IMPACT OF GROSS DOMESTIC PRODUCT GROWTH RATE AND INTEREST RATE VARIATIONS ON THE NAIROBI SECURITIES EXCHANGE PERFORMANCE

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DECLARATION

This project is my original work and has not been presented in any other university or institution of higher learning for examination.

Sign ……. **Date……**

PETER NYAJURE ACHAR

D61/65256/2010

This project has been submitted for Examination with our approval as university supervisors.

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God bless you all

DEDICATION

This study is dedicated to my late parents Dickson Achar Orero and Mama Rosa Arwa Achar who struggled to educate me amid meager resources they had and also showed me the value of education.

It is also dedicated to my wife Maurine Akinyi Ojwacka and children Tyra, Quincy, Brian and Trevor who day by day gave me the motivation and reason to work hard in my studies.

ABSTRACT

As an economic institution, securities market plays a major role of enhancing the efficiency of capital formation and allocation. Thus the overall development of the economy is a function of how well the securities market performs. This study was therefore based on the view of stock market dynamics as the interactions among macro-economic variables with respect to Gross Domestic Product Growth Rate and Interest Rate Variations. The study objective was set out to determine the impact of GDP growth rate, Interest rates variations on Nairobi Securities Exchange Performance. The study therefore attempted to explore how the Kenyan securities markets were impacted on by GDP growth rate and Interest rate variations. The study was based on the efficient market hypothesis as postulated by Fama (1970) which asserts that an efficient market is capable of quickly digesting new information on the economy, an industry, or the value of an enterprise and accurately reflect it in securities prices. The study was designed to undertake explanatory study which was longitudinal in the quest to answer the research questions. The subjects or cases analyzed were the same or at least comparable from one period to the next, the analysis involved some comparison of data between or among periods. Longitudinal research was justifiable for this study as same macroeconomic variables were observed and analyzed using quarterly time series data covering the January 2003 to December 2014. The target population consisted of all listed companies at NSE from which NSE 20 share index was derived. Secondary data was used in the study the NSE share index was collected from Nairobi stock exchange. While data on GDP growth rate was obtained from Kenya bureau of statistics, data on interest rates was obtained from Central Bank of Kenya. The study concludes that a positive correlation exists between GDP and Nairobi securities exchange share performance .Therefore GDP significantly affected the performance of NSE. The study also concludes low positive correlation between interest rates and share performance, hence Interest rate variations did not significantly influence the NSE share performance.

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ACRONYMS AND ABBREVIATIONS

APT: Arbitrage Pricing Theory

CAPM: Capital Asset Pricing Model

CBR: Central Bank Rate

CGT: Capital Gain Tax

EMH: Efficient Market Hypothesis

GDP: Gross Domestic Product

GSE: Ghana Stock Exchange

INTR: Interest Rate

KLSE: Kuala Lumpur Stock Exchange

MPC: Monetary Policy Committee

NASI: Nairobi Securities Exchange All-Share Index

NSE: Nairobi Securities Exchange

TB: Treasury bill

US: United States

USD: United States Dollar

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Securities market is a market that deals with the exchange of securities issued by publicly quoted companies and the government. The market is a crucial institution in an economy which greatly determines and indicates the performance of an economy. The nature and the state of a securities market is of great concern to the government, investors and generally all the stake holders. As an economic institution, securities market plays a major role of enhancing the efficiency of capital formation and allocation. Thus the overall development of the economy is a function of how well the securities market performs.

Interest in the way securities markets move has grown as a result of more and more individuals owning stocks than before. Research from the developed world show that stock markets are closely interrelated to influence and are also influenced by the other sectors of the economy. The relationship between securities market and the general economy of a country is of interest to many more people in the community than just investors. This is because equity markets play an important role in the economy in terms of allocation of resources, financial intermediation and the supply of capital (Feldman and Kumar, 1995).

Most of the African economies are fragile and resilient to both internal and external shocks hence macroeconomic factors are more likely to influence African investments returns. The relationship between macroeconomic variables and stock returns has emerged due to the fact that the Capital asset Pricing Model (CAPM) assumes that the uncertainty about future prices of securities is the only risk that the investors are concerned with (Sharpe, 1964).

Since Kenya is one of the emerging economies in Africa, its stock market performance is highly dependent on the nature of the macroeconomic variables. These variables are

considered to be causes of stock return volatility existing in NSE and may lead to stock market crisis (Odhiambo, 2012). According to the International Finance Corporation (IFC), all markets in the developing countries are treated as emerging. Kenya's capital market, the Nairobi securities Exchange Limited (NSE) is thus one of the emerging markets of the world. The market is characterized by; low trading volume, low turnover ratios, few listed companies, and inefficient information delivery (Nairobi Stock Exchange, 1997).

Empirical evidence has shown that the development of a capital market is essential for economic growth (Ashaolu & Ogunmuyiwa, 2010). Stock prices, hence stock returns are generally believed to be determined by some fundamental macroeconomic variables such as interest rates, money supply, inflation, exchange rate, and Gross domestic Product. Changes in stock prices are linked with macroeconomic behavior in advanced countries (Muradoglu et al., 2000). Ross (1976) employed statistical tools like in the Arbitrage Pricing Theory (APT) and initiated the use of variables without the need of pre specification of variables in determination of stock returns. This did not take too long before it was criticized. Chen, Roll and Ross (1986) were the first to employ specific macroeconomic factors as proxies for undefined variables in the APT. The study attempted to express the equity returns as a function of macroeconomic variables. Since economic forces like interest rates, Treasury bill rates, influenced expected dividends and the discount rate, it was concluded that stock prices hence stock returns are systematically affected by economic variables (Elly & Oriwo, 2013).

It is well documented from economic theory that there is a close relationship between securities prices and macro-economic factors (Reilly and Brown, 2006).

This study is therefore based on the view of stock market dynamics as the interactions among macro-economic variables with respect to Gross Domestic Product Growth Rate and interest rate variations.

1.1.1 Gross Domestic Product Growth Rate

The gross domestic product (GDP) is a measure of the national income and output for a given country's economy. The gross domestic product (GDP) is equal to the total expenditures for all final goods and services produced within the country in a stipulated period of time. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Investors care about GDP reports because they provide the most comprehensive scorecard about the overall health of the economy. Since healthy economic growth helps boost corporate profits, over the long run stock market performance tends to mirror economic performance. In the short term markets can behave unpredictably even during periods of positive economic growth.

Majority of the studies have found that the current stock levels are positively related to future levels of real economic activity, as measured by Gross Domestic Product (GDP) (Geske & Roll, 1983; Chen et al., 1986; Sharma, 2002). The levels of Gross Domestic Product (GDP) will likely influence stock returns through its impact on corporate profitability. An increase in output may increase expected future cash and, hence, raise stock prices, while the opposite effect would be valid in a recession.

1.1.2 Interest Rate Variations

Interest rates act as the cost of capital to companies and also as returns on the alternative assets such as savings accounts and treasury bills.

According to the Kenya Central bank , Interest rates includes the historical rates on Commercial banks monthly weighted average Lending, Deposit, Overdraft and Savings rate. Central Bank Interest rates; these comprises of Repo and Reverse Repo rate, Central Bank Rate (CBR), Interbank rate and Government Treasury Bill rates. www.centralbank.go.ke

Interest rates have fairly an indirect relationship with stock markets as decrease in interest rate on saving deposits will increase investments in the stock market as compared to deposits in money banks and holding other factors constant. Thus demand and share price increase and vice-versa, thereby affecting stock market performance. Interest rate is assumed to be known with certainty in all time periods. It is no stochastic. That is, it may change over time, but each change is known with certainty. The interest rate is assumed not to be a random variable.

If an investor considers interest rate as cost of capital, an increase or a decrease in interest rate may affect the investment decision of the investors. For example, when there is a rise in interest rate and the opportunity cost goes up, individual investors would prefer to invest in non-fixed income securities such as bonds (Adam & Tweneboah, 2008). This may result either in profit or loss which is reflected in the firm's balance sheet. When the profit or loss of a firm is immediately announced, the stock price of a firm will increase or decrease. This implies that the valuation of a firm would either increase or decrease its stock price hence stock returns.

Ajayi et al. (1998) observed that when the stock prices decrease, it is expected that the wealth of the domestic investors also go down. Moreover, it may also lead to a lower demand for money hence interest rate decreases.

Ceteris paribus, the lower the interest rates the higher the stock prices. Higher stock prices may in turn lead to a surge in capital outflows. This will lead to depreciation of domestic currency. This is a clear indication that there exits interrelationship among stock market, interest rate, and exchange rate. In Kenya, interest rates have been rising and falling depending on the economic situation of the economy.

Mukherjee and Naka (1995) hypothesized that changes in both short- and long-term government bond rates would affect the nominal risk-free rate and thus affect the discount rate. Fama and Schwert (1977) observed that the relationship applied to both the current period as well as for lagged values of the interest rates.

I hypothesize a negative relationship between interest rates and stock prices for the following reasons; interest rates can influence the level of corporate profits which in turn influence the price that investors are willing to pay for the stock through expectations of higher future dividends payment. Most companies finance their capital equipment's and inventories through borrowings. A reduction in interest rates reduces the costs of borrowing and thus serves as an incentive for expansion. This will have a positive effect on future expected returns for the firm; as substantial amount of stocks are purchased with borrowed money, hence an increase in interest rates would make stock transactions more costly. Investors will require a higher rate of return before investing. This will reduce demand and lead to a price depreciation.

1.1.3 Securities Exchange Performance

Performance of securities exchange is measured broadly by indicators of securities 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'.

1.1.4 GDP Growth Rate, Interest Rate Variations and Performance of Securities Exchanges

Majority of the studies have found that the current stock levels are positively related to future levels of real economic activity, as measured by Gross Domestic Product (GDP) (Geske & Roll, 1983; Chen et al., 1986; Sharma, 2002). The levels of Gross Domestic Product (GDP) will likely influence stock returns through its impact on corporate profitability. An increase in output may increase expected future cash and, hence, raise

stock prices, while the opposite effect would be valid in a recession. Hence GDP Growth rate when positive is expected to have a positive effect on performance of Securities Exchange and vice versa.

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.

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).

1.1.5 Nairobi Securities Exchange

Nairobi securities exchange – formally Nairobi stock exchange is the institution that is tasked with the responsibility to oversee listing, delisting and regulation of trading of financial securities such as shares in Kenya.

To measure its performance the market has developed various indices. The Nairobi Securities Exchange 20 Share Index NSE20 is a major stock market index which tracks the performance of 20 best performing companies listed on the Nairobi Securities Exchange. The companies are selected based on a weighted market performance for a 12 month period based on market capitalization, number of shares traded, number of deals and turnover. The NSE20 is a major stock market index which tracks the performance of large companies based in Kenya. Index is updated at the end of the day only.

The other index is the Nairobi Securities Exchange Ltd All Share Index (ASI) which is a market cap weighted index consisting of all the securities on the NSE. Prices are based on last trade information from NSE's Automated Trading System. Base value of 100 as of January 2008.

One of the best tools for measuring aggregate economic performance is the Gross Domestic Product. If there is an upward movement in GDP, equity prices may possibly rise due to the potential for higher profits arising from a healthy business climate. On the other hand, when the GDP is on the downward trend, there is likelihood of equity price drop. When GDP is positive, the overall stock market react positively as there will be a boost in the investor confidence, encouraging them to invest in the stock market. This will in turn boost the performance of companies.

When GDP contracts, consumers tread cautiously and reduce their spending. This will in turn affect the performance of the companies negatively thus exerting more downward pressure on the stock market (Leon et al, 2008).

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).

Kenya's stock market realized positive returns in 2014 as investors showed confidence in the country's economic prospects. However, for 2015, market analysts predict distress due to instability in the global economic environment and the recent re-introduction of the controversial capital gains tax (CGT) on securities and property transactions. Kenyan stocks had a good year in 2014, with foreign investors, who control 60 per cent of the daily turnover, scrambling for stakes in mid-sized firms. The Nairobi All Share Index (NASI) closed the year on a high of 162.89 points, from 136.65 in 2013, representing a growth of 19.2 per cent. The NSE 20-Share Index, which tracks the performance of the top 20 blue-chip companies on the Nairobi Securities This study aims to establish to what extent these indices are affected by the changes in domestic product growth rate and interest rate variations. http://www.theeastafrican.co.ke

1.2 Research Problem

The relationship between securities prices and macro-economic variables has received a lot of attention from academicians, where studies have used different macro-economic variables and data from both developed and developing countries. Many research findings have been done in developed markets such as Humpe and Macmillan (2007), Chen et al (1986), Adel (2004) which suggest a relationship between various economic indicators and securities prices, although a few of such studies have been done in developing countries like Kenya.

Conducive macroeconomic environment promotes the profitability of business which propels them to a stage where they can access securities for sustained growth. Generally

the barometers for measuring the performance of the economy include; GDP growth rate, Interest rate variations. These macroeconomic factors are the major determinants of the growth of an economy. Gekone (2011) Nyamute (1998), studied the impact of selected macroeconomic variables and established that indeed they impacted on the performance of the share prices at the Nairobi stock Exchange.

The Kenyan macro- economic environment has had constant changes in both GDP growth rate and constant changes in interest rates. It's thought that these changes in GDP growth rate and interest rates have affected the performance of Nairobi securities exchange. It's important to constantly track the impact of these changes in the GDP growth rate and Interest rates on the securities performance. The proposal therefore attempts to explore how the Kenyan securities markets are affected by GDP growth rate and Interest rate variations. The justification of this study is to bridge the gap in information to what extent the Kenyan Capital Market has reacted to the changes in GDP growth rate and interest rate variations. These will provide useful information to the government, investors and academicians.

The study seeks to answer the following questions: What is the impact of GDP growth rate on the performance of Nairobi Securities Exchange? And what is the impact of interest rate variations on the performance of Nairobi Securities Exchange?

1.3 Research objectives

The study will be guided by the following objectives:

i To determine the impact of GDP growth rate on Nairobi Securities Exchange performance.

ii To determine the impact of Interest rate variations on Nairobi Securities Exchange performance.

1.4 Value of the study

The major implication of this study can be for government as the government will understand the effects of GDP growth rate and interest rate variation on the Nairobi

Securities Exchange market performance. This will help the government to take appropriate steps.

The study will also be valuable to the academicians since it is based on the EMH-efficient market hypothesis which states that an efficient market performance will be a reflection of the available information i.e. GDP growth rate and interest rates.

The findings of this study are also important to investors and other market participants at the NSE as it will provide information of stock prices hence investors can use it to their advantage. Portfolio Managers can also learn from this study to manage their client's portfolio better.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks at what other researchers and scholars have written in the past regarding the subject matter .The chapter not only focuses on Kenya perspective but on the entire world. Findings and conclusions from literature review are then critically analyzed and the key areas of their reviews highlighted in summary form.

2.2. Theoretical Review

This section has reviewed the theories that are relevant and applicable to the study. These formed the theoretical basis of the study.

2.2.1 Gross Domestic Product Growth Rate

Most economies of the world experience cyclic fluctuations characterized by periods of a boom and periods of a recession. According to Athanosoglou et al (2005) during periods of a boom the demand for credit is high as compared to during periods when the economy is experiencing a recession. Ongore and Kusa (2013) argue that during periods of declining GDP growth the demand for credit falls which in turn negatively affects the profitability of a bank. On the other hand a growing economy as expressed by a positive and increasing GDP would lead to an increase in the demand for credit hence leading to growth in profitability.

Keynes's theory of the determination of equilibrium real GDP, employment, and prices focuses on the relationship between aggregate income and expenditure. Keynes used his income expenditure model to argue that the economy's equilibrium level of output or real GDP may not correspond to the natural level of real GDP. In the income-expenditure model, the equilibrium level of real GDP is the level of real GDP that is consistent with the current level of aggregate expenditure. If the current level of aggregate expenditure is not sufficient to purchase all of the real GDP supplied, output will be cut back until the level of real GDP is equal to the level of aggregate expenditure. Hence if the current level

of aggregate expenditure is not sufficient to purchase the natural level of real GDP, then the equilibrium level of real GDP will lie somewhere below the natural level.

In this situation, the classical theorists believe that prices and wages will fall, reducing producer costs and increasing the supply of real GDP until it is again equal to the natural level of real GDP.

2.2.2 Interest Rate Variations

McKinnon and Shaw Theory; McKinnon (1973) and Shaw (1973) argued that if real interest rates are kept below the market equilibrium, this could increase the demand for investment but not the actual investment. Low interest rates are insufficient to generate savings; it can even reduce savings especially if substitution effects dominate the income effect for households. On the other hand, low rates raise the expected profitability of investment projects by raising the net present value of future earnings from the project. The theory rests on the assumptions that saving is an increasing function of real rate of interest on deposits and real rate of growth in output and that investment is a decreasing function of the real loan rate of interest and an increasing function of the growth rate.

The theory posits that the nominal interest rate should be administratively fixed. They advance that emerging economies are fragmented; hence there is a greater likelihood of having investments that are less productive. Capital accumulation is discouraged by the fact that for a high inflation rate, nominal interest rates are set too low and thus real interest rates could be negative. As capital supply of banking sector is limited and banks have only specialized credit activities, people have to finance their investment projects by themselves or have to go to the informal sector where interest rates are often usurious.

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.

Arbitrage Pricing Theory is 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.

2.2.3 Securities Exchange Performance

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.

2.3 Empirical Evidence

Mutai (2012) in his study empirically tested the relationship between the stock prices on Nairobi Securities Exchange and Kenya's macroeconomic variables that included; inflation, exchange rates. Current account balance, money supply, budget deficit and Treasury bill rates. Monthly data for the period 2000 to 2011 were used. The model was specified based on the Arbitrage Pricing Theory. Before any analysis of the data was done, stationarity tests for time series data were conducted. By applying the Augmented Dickey Fuller test, it was found that the variable were I (1) except GDP and current account balance, which were I (2) and 1(0) respectively. Johansen's procedures for co integration were used and it was found that cointegrating vectors existed. The findings of the study suggest that the stock prices and inflation, exchange rates, current account balance, money supply, budget deficit, Treasury bill rates tend to evolve together over time. The relatively small coefficient of the error term in the Vector Error Correction Model (VECM) indicated a slow rate of adjustment to restore equilibrium in the dynamic model. In order to get a deeper insight of the interrelationships among the variables

identified, Granger-Causality analysis was performed. The empirical results show that bidirectional relationship existed between stock prices and inflation, exchange rates, money supply, budget deficit, Treasury bill rates and Gross Domestic Product. Unidirectional relationship was found to exist between stock prices and current account balance. Thus, stock prices are caused by inflation, exchange rates, money supply, budget deficit, Treasury bill rates and GDP.

Ochieng and Oriwo (2012) in their study investigated the relationship between macroeconomic variables on NSE All share index (NASI) and went further to determine whether changes in macroeconomic variables can be used to predict the future NASI.

Three key macroeconomic variables were examined and they included lending interest rate, inflation rate and 91 day Treasury bill (T bill) rate. Secondary data for the periods March 2008 to March 2012 was collected as follows; data for NASI was obtained from the Nairobi Securities Exchange (NSE), data for inflation was obtained from Kenya National Bureau of Statistics and finally data for lending rates and 91-day T Bill was obtained from Central Bank of Kenya (CBK). The findings in the study indicated that 91 – day T bill rate has a negative relationship with the NASI while inflation has a weak positive relationship with the NASI. Based on these findings, the study recommended that monitoring of the macroeconomic environment since the changes in the macroeconomic variables has an effect on the stock market performance, which also influences the foreign investor's decisions in the local investments.

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.

Dima et al. (2006), showed a different impact that the explanatory variables taken into account have on the dynamics of the mutual funds index. The directing interest ratio works at a minimal level of the expected efficiency level that affects the structure of the portfolios of these funds and the results obtained thereof.

Coleman and Tettey (2008) studied the impact of macroeconomic indicators on the Ghana Stock Exchange (GSE) and concluded that lending rates from deposit money banks and inflation have an adverse impact on stock market performance. Maysami (2004) employed the Error-Correction Modelling technique to examine the relationship between macroeconomic variables and stock returns in Hong Kong and Singapore.

Islam (2003) replicated the above studies to examine the short-run dynamic adjustment and the long-run equilibrium relationships between four macroeconomic variables (interest rate, inflation rate, exchange rate and the industrial productivity) and the Kuala Lumpur Stock Exchange (KLSE) Composite Index. His conclusions were similar: there existed statistically significant short-run (dynamic) and long-run (equilibrium) relationships among the macroeconomic variables and the KLSE stock returns. Ibrahim (1999) also investigated the dynamic interactions between the KLSE Composite Index, and seven macroeconomic variables (industrial production index, money supply M1 and M2, consumer price index, foreign reserves, credit aggregates and exchange rate). Observing that macroeconomic variables led the Malaysian stock indices, he concluded that Malaysian stock market was informationally inefficient. Chong and Koh's (2003) results were similar: they showed that stock prices, economic activities, real interest rates and real money balances in Malaysia were linked in the long run both in the pre- and post-capital control sub-periods.

Islam and Watanapalachaikul (2003) showed a strong, significant long-run relationship between stock prices and macroeconomic factors (interest rate, bonds price, foreign exchange rate, price-earnings ratio, market capitalization, and consumer price index) during 1992-2001 in Thailand.

Through the employment of Hendry's (1986) approach which allows making inferences to the short-run relationship between macroeconomic variables as well as the long-run adjustment to equilibrium, they analyzed the influence of interest rate, inflation, money supply, exchange rate and real activity, along with a dummy variable to capture the impact of the 1997 Asian financial crisis. The results confirmed the influence of macroeconomic variables on the stock market indices in each of the six countries under study, though the type and magnitude of the associations differed depending on the country's financial structure.

Ewing (2002) examined the response of returns to shocks of four key economic variables, i.e. monetary policy, output, risk and inflation on the NASDAQ Financial 100 Index. The researcher used the newly developed technique of "generalized impulse response analysis". Results state that monetary policy shock reduces financial sector return having a significant initial impact that continues to affect returns for two months. Unexpected changes in economic growth have a positive initial impact but exhibit no persistence, and inflation is associated negatively. Holden and Thomson (1992) surveyed the recent developments relating to unit roots and co-integration relationship and established a general approach for application of these methods. Escudeso (2000) established that analysis of unit root and co-integration mechanisms has played a prominent role in econometrics and macroeconomics.

Panetta (2003) similarly found the relation between stock returns in Italy and the macroeconomic factors to be unstable: not only were the factor loadings of individual securities virtually uncorrelated over time, but a high percentage of the shares experience a reversal of the sign of the estimated loadings.

In a survey of the stock markets in fifteen countries (Australia, Chile, Japan, Bangladesh, Philippine, South Africa, Mexico, Malaysia, Italy, Columbia, Jamaica, Canada, Germany, Spain and Venezuela), Mahmudul and Gazi (2009) established that interest rate exerts significant negative relationship on share prices. They argued that there was the availability of significant negative relationship between changes of interest rate and changes of share prices.

Khrawish et al. (2010) carried out a study on the relationship between stock market capitalization rate and interest rate in Jordan with the use of time series analysis. In their study, they also found that there is a significant positive relationship between government prevailing interest rate and stock market capitalization rate in the Amman Stock exchange (ASE), Jordan.

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 stock market 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 Summary

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.

In conclusion both the theory and empirical evidence suggest that macro-economic variables have an impact on the capital market performance. It is therefore important that we study the level of impact by particularly focusing on GDP growth rate and interest rate variations on Nairobi Securities Exchange

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter describes the research methodology and will specifically look into research design, population, sample design, data collection, and data analysis.

3.1 Research Design

The study was designed to undertake explanatory study which was longitudinal in the quest to answer the research question. The subjects or cases analyzed was the same or at least comparable from one period to the next, the analysis involved some comparison of data between or among periods. Longitudinal research was justifiable for this study as same macroeconomic variables were observed and analyzed using quarterly time series data covering the January 2003 to December 2014.

3.2 Population

The target population consisted of all listed companies at NSE from which NSE 20 share index was derived.

3.3 Sample design

The study used quarterly time series data for NSE share index that covered a period of 10 years from January 2003 to December 2014. This was aimed at achieving robust results from the market and enhanced accuracy.

3.4 Data collection

Secondary data was used in the study the NSE share index was collected from Nairobi stock exchange. While data on GDP growth rate was be obtained from Kenya bureau of statistics, data on interest rates was be obtained from Central Bank of Kenya.

3.5 Data analysis Model

To enable us undertake the empirical analysis of the relationship between GDP growth rate, Interest rate variations and the performance of the Nairobi Securities Exchange market index, a multiple regression model was used to examine the relationship between dependent variable and independent variables .Data was analyzed by running the multiple regression tests using the SPSS software. This model was chosen as it determined the nature of relationship between the variables and even showed the magnitude of the effects. The model was simple to use and interpret the findings.

Analytical Model: To establish the impact of gross domestic product growth rate and interest rate variations on the Nairobi Security Exchange Performance, the study applied the following regression model.

NSE 20 share Index = $\alpha 0 + \alpha 1 GDP + \alpha 2 IR + \varepsilon$

Where:

NSE 20 Share Index- NSE Performance measured by NSE 20 Share Index

GDP- Gross domestic Product growth rate

IR- Interest rates variations

$\alpha 0$- Constant that measures NSE 20 Share Index performance when the value of other variables is zero

$\alpha 1$- Measures of the change in NSE 20 Share Index performance arising from change in GDP Growth rate.

$\alpha 2$- Measures of the change in NSE 20 Share Index arising from change in interest rate variations.

ε- Is the error term

Appositive value for particular coefficients in the model was indicative of a positive relationship with dependent variable. Negative value for particular coefficients in model was indicative of negative relationship with the dependable variable.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS

4.1 Introduction

This chapter describes the data analysis and specifically looked into the findings discussion and presentation of the findings.

4.2 Descriptive Statistics

The descriptive statistics for the three variables have been obtained for empirical investigation and are presented in the Table 4.1.

Table 4. 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
NSE Share index	48	1608.00	5646.00	3937.7500	1018.81820
Gross domestic growth	48	-1.60	8.80	5.0854	2.43765
Interest rate variations	48	.83	18.30	7.2069	3.57155
Valid N (list wise)	48				

Table 4.1 provides the descriptive statistics for all the variables. It shows the number of observations of all variables, their average values and their standard deviation. It shows the minimum and maximum values as well which can be attained by these variables. The descriptive statistics show that all the variables have 48 observations. The dependent variable NSE share Index has the average value of 3937.75; it has a minimum value of 1608.00 and a maximum value of 5646.00. The standard deviation for NSE share index is 1018.81820.

The interest rates has an average value of 7.20 with a standard deviation of 3.5155 Minimum values 0.83 and its maximum value is 18.30.

Gross domestic products has an average value of 5.08 with a standard deviation of 2.43.with minimum of -1.6 and maximum of 8.8.

4.3 Correlation

Correlation coefficient explains the relationship between two variables. It shows change in one variable because of any change in other variable.

Table 4.2: **Correlations**

		NSE Share index	Gross domestic growth	Interest rates
NSE Share index	Pearson Correlation	1	.424**	.149
	Sig. (2-tailed)		.003	.314
	N	48	48	48
Gross domestic product growth rate	Pearson Correlation	.424**	1	-.186
	Sig. (2-tailed)	.003		.205
	N	48	48	48
Interest rate variations	Pearson Correlation	.149	-.186	1
	Sig. (2-tailed)	.314	.205	
	N	48	48	48

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.2 shows the matrix of Pearson's correlation coefficient analysis. This analysis helps to locate the relationship that exists among the independent or explanatory variables, Correlation between dependent variable, which is NSE share index. The results reveal that NSE share index has low positive with interest rates that of 0.149 which

shows correlation is not significant at 99% confidence level. NSE share index has high positive correlation with gross domestic growth of 0.424% which shows Correlation is significant at 99% confidence level. The results also show low negative correlation between interest rates and GDP.

4.4 Regression

4.4.1 Regression of Gross Domestic Product Growth rate on NSE Share Index

In order to establish whether GDP influence NSE share index significantly

Table 4.3: **Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.424[a]	0.180	.162	932.68658

a. Predictors: (Constant), Gross domestic product growth rate

Table 4. 4: **ANOVA[a]**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8769959.537	1	8769959.537	10.082	.003[b]
	Residual	40015595.463	46	869904.249		
	Total	48785555.000	47			

a. Dependent Variable: NSE Share index

b. Predictors: (Constant), Gross domestic product growth rate

Table 4. 5: **Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3036.582	314.128		9.667	.000
	Gross domestic product growth rate	177.206	55.811	.424	3.175	.003

a. Dependent Variable: NSE Share index

The results reveal that the R squared of 0.18 meaning that Gross domestic product growth rate of Kenya only accounted for 18.0% of the changes in Share index changes ,while 72 % cannot be explained by explanatory variables hence error term. Result shows that NSE Share index changes are significant 99% confidence interval.

4.4.2 Regression of Interest rates on NSE Share Index

Table 4.6: **Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.149[a]	.022	.001	1018.40713

a. Predictors: (Constant), Interest rate variations

Table 4.7: **ANOVA[a]**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1076513.271	1	1076513.271	1.038	.314[b]
	Residual	47709041.729	46	1037153.081		
	Total	48785555.000	47			

a. Dependent Variable: NSE Share index

b. Predictors: (Constant), Interest rate variations

Table 4.8: **Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3632.363	333.855		10.880	.000
	Interest rates	42.374	41.593	.149	1.019	.314

a. Dependent Variable: NSE Share index

The results reveal that the R squared of 0.02 meaning that interest rates only accounted for 2.0% of the changes in Share index changes ,while 98 % cannot be explained by explanatory variables hence error term. Result shows that NSE Share index changes are not significant 99% confidence interval

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The data was analyzed and findings presented in tables for easier interpretation. This chapter specifically brings out the discussion findings based on the study in chapter four. It gives conclusion to the study and highlights recommendations for further studies. It also highlights the limitation of the study.

5.2 Summary of findings

Table 4.1 provides the descriptive statistics for all the variables. It shows the number of observations of all variables, their average values and their standard deviation. It shows the minimum and maximum values as well which can be attained by these variables. The descriptive statistics show that all the variables have 48 observations. The dependent variable NSE share Index has the average value of 3937.75; it has a minimum value of 1608.00 and a maximum value of 5646.00. The standard deviation for NSE share index is 1018.81820. The interest rates has an average value of 7.20 with a standard deviation of 3.57155 minimum values 0.83 and its maximum value is 18.30. Gross domestic products has an average value of 5.08 with a standard deviation of 2.43.with minimum of -1.6 and maximum of 8.8.

Table 4.2 shows the matrix of Pearson's correlation coefficient analysis. This analysis helps to locate the relationship that exists among the independent or explanatory variables, Correlation between dependent variable, which is NSE share index. The results reveal that NSE share index has low positive correlation with interest rates that of 0.149 which shows correlation is not significant at 99% confidence level. NSE share index has high positive correlation with gross domestic growth of 0.424% which shows Correlation is significant at 99% confidence level. The results also show low negative correlation between interest rates and GDP.

Although the interest rates was expected to show a significant impact on NSE share index technical analysis by study indicate that this variable is not significant. The results from regression of interest on share performance reveal that the R squared of 0.02 meaning that interest rates only accounted for 2.0% of the changes in Share index performance ,while 98 % changes in share performance cannot be explained by explanatory variables that is the interest rates variations hence error term. Result shows that NSE Share index changes are not significant 99% confidence interval.

The results from regression of GDP on share performance reveal that the R squared of 0.18 meaning that Gross domestic growth of Kenya only accounted for 18.0% of the changes in Share performance changes ,while 72 % of changes in share cannot be explained by explanatory variable that GDP hence error term. Result shows that NSE Share index changes are significant 99% confidence interval.

5.3 Conclusion

The study was set out to determine the effect of GDP growth rate, Interest rates variations on Nairobi Securities Exchange Performance. The study concludes that a positive correlation exists between GDP and Nairobi securities exchange share performance .Therefore GDP significantly affected the performance of NSE. The study also concludes low positive correlation between interest rates and share performance, hence Interest rates did not significantly influence the NSE share performance.

This study also reveals that the changes in NSE share performance are affected not only by change in few selected macroeconomic variables, but there are other macroeconomic dimensions affecting the NSE share performance thereby supporting a past study done by Ahmed (2008).

5.4 Recommendations

The major implication of this study can be for government as the government will understand the effects of GDP growth rate and interest rate variation on the Nairobi Securities Exchange market performance. The government should to take appropriate steps to enhance GDP.

The major implication of this study can be for government, such as Government of Kenya in this case should concentrate on promoting equity shares as leading financial instruments. Interest rates in Kenya has been increasing making debt finance to be expensive for corporates to raise additional capital thus affecting the performance of NSE share performance. Today many financial instruments are available with the help of which investments can be made in capital markets directly or indirectly. Thus, this will lead to increase in liquidity conditions of the markets and the markets may become more predictable.

The Government of Kenya and the appropriate monetary authorities should continue to give serious attention to policies geared towards lending rate in the country, if the desired level of market capitalization must be achieved. This is very important as a result of the multiplier effect of interest rate on investment and hence, the level of stock market performance in Kenya

5.5 Limitations of study

The study mainly used secondary data obtained from central bank and Kenya national bureau of statistics any error that may have been made by these institutions could not be corrected by the researcher.

From the conclusions of the study it's clear that GDP only affected the share performance to an extent .There are other variables which significantly affected the NSE performance which have not been covered by this study.

Limitations of the study include the fact that the regression Model methodology as used in this study assumes a linear relationship between the variables and also assumes that the relationship in the past can be used to predict the future performance of NSE share performance.

5.6 Suggestion for further research

This study only used two macro-economic variables namely GDP growth rate and interest rate variations, further studies need to be conducted to establish the effect of other macro-economic variables on Nairobi Securities Exchange Performance.

The present study covers a scope of ten years for more comprehensive results. It can be extended over a longer period. Further, research area can be extended by analyzing the fundamentals economy.

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APPENDICES

Appendix 1: QUARTERLY NSE 20 SHARE INDEX

YEAR	QUARTER	NSE 20 SHARE INDEX
2003	1	1608
	2	2005
	3	2379
	4	2739
2004	1	2771
	2	2640
	3	2671
	4	2945
2005	1	3209
	2	3972
	3	3833
	4	3973
2006	1	4102
	2	4261
	3	4880
	4	5646
2007	1	5134
	2	5147
	3	5146
	4	5445
2008	1	4843
	2	5186
	3	2180
	4	3521
2009	1	2805
	2	3295
	3	3005
	4	3247
2010	1	4073
	2	4399
	3	4630
	4	4433
2011	1	3887

	2	3968
	3	3284
	4	3203
2012	1	3367
	2	3704
	3	3972
	4	4133
2013	1	4861
	2	4790
	3	4793
	4	4927
2014	1	4946
	2	4685
	3	5256
	4	5113

Source Nairobi Securities Exchange

Appendix II: QUARTERLY GROSS DOMESTIC PRODUCT GROWTH RATE

YEAR	QUARTER	GDP
2003	1	-1.6
	2	0.8
	3	6.9
	4	5.5
2004	1	6.5
	2	6
	3	3.2
	4	4.8
2005	1	2.6
	2	7
	3	7.4
	4	5.8
2006	1	4.1
	2	5.8
	3	7.4
	4	6.9
2007	1	7.5
	2	8.8
	3	6.7
	4	5.6
2008	1	-0.6
	2	2.2
	3	3.2
	4	1.8
2009	1	5.6
	2	0.9
	3	0.5
	4	3.6
2010	1	7.3
	2	8.2
	3	8.2
	4	8.7
2011	1	7.6
	2	6.7
	3	5.8
	4	4.4

2012	1	4.7
	2	4.3
	3	4.5
	4	4.7
2013	1	6
	2	7
	3	6.8
	4	2.9
2014	1	4.7
	2	6
	3	5.2
	4	5.5

Source Kenya National Bureau of Statistics

Appendix III: QUARTERLY INTEREST RATE VARIATIONS

YEAR	QUARTER	INTEREST RATES
2003	1	6.24
	2	3
	3	0.83
	4	1.46
2004	1	1.59
	2	2.01
	3	2.75
	4	8.04
2005	1	8.63
	2	8.5
	3	8.58
	4	8.07
2006	1	7.6
	2	6.6
	3	6.45
	4	5.73
2007	1	6.32
	2	6.53
	3	7.35
	4	6.87
2008	1	6.9
	2	7.73
	3	7.69
	4	8.59
2009	1	7.31
	2	7.33
	3	7.29
	4	6.82
2010	1	5.98
	2	2.98
	3	2.04
	4	2.28
2011	1	2.77
	2	8.95
	3	11.93

	4	18.3
2012	1	17.8
	2	10.09
	3	9.36
	4	9.25
2013	1	10.31
	2	5.11
	3	9.1
	4	9.4
2014	1	8.85
	2	11.4
	3	8.65
	4	8.57

Source Central Bank of Kenya

Appendix IV: Listed Firms on the NSE

A. AGRICULTURAL

1. Eaagads Ltd

2. Kapchorua Tea Co. Ltd

3. Kakuzi

4. Limuru Tea Co. Ltd

5. Rea Vipingo Plantations Ltd

6. Sasini Ltd

7. Williamson Tea Kenya Ltd

B. COMMERCIAL AND SERVICES

8. Express Ltd

9. Kenya Airways Ltd

10. Nation Media Group

11. Standard Group Ltd

12. TPS Eastern Africa (Serena) Ltd

13. Scangroup Ltd

14. Uchumi Supermarket Ltd

15. Hutchings Biemer Ltd

16. Longhorn Kenya Ltd

C. TELECOMMUNICATION AND TECHNOLOGY

17. Access Kenya Group Ltd

18. Safaricom Ltd

D. AUTOMOBILES AND ACCESSORIES

19. Car and General (K) Ltd

20. CMC Holdings Ltd

21. Sameer Africa Ltd

22. Marshalls (E.A.) Ltd

E. BANKING

23. Barclays Bank Ltd Ord 0.50

24. CFC Stanbic Holdings Ltd

25. I&M Holdings Ltd

26. Diamond Trust Bank Kenya Ltd

27. Housing Finance Co Ltd

26. Kenya Commercial Bank Ltd

28. National Bank of Kenya Ltd

29. NIC Bank Ltd

30. Standard Chartered Bank Ltd

31. Equity Bank Ltd

32. The Co-operative Bank of Kenya Ltd

F. INSURANCE

33. Jubilee Holdings Ltd

34. Pan Africa Insurance Holdings Ltd

35. Kenya Re-Insurance Corporation Ltd

36. Liberty Kenya Holdings Ltd

37. British-American Investments Company (Kenya) Ltd

38. CIC Insurance Group Ltd

G. INVESTMENT

39. Olympia Capital Holdings ltd

40. Centum Investment Co Ltd

41. Trans-Century Ltd

H. MANUFACTURING AND ALLIED

42. B.O.C Kenya Ltd

43. British American Tobacco Kenya Ltd

44. Carbacid Investments Ltd

45. East African Breweries Ltd

46. Mumias Sugar Co. Ltd

47. Unga Group Ltd

48. Eveready East Africa Ltd

49. Kenya Orchards Ltd

50. A. Baumann CO Ltd

I. CONSTRUCTION AND ALLIED

51. Athi River Mining

53. Bamburi Cement Ltd

54. Crown Berger Ltd

55. E.A. Cables Ltd

56 E.A. Portland Cement Ltd

J. ENERGY AND PETROLEUM

57. Kenol Kobil Ltd

58. Total Kenya Ltd

59. Ken Gen Ltd

60. Kenya Power & Lighting Co Ltd

61. Umeme Ltd