

**THE EFFECT OF LENDING INTEREST RATES ON THE
PERFORMANCE OF THE NAIROBI SECURITIES EXCHANGE**

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D61/80294/2012**

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

NOVEMBER 2014

DECLARATION

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

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ACKNOWLEDGEMENTS

My indebtedness and gratitude is to the many individuals who have uniquely helped shape my education and life. I wish to record my immense indebtedness to the following individuals for all the assistance they have accorded me.

My sincere appreciation goes to my supervisor, Mr. Herick Ondigo, for the professional guidance he gave me while doing my research paper. I could not think of a better person to be my supervisor. I cannot afford to forget the University of Nairobi for shaping me to be who I am today. I am also indebted to my family for the resources and support they have given me. In addition my sincere appreciation goes to a great number of friends (far too many to mention individually). My greatest thanks goes to God, He was, is and will always be.

DEDICATION

I dedicate this research paper to my adorable family, my mother, Susan Okoth, My wife Mary Julian, my Son William Ongaya, my niece Stacy Akinyi and my nephew Rowan Okello for their prayers, endurance, encouragement, financial and moral support during the time I was pursuing this programme.

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey Fuller
ANOVA	Analysis of Variance
APT	Arbitrage Pricing Model
CAPM	Capital Asset Pricing Model
CBK	Central Bank of Kenya
CBR	Central Bank Rate
CMA	Capital Markets Authority
GDP	Gross Domestic Product
GSE	Ghana Stock Exchange
IRF	Impulse Response Functions
KENGEN	Kenya Electricity Generating Company.
NSE	Nairobi Securities Exchange
SSA	Sub Saharan Africa
US	United States of America.
VAR	Vector Auto Regression
VECM	Vector Error Correction Model.

ABSTRACT

The stock market fulfills a central function in the economy, bringing together savers and investors (providers of capital) on the one hand with companies and the state (borrowers) on the other. Without this mediator, the capital providers and borrowers would have to negotiate directly, which would generate heavy search and information costs. Whereas companies and the state often require large sums of long-term capital, most of the savers and investors want to provide small amounts for relatively shorter time periods. The stock market makes possible an optimal and efficient reconciliation of interests between these groups. Savers and investors can buy and sell securities on the exchange at any time, without directly affecting the companies. The relationship between interest rates and the performance of the stock exchange has been the subject of research by scores of researchers especially in the developed economies whereby the findings have been contradicting. The objective of this study was to establish the relationship between lending interest rates and the performance of stocks at the Nairobi securities exchange. Secondary data was obtained from NSE and Central Bank of Kenya and analyzed using regression on descriptive data with aid of SPSS. The data obtained from the Nairobi securities exchange and the central bank of Kenya for the period January 2011 to December 2013. The study found that lending interest rates are negatively related to NSE performance. However, at 95% confidence level, the effect of lending interest rates on NSE performance was not significant (p value of 0.56458). Further, the study found that exchange rates are negatively related to NSE performance even though the relationship was weak. Inflation was found to have strong, negative and significant effect on NSE performance. The negative effect of inflation on NSE performance is stronger than that of lending interest rates and exchange rates. The study recommended that the regulators to formulate and implement policies to ensure that inflation rates, lending interest rates and exchange rates remain low as possible so as to boost performance of NSE.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A number of macroeconomic and financial variables that influence the stock market have been documented in recent empirical studies, without a consensus on their appropriateness as regressors. Frequently cited variables are GDP, price level, industrial production rate, interest rate, exchange rate, current account balance, unemployment rate and fiscal balance. Very few studies have been carried out examining the direct effects of the above variables on the Nairobi Securities Exchange. This paper investigates empirically the dynamic effects of changes in lending rates on the overall performance of the Nairobi Securities Exchange.

Corrado and Jordan (2002) assert that interest rate is one of the important macroeconomic variables, which is directly related to economic growth. Generally, interest rate is considered as the cost of capital means, the price paid for the use of money for a period of time. From the point of view of a borrower, interest rate is the cost of borrowing money (borrowing rate). From a lender's point of view, interest rate is the fee charged for lending money (lending rate). In this study, lending rate and interest rate will be used interchangeably.

According to Aggarwal (2010), an increase in the interest rate raises the cost of funds. This will have an impact on businesses as well as investors. Because it is more attractive to put the money in banks, businesses will slowdown the implementation of their business plans and investors will reduce their investments in the financial markets. Bartram (2002) adds that the precise impact will depend on, among other factors such as the absolute level of the interest rate – if the interest rate is at a very low level, the impact of an increase in the interest rate is less apparent; and the perception about the interest rate hikes – if the hikes are perceived to be precautionary in nature to avoid inflation in advance, the impact of an increase in the interest rate is less apparent.

The equity markets indeed form a major component in the financial sectors of developing countries such as Kenya, which underlines their potency in contributing to economic growth and development. Substantial evidence in support of stock markets as drivers of economic growth has been stipulated in economic literature (Olweny and Kimani, 2011). The importance of a stock market according to Nyamongo and Misati (2010) can be justified by the following functions it performs namely to: channel savings in to investments; convert investments into cash thus supplying market liquidity; to evaluate and manage securities.

There are many factors that affect the performance of the stock market. Moya, Lapena and Sotos (2013) argue that political factors, economic factors, external and company specific factors affect the performance of stock exchanges. The stock indices are affected by economic growth, monetary policies, political issues, fiscal policies, exchange rate and international issues. For a company's stock price, the factors that affect the price can be the company profitability, sales, balance sheet, board of directors, new product launching and so on.

Hasan and Tarij (2009) affirm that the performance of the stock market is of utmost importance to investors, policy makers and the likes. The measures of stock market performance include market capitalization; which measures stock market size, stock market liquidity which refers to the ability of investors to buy and sell securities easily. Others are All Share Index; which reflects the performance and condition of the stock market, and the turnover ratio; which is an index of comparison for market liquidity rating and level of transaction costs.

1.1.1 Lending Interest Rates

Interest rate is a price that relates to present claims on resources relative to future claims on resources. It is the price a borrower pays in order to be able to consume resources now, (Ngumo, 2012). Correspondingly, it is therefore the price that a lender receives to forego current consumption in order to take advantage of consumption of resources at

some point in future. In the real world, price changes are anticipated and this anticipation is part of the process that determines interest rates.

According to (Keynes 1936), interest rates represent the cost of borrowing capital for a given period of time. Due to the fact that borrowing is a significant source of finance for many firms, prevailing interest rates are of much concern to many firms because of indexing of interest rates in some borrowing arrangement; interest rates continue to affect a firm for the whole period that the borrowing arrangement is outstanding (Keynes 1936).

Interest rate is normally determined by the supply and demand, but it is also determined by the monetary policy of a country according to its economic situation. Higher interest rate in saving will be attracted for investors to keep in the bank rather than invest in the risky stock market. Conversely, investors will be involved in the stock market rather than bank account if the risk free return is having in downturn (Zafar, Urooj and Durrani, 2008).

1.1.2 Performance of Stock Market

Performance of stock market is measured broadly by indicators of stock market growth and market size in terms of market capitalization, liquidity of the market, market concentration, degree of listing, volatility in the market, foreign portfolio investment and integration of the market (Masila, 2010).

Market capitalization ratio equals the value of listed shares divided by GDP. Analysts frequently use the ratio as a measure of stock performance. In terms of economic significance, the assumption behind market capitalization is that market size is positively correlated with the ability to mobilize capital and diversify risk on an economy wide basis (Agarwal 1981). Levine and Zervos (1998) used the market capitalization to GDP ratio as an indicator of market performance. The second indicator of performance is the number of listed companies. The rationale of including this measure is that as the number of listed company increases, available securities and trading volume also increases. Additionally liquidity can also be used as a measure of performance.

Analysts generally use the term liquidity to refer to the ability to easily buy and sell securities. A comprehensive measure of liquidity would include all the costs associated with trading, including the time costs and uncertainty of finding a counterpart and settling the trade. As the direct measure of liquidity is beset with complexity, analysts typically use proxy measures of liquidity.

Standard and Poors (2005) observes that Total value traded to GDP equals total value of shares traded on the stock market divided by GDP. The total value traded ratio measures the organized trading of equities as a share of national output. The total value traded/GDP ratio complements the market capitalization ratio. Together, market capitalization and total value traded/GDP inform us about market size and liquidity. On the other hand, turnover ratio equals the value of total shares traded divided by market capitalization. High turnover ratio is often used as an indicator of high level of liquidity. Turnover ratio also complements total value traded ratio. While total value traded /GDP captures trading compared with the size of the economy, turnover measures trading relative to the size of the stock market. Put it differently, a small, liquid market will have a high turnover ratio but a small total value traded/GDP ratio.

Market concentration can be measured by looking at the share of market capitalization accounted for by the large stocks or large sectors. These large stocks are seen as the leading 3 to 5 firms in the market (Maunder et al., 1991). Levine and Zervos (1998) affirm that in many economies only a few companies dominate the stock market. High concentration is not desirable as it can adversely affect liquidity, and it is common to find a negative correlation between concentration and liquidity. To measure the degree of market concentration, one computes the share of market capitalization accounted for by the ten largest stocks and five largest stocks and call this measure 'concentration'.

1.1.3. Effects of Lending Interest Rates on Stock Market Performance

Aggarwal (2010) argues that the effects of interest rates on the stock market performance greatly influences the prices of securities which are essentially determined by the net earnings of a corporation, and are hence directly proportional to the performance of the

company. A high interest rate environment adversely affects the prices of stocks and the eventual returns. For instance, an increase in interest rates in the economy forces lenders to hike their lending rates in order to compensate for the risk. This eventually, plays a significant role in barricading accessibility to funds for investment purposes eventually negating the prosperity and growth of the stock markets.

Chirchir (2012) argues that the volatility of interest rates may have a diverse effect across the economic spectrum in any country. For instance, interest rates will impact the cost of doing business. The effects of interest rates may ultimately be reflected in the stock prices. On the converse, performance of companies and businesses in Kenya may impact on economic growth. The economic growth may eventually affect levels of interest rates. Policy makers, scholars, economists, business owners, regulators and the general Kenyan public are grappling with figuring out the relationship of stock prices and interest rates.

It is argued that expected inflation is negatively correlated with anticipated real activity, which in turn is positively related to returns on the stock market. Therefore, stock market returns should be negatively correlated with expected inflation, which is often proxied by the short-term interest rate. In theory, the interest rates and the stock price have a negative correlation. This is because a rise in the interest rate reduces the present value of future dividend's income, which should depress stock prices. Conversely, low interest rates result in a lower opportunity cost of borrowing. Lower interest rates stimulate investments and economic activities, which would cause prices to rise (Corrado and Jordan, 2002).

Chirchir (2012) argues that the issue of whether stock prices and interest rates are related or not, is an important one especially with increased international trade and the integration of the global financial markets. If stock prices and interest rates are related and the causation runs from interest rates to stock prices then crises in the stock markets can be prevented by controlling the interest rates. Moreover, developing countries can exploit such a link to attract foreign portfolio investment in their own countries.

Similarly, if the causation runs from stock prices to interest rates then authorities can focus on domestic economic policies to stabilize the stock market.

1.1.4 Nairobi Securities Exchange

The Nairobi Securities Exchange has been known to react to changes in the interest rates regime. In trying to explain the relationship between the interest regime and the performance of the stock markets, various authors use different approaches. Olweny and Kimani (2011) argue that when the Central Bank of Kenya (CBK) increases the benchmark Central Bank Rate (CBR), it does not have an immediate impact on the stock market. Instead, the increased CBR has a single direct effect - it becomes more expensive for banks to borrow money from the CBK. Increases in the CBR also cause a ripple effect, however, and factors that influence both individuals and businesses are affected.

The first indirect effect of an increased CBR is that banks increase the rates that they charge their customers to borrow money. Individuals are affected through increases to personal loans, business loans, credit card and mortgage interest rates, especially if they carry a variable interest rate. This has the effect of decreasing the amount of money consumers can spend. People still have to pay the bills, and when those bills become more expensive, households are left with less disposable income. This means that people will spend less discretionary money, which will affect businesses' revenues and profits (Olweny and Kimani, 2014).

Chirchir (2012) established that changes in CBR affect the behavior of consumers and businesses, and that of the stock market. One method of valuing a company is to take the sum of all the expected future cash flows from that company discounted back to the present and dividing by the number of shares available. This price fluctuates as a result of the different expectations that people have about the company at different times. Because of those differences, they are willing to buy or sell shares at different prices. If a company is seen as cutting back on its growth spending or is making less profit, then the estimated amount of future cash flows will drop. All else being equal, this will lower the price of the company's stock.

If enough companies experience declines in their stock prices, the whole market, or the indexes (like NSE-20 Share Index) that many people equate with the market, will go down. For many investors, a declining market or stock price is not a desirable outcome. Investors wish to see their invested money increase in value. Such gains come from stock price appreciation, the payment of dividends - or both. With a lowered expectation in the growth and future cash flows of the company, investors will not get as much growth from stock price appreciation, making stock ownership less desirable.

1.2 Research Problem

The stock market fulfills a central function in the economy, bringing together savers and investors (providers of capital) on the one hand with companies and the state (borrowers) on the other. Without this mediator, the capital providers and borrowers would have to negotiate directly, which would generate heavy search and information costs. Whereas companies and the state often require large sums of long-term capital, most of the savers and investors want to provide small amounts for relatively shorter time periods. The stock market makes possible an optimal and efficient reconciliation of interests between these groups. Savers and investors can buy and sell securities on the exchange at any time, without directly affecting the companies (Dyer and Blair, 2014).

Emerging stock markets, like the NSE have been identified as being remotely integrated with the global capital markets. As a consequence, it has been argued that local macro-economic variables rather than world risk factors are the primary source of equity return variation in these markets. Several macroeconomic and financial variables that influence the stock market have been documented with variables such as GDP, price level, industrial production rate, interest rate, exchange rate, current account balance, unemployment rate, fiscal balance being cited (Masila, 2010).

In particular, the relationship between interest rates and the performance of the stock exchange has been the subject of research by scores of researchers especially in the developed economies.

Corrado & Jordan (2002) conclude that the relationship between stock market index and interest rate is that they are negatively correlated. When the interest rate is low, the stock market index will increase and vice versa.

Kasman, Vardar & Tunc (2011) argue that the rationale for a relationship between interest rates and stock market return is that stock prices and interest rates are negatively correlated. A higher interest rate ensuing from contractionary monetary policy usually affects stock market return negatively as investors tend to borrow less, limiting their ability to invest in the securities market and vice-versa. Kibet (2011), found out that there is a bidirectional causal relationship between exchange rate and share price that is negative causality exists in both directions. Nyamute (1998), concluded that there exist a positive relationship between stock prices and exchange rates. Another study in the same area by Chirchir (2012), found that there exists an insignificant negative relationship between share prices and interest rates.

The main difference between this study and that of Chirchir is that he did a causality test using Toda and Yamamoto (1995). This study will use regression analysis. Again Chirchir used monthly averages of stock prices and interest rates, this study shall narrow down to weekly rates and on a shorter period than the ten years covered by Chirchir. Chirchir recommends that further studies should be carried in that direction.

After reviewing the conflicting results as observed by the above studies, the study seeks to answer the question; Is there a relationship between lending interest rates and the performance of the NSE?

1.3 Research Objective

To establish the relationship between lending interest rates and the performance of stocks at the Nairobi Securities Exchange.

1.4 Value of the Study

Investors and potential investors will get to understand how changes in lending rates affect returns on the stock market and to what extent they affect their investment in the stock exchange. The results of the study is also guide local firms to identify periods that may be conducive to get listed on the stock market as well as assist investors to make good investment decisions. The results of the studies will also be of significance to researchers and students undertaking research on the effects of lending rates on the performance of the stock exchange. Additionally, the results have contributed to the body of knowledge on the effects of lending rates on the performance of stock markets.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical framework guiding the study, reviews literature on determinants of interest rate, the performance of the stock exchanges and the effect of interest rates on the performance of stock exchanges. Additionally, a summary is provided at the end of the literature review as well as a conceptual framework showing how the dependent and independent variables interact.

2.2 Theoretical Review

This section has reviewed the theory that is relevant and applicable to the study. This formed the theoretical basis of the study.

2.2.1 Efficient Market Hypothesis

The efficient market hypothesis as postulated by Fama (1970) asserts that it would be impossible consistently to outperform the market in an environment characterized by many competing investors, each with similar objectives and equal access to the same information. An efficient market is capable of quickly digesting new information on the economy, an industry, or the value of an enterprise and accurately reflecting it in securities prices. In such markets participants can expect to earn no more, nor less, than a fair return for the risks undertaken.

The weak form of the efficient market hypothesis describes a market in which historical price data are efficiently digested and, therefore, are useless for predicting subsequent stock price changes. This is distinguished from a semi-strong form under which all publicly available information is assumed to be fully discounted in current securities prices. Finally, the strong form describes a market in which not even those with privileged information can obtain superior investment results (Fama, 1970).

Das (2005) notes that policy makers, should feel free to conduct national macroeconomic policies without the fear of influencing capital formation and the stock trade process. Moreover, economic theory suggests that stock prices should reflect expectations about future corporate performance, and corporate profits generally reflect the level of economic activities. If stock prices accurately reflect the underlying fundamentals such as the rate of interest rates, then the stock prices should be employed as leading indicators of future economic activities, and not the other way around. Therefore, the causal relations and dynamic interactions among macroeconomic variables and stock prices are important in the formulation of the nation's macroeconomic policy.

Fama and Schwert (1977) argue that for the effect of macroeconomic variables such as interest rate on stock prices, the efficient market hypothesis suggests that competition among the profit-maximizing investors in an efficient market will ensure that all the relevant information currently known about changes in macroeconomic variables are fully reflected in current stock prices, so that investors will not be able to earn abnormal profit through prediction of the future stock market movements.

2.2.2 The Abstinance or Waiting Theory of Interest

This theory of interest is associated with the name of Senior (1872), according to this theory interest is a reward for abstinance. When a person saves money from his income and lends it to somebody else, he in fact makes sacrifice. Sacrifice in the sense that he abstains from consuming the whole of his income which he could have easily spent. As abstaining from consumption is disagreeable and painful, so the lender must be rewarded for this. Thus, according to .Senior, interest is the reward for abstinance from the use. This theory is rejected on the ground that saving does not necessarily involve discomfort or sacrifice. A millionaire may save and lend a major part of his income without undergoing any hardship or suffering.

Marshall (1890), Realizing this flaw in Senior's definition, substituted the term waiting for abstinence. According to Marshall, interest is the reward for waiting. When a man saves a part of his income, he simply postpones his present consumption to some future date. During a period when money is loaned, he himself might stand in need of money. But he cannot get it back from the borrower as the period of loan is fixed. He has to wait for the return of loan. In order to encourage the spirit of waiting amongst the lenders, some inducement is necessary and this inducement according to Marshall is interest.

2.2.3 The Classical Monetary Theory

This theory was initially formulated by Say in early 1847. It was known as Say's Law and this law was later on modified by Keynes in 1936. The classical economists argue that interest rates forces do not change real variables such as output and employment. Accordingly, money acts only as a medium of exchange and it facilitates transactions.

Mankiw (2003), revealed that in an expanding economy, the credit system can stimulate the economy depending on the demand pattern of the economy. He advocated that monetarists should pursue credit management system through the use of monetary instruments of interest rate to control any excessive credit expansion, which can lead to boom and then to slump.

2.2.4 The Behavioral Finance Theory

This theory arose from financial economists in the 1990's (Oslen, 1998). The efficient market hypothesis states that investors are rational, all relevant market information is immediately reflected in the stock prices and most investors cannot beat the market. Behavioral finance holds that markets are not perfect and investors are not rational but motivated by greed, fear and emotions. According to behaviorists, most investors let emotions overrule their rational analysis. Emotional investors listen to their gut instincts which help them focus on broader issues. They say even the most rational investors cannot totally eliminate emotion (Masila, 2010). Emotion is an important aspect of human condition that can actually enhance decision making.

Although behavioral finance theory says that investors can beat the market, behaviorist Richard Thaler, cautions that investors probably do not have skills to do so and neither do many active mutual fund managers. Emotions cannot be ignored at the NSE. We can remember the stock prices bubbles of east African cables of the year 2005. Oversubscription of Kengen shares during the initial public offer of 2005.

2.2.5 Arbitrage Pricing Theory

An asset pricing model based on the idea that an asset's returns can be predicted using the relationship between that same asset and many common risk factors. Created in 1976 by Ross, this theory predicts a relationship between the returns of a portfolio and the returns of a single asset through a linear combination of many independent macro-economic variables.

Ross identified the following macro-economic factors as significant in explaining security returns, surprises in inflation, surprises in gross national product as indicated by an industrial production index, surprises in investor confidence due to changes in default premium in corporate bonds, surprise shifts in the yield curve.

As a practical matter, indices or spot or futures market prices may be used in place of macro-economic factors, which are reported at low frequency (e.g. monthly) and often with significant estimation errors. Market indices are sometimes derived by means of factor analysis. More direct "indices" that might be used are: short term interest rates, the difference in long-term and short-term interest rates, a diversified stock index, oil prices, gold or other precious metal prices, Currency exchange rates.

2.3 Determinants of Stock Market Performance

Stock markets are expected to spur economic growth of any country by providing a boost to domestic savings and increasing the quality and quantity of investment. Stock markets encourage economic growth by providing an avenue for growing companies to raise capital at lower cost.

Nairobi securities exchange has an alternative market segment to offer this type of capital. Determinants of stock markets can be looked at in two approaches, one is institutional and the other is macroeconomic.

2.3.1 Interest Rates

This belongs to the part of macroeconomic. It affects the performance of stock from the point that supply of funds and demand for funds depend on the prevailing interest rates. From the supply of funds point of view funds will be borrowed from banks by investors at the prevailing interest rates. Lending interest rates will be viewed critically by investors in the short run against stock returns. It is argued that in the short run, the relationship between interest rates and stock prices will be negative because of arbitrage process.

Because lending rates emanate from financial institutions, most researchers substitute it with banking sector as a determinant. Boyd and Smith (1996) suggest that stock markets and banks may act as complements rather than as substitute source of capital source of capital. Kunt and Levin (1996) find that across countries the level of stock market development is positively correlated with development of financial intermediaries.

2.3.2 Legal and Regulatory Framework

Kasman, Vardar and Tunc (2011) observe that the regulatory and legal framework influences the functional efficiency of banking institutions and thus defines financial stability. In the reform process, financial stability is identified as a prerequisite for successful financial liberalization. Financial instability, with unsound and improperly supervised lending practices, increases the risk premium charged on loan rates and widens the spread and affects loan pricing. This is because weak supervision gives rise to moral hazard and adverse selection problems. With adequate supervision an increase in interest rates results in banks' rationing credit instead of taking new borrowers. However, regulatory differences across financial institutions destabilize the financial sector by diverting intermediation into the informal, less regulated and less taxed part of the sector.

Phylaktis and Ravazzolo (2005) add that the legal framework incorporates the adequacy of commercial law and the efficiency with which the judicial system makes and enforces legal decisions. Weaknesses in enforcement of financial contracts create credit management problems and the premium charged on credit increases. This is because banks are unable to make agreements that limit the ability of borrowers to divert funds away from the intended purpose, to disclose accurate information on borrowers, and to write easily enforceable legal contracts. A weak legal system without clearly spelled out property rights denies the diversity of institutions a chance to diversify risk. Banks have no incentive to invest in information and human capital, which propels the information asymmetry problem.

2.3.3 Taxation

Saunders, Lewis and Thornhill (2009) argue that implicit and explicit taxes widen the interest spread as they increase the intermediation costs. These include: reserve requirement, withholding taxes, stamp duties, transaction taxes, and value added taxes, profit taxes and license fees. Reserve and liquidity requirements, mandatory investment levels, and interest controls are categorized as implicit taxes. A reserve requirement with no interest payment tends to have a higher opportunity cost as it squeezes the excess reserve available for banks to advance credit, reducing the bank's income earning asset.

Kim and In (2007) are of the opinion that explicit taxes, just like the implicit taxes on the financial intermediation process, may provide a negative effective protection to the domestic financial system and encourage financial intermediation abroad especially if there is tax discrimination. Tax discrimination also leads to financial sector instability by driving intermediation into the informal, less regulated and less taxed part of the market. The presence of explicit and implicit taxes also discourages the development of the inter-bank market, which can play a major role in improving resource allocation and the effectiveness of monetary policy. With heavy taxation at the interbank market, all financial transactions make short-term overnight borrowing uneconomical, and increase the reliance on central bank discount facilities that provide inexpensive and unlimited loans to banks in need of funds.

2.3.4 Real Income Levels

Real income has been found to be highly correlated with the stock market size. Higher volume of intermediation through stocks market causes higher real income growth. Higher income growth in turn promotes development in stock market (Masila, 2010).

A key constraint for sub Saharan Africa, (SSA) countries is the low savings rates which limits intermediation through the stock market development. On average, 96 percent of SSA had negative savings investment gap between 1991 and 2007. Only the resource rich countries such as Angola Botswana, Congo, Gabon Lesotho and Nigeria experienced positive savings-investment balances in 2007. Foreign savings is thus an important source of development finance for SSA countries. The SSA countries run current account deficits as they expand domestic investment beyond the available resources from domestic savers through reliance on foreign savings. Typically the savings shortfall pertains to both public and private sectors. The public sector shortfall tends to crowd out investments in the in the private sector by limiting the flow of private savings available for domestic intermediation. Thus very low domestic savings is a major constraint on capital market development in SSA countries.

2.4 Empirical Review

Several studies have been carried in this area. What comes out clearly is that there should be more research in this area. Some of the studies are discussed below.

2.4.1 International Evidence

Thang (2009), Studied empirically the nature of the impact of the exchange rate and interest rate on Malaysia stock market index in the year 2009. His research methodology was conducted as follows. Prior to testing for cointegration, Augmented Dickey Fuller (ADF) unit root test is performed. All the variables in this study are stationary at first difference, that is I(1) variables. Johansen Juselius (JJ) cointegration test, Vector Error Correction Model (VECM) and Granger Causality test were applied to search for the long run and short-run impacts respectively.

His findings were that, interest rate and the exchange rate have negative impact on the stock market index in the long run as well as the short run. Enyaah (2011) studied the effects of interest rates and exchange rates on the stock returns in Ghana. His study determined the effects of some macroeconomic factors that influence stock prices in Ghana, establish their relationship with stock prices and possibly use them to predict the likely changes in stock prices as a result of changes in these macroeconomic variables.

The famous cointegration methodology was applied on monthly data of Ghana Stock Exchange All-share Index and the respective macroeconomic variables from January 2000 through December 2010 to determine the extent to which these macroeconomic variables influence the stock market returns. The study established that a long-run equilibrium and causal relationship exists between the dependent variable; GSE All-share index and the two independent variables under consideration namely, interest rate and exchange rate. It was also determined that in the short-run, effects of Interest rate and exchange rate volatility on Ghana Stock Exchange are nearly imaginary.

Pallegedara (2012) examines the dynamic relationships between stock market performance and the interest rates in Sri Lanka during June 2004 to April 2011. He used all share price index in the Colombo stock exchange as a measure of stock market performance indicator and Sri Lanka interbank offer rate as a measure of interest rate. He employed some conventional time series econometric techniques namely Unit root test, cointegration test, vector auto correction model (VECM), Granger-Causality test and Impulse response functions (IRF) to trace out the relationships between stock market index and interest rate. The findings of interest include stock market performance is negatively associated with interest rate in the long run while no causal relationship is found in the short run.

Hamdan (2014) studied the impact of interest rate on stock market in Pakistan, his research paper was an endeavor to make a model, to find out the connection involving stockmarket and interest rate (Pakistani market) and to run certain tests related to statistical analysis.

These tests run with the help of month end closing stock prices of Karachi Stock Exchange and interest rates of previous ten years; that is from January, 2004 to December, 2013. Correlation, Regression analysis and descriptive analysis were run to find out the blow of interest rate on stock market of Pakistan. His findings were that interest rate has a negative impact on stock market, higher the interest rate lower the efficiency of stock market, it is because if investors are getting higher without taking any risk then why should they invest in stock market, so for a better economy the ruling state should lower its interest rate so that economy of that country gets developed.

2.4.2 Local Evidence

Nyamute (1998) studied the relationship between stock prices and other financial variables like money supply, interest rates, inflation rates and exchange rates in Kenya. She performed a regression analysis on non-stationary series. The findings were that, there exist a positive relationship between stock prices and exchange rates.

Chirchir (2012) did a study on how changes in interest rates (represented by the weighted average lending rate by commercial banks in Kenya) and stock prices (proxied by the NSE 20 share index) are related to each other for Kenya over the period October 2002- September 2012. The research used Toda and Yamamoto (1995) method to determine the relationship between stock prices and interest rates. He argued that the method was applicable whether the Vector Auto Regression (VAR) may be stationary (around a deterministic trend), integrated of an arbitrary order, or cointegrated of an arbitrary order, referring to Toda and Yamamoto, (1995). His results indicated that there is no significant causal relationship between interest rate and share price. As regards the sign of causality, negative causality exists in both directions.

Ngumo (2012) studied the effect of interest rates on the financial performance of firms offering mortgages in Kenya. She obtained her data from the CMA and the CBK. She used 33 registered mortgage firms as at December 2011. She used multiple linear regression analysis on the data at 95% significant level. Her findings were that there exist positive relationship between interest rates and financial performance of mortgage

offering firms in Kenya.

Njoroge (2013) in his study of the relationship between interest rates and financial performance of the firms listed at the NSE. The study covered five years from 2008 to 2012, inclusive. The research was based on secondary data obtained from the published financial statements and central bank of Kenya. He employed regression analysis to assess the causal relationship. His findings were that there was an insignificant positive relationship between interest rates and financial performance of firms listed at the stock exchange.

2.5 Summary of Literature Review

The several studies that have been carried out in this area give interesting results. All of these researchers recommend further studies to be done in this area. From the international to local researchers, it comes out clearly that the results are not consistent. The results range from negative relationship to positive relationship. Several ways of research methods were used ranging from Toda and Yamamoto (1995) to multiple regression analysis.

Using regression analysis, local researchers; Nyamute (1998), Ngumo (2012) and Njoroge (2013), found different results, the results range from insignificant positive to positive relationship. International researcher, (Hamdan, 2012) used regression and found a negative relationship between interest rates and stock prices. These studies however do not agree on the level and the direction of the relationship that exist between lending interest rates and stock market performance. The theories clearly show that investments must have some rewards which affect decisions. This reward is interest. The level of effect though not clearly stated.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section describes the research methods to be used in the study. It specifies the research design, target population, sample design, data collection instruments and procedures, and the data analysis and presentation.

3.2 Research Design

Saunders, Lewis and Thornhill (1999) assert that the research design constitutes the blueprint for the collection, measurement, and analysis of data. It refers to the overall strategy chosen to integrate the different components of the study in a coherent and logical way, thereby, ensuring that the research problem is adequately addressed.

A descriptive research design was adopted in this study. A descriptive research design determines and reports the way things are and uses a pre-planned design for analysis (Mugenda and Mugenda, 2003). A descriptive research design is used when data is collected to describe persons, organizations, settings, or phenomena. This design was used because the researcher used an empirical design in which secondary data was analyzed and tested. This design helped in building on what is already known in the subject area. The research was designed to perform a causality test.

3.3 Data Collection

The researcher used secondary data obtained from the Nairobi securities exchange and the central bank of Kenya. NSE provided data relating to performance of stocks on daily basis for the last three years starting 1st January 2011 to 31st December, 2013 both dates inclusive. CBK provided the monthly lending interest rates being deduced from the commercial banks lending rates for the periods between, 1st January, 2011 to 31st December, 2013 both dates inclusive. Other data needed for analysis such as inflation rate and exchange rates were also obtained from CBK.

3.4 Data Analysis

The data generated from structured publications was coded, numbered and classified under different variables for easy identification and then summarized in answer summary sheet. Similarly, responses from unstructured publications on opinion testing were recorded in a separate sheet and organized in themes. Regression Analysis was used to analyze the secondary data of quantitative nature. Statistical Package for Social Science (SPSS) was used to analyze the data.

3.4.1 Analytical Model

To enable us achieve our objective, we shall use the following equation.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E$$

Where

Y is the market performance as measured by the NSE total turnover.

α is the constant.

X_1 is lending interest rates as provided by the CBK.

X_2 is Exchange rates as measured by USD/Ksh average rate as provided by CBK.

X_3 is Monthly inflation rates as provided by the CBK.

β_i is the coefficient of independent variable.(slope of regression equation)

E is the stochastic error term.

3.4.2 Test of Significance

The significance of the findings was tested using the z tests, t tests and ANOVA. The purpose of analysis of variance (Anova) is to test differences in means (for groups or variables) for statistical significance. This is accomplished by analyzing the variance, that is, by partitioning the total variance into the component that is due to true random error and the components that are due to differences between means. These latter variance components are then tested for statistical significance, and, if significant, we reject the null hypothesis of no differences between means and accept the alternative hypothesis that the means (in the population) are different from each other.

An F -test is used to test if the variances of two populations are equal. This test can be a two-tailed test or a one-tailed test. The two-tailed version tests against the alternative that the variances are not equal. The one-tailed version only tests in one direction that is the variance from the first population is either greater than or less than (but not both) the second population variance. The choice is determined by the problem. For example, if we are testing a new process, we may only be interested in knowing if the new process is less variable than the old process.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the study. In regards to this case study descriptive statistics were used to present the results followed by tables. The chapter is divided into section 4.2 which presents descriptive statistics, 4.3 on regression analysis and 4.4 on discussion and interpretation of findings.

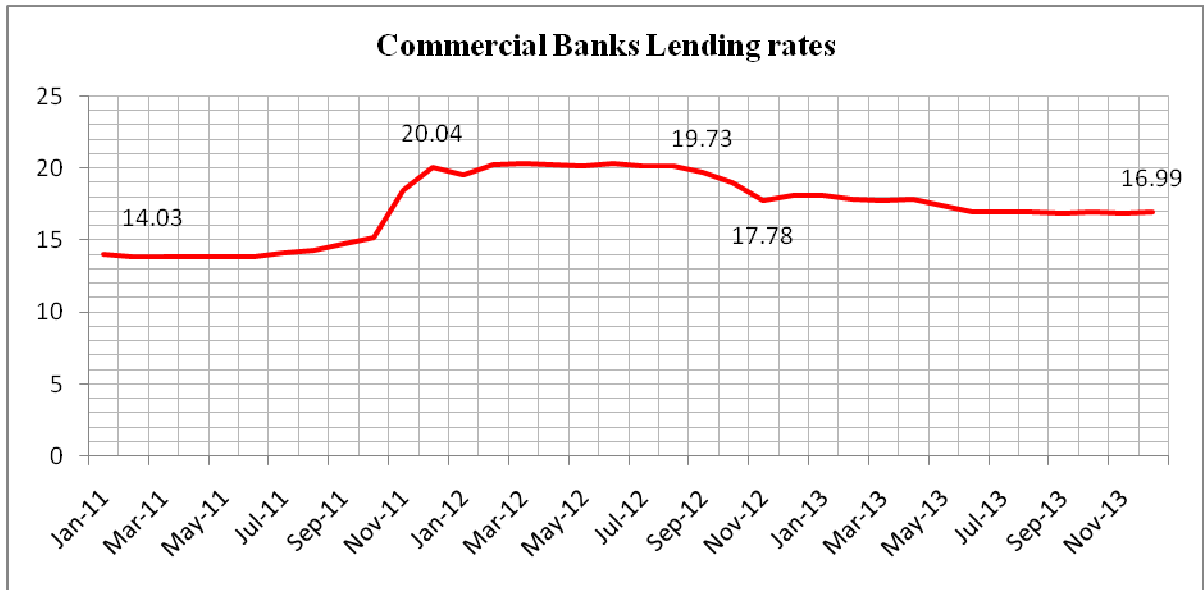
4.2 Descriptive Statistics

The data was analyzed and presented in line with the objectives of the study which was to establish the relationship between lending interest rates and stock performance at Nairobi Stock Exchange. The study variables were first described before the regression analysis was performed.

4.2.1 Lending Interest Rates Trend Analysis

Commercial banks lending interest rates remained stable for the month of January 2011 to September 2011 at 14% but started to rise in October 2011 to hit 20.04% mark in December 2011; this represents a growth of 43% on lending interest rates within 10 months. Interest rates remained high but stable up to September 2012 when they started to decline to from 20.04 in December 2011 to 19.73% in September 2012 then to 17.78% in November 2012. Thereafter, interests have been stable within a margin of 10% to close at 16.99% in November 2013. The details of the trend are given in figure 4.1 below.

Figure 4.1: Trend Analysis on Lending Interest Rates

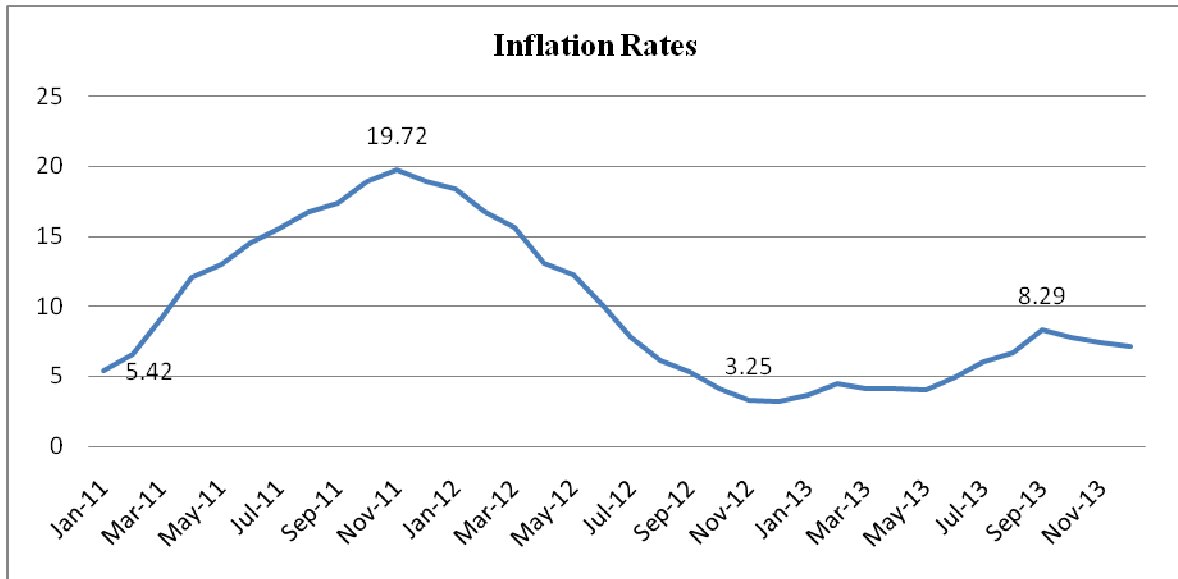


Source: Research Findings

4.2.2 Inflation Rates Trend Analysis

The trend analysis on monthly inflation rates are given in figure 4.2 below. As shown in figure 4.2 below, inflation rates in Kenya have been volatile for the period of study January 2011 to December 2013. In January 2011, monthly inflation rate was 5.43% rising to 19.72% in November 2011. This represents a 264% growth in inflation for a period of 10 months. From November 2011, inflations rates continued to decline steeply to 3.25% in November 2012 representing 84% decline in inflation in one year. Inflation rates increased to 8.29% in September 2013 after which they started to decline to close at 7.15% on December 2013. The trend is presented in figure 4.2 below.

Figure 4.2: Trend Analysis on Monthly Inflation Rates

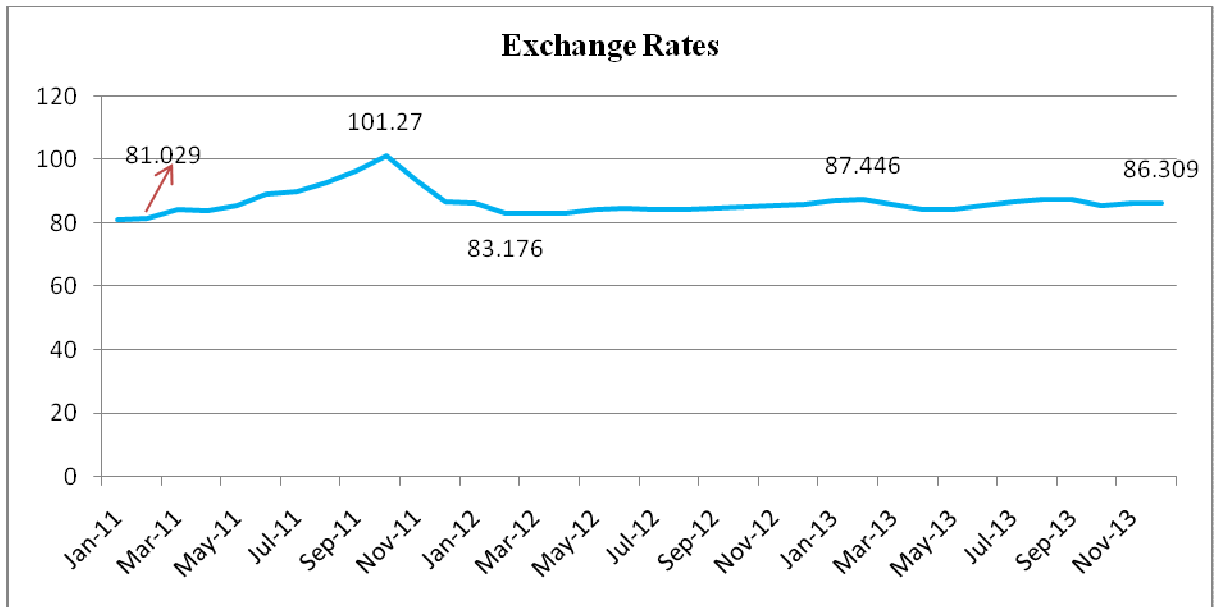


Source: Research Findings

4.2.3 Exchange Rates Trend Analysis

The United States Dollar rate against the Kenya shilling rates was used to determine the effect of exchange rates on NSE performance since it is the main international currency. As shown in figure 4.3 below, Kenya shilling versus the dollar rate moved from Ksh. 81.029 per dollar in January 2011 to Ksh. 101.27 per dollar in November 2011. The Kenya shilling thereafter continued to appreciate bring the exchange rate to 83.18 in January 2012. From March 2012, the Kenya shilling versus the USD rate remained stable to close at 86.309 in December 2013.

Figure 4.3: Exchange Rates Trend Analysis

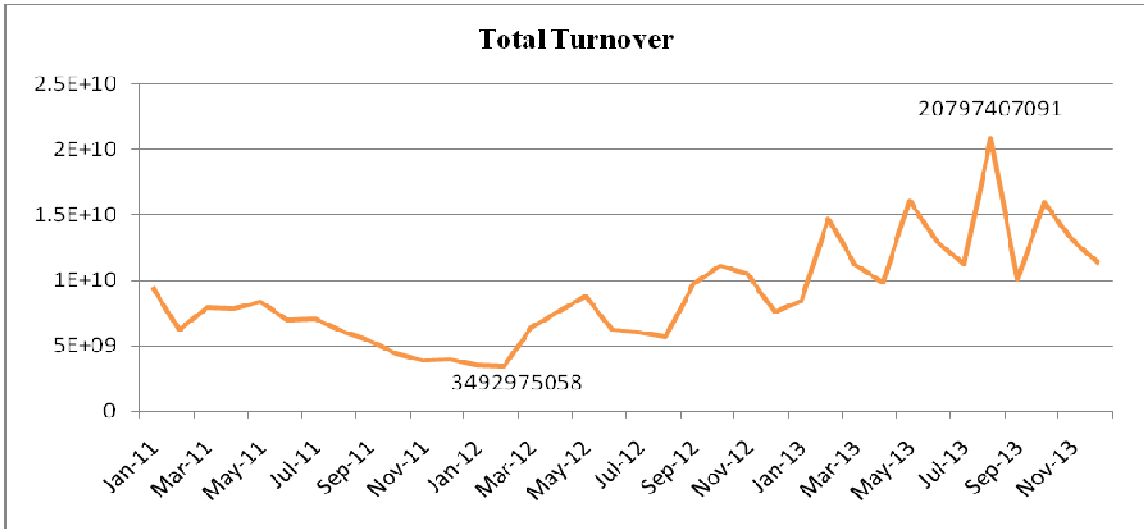


Source: Research Findings

4.2.4 Nairobi Securities Exchange Performance

The performance of NSE for the period remained volatile as shown in figure 4.4 below. The performance of NSE was declining for the period January 2011 to November 2011 with insignificant improvement in December 2011. The performance continued to deteriorate to hit the lowest point for the period of analysis on February 2012. Thereafter, on average, the performance continued to improve with up and down temporary movements observed.

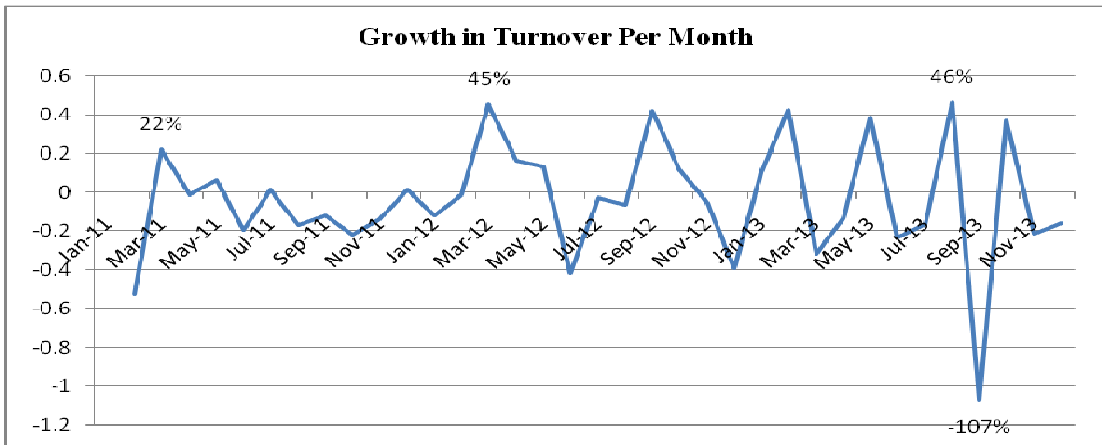
Figure 4.4: NSE Performance



Source: Research Findings

As shown in figure 4.5 below, NSE monthly turnover growth remained volatile with periods March 2011 to November 2012 recording continuous decline in turnover per month. From December 2011, monthly turnover started to grow with monthly fluctuations in performance observed. The highest growth rate in NSE performance for the period was observed in the Month of August 2013 where turnover increased by 46% months compared to July 2013 turnover. The highest decline in monthly turnover was recorded in September 2013 where turnover reduced by 107% compared to August 2013.

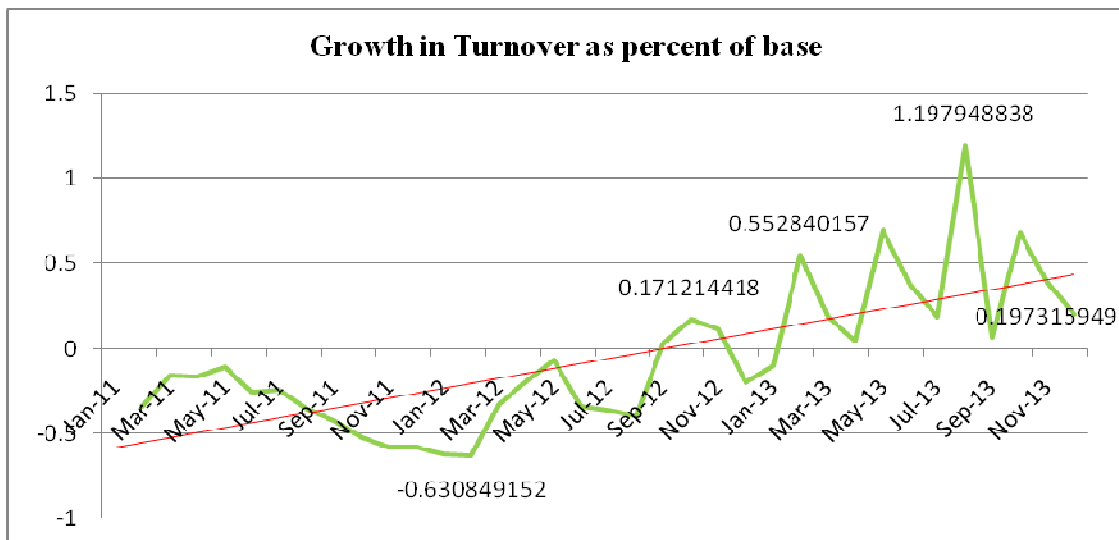
Figure 5.5: Monthly growth on NSE turnover



Source: Research Findings

Further analysis of NSE turnover growth compared to the base month which was January 2011, a downward growth was observed from May 2011 to February 2012. Notably, this was the period where the macroeconomic environment in Kenya was so volatile, unfavourable and unpredictable. From March 2012, upward growth in NSE performance was observed irrespective of the temporary fluctuations as shown by the trend line (in red) in figure 4.6 below. This implies that NSE performance has been improving from January 2011.

Figure 4.6: Growth in NSE performance when compared to base



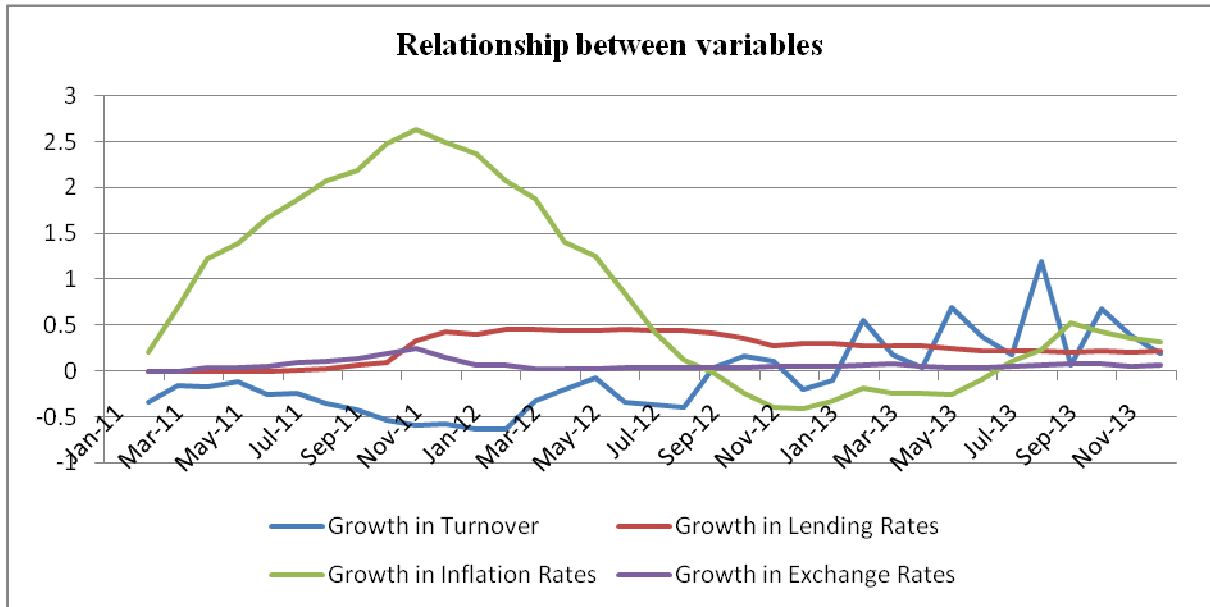
Source: Research Findings

4.2.5 Descriptive Relationship on Growth of Variables

Figure 4.7 below shows the graphical relationship between the dependent and independent variables as measured by the growth rate using January 2011 data as the base. Inflation rates had the highest growth rate in the period March 2011 and November 2011 with also the highest decline in the months of November 2012 to June 2013. Lending interest rates and exchange rates remained relatively stable with lending rates increasing by 50% in the period November 2011.

Notably, as inflation was growing at a very high rate to hit 250% increase in November 2011, lending and exchange rates raising, NSE performance growth significantly drop to the most minimum growth rates in February 2012.

Figure 4.7: Descriptive relationship between study variables

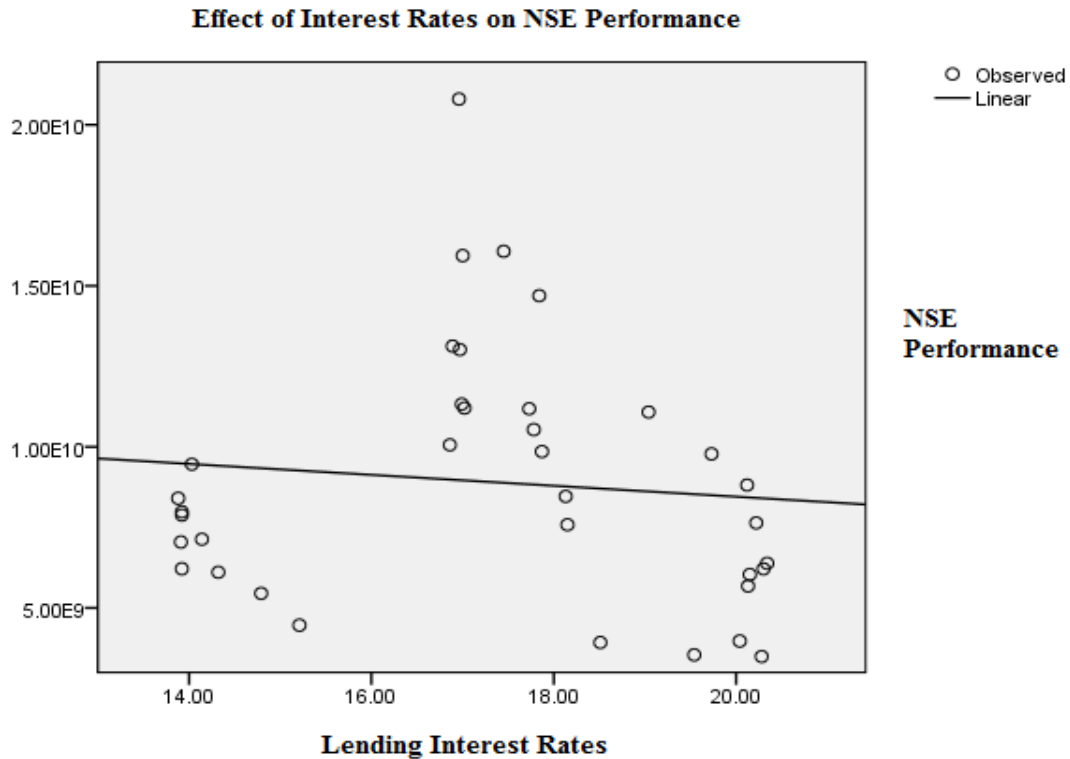


Source: Research Findings

4.2.6 Relationship between Lending Interest Rates and NSE Performance

As shown in the scatter diagram in figure 4.7 below, the relationship between lending interest rates and NSE performance is negative and that the relationship is linear. This implies that an increase in commercial banks lending rates, NSE performance will reduce. However, the relationship between lending rates and NSE performance is weak since the curve is not very stiff.

Figure 4.8: Effect of Interest Rates on NSE Performance



Source: Research Findings

4.3 Regression Analysis

Regression analysis was meant to provide precise results on the relationship between dependent and independent variables. To assess the effect of independent variables on NSE performance, each independent was regressed individually and collectively to determine the actual effect of various variables on NSE performance.

Table 4.1: Correlation between lending interest rates and performance

R	R Square	Adjusted Square	R	Std. Error of the Estimate
- 0.0993	0.0099	0.0193		3 950 454 190

Source: Research Findings

4.3.1 Regression between Lending Interest Rates and NSE Performance

This sought to achieve the main objective of the study which was to determine the effect of lending interest rates on performance of NSE. As shown in table 4.1 above, the relationship between lending rates and NSE performance is negative and weak. This is shown by coefficient of correlation of -0.0993. The coefficient of determination of 0.0099 implies that lending rates explaining power on NSE performance is only 0.9%.

Table 4.2: ANOVA results on lending interest rates and NSE performance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.281E+18	1	5.28142E+18	0.33842	0.56458
Residual	5.306E+20	34	1.56061E+19		
Total	5.359E+20	35			

Source: Research Findings

Table 4.2 shows the significance of the relationship between lending interest rates and NSE performance at 95% confidence. The p value of 0.5646 which is greater than 5% implies that the relationship between lending interest rates and NSE performance is not significant.

Table 4.3: Coefficient results on lending interest rates and NSE performance

	Unstandardized Coefficients	Std. Error	Beta	t	Sig.
Constant	1.185E+10	5.097E+09		2.324205	0.026224
Lending Interest Rates	-1.7E+08	291537552	-0.099274594	-0.58174	0.56458

Source: Research Findings

The relationship model coefficients for linear relationship are presented in table 4.3 above where a negative coefficient on lending interest rates confirms the negative relationship between the independent and dependent variable.

Table 4.4: Correlation between Exchange rates and NSE performance

R	R Square	Adjusted R Square	Std. Error of the Estimate
- 0.2152	0.0463	0.0182	3.88E+09

Source: Research Findings

4.3.2 Regression between Exchange Rates and NSE Performance

The relationship between exchange rates and NSE performance is negative and weak. This is shown by coefficient of correlation of -0.2152. The coefficient of determination of 0.0463 implies that exchange rates explaining power on NSE performance is only 4.6%. This is shown in table 4.4 above.

Table 4.5: ANOVA results on exchange rates and NSE performance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.48E+19	1	2.48E+19	1.6503	0.2076
Residual	5.11E+20	34	1.5E+19		
Total	5.36E+20	35			

Source: Research Findings

Table 4.5 above shows the significance of the relationship between exchange rates and NSE performance at 95% confidence. The p value of 0.2076 which is greater than 5% implies that the relationship is not significant. Therefore, exchange rates have no statistically significant effect on NSE performance.

Table 4.6: Coefficient results exchange rates and NSE performance

	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
(Constant)	2.69E+10	1.41E+10	Beta	1.9168	0.0637
Exchange Rates	-2.1E+08	1.62E+08	-0.21516	-1.2846	0.2076

Source: Research Findings

The relationship model coefficients for linear relationship are presented in table 4.6 above where a negative coefficient on exchange rates confirms the negative relationship between the independent and dependent variable.

Table 4.7: Correlation between inflation rates and performance

R	R Square	Adjusted Square	R	Std. Error of the Estimate
-0.6546	0.4285	0.4117		3001332009

Source: Research Findings

4.3.3 Regression between Inflation Rates and NSE Performance

Correlation results on inflation analysis showed a coefficient of correlation of -0.6546 and coefficient of determination of 0.4285. This implies that the relationship between inflation rates and NSE performance is strong and negative. The coefficient of determination of 0.4285 implies that inflation rates explain up to 42.85% of changes in NSE performance. The results are shown in table 4.7 above.

Table 4.8: ANOVA results on inflation rates and NSE performance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.296E+20	1	2.29617E+20	25.4903	0.0000
Residual	3.063E+20	34	9.00799E+18		
Total	5.359E+20	35			

Source: Research Findings

The negative and strong relationship obtained is also significant since the p value is 0.0000 which is less than 0.05. The analysis of the variance results are shown in table 4.8 above.

Table 4.9: Coefficient results on inflation rates and NSE performance

	Unstandardized		Standardized	t	Sig.
	Coefficients	Std. Error	Coefficients		
(Constant)	1.353E+10	1.044E+09		12.9637	0.0000
Inflation Rates	-4.73E+08	93692280	-0.6546	-5.0488	0.0000

Source: Research Findings

The coefficients for linear relationship between inflation and NSE performance are presented in table 4.9 above where a negative coefficient on inflation rates implies that as inflation rises, NSE performance will increase.

4.3.4 Regression between Lending, Exchange, Inflation Rates and NSE Performance

Table 4.10: Correlation on Overall analytical model

R	R Square	Adjusted R Square	Std. Error of the Estimate
-0.6769	0.4582	0.4074	3012290100

Source: Research Findings

This analysis was in line with the model discussed in topic three where exchange rates and inflation rates were used as control variables. The coefficient of correlation obtained was -0.6769 implying a negative relationship between dependent and independent variables. The coefficient of determination of 0.4582 implies that that model explanatory power was 45.8% implying that other key determinants of NSE performance had not been included in the model. This is shown in table 4.10 above.

Table 4.11: Analytical Model ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.45524E+20	3	8.18413E+19	9.0194	0.0002
Residual	2.90365E+20	32	9.07389E+18		
Total	5.35888E+20	35			

Source: Research Findings

Table 4.11 above shows the significance of the relationship model developed at 95% confidence. The p value of 0.0002 which is less than 5% implies that the model is significant.

Table 4.12: Analytical Model Coefficient

	Unstandardized			Beta	t	Sig.
	Coefficients			Std. Error		
Constant	6	565	146	1.458E+10	0.4502	0.6556
Lending Interest Rates	-179	738	539.74	233719143	-0.1052	0.4475
Exchange Rates	122	353	844.79	154207920	0.1262	0.4334
Inflation	-524	250	444.95	110186222	-0.7255	0.0000

Source: Research Findings

The relationship model coefficients for the model developed are shown in table 4.12 above. As shown by the coefficients, lending interest rates and inflation have a negative effect on NSE performance even though the coefficients on lending rates are still not significant. The positive coefficients on exchange rates imply that when combined with other factors, exchange rates have a positive effect on NSE performance. This can be explained by the fact that when Kenya shilling depreciates, foreign investors find it more cheap to invest in NSE increasing its performance.

However, the effect is not statistically significant since its p value of 0.4334 is higher than 0.05. The model developed is $Y=6.6E9-1.8E8X1+1.2E8X2-5.2EX3$, where X1 is lending interest rates, X2 exchange rates, X3 inflation rates and Y NSE performance.

4.4 Interpretations of the Finding

The study sought to determine the effect of lending interest rates on performance of NSE. The study found a weak negative relationship between lending rates and NSE performance with coefficient of correlation of -0.0993. The coefficient of determination of 0.0099 implied that lending rates explaining power on NSE performance is only 0.9%. However, at 95% confidence level, the effect was not significant (P value of 0.56458). These findings are in line with those of Hamdam (2014) who found that interest rates have negative impact on stock market with higher interest rates reducing the efficiency of the stock market. Thang (2009) also found that interest rates had negative effect on stock market performance in long term and short term.

The relationship between exchange rates and NSE performance was found to be negative and weak with a coefficient of correlation of -0.2152 but not significant (p value of 0.2076). The coefficient of determination of 0.0463 implied that exchange rates explaining power on NSE performance is only 4.6%. This may be the due to foreign investors' lack of confidence in Kenya owing to its information content to the investors. The findings agree with those of Thang (2009) who also found that exchange rates had negative effect on stock market performance in long term and short term.

Correlation results on inflation rate showed a coefficient of correlation of -0.6546 and coefficient of determination of 0.4285. This implied that the relationship between inflation rates and NSE performance is strong and negative. The coefficient of determination of 0.4285 implies that inflation rates explain up to 42.85% of changes in NSE performance. The negative and strong relationship obtained is also significant since the p value is 0.0000 which is less than 0.05. This can be explained by the fact that inflation reduces people's purchasing power and their ability to invest and hence reduced NSE performance.

This could also mean that most investors at NSE are local investors and that the information content on inflation rates affects investors' attitude to investment at NSE. The model developed between lending interest rates, exchange rates, inflation rates and NSE performance showed a coefficient of correlation of -0.6769 implying a negative relationship between dependent and independent variables. The coefficient of determination of 0.4582 implied that that model explanatory power was 45.8% implying that other key determinants of NSE performance had not been included in the model. The model developed was significant at 95% confidence with p value of 0.0002.

From the model coefficients, lending interest rates and inflation were found to have negative effect on NSE performance even though the coefficients on lending rates were still not significant. The positive coefficient on exchange rates implied that when combined with other factors, exchange rates have positive effect on NSE performance. This can be explained by the fact that when Kenya shilling depreciates, foreign investors find it more cheap to invest in NSE increasing its performance. However, the effect is not statistically significant since its p value of 0.4334 is higher than 0.05.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary, conclusion and recommendations. The objective of the study was to establish the relationship between lending interest rates and the performance of stocks at the Nairobi stock exchange. The results of the study were presented in tables and figures. Regression analysis was used to determine the relationship between lending interest rate, inflation, exchange rate and stock performance. Based on the findings in chapter four, the study gives recommendations after which it draws the policy recommendations.

5.2 Summary

The objective of the study was to establish the relationship between lending interest rates and the performance of stocks at the Nairobi stock exchange. Secondary data was obtained from NSE and Central Bank of Kenya and analyzed using descriptive statistics. The study found that lending interest rates are negatively related to NSE performance with coefficient of correlation of -0.0993. However, at 95% confidence level, the effect of lending interest rates on NSE performance was not significant (p value of 0.56458).

Further, the relationship between exchange rates and NSE performance was found to be negative and weak with a coefficient of correlation of -0.2152 but not significant at 95% confidence level (p value of 0.2076). This may be due to foreign investors' lack of confidence in Kenya owing to the information content on depreciating local currency. The findings agree with those of Thang (2009) who also found that exchange rates had negative effect on stock market performance in long term and short term.

Inflation was found to be the only factor with strong, negative and significant effect on NSE performance with a coefficient of correlation of -0.6546 and coefficient of determination of 0.4285. This was explained by the fact that inflation reduces people's

purchasing power and their ability to invest and hence reduced NSE performance. This could also be out of the unfavourable macroeconomic environment and the information content communicated by inflation rates. Further, all macro economic variables like lending interest rates and exchange rates affects inflation rates.

5.3 Conclusion

From the findings of the study and the summary of the findings discussed above, this study concludes that there is a negative relationship between lending interest rates NSE performance. This is as a result of reduced rate of borrowing due to high interest rates hence less investment at NSE. However, the effect of lending interest rates on NSE performance is also minimal implying that most investors at NSE do not dependent on borrowings to trade in stocks, or lending market in Kenya is not very elastic and that when interest rates are high, investors may prefer to sell their securities to finance other investments other than borrowing expensive loans.

Further, the study concludes that exchange rates are negatively related to NSE performance even though the relationship is weak. This may be the due to foreign investors' lack of confidence in Kenya owing to the information content on depreciating local currency. Further, exchange rate movement indicates the likely future state of the economy hence discouraging foreign investors to invest at NSE when Kenya shilling is depreciating.

Finally, the study concludes that inflation has strong, negative and significant effect on NSE performance. The negative effect of inflation on NSE performance is stronger than that of lending interest rates and exchange rates. This is due to the fact that inflation reduces people's purchasing power and their ability to invest and hence reduced NSE performance. Further, all macro economic variables like lending interest rates and exchange rates affects inflation rates hence making it the single key factor affecting NSE performance.

5.4 Policy Recommendations

From the summary and conclusions above, this study recommends the following. First, the policy makers need to factor the effects of lending interest rates on the performance of the Nairobi Securities Exchange. This because even though the relationship between lending interest rates and performance is statistically insignificant, the relationship is negative and hence increase in lending interest rates will lead to reduced NSE performance. This implies that while increasing lending rates can be a way of reducing liquidity in the market and hence inflation rates reduction, such policies may affect the performance despite their good intention to correct the deteriorating situations in the economy. The monetary Committee department at the Central bank of Kenya needs to maintain a stable lending interest rates if the NSE performance is to be promoted.

Secondly, the study recommends for formulation of policies to ensure stable exchange rates are maintained. This is because huge increase in exchange rate reduces NSE performance and consequently economic performance. This is more so for the huge information content contained in exchange rates which discourage foreign investment in the country which further depreciates the Kenya shillings and further reduced NSE performance.

Finally, inflation rate is the most important macroeconomic variable affecting performance of NSE. With concern, the study noted that inflation rates in Kenya are notorious of high fluctuations from time to time even when lending interest rates and exchange rates are stable. There, the monetary regulators need to formulate and implement policies to ensure that inflation rates remain low as possible. Irrespective of the policy being formulated by the regulators, inflation should be their key concern.

5.5 Limitations of the Study

This study was faced by various challenges and limitations. The main limitation of this study is that the data used was secondary data generated for other purposes. Therefore it may not be as accurate as possible. In addition relying on secondary data sources may not be adequate since it leaves out key information which can only be obtained from primary

data sources. Further the data obtained could not be verified and if it was distorted, the conclusions and findings made could be inaccurate.

The study is also limited by the variable used to measure NSE performance which was the total turnover. Notably, increase in stock turnover per month can fail to mean increased performance since turnover could be out of investors selling their securities due to projected low earnings. In addition, due to high lending interest rates and inability of investors to access loan financing, they may opt to sell their investments which will still appear as increased turnover hence performance.

The study also did not include all the key variables affecting stock performance leading to a model that could hardly explain half of changes in NSE performance. The extant literature suggests that a wide range of factors may be relevant in explaining the stock performance. Such variables include goods prices, money supply, real activity, exchange rates, political risks, oil prices, trade sector and regional stock market indices. However in emerging markets not all factors are at play in explaining the stock performance but factors like levels of political risks, goods prices, money supply and exchange rates.

Finally, another limitation to the study was the period analyzed. The study only analyzed a period of three years for 2011 to 2013. Since the period covered was short, generalizing the findings may be hard in addition to findings being different if longer period was analyzed. The study also did not adjust the data obtained to remove seasonal fluctuations which may distort findings.

5.6 Suggestions for Further Studies

Further study is recommended where both secondary and primary data can be used to determine the effect of lending interest rates on NSE performance. This will ensure that information not captured in secondary data is obtained which can be essential in making conclusions and recommendations.

Further study is also recommended to determine the effect of lending interest rates on NSE performance but using different measure of performance. This measure can be turnover on new cash flow into the NSE and share prices. Adjustment also can be done on turnover computed to remove turnover which is as a result of investors not getting loans due to high interest rates or investors selling shares to buy others which are better performing.

Further study can also be done to determine the effect of lending interest rates on NSE performance and incorporating other control variables which affects NSE performance. The variables can be goods prices, money supply, real activity, exchange rates, political risks, oil prices, trade sector and regional stock market indices.

Finally, further study can also be done to determine the effect of lending interest rates on NSE performance but using longer periods like ten years or five years. This will ensure that the results can be better generalized since the period is longer. The data obtained can also be adjusted to remove temporary fluctuations in the NSE performance and as a result affecting the findings.

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APPENDICES

APPENDIX 1: LIST OF LISTED COMPANIES AT THE NSE, AS AT 31ST DECEMBER 2013

Agriculture

Rea Vipingo Ltd

Sasini Tea and Coffee Ltd

Kakuzi Ltd

Commercial and Services

Access Kenya

Marshal's EA

Car and General

Hutchings Biemer (suspended)

Kenya Airways

CMC Holdings

Uchumi Supermarkets

Nation Media Group

TPS (Serena)

Scan Group

Standard Group

Safaricom

Finance and Investment

Barclays Bank of Kenya

CFC Stanbic Bank

Housing Finance

Centum Investment

Kenya Commercial Bank

National Bank of Kenya

Pan Africa Insurance Holding

Diamond Trust Bank of Kenya

Jubilee Insurance

Standard Bank

NIC Bank

Equity Bank

Olympia Capital

Co-operative Bank of Kenya

Kenya Re-Insurance

Industrial and Allied

Athi River Mining Ltd

BOC Kenya

British American Tobacco Kenya

Carbacid Investments

EA Cables

EA Breweries

Sameer Africa

Kenya Oil

Mumias Sugar Company

Unga Group

Bamburi Cement

Crown Berger (K)

EA Portland Cement

Kenya Power & Lighting Company

Total Kenya

Eveready East Africa

KenGen

Alternative Market Segment

A Baumann & Company

City Trust

Eaagads

Express

Williamson Tea Kenya

Kapchorua Tea

Kenya Orchards

Limuru Tea Company

Source: Nairobi Securities Exchange.

**APPENDIX II: AVERAGE MONTHLY BANK INTEREST RATES, EXCHANGE
RATES AND INFLATION RATES**

Month	Commercial Banks Lending rates (%)	Exchange Rate (%)	Inflation Rates (%)
Jan-11	14.03	81.029	5.42
Feb-11	13.92	81.473	6.54
Mar-11	13.92	84.206	9.19
Apr-11	13.92	83.89	12.05
May-11	13.88	85.433	12.95
Jun-11	13.91	89.049	14.48
Jul-11	14.14	89.898	15.53
Aug-11	14.32	92.786	16.67
Sep-11	14.79	96.357	17.32
Oct-11	15.21	101.27	18.91
Nov-11	18.51	93.676	19.72
Dec-11	20.04	86.663	18.93
Jan-12	19.54	86.343	18.31
Feb-12	20.28	83.176	16.69
Mar-12	20.34	82.897	15.61
Apr-12	20.22	83.188	13.06
May-12	20.12	84.384	12.22
Jun-12	20.3	84.789	10.05
Jul-12	20.15	84.14	7.74
Aug-12	20.13	84.075	6.09
Sep-12	19.73	84.613	5.32
Oct-12	19.04	85.112	4.14
Nov-12	17.78	85.629	3.25
Dec-12	18.15	85.994	3.2
Jan-13	18.13	86.9	3.67
Feb-13	17.84	87.446	4.45

Month	Commercial Banks Lending rates (%)	Exchange Rate (%)	Inflation Rates (%)
Mar-13	17.73	85.818	4.11
Apr-13	17.87	84.189	4.14
May-13	17.45	84.146	4.05
Jun-13	16.97	85.488	4.91
Jul-13	17.02	86.859	6.03
Aug-13	16.96	87.493	6.67
Sep-13	16.86	87.413	8.29
Oct-13	17	85.31	7.76
Nov-13	16.89	86.103	7.36
Dec-13	16.99	86.309	7.15

Source: Central Bank of Kenya

APPENDIX III: MONTHLY NSE TURNOVER FOR THE THREE YEARS

Month	Total Turnover KES
Jan-11	9462188895
Feb-11	6215780713
Mar-11	7984120162
Apr-11	7883036861
May-11	8405612929
Jun-11	7047501483
Jul-11	7132180135
Aug-11	6109005985
Sep-11	5452737754
Oct-11	4465547551
Nov-11	3927682700
Dec-11	3972916252
Jan-12	3543951864
Feb-12	3492975058
Mar-12	6386100092
Apr-12	7640818629
May-12	8815349876
Jun-12	6214235430
Jul-12	6037892407
Aug-12	5680733378
Sep-12	9781502241
Oct-12	11082252060
Nov-12	10537053582
Dec-12	7582423925
Jan-13	8464458899
Feb-13	14693266886

Month	Total Turnover KES
Mar-13	11182646867
Apr-13	9856503707
May-13	16070528808
Jun-13	13021293444
Jul-13	11205171037
Aug-13	20797407091
Sep-13	10062496841
Oct-13	15937193202
Nov-13	13128660723
Dec-13	11329229681

Source: NSE