables while analyzing one, cross-tabulation tables were used through the application of the SPSS statistical package. Error correction mechanism procedure to find out the order of integration was used, in order to find out the number of times that a variable has to be differenced to achieve stationarity. It is necessary to achieve stationarity of the variable so that the mean and variance estimated from such variables would be unbiased estimates of the unknown population mean and variance. The Engler-Granger two step procedure

was used to measure cointegration. The earlier identified model can therefore be represented mathematically and explicitly to include the error term  $\epsilon_i$  as follows;

$$DP(t) = \alpha + \beta_1 INF + \beta_2 MS + \beta_3 EXR + \beta_4 INTR + \epsilon_i$$

Where;

DP (t) – is dividend payout at year t

$\alpha$  – is the constant term

$\beta_1$  – coefficient of inflation rate

$\beta_2$  – coefficient of money supply

$\beta_3$  – coefficient of exchange rate

$\beta_4$  – coefficient of interest rate

$\epsilon_i$  – the error term.

## CHAPTER FOUR

### 4. DATA ANALYSIS AND RESEARCH FINDINGS

#### 4.1 Introduction

In this chapter, results of empirical analysis are presented. First are the unit roots tests, second are the diagnostics tests, followed by graphical representation of the variables and a report on the regression results. The table below shows the data that was collected for the purposes of this analysis.

**Table 4: Data collection sheet**

Serial No.	Year	Dividend payout	Inflation rate	Money supply(millions)	Exchange rate	T-bill rate
1	2002	72.05	2.0%	513,863	77.0723	8.38%
2	2003	44.80	9.8%	565,196	76.1389	1.41%
3	2004	55.45	11.8%	641,441	77.3444	8.29%
4	2005	49.65	9.9%	706,598	72.3667	8.14%
5	2006	59.85	6.0%	821,749	69.3967	5.83%
6	2007	42.85	4.3%	971,628	62.6750	6.87%
7	2008	41.60	15.1%	1,091,929	77.7111	8.59%
8	2009	47.00	10.5%	1,280,467	75.8200	6.82%
9	2010	52.70	4.1%	1,297,895	78.0340	2.28%
10	2011	69.82	14.0%	1,441,000	86.4600	11.93%

Source: Kenya National bureau of statistics statistical abstracts for 2004, 2005, 2006, 2007, 2008, 2009, 2010 and 2011. (For inflation rate, money supply, exchange rate and T-bill rate). And <http://www.nse.co.ke/market-statistics/equity-statistics.html>. July 15, 2012.

## 4.2 Unit Root Tests

Time series data are always associated with stationary problems. A stochastic Process is said to be stationary if its mean and variance are constant over time and the value of the variance between the two time periods, is not independent on actual time at which the covariance is computed i.e. weak stationary (Gujarati, 2003). Hence unit root test provides a basis for assessing whether a time series is non-stationary and integrated of a particular order for elimination of spurious results.

### A) Unit Root Test on Inflation Rate

Earlier inferences made in this study revealed that inflation had a major effect on interest rate as it eroded the purchasing power of the shilling and lowered the real rate of return in investments. The determination of T Test and F Test respectively are hereunder made to confirm the inferences and inform on the real power of shilling in terms of the inflation rate correlated with the dividend payout.

#### (i) In levels

The level of inflation was determined by R Square ( $r^2$ ) of .055 at a standard Error of the Estimate at 11.10194 considering that the Predictors were held constant at 1 as shown in table 1 below.

**Table 4.1: Model Summary for Inflation rate**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.234(a)	.055	-.064	11.10194

*a Predictors: (Constant), Inflation Rate*

In determining the F Test, the analysis of the results revealed a mean square of 56.920 at 1 degree of freedom and thus it could be easily concluded that the inflation rate has nothing to do with the dividend payout within the determination of F Test recorded at .462 and a sig. of .516 as shown in table 2 below. Alternatively, the coefficient of determination shown at .055 reveal that inflation rate has no correlation with dividend payout.

**Table 4.2: ANOVA (b) Analysis for Inflation Rate**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56.920	1	56.920	.462	.516(a)
	Residual	986.025	8	123.253		
	Total	1042.946	9			

*a Predictors: (Constant), Inflation Rate*

*b Dependent Variable: Dividend Payout*

The F value does not exhibit negativity and therefore it is insignificant. We fail to accept the null hypothesis (Inflation has no impact on the dividend payout) and conclude the variable is no-stationary. Therefore a first difference unit root is conducted to find out the level of integration, and the results are presented below:

**(ii) First Difference**

**Table 4.3: Coefficients (a) for Inflation Rate**

Model 1	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	58.536	8.098		7.229	.000
Inflation Rate	-.567	.834	-.234	-.680	.516

*a Dependent Variable: Dividend Payout*

Following the results of the test, the Coefficient of Inflation Rate is negative at -.234 at a standard error of .834 and thus T-Test recorded at -.680 after the first difference and thus we reject the null hypothesis (Inflation rate has no impact on dividend payout) and conclude that the variable is integrated of Sig.000 at a constant value of .516.

**B) Unit Root Test on Foreign Exchange Rate**

**(i) In Levels**

An analysis of the exchange rate was made using the regression analysis to determine the F Test and T Test and findings reported as shown in the table below.

**Table 4.4: Model Summary for Exchange Rate**

Model	R	R Square (r <sup>2</sup> )	Adjusted R Square	Std. Error of the Estimate
1	.234(a)	.055	-.064	11.10194
2	.726(b)	.527	.392	8.39217

*a Predictors: (Constant), Exchange Rate*

The F-Test was made to determine the results on the effects of the exchange rate on dividend payout. The R Square model was used and a standard error was recorded at 8.39217 at 2 degrees of defense and a figure of .392 was arrived at where the mean square of the regression was kept constant at 274.973 as shown in table 5 below.

In this determination therefore, it was predicted that the exchange rate could significantly influence the dividend payout as evidenced by the r<sup>2</sup>. A summary of this is shown in table 5 below.

**Table 4.5: ANOVA(c) .Analysis for Exchange Rate**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56.920	1	56.920	.462	.516(a)
	Residual	986.025	8	123.253		
	Total	1042.946	9			
2	Regression	549.945	2	274.973	3.904	.073(b)
	Residual	493.000	7	70.429		
	Total	1042.946	9			

*a Predictors: (Constant), Exchange Rate*

*b Dependent Variable: Divided Payout*

The analysis made in table 5 above is indicative of the fact that the f value is insignificant because it does not exhibit excess negativity. Consequently we Fail to reject the null hypothesis and conclude that the exchange rate variable is no-stationary. The first difference yields the following results;

**(ii) First Difference**

Determination of coefficient test in the analysis of the exchange rates was conducted and findings shown in the table below.

**Table 4.6: Coefficients<sup>a</sup>**

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
Exchange Rate	1.380	.522	.798	2.646	.033

*a Predictors in the Model: (Constant), Exchange Rate*

*b Dependent Variable: Dividend Payout*

The t value for foreign exchange rate is registered in this T-Test at 2.646 after the difference. This means that it is significant and thus we fail to reject the null hypothesis.



### C) Unit Root Test on T-Bill Rates

#### I) In Levels

The T Bill rates determination on the F Test and T Test was conducted using the regression analysis, the standard error of the estimate established and the findings were recorded in the table below.

**Table 4.7: Model Summary for T bill rates**

Model	R	R Square (r <sup>2</sup> )	Adjusted R Square	Std. Error of the Estimate
1	.234(a)	.055	-.064	11.10194
2	.638(b)	.407	.237	9.40023

*a Predictors: (Constant), T-Bill Rate*

**Table 4.8: ANOVA(c) Analysis for T Bill**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	424.395	2	212.198	2.401	.161(b)
	Residual	618.551	7	88.364		
	Total	1042.946	9			

*a Predictors: (Constant), T-Bill Rate*

*b Dependent Variable: Dividend Payout*

Based on the T-Bill analysis, the f value is significant and therefore we fail to reject the null hypothesis and conclude that the value is stationary. The t Test is conducted as shown in the table below.

### Coefficients (a)

The determination of the T – Test was conducted parallel to the F Test and findings recorded in the table below.

**Table 4.9: Coefficients (a)**

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
T-Bill Rate	2.267	1.112	.653	2.039	.081

*a Dependent Variable: Dividend Payout*

The t value in the above analysis is significantly positive at 2.039 after calculating the Coefficient. This is indicative of the fact that the alternative hypothesis is highly rejected and null hypothesis fails to be rejected.

**Table 4.10: Excluded Variables (b)**

Model	Beta In	t	Sig.	Partial	Collinearity Statistics	
				Correlation	Tolerance	
1	T-Bill Rate	.653(a)	2.039	.081	.610	.827

*a Predictors in the Model: (Constant), T Bill Rate*

*b Dependent Variable: Dividend Payout*

The consideration of the exclusive variables depicts that Dividend payout has a correlation with the T Bill ratio and thus cointegrated.

#### D) Unit Root Test on Volume of Money Supplied

The analysis below indicates the determination of the supply of money in volumes of millions in relation to the dividend payout indexes.

**Table 4.11: Model Summary (b) for Money supplied**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.048 <sup>a</sup>	.002	-.122	11.40486

*a Predictors: (Constant), volume of money supplied in millions*

*b Dependent Variable: Dividend Payout*

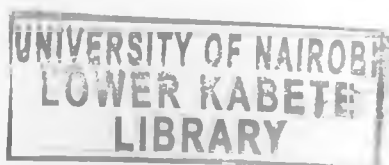
The coefficient of determination ( $r^2$ ) as shown in table 11 above indicates a very insignificant level of relationship between the money supply and dividend payout. An in-depth test was conducted and results shown in table 12 below.

**Table 4.12: ANOVA (b) Analysis for money supplied**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.379	1	2.379	.018	.896 <sup>a</sup>
	Residual	1040.567	8	130.071		
	Total	1042.946	9			

*a Predictors: (Constant), money supplied*

*b Dependent Variable: Dividend Payout*



It is evident from the above analysis that volume of money supplied has no impact on the dividend payout as shown by the non stationary value of .462. This means that we reject the null hypothesis. Alternatively, the t value in the T Test was significantly lower, recorded at -.135 as shown in table 13 and therefore money supply has insignificant weight in the dividend determination model.

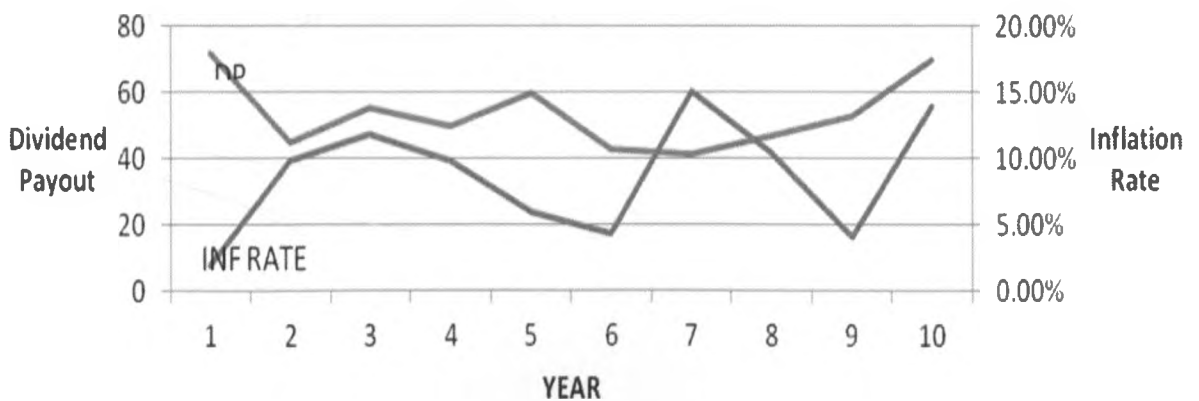
**Table 4. 13: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	55.018	11.246		4.892	.001
Money Supply	-1.544E-6	.000	-.048	-.135	.896

a. *Dependent Variable: Dividend Payout*

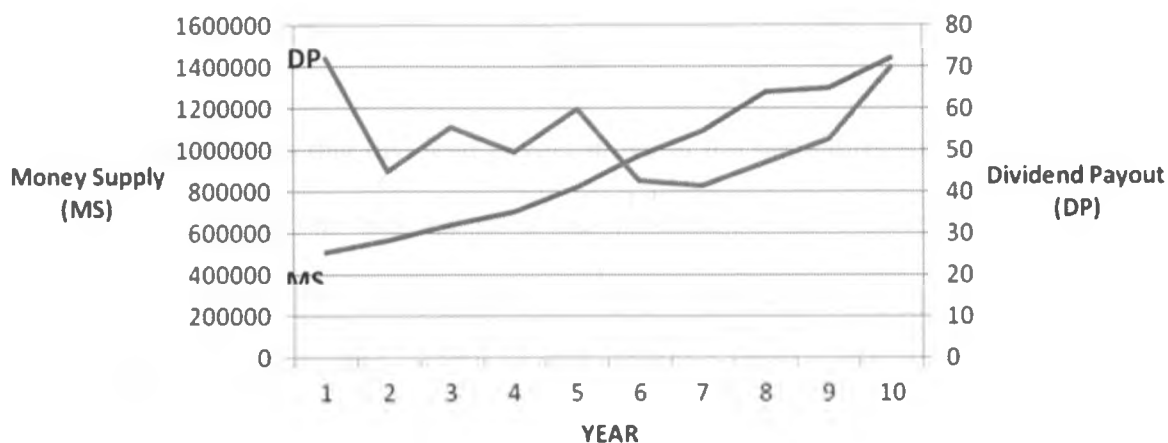
### 4.3 Graphical representations of the relationships between variables

**Figure 1 Graph: Dividend Payout vs. Inflation Rate**



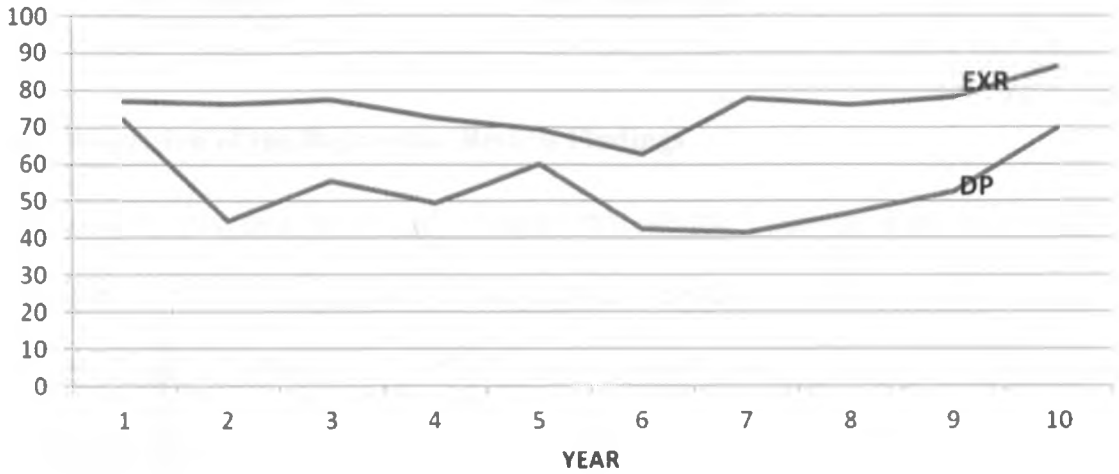
The graph above depicts the relationship between dividend payout and Inflation rate. The rate of inflation does not move in tandem with dividend payout. This shows that there is no correlation between inflation rate and dividend payout. Hence there is no impact of inflation dividend decisions.

**Figure 2 Graph: Dividend Payout vs. Money Supply**



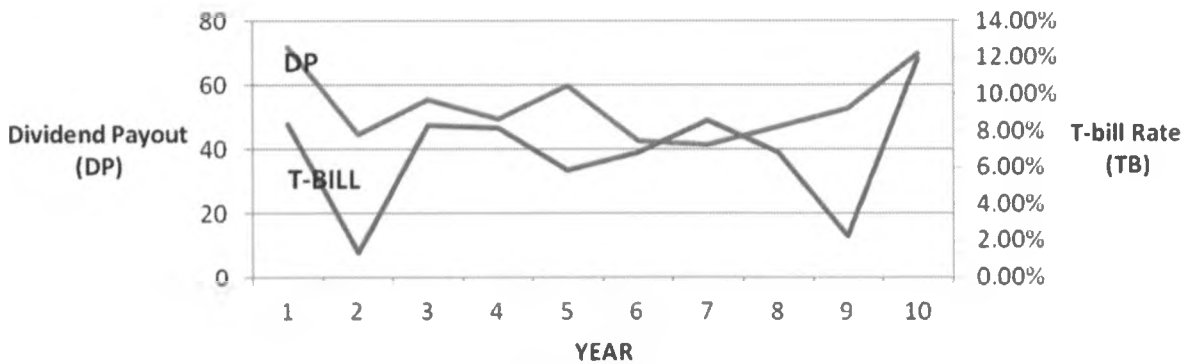
The above graph does not show a defined pattern between the variables. Dividend payout is independent of Money supply. There is no correlation between the variables. Hence, what managers' pay as dividend does not come as result of the volume of money supply in the market.

**Figure 3 Graph: Dividend Payout vs. Exchange Rate**



The above graph shows that dividend payout move in the same direction with exchange rate. As the US dollar rate increase so as the dividend payout. A correlation therefore exists. Hence, the level of exchange rate in the market has an impact on what managers pay as dividend to the investors.

**Figure 4 Graph: Dividend Payout vs. T-Bill Rate**



Though the relation is not persistent, generally, dividend payout moves in the same direction with T-bill rate. Therefore a correlation exists between DP and T-bill rate.

Hence, what the CBK pegs as interest to be paid on treasury bills has a direct impact on what managers decide to pay as dividend and what investors receive.

#### **4.4 Discussion of the Regression Results Findings**

In summary, the unit test results indicate that all the Exchange Rate and T-Bill rate variables are  $H_1$ , meaning that the study failed to reject while for the volume of money supplied and the Inflation rate are  $H_0$ ; meaning that the two variables have no impact on dividend payout.

## CHAPTER FIVE

### 5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Summary

After the analysis was connected with the literature, a patent depiction of correlation between the variables was provided. The R-Squared was used to determine the portion of the deviation of dependent variable in which the regression equation clearly explains.

In the model used in this study, the coefficient of determination ( $r^2$ ) is equivalent to .055 as shown in the table 1 above. It seems evident that this denotes 5.5% coverage of the changes in the dependent variable can be explained by the changes in the predictor variable. The variation of 94.5% would therefore be left unexplained. Intuitively then, the study reveals that inflation rate has no effect on dividend payout.

In consideration with the other Macroeconomic variables (EXR, MS, T-bill rate), It can now be summed up in a simple trend line multiple regression model, by using the regression coefficients, thus the equation:

$$\text{~~~~} \textit{Dividend Payout} = - 1.504 + 2.646 \textit{EXR} - 0.680 \textit{INF} - 0.135 \textit{MS} + 2.039 \textit{TBR} \textit{~~~~}$$

It should be noted that the foregoing depicts a direct correlation between EXR, T-Bill Rate and DP INDEX. Based on the foregoing analysis, it could be noted that there exist converse correlation between INF, MS and DP INDEX as revealed in the findings in this study.

Going with the outlined model above, it then shows that the exchange rate has more weight in the explanation of dividend payout as is also seen with the T-bill rate. Where as money supply has little effect on the negative direction.



## **5.2 Conclusion**

The Kenya national Bureau of Statistics was a key in providing key statistical data during this study to form part of the report. The objective of this study was to determine effect of inflation on Dividend payout on the companies listed at the NSE using time series data covering the year 2002 to 2011. The data integrated in this study also aimed at finding the relationship between dividend payout and selected macroeconomic variables which include Foreign Exchange Rates, T – Bill Rates and Volume of Money Supply. The estimation procedure takes into account the recent developments in time series modeling.

The expectation of the study that inflation has an effect on dividend was nullified. According to these results of the study, it can hence be concluded that, inflation has no positive impact on dividend payout.

Based on the foregoing, the results of the analysis revealed that Exchange rate and T-Bill rate variables integrated of order one  $I(1)$ , except volumes of money supply and Inflation rate which are integrated of order zero ( $I(0)$ ).

## **5.3 Recommendations**

Given the analysis conducted, the NSE listed companies have shown no reaction to inflation on dividend payout. However T-bill rate and Exchange rate seem to give the direction on the amount of dividend to be paid that firms can take note of.

Dividend is a sticky issue. Data collected showed that despite the hard economic times experienced, companies still paid dividend. Hence there seem to be other factors that explain dividend payout that researchers are yet to find as stated by Black (1976). Conversely, the fact that exchange rate and T-bill rate has some positive correlation with dividend payout; they however do not determine the amount of dividend firms pay. The decision of whether to pay and by how much still rests with managers.

The Exchange rate and The T-bill rate have shown to be very important ingredients in forming financial decisions. Hence to stabilize and manage the economy, it is suggested that the government should aim at stabilizing these variables.

#### **5.4 Suggestions for further research**

This study considered all the sectors of economy represented at the NSE. To delineate and clearly show the effects of inflation on a particular sector, a sector by sector study should be conducted to reveal how each sector responds.

The study period was 10 years. This is relatively a short period. An expansive period of more than 10 years can be considered so as to know the long term effects of inflation on dividend payout.

The study considered nominal dividends paid. Since dividend is considered a sticky issue, that is dividend seem to be paid in disregard of the economic situations, a study should be

carried out to show the effects of inflation on earnings per share. This is because dividend is normally paid out after realizing what each share has earned.

Managers sometimes pay dividend because of other factors, such as the industry trend, industry leader behaviour, pressure from investors or stakeholders among many other factors. A study can be carried out to find out the independent views of the managers of firms on dividend payout considering inflationary periods.

#### **5.4 Limitations of the study**

The study considered a period of 10 years. This period is long enough to be affected by some confounding effects. Hence other factors/events could have influenced the study findings other than inflation.

The study considered firms listed at the Nairobi Securities Exchange only. There are other firms in almost all the sectors of the economy that pay dividends and are not quoted at the NSE. Hence the study findings may not fully represent the behaviour of the whole economy towards inflation as far as dividend payout is concerned.

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## **APPENDICES**

### **Appendix 1: Letter of introduction**

**University of Nairobi  
Mombasa Campus**

#### **TO WHOM IT MAY CONCERN**

The bearer of this letter, Mlangi Mambo of registration number D61/60346/2010 is a Master of Business Administration (MBA) student of the University of Nairobi, Mombasa Campus.

He is required to submit as part of his coursework assessment a research project report. We would like the student to do his project on Relationship between Dividend Payout and Inflation for Companies listed at the Nairobi Securities Exchange. We would, therefore, appreciate if you assist him by allowing him to collect data within your organization for the research.

The results of the report will be used solely for academic purposes and copy of the same will be availed to the interviewed organization on request.

Thank you.

**ZEPHANIAH OGERO NYAGWOKA  
ASSIST. ADMINISTRATIVE, SOB, MOMBASA CAMPUS**

## **Appendix 2: Listed companies at the Nairobi Securities Exchange**

### **Agricultural sector**

Eaagads Ltd

Kapchurua Tea Co. Ltd

Kakuzi

Limuru Tea Co. Ltd

Rea Vipingo plantations Ltd

Sasin

Williamson Tea Kenya Ltd

### **Commercial and Services Sector**

Express Ltd

Kenya Airways Ltd

Nation Media Group

Standard Group

TPS Eastern Africa (Serena) Ltd

Scan Group Ltd

Uchumi Supermarket Ltd

Hutchings Biemer Ltd

Longhorn Kenya Ltd

### **Telecommunication and Technology Sector**

Access Kenya Group Ltd

Safaricom Ltd

### **Automobiles and Accessories**

Car and General (k) Ltd

CMC holdings Ltd

Sameer Africa Ltd

Marshalls (E.A) Ltd

### **Banking Sector**

Barclays Bank Ltd

CFC Stanbic Holdings Ltd

Diamond Trust Bank Kenya Ltd

Housing Finance Company Co. Ltd

Kenya Commercial Bank Ltd

National Bank of Kenya Ltd

NIC Bank Ltd

Standard Chartered Bank Ltd

Equity Bank Ltd

The co-operative Bank of Kenya Ltd

### **Insurance Sector**

Jubilee Holdings Ltd

Pan Africa Insurance Holdings Ltd

Kenya Re-Insurance Corporation Ltd

CFC Insurance Holdings

British American Investment Company (Kenya) Ltd

### **Investment Sector**

City Trust Ltd

Olympia Capital Holdings

Centum Capital Holdings

Trans-Century Ltd

### **Commercial and Allied Sector**

B.O.C Kenya Ltd

British American Tobacco Kenya Ltd

Carbacid Investments Ltd

East Africa Breweries Ltd

Mumias Sugar Co. Ltd

Unga Group Ltd

Eveready East Africa Ltd

Kenya Orchards Ltd

A. Baumann Co. Ltd

**Construction and Allied Sector**

Athi River mining

Bamburi Cement Ltd

Crown Berger Ltd

E.A. Cables Ltd

E.A. Portland and Cement Ltd

**Energy and Petroleum Sector**

Kengen Ltd

Kenolkobil Ltd

Kenya Power LIGHTING Co. Ltd

Total Kenya Ltd

Source: <http://www.nse.co.ke/market-statistics/equity-statistics.html>. July 15, 2012.

**Appendix 3: Sample selection of firms quoted at NSE that paid dividends**

AGRICULTURE SECTOR	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	TOTAL
Kapchorua Tea	0.5	3.75	3.75	5	0.5	5	0.5	2.5	6.25	7.5	35.25
Sasini	0.5	0	1	0	1	0	0	0.2	0.3	0.5	3.5
Williamson Tea	0.5	0	3.75	5	0.5	0	0.5	4	6.25	12.5	33
<b>COMMERCIAL &amp; SERVICES SECTOR</b>											
Kenya Airways	0.6	0.5	0	1.25	0	1.75	1.75	1	1	1.5	9.35
Nation Media	1.6	1.75	0	5	15	5	7.5	4	4	4	47.85
TPS Eastern A.(Serena)	1.1	1.1	1.1	1.1	1.25	1.25	1.25	1.25	1.25	1.25	11.9
<b>AUTOMOBILE &amp; ACCESSORIES SECTOR</b>											
CMC Holdings	0.75	1	1	1	1.5	2.3	0.35	0.45	0.35	0.2	8.9
Sameer Africa	0.5	1	0.25	0.5	0.5	0	0	0	0.5	0	3.25
<b>BANKING SECTOR</b>											
Barclays	11.25	6	8	11	11	1.2	1.15	1.5	2	4.7	57.8
NIC Bank	1	1.4	1.65	1.7	1.8	1.9	0.8	0.25	0.25	0.25	11
SCBK	4.25	3.85	4.1	2.1	3.5	4.1	5	5	7	8.5	47.4
<b>INSURANCE SECTOR</b>											
Jubilee	1.25	1.25	1.75	1.75	3.25	3.25	3.25	3.25	3.5	4.5	27
<b>INVESTMENTS SECTOR</b>											
City Trust	2	2.25	6.25	2.75	3.1	3.75	0.5	1	4	4	29.6

<b>COMMERCIAL &amp; ALLIED SECTOR</b>											
B.O.C	3.35	3.35	3.5	4.25	4.25	0	6.25	0	4.8	7.4	37.5
Carbacid	22	2.25	2.25	0	3	5	5	10	3	3	55.5
EABL	9	12	14.25	3	4.15	5.55	5.65	5.55	6.25	6.25	71.65
<b>CONSTRUCTION AND ALLIED SECTOR</b>											
ARM	0.3	0.1	0.1	0	0.75	1	1.25	1.25	1.5	1.75	8
E.A.Cables	1.1	1.5	1	1.75	3.5	0.5	0.9	1	0.5	1	12.75
E.A. Portland & Cement	1	1.75	1	1.75	3.5	0.5	0.9	1	0.5	1	12.75
<b>ENERGY &amp; PETROLEUM SECTOR</b>											
Kenolkobil	9.5	0	0	0	0	0	0	3.5	0	0.52	13.52
<b>TOTAL</b>	<b>72.05</b>	<b>44.8</b>	<b>55.45</b>	<b>49.65</b>	<b>59.85</b>	<b>42.85</b>	<b>41.6</b>	<b>47</b>	<b>52.7</b>	<b>69.82</b>	<b>535.77</b>