RELATIONSHIP BETWEEN SECURITY RETURNS AND ECONOMIC GROWTH IN KENYA

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DECLARATION

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

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This research project has been submitted for examination with my approval as the candidate's supervisor.

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DEDICATION

To my family members and all those who supported me in the completion of this project writing.

Thank you and God bless you abundantly.

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ABSTRACT

Stock markets in the world individually and collectively play a critical role in the most national economies. Stock prices are generally believed to be determined by some fundamental macroeconomic variables such as interest rate, exchange rate and inflation rates. Although growth is a major factor in poverty reduction, there is concern that growth may be inadequate to reduce poverty substantially, hence the need to accelerate growth. To the best of the researcher's knowledge no study has empirically investigated the relationship between security returns and economic growth in Kenya. As alludes to the foregoing, the causal relationship between the security returns and economic growth in the developing countries is still a thing of controversy particularly in the Sub-Saharan region and Kenya in particular.

The objective of this study was to determine the relationship between the security returns and economic growth in Kenya. This research study made use of descriptive research design since it allows collection of large amounts of data from the target population as compared to other methods. The target population for this study constituted all the (54) companies at the NSE which have been actively involved in the stock market trade over the last five years since they are the ones conversant with the relationship between security returns and economic growth in Kenya. The sample of the study constituted the NSE-20share index from the NSE. The researcher used secondary data for obtaining necessary information for the study. The secondary market data is available in the NSE. Using a data collection sheet, the stock price returns was collected. The data was checked against the NSE market statistical bulletins for consistencies. The data included security returns and Kenya's economic growth from January 2007 to December 2012.

The researcher used quantitative method to analyze data. The quantitative data collected was summarized and analyzed by using cross tabulations and descriptive statistics. The results of data analysis were presented by the use of tables to display information that was obtained from the NSE. There is a positive and statistically significant relationship between security returns and the continuous growth rates of GDP as such a linear dependence between the security returns and the three independent variables namely inflation rates, exchange rates and real GDP. It was also clear that inflation can also be increased by a drop in the value of the shilling in foreign exchange markets. The capital markets authority should check and avert any sharp practices by market operators (particularly the speculators) in order to safeguard the interests of shareholders. The government through its respective specialty departments should encourage savings and investments by putting in place appropriate policies which give equal importance to both financial sector as well as the market-based stock market of the economy in order to enhance capital formation and investments and consequently increasing the living standards of the people through increased economic growth.

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LIST OF ABBREVIATIONS

EMH- Efficient Market Hypothesis

GDP- Gross Domestic Product

ISE- Indian Stock Exchange

IPO- Initial Public Offer

NSE- Nairobi Stock Exchange

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Stock markets in the world individually and collectively play a critical role in the most national economies. As the global equity markets have experienced their most explosive growth over the past decade, emerging equity markets have experienced an even more rapid growth, taking on an increasingly larger share of this global boom. The behaviour of aggregate stock prices is a subject of enduring fascination to investors, policymakers, and economists alike. A casual inspection of stock market prices and GDP in developed market economies reveals that these tend to move together. Countries doing well in terms of GDP performance tend to experience gains in domestic stock exchanges. Stocks reflect how the economy performs at any given time.A growing business has more profitability and the ability to continue growing and to pay a dividend to the holders of its stock. A stock market is a good tool for assessing the macroeconomic environment, which affects the performance of firms. To some degree, investment performance and opportunities are determined by the conditions of the macroeconomic environment. Stock market performance is influenced by a number of factors key among them the activities of governments and the general performance of the economy. Stock markets are a vital component for economic development as they provide listed companies with a platform to raise long-term capital and also provide investors with a forum for investing their surplus funds Olweny, T., and Kimani, D., (2011).

According to Yartey C. A. & Adjasi C. K. (2007) in developed countries, the performance of the stock markets is seen as one of the key elements reflecting the performance level of their economic activities. Stock market cycles are determined by economic cycles. A change of economic cycle appears when the stock market cycle is altered, thereby demonstrating an apparent cyclical relationship between stock market and economic cycle. From a general point of view, a fall in stock market prices implies an economic downturn. On the contrary, a rise of the stock prices means a steady and uplifted recovery of the economy. When stock prices reach an all-time high, it shows that the economy is extremely healthy and business booming

1.1.1 Securities and Security Returns

A security is either a stock or a bond or other financial instrument whose purpose is to represent either debt or ownership for purposes of capital formation. A security represents a share of ownership in a corporation (company). Stock values depend on their future returns, which are determined by dividends and capital gains/losses. Lawrence (2008) argues that future cash flows are financial factors impacting on the current price per share of common stocks. However, future cash flows determined by two key factors are future dividends and future liquidation values, and both factors are unknown; which means that some macroeconomic variables will influence stock valuation, such as inflation rate, interest rate and money supply.

According to Kurach (2010) both across stocks and over time, expected stock returns are an increasing function of expected illiquidity. Stock prices are generally believed to be determined by some fundamental macroeconomic variables such as interest rate, exchange rate and inflation rates. Investors in the market get their returns from either dividend payments or capital gains. However, dividends are usually paid during the end of the year and in some cases, no dividends are paid at all. Due to this developments, most investors focus on the price movements to assess their returns. Therefore, stock prices become a vital indicator of risk to investors. Stock returns continue to drift in the direction of earnings surprises for several months after the earnings are announced.

When the stock market mobilizes savings, it simultaneously allocates a larger portion of the same to firms with relatively high prospects as indicated by their returns and level of risk. The significance of this function is that capital resources are channeled by the mechanism of the forces of demand and supply to those firms with relatively high and increasing productivity thus enhancing economic expansion and growth. In a seminar paper, Jing (2003) coincides that the occurrence of persistent anomalies that pose a challenge to the market efficiency propositions one of this being the post-earnings drift of or earnings momentum which is evidenced by rallying of the stock prices following the announcement of the earnings results.

1.1.2 Economic Growth

Economic growth is defined as 'a rise in the total output (goods or services) produced by a country'. It is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth is the process by which a nation's wealth increases over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP. Economic growth occurs whenever people take resources and rearrange them in ways that are more valuable. Economic growth refers only to the quantity of goods and services produced; it says nothing about the way in which they are produced.

Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation i.e. by the percent rate of increase in the gross domestic product (GDP). Economic growth measures growth in monetary terms and looks at no other aspects of development. For comparing one country's economic growth to another, GDP or GNP per capita should be used as these take into account population differences between countries. Nominal growth is defined as economic growth including inflation, while real growth is nominal growth minus inflation. Economic growth is usually brought about by technological innovation and positive external forces.

To compensate for changes in the value of money (inflation or deflation) the GDP or GNP is usually given in "real" or inflation adjusted, terms rather than the actual money figure compiled in a given year, which is called the nominal or current figure. GDP per capita is not the same thing as earnings per worker since GDP measures only monetary transactions for all final goods and services in a country without regard to who receives that money. The long-run path of economic growth is one of the central questions of economics; in spite of the problems of measurement, an increase in GDP of a country is generally taken as an increase in the standard of living of its inhabitants. Over long periods of time, even small rates of annual growth can have large effects through compounding.

1.1.3 Stock Returns and Economic Growth

According to Cole Moshirian & Wu (2007) a country's financial sector influence future economic growth and that stock market index returns affect future economic growth. Stock markets promote higher standards of accounting, resource management and transparency in the management of business. This is because financial markets encourage the separation of owners

of capital, on the one hand, from managers of capital, on the other. The interaction of share returns and the macroeconomic variables has been a subject of interest among academics and practitioners. Stock markets help investors to cope with liquidity risk by allowing those who hit by liquidity shock to sell their shares to the investors who do not suffer from liquidity shock (Caporale et al, 2004).

Stock prices determined in exchanges, and other publicly available information help investors make better investment decisions. In efficient capital markets prices already reflect all available information, and this reduces the need for expensive and painstaking efforts to obtain additional information Stiglitz (1994). Bhide (1993) indicates that the volatility of stock market may reduce the ability of the public to supervise on a company's investment efficiency. In addition, the public may increase investment returns by speculating in the stock market; thus, the stock market development may be unfavorable to the economic growth. Obstfeld (1994) indicates that high financial market liquidity may increase investment returns and thus decrease saving rate due to substitution effect and income effect, which is unfavorable to the economic growth. It is often argued that stock prices are determined by some fundamental macroeconomic variables such as the interest rate, the exchange rate and the inflation. Investors generally believe that monetary policy and macroeconomic events have a large influence on the volatility of the stock price.

Stock markets may affect economic activity through the creation of liquidity. Many profitable investments require a long-term commitment of capital, but investors are often reluctant to relinquish control of their savings for long periods. Liquid equity markets make investment less risky and more attractive because they allow savers to acquire asset equity and to sell it quickly and cheaply if they need access to their savings or want to alter their portfolios. At the same time, companies enjoy permanent access to capital raised through equity issues. By facilitating longer-term, more profitable investments, liquid markets improve the allocation of capital and enhance prospects for long-term economic growth. In Kenya, the macro economic targets of the government are factored into business operations which invariably feed into the determination of stock prices of listed companies on the NSE. Kenya's security market is an important component of the national economic structure. It is worth investigating the role played by security returns on the economic growth of developing countries and more specifically Kenya.

1.1.4 Kenya's Economy and Securities Market

Kenya's economy continued to record slow growth in 2012, primarily driven by financial intermediation, tourism, construction and agriculture. The first half-year GDP growth rate in 2012 was an estimated 3.4 %, compared to an annual real GDP growth rate of 4.4% in 2011 and 5.8% in 2010. The estimated growth of 4.2% in 2012 was mainly curtailed by a slowdown in most economic sectors. Real GDP growth is expected to increase to 4.5% in 2013 and 5.2% in 2014. Similarly, consumer price index inflation is expected to remain in the single-digit range over the same period. It is clear that economic growth is key to lifting societies from dire poverty to prosperity and holds the promise of sustaining unreached levels of human flourishing.

Similarly, the securities market has experienced growth over recent periods. Market capitalization has increased by 46.5 per cent from Kenya Shillings (Kshs) 868 billion in 2011 to Kenya Shillings (Kshs) 1,272 billion in December 2012.The NSE 20 Share Index rose by 29.0 per cent to 4,133 from 3,205 in December 2011 and by August, 2013 it was at 4,851.54.

1.2 Research Problem

World stock markets are booming and stock markets in developing countries account for a disproportionately large share of this boom. Stock markets are expected to increase economic growth by increasing the liquidity of financial assets, make global and domestic risk diversification possible, promote wiser investment decisions, and influence corporate governance Vector (2005). There are evidences that support the existence of long-run correlation between stock market development and economic growth. Chen et al (2004) elaborated that the nexus between stock returns and output growth and the rate of stock returns is a leading indicator of output growth. Fink et al. (2005) found that financial depth affects growth positively.

Bonin & Watchel (2003) also takes a panel approach and finds that security returns have a positive effect on the GDP growth in the emerging economies. On the contrary, some scholars argue that financial system does not really matter in the growth of the economy. For instance, Berglöf and Bolton (2002) do not find much evidence of a stock returns-economic growth nexus in the first decade of transition. Further, Kurach (2010) found that stock market may not be important in attaining higher economic growth. The actual operation of the pricing and takeover mechanism in well functioning stock markets lead to short term and lower rates of long term investment. It also generates perverse incentives, rewarding managers for their success in financial engineering rather than creating new wealth through organic growth. Given these conflicting views, it is left to empirical investigation to determine whether or not security returns have an effect on the economic growth.

Locally, Kuria (2001) found that the movement of stock prices in the Nairobi Securities Exchange reflects the macroeconomic condition of the country. Zaheer (2010) found that the stock returns behave differently at the firm and industry level. The impact of changes in economic factors on stock returns is more significant and strong at the industry level than firm level.

Olweny & Kimani (2011) found that the causality between economic growth and stock market runs unilaterally or entirely in one direction from the NSE 20-share index to the GDP. As alludes to the foregoing, the causal relationship between the security returns and economic growth in the developing countries is still a thing of controversy particularly in the Sub-Saharan region and Kenya in particular.

1.3 Objectives of the Study

The objective of this study will be to determine the relationship between the security returns and economic growth in Kenya.

1.4 Value of the Study

Security returns in both developed and developing countries play a major role in determining the economic growth of such economies. This study concerned with establishing the relationship between security returns and economic growth is timely and will be of importance to various stakeholders either directly or indirectly who participate and are affected by the security returns. Some of these stakeholders include the government, investors, fund managers, financial analysts and academicians.

The Kenyan government as a regulator of stock markets through the Capital Markets Authority is able to monitor the performance of stock market as a signal of economic stability of the country, hence will attract both local and foreign investors. The financial advisory services firms who usually provide financial advisory services to the government and investors on the securities market would also find the findings of this study significant. By utilizing the findings in this study, the firms would advise their clients from a knowledge point of view.

Investors are keen on the day to day performance of stock market. The findings of this study will indicate whether local stocks behave like the other international stocks. The study also gives investors confidence in investing in these stocks when they have knowledge of stock returns and how they affect the performance of the Kenyan economy. Funds managers are charged with the responsibility of identifying and investing in viable projects on behalf of investors. Findings from the study will help them gauge the performance of the stock market which will enable them decide on whether to buy or sell stocks.

This study would also be of benefit to financial analysts who would want to come up with liquidity, profitability and other performance ratios. By analyzing the income statements, balance sheet and cash flow statements of the firms listed in the securities exchange in Kenya the analysts would come up with rations which help these institutions to know about their performance and their overall contribution to the economic growth. Financial analysts monitor

day to day changes which occur in the stock exchange in order to advise investors on the best investment decisions in order to have good returns on their investments.

The study would be of significance to students who would want to know about the securities and security returns and how they affect the country's economic performance. This would be especially researching on the relationship between security returns and economic growth to get more insight and to come up will better solutions to various problems facing Kenyan stocks. The study would help the students to have an understanding of stock market policies and how they can be streamlined to realize better economic growth.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter looks at research previously done on the relationship between security returns and economic growth. As such the chapter will review the relevant theories with regard to security returns and economic growth such as Random Walk Theory, Efficient Market Hypothesis and Theory on Dividend Policy, Growth and Valuation of Shares. The chapter also focuses on review of empirical studies, security returns, and economic growth and finally the conclusions from literature review are presented.

2.2 Review of theories

There are various theories that suggest that there should be a strong link between economic activity and security prices, given that the stock price is the discounted present value of the firm's payout. If this payout is ultimately a function of real activity, such a link should prevail. The standard discounted-cash-flow model implies that stock prices lead real economic activity if investors' expectations about firms' future payouts are correct on average. This study is grounded on Random Walk Theory, Efficient Market Hypothesis and Theory on Dividend Policy, Growth and Valuation of Shares.

2.2.1 The Random Walk Theory

The theory was advocated by Fama (1965) in the journal on stock market prices. In his finding he advocates that the random walks in Stock prices is based on the premises that the successive price changes are independent and the price changes conform to some form of probability distribution. He established in the theory that differences in stock prices seem to follow a stable Paretian distributions. Mehemet and Ayhan (1990) compared the applicability of the random walk theory and overreaction hypothesis on the ISE (Indian Stock Exchange) where it was found that the random walk theory prevailed on the ISE.

The theory has established the proposition that previous stock prices can therefore not be used to predict the expected future prices. Godwin (2010) while studying on the Nigeria Stock Exchange

proved the applicability of the random walk theory, though in a weak form of market efficiency in that information conveyed in past pattern of share prices is compounded in the current prices.

In Statistical terms the price changes in period *t* are not related to the price changes in the successive periods. However Fama and Kenneth (1998) on studies on dividend yields and expected stock returns established that the power of dividend yields to forecast stock returns increases with horizon. Thus on long periods of Horizon the dividend yield is a good predictor of stock market returns.

2.2.2 Efficient Market Hypothesis

The Efficient Market hypothesis is closely related to the Random Market Theory. The Efficient Market Hypothesis (EMH) was formulated by Fama (1970) and suggests that at any given time, stock prices fully reflect all available information on a particular stock and/or market. Thus, according to the EMH, no investor has an advantage in predicting a return on a stock price because no one has access to information not already available to everyone else. There are three forms of market efficiency, strong form, semi strong form and the weak form of market efficiency. Semi strong form of market efficiency occurs when the market reflects not just past prices but all other published information (Brealey, Myers, Allen and Mohanty (2007).

However , one can argue that not all information may be public and on this Clara(2006) found out that it is irrelevant as to whether the information is private or public, what matters is the arrival rate of informed or uninformed traders. Wachira(2010) in his studies on the success of the IPOS among listed companies on the Nairobi Securities Exchange was able to classify investors into "Informed Investors" and "Uninformed investors". Informed investors have perfect information whereas uninformed investors do not have the perfect information. Following such scenario the informed investors compete with uniformed investors for "good" issues, creating adverse selection in which the chances of obtaining bad issues are higher for uniformed investors. This results into anomalies in the market weakening the effectiveness of EMH to predict the share prices on the NSE hence depicting a weak form of EMH.

Thus the stock prices are expected to reflect all available information that is released to the public for an efficient market. Ball and Brown (1968) found out that stock returns continue to drift in the direction of earnings surprises for several months after the earnings are announced

and Bernard and Thomas(1989) found out that stocks of companies which reported good news outperformed the ones with bad news . With the release of financial results it is therefore expected that a company's stocks would adjust accordingly in line with the released financial information that is contained in the announced results.

2.2.3 Theory on Dividend Policy, Growth and Valuation of Shares

The theory on dividend Policy, growth and valuation of shares was advanced by Merton Miller and Franco Modigiliani (1961) in their study to understand the effect of dividend policy on the current price of shares established that dividend yield can be used to predict the stock returns on a long term horizon as opposed to short term prediction. However dividends are paid out of the company's earning and therefore earnings per share is equally expected to have an impact.

Gordon (1959) on the bird in the hand argument, tried to explain the preference of investors of current income to future expected income which put the case forward for the preference of dividends by the shareholders. He pointed out that investors pay for the three things when acquiring a share firstly being the dividends and earnings, secondly the dividends and thirdly the earnings. However we need to know if investor pays for earnings what could be the effect of the earnings when announced on the share price.

In their paper on the applicability of the constant Dividend Model for Companies Listed at the Nairobi Securities Exchange, Aduda and Kimani (2010) found out that the constant dividend model was not employed by the companies listed at the Nairobi Securities Exchange as most firms adopted a stable and predictable policy where a specific amount of dividend per share was paid each year. In some years, there was a slight adjustment of the dividend paid after an increase in earnings, but only by a sustainable amount. However, the relationship between the stock market prices and the dividend paid from the constant dividend model is uneven from one year to another and where there was a relationship it was insignificant.

2.3 Review of Empirical Studies

The stock market stimulates economic growth through savings amongst individual, providing avenue for business financing and efficient allocation of resources in the economy. One of the most fundamental strategies of economic growth is simply to increase the proportion of national income saved. Stock and Watson (2001) use a forecasting regression consisting of real GDP

against lagged explanatory variables that are theoretically relevant predictors for each of the seven most industrialized economies (Canada, France, Germany, Italy, Japan, the UK and the US) and find results that provide some evidence that stock prices have a small marginal predictive content for output at the two, four and eight quarter horizon. However the ability of stock prices as predictors varies across countries and over decades.

Mohammed(2010) in his studies on the effect of earnings announcements on the stock prices of companies listed at the NSE found significant movements in returns were observed periodically, at pre and post earnings announcements. He noted that most of the shares posted negative abnormal returns around the earnings announcements date which showed how stock prices had reacted to the earnings announcement event. Onyango (2004) carried out similar studies on 16 of 48 listed companies on the Nairobi Securities Exchange and using weekly cumulative averages of stock prices over a seventeen week period found out that the earnings announcement contained information to investors which is fully impounded in the prices prior to or almost instantly at the time of the announcement which shows a semi strong form of EMH at the NSE.

However the findings here did not consider the earnings in terms of changes in earnings per share. Shareholders' interests in companies are held in terms of shares and for better understanding of the earnings effect on share prices we need to look at it from the perspective of the influence of Earnings per Share (EPS). The earnings may be good but if the equity shareholding structure of the company has changed, the take home for individual shareholders is reduced.

Ondigo (1995), found out that on average, the annual reports of sampled companies listed on the Nairobi Stock Exchange had no information content that could affect the stock prices during the period of the study. This was in contrast to the earlier findings by Mohammed (2010) and Onyango (2010). His findings depict the NSE as a weak form of EMH as per Famas theory on EMH (1970) whereas the findings of Mohammed (2010) and Onyango (2010) depicted the NSE as a semi strong form of efficiency. A weak form of EMH challenges the applicability of the EMH on the NSE for the shares to reflect available information.

Kamuruci (2003) hypothesized that current prices do not capture future earnings. Using average prices he found that, on average, 60.35% of companies had their share prices moving the same

direction as the accounting earnings. However his findings did not establish the effect of the announced earnings per share on the stock prices. It is important that we establish the nature and extent of the earnings per share as it's a key tool to understand the performance of companies.

2.4 Conclusions from Literature Review

Securities returns act as a barometer to economic development. Stock market activities play a major role in determining the level of economic activities in both emerging and developed economies, by providing and efficiently allocating capital for investment, providing appropriate platform to engender best corporate practices that will result in growing investment and further growth of the economy. Bahadur and Neupane (2006) concluded that stock returns fluctuations predicted the future growth of an economy and causality is found only in real variables. More specifically the causality runs from market capitalization to economic growth with significant feedback. Tuncer and Alovsat (2001) examined stock market-growth nexus and exhibited positive casual correlation between stock market development and economic activity.

Chen et al (2004) elaborated that the nexus between stock returns and output growth and the rate of stock returns is a leading indicator of output growth. The accounting for expectations has represented by the economic sentiment indicator in which stock market has certain predictive content for the real economic activity. The major role that the stock returns have played, and continues to play in many economies is that they promote a culture of thrift, or saving. The very fact that institutions exist where savers can safely invest their money and in addition earn a return is an incentive to investors to consume less and save more. Stock market has been associated with economic growth through its role as sources for new private capital. On the other hand, economic growth may be the catalyst for stock market growths. According to Osamwonyi (2005:4), "a stock exchange is an arrangement for trading financial securities and where one can raise long-term capital. It seeks the efficient allocation of available capital funds to the diverse uses in the economy and through its extreme sensitive pricing mechanism, ensures that the available capital resources are allocated to firms with competitive returns.

Stock markets are seen as enhancing the operations of the domestic financial system in general and the capital market in particular (Kenny & Moss, 1998). According to Yartey & Adjasi, (2007) and Singh, (1997), the establishment of stock markets in Africa is expected to boost domestic savings and increase the quantity and quality of investment. The growth of related

financial services sector such as unit trusts investments clubs, pension and provident fund schemes have extensively contributed towards the deepening of the stock market. It should be appreciated that in as much as an economy can have savings, there is usually lack of established mechanisms for channeling those savings into activities that create wealth.

Stock returns indicate gains in the stock market and is based on the actively traded shares. A change occurs due to the actively traded shares and to fluctuations in share prices or number of shares traded in a given day (Otuke 2006). Stock markets provide investors with an efficient mechanism to liquidate their investments. The very fact that investors are certain of the possibility of selling out what they hold as and when they want, is a major incentive for investment as it guarantees mobility of capital in the purchase of assets .The interactions of buyers and sellers in a stock market determine the price of traded assets ;or equivalently the required return that investors demand and is this feature of stock market that signals how funds in the economy should be allocated among financial assets (Fabozzi ,1995).

To the best of the researcher's knowledge, no study has ever sought to establish the relationship between security returns and economic growth in the developing countries like Kenya, hence the research gap. This study focusing on the relationship between security returns and economic growth in the developing countries is a modest attempt to bridge this gap. It is an attempt to provide insights to the relationship between security returns and economic growth where the Kenyan securities market will be the context of focus.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the study design and methodology used in gathering information needed for the purpose of completing the study. This chapter involves a blueprint for the collection, measurement and analysis of data. In this section the following subsections are included; research design and target population, sampling design, and data collection instrument and procedures and data analysis criteria that was be used.

3.2 Research Design

A research design is defined as an overall plan for research undertaking. Research design provides the glue that holds the research project together. A design was used to structure the research, to show how all of the major parts of the research project (the samples or groups, measures, treatments or programs, and methods of assignment) work together to try to address the central research questions.

This research study made use of descriptive research design since it allows collection of large amounts of data from the target population as compared to other methods. According to Cooper and Schindler (2003), a descriptive study is concerned with finding out the what, where and how of a phenomenon. It involved gathering of data (stock returns) at the NSE and analyzing this data statistically to determine the relationship between security returns and economic growth. In particular, this study seeked to understand the relationship between the independent variables against dependent variable to determine the negative and positive returns on the securities and consequential relationship between security returns and economic growth.

3.3 Population

Target population in statistics is the specific population about which information is desired. According to Ngechu (2004), a population is a well defined or set of people, services, elements, events, group of things or households that are being investigated. Mugenda, (2003) describes population of the entire groups or individual, events or objects having common characteristics about which the researcher wishes to make generations, international statistic indicate the likelihood that what was true of the sample, is also true or the population from which is drawn.

When the target population is similar the researcher has more confidence making generalization. The target population for this study constituted all the companies at the NSE. As such a total of 54 NSE listed firms organizations which have been actively involved in the stock market trade over the last five years will be involved in the study since they are the ones conversant with the relationship between security returns and economic growth in Kenya.

3.4 Sampling

Sampling is selecting a given number of subjects from a defined population as representative of that population. The sample of the study constituted the NSE-20share index from the NSE. Both monetary information on prices of securities and value data for the NSE-20 share index was used. This information was extracted to draw the relationship between security returns and economic growth in Kenya over the period between year 1992 and 2012.

3.5 Data collection

Data is defined as row facts that are yet to be processed to be reliable information for the purpose of design making. The researcher used secondary data for obtaining necessary information for the study. The secondary market data is available in the NSE. Using a data collection sheet, the stock price returns. The data was checked against the NSE market statistical bulletins for consistencies. The data included security returns and Kenya's economic growth from January 1992 to December 2012 .

3.6 Data analysis

The study made use of SPSS in analysis of data. In particular, the software aided in determining the reliance of the dependent variable on the various independent variables. The researcher used quantitative method to analyze data. The quantitative data collected was summarized and analyzed by using cross tabulations and descriptive statistics. The results of data analysis was presented by the use of tables to display information that were obtained from the NSE. Following French (1980) and Keim & Stambaugh (1984) regression model was used to analyze relationship between security returns and economic growth. Regression analysis was used to regress various aspects of stock returns against economic growth to determine the relationship between security returns and economic growth.

3.7 Model Specification

To quantify the strength of the relationship between the variables, Regression analysis was used so as to determine how the security returns are affected by various aspects of economic growth in Kenya. Regression analysis was used to regress various aspects of stock returns against economic growth to determine the relationship between security returns and economic growth. The Regression equation or function that included all the independent and dependent variables for this study will be:

$$Y = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y = Security returns represented by [Security returns = (closing price- opening price) /opening price]

X_1 = Real GDP growth over the period between 1992 and 2012.

X_2 = Exchange rates

X_3 = Inflation rates (unanticipated inflation)

β_o = Intercept that is the value of R_t when all other variables take the value of zero

β_1, β_2 and β_3 are coefficients of determination

ε = Random error term

The regression function shown above wass to investigate the effect of Economic growth on security returns. The changing in value β would be the degree of effects on security returns and the positive and negative sign of the value showed how the direction of effects would be. The higher the value of β for a particular variable represents the higher the effects of economic growth on security returns. Test of significance of the β value was established and the coefficient of determination (R^2) was used to establish the predictive ability of the independent variable (the strength of the model)

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF THE FINDINGS

4.1 Introduction

The purpose of this research was to investigate the relationship between security returns and economic growth in Kenya. The focus was on NSE-20share index from the NSE. This research paper focuses on the relationship between security returns and economic growth in Kenya over the period between year 1992 and 2012. The data was gathered exclusively from the published reports obtained from the Nairobi Securities Exchange 20-share index for the period between 1992 and 2012. The data collected included security returns and Kenya's economic growth from January 1992 to December 2012. The data obtained was fed into SPSS version 21.0 and used to compute the ratios used as proxies to measure the the relationship between security returns and economic growth in Kenya between year 1992 and 2012.

4.2 Institution Details and Information

The sample of the study constituted the NSE-20share index from the NSE. The study targeted the 20 representative companies of share price movements at the Nairobi Stock Exchange market. The NSE periodically reviews the NSE-20 Share Index based on the performance of the constituent companies where some are dropped and new ones enlisted to ensure that its reflects a an accurate picture of the market performance.

The last review was done in 2009 where the Cooperative bank of Kenya replaced the Centum Investments. These companies included Rea Vipingo Plantations Ltd, Sasini Ltd, CMC Holdings Ltd, Barclays Bank of Kenya Ltd, Equity Bank Ltd, Kenya Commercial Bank Ltd, Standard Chartered Bank Kenya Ltd, The Co-operative Bank of Kenya Ltd, Express Kenya Ltd, Kenya Airways Ltd, Nation Media Group Ltd, Athi River Mining, Bamburi Cement Ltd, E.A. Cables Ltd, KenGen Co. Ltd, Kenya Power & Lighting Co Ltd, East African Breweries Ltd, Mumias Sugar Co. Ltd and British American Tobacco Kenya Ltd. These companies are spread across the various industries that have firm quoted in the NSE including banking, manufacturing & allied, telecommunication & technology, construction and energy & petroleum. The choice of the data frequency is informed by the nature of the study, which seeks to investigate the relationship between security returns and economic growth in Kenya between year 2007 and 2012.

4.3 Inferential Analysis

Inferential analysis is utilized in this study to determine if there is a relationship between an intervention and an outcome, as well as the strength of that relationship. The inferential statistics analysis aimed to reach conclusions that extend beyond the immediate data alone between the independent variables in this study and the dependent variables which involve a coefficient of determination The study conducted inferential analysis to establish the relationship between the independent and dependent variable in a multiple regression analysis. The independent variables in this study included on inflation rates, exchange rates, real GDP while the dependent variable was security returns.

4.3.1 Coefficient of Determination

The coefficient of determination is a measure of how well a statistical model is likely to predict future outcomes. The coefficient of determination, r^2 is the square of the sample correlation coefficient between outcomes and predicted values.

Table 4.5: Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.981(a)	0.863	0.691	0.752

Source: Author, 2013

a. Predictors: (Constant), Inflation Rates, Exchange Rates, Real GDP.

b. Dependent variable: security returns

Table 4.4 presents the regression model goodness of fit statistics to determine whether security returns have a linear dependence on inflation rates, exchange rates, real GDP. The study established a correlation value of 0.863. This depicts a very good linear dependence between the security returns and the three independent variables namely inflation rates, exchange rates, real GDP. An R-squared value of 0.863 was established. The coefficient of determination depicts that the three independent variables contribute about 86.3% to the variation in security returns while other factors not studied in this research contribute 13.7% of the security returns of the firms in the NSE 20-share index.

4.3.2 Multiple Regression Analysis

The main purpose of multiple regressions is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable.

Table 4.6: ANOVA

	Sum of squares	Df	Mean Square	F	Sig or P-value
Regression	46.294	4	11.574	11.815	0.00(a)
Residual	97.953	45	980		
Total	144.248	49			

Predictors: (Constant), inflation rates, exchange rates, real GDP.

 Dependent Variable: security returns.

ANOVA findings as explained by the P-value of 0.000 which is less than 0.05 (significance level of 5%) confirms the existence of correlation between the independent and dependent variables. The model shows the model fitness i.e. how well the variables fit the regression model. From the results, the F ratio of 11.815 and the significance of 0.000 shows that there was not much difference in means between dependent and independent variables. The sum of squares gives the model fit and hence the variables fit the regression model.

Table 4.7: Multiple Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients	t-Statistics	Sig.
	B	Std. Error	Beta		
(Constant)	1.224	0.3126		4.3580	0.0000
Real GDP	0.217	0.1440	0.185	0.7760	0.0038
Inflation rates	-0.118	0.0847	-0.023	0.1741	0.0046
Exchange rates	-0.299	0.0715	-0.235	0.9203	0.0044

Source: Author, 2013

Dependent Variable: Security returns of firms in the NSE 20-share index

The researcher conducted a multiple regression analysis so as to relationship between various dimensions of competitive strategies (independent variables) and the firm performance (dependent variable). The regression equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + e$) now becomes:

$$Y = 1.224 + 0.217\ X_1 - 0.118X_2 - 0.299X_3$$

Whereby $\quad$ Y = Security returns of firms in the NSE 20-share index

$\quad\quad\quad\quad\quad$ X_1 = Real GDP

$\quad\quad\quad\quad\quad$ X_2 = Inflation rates strategies

$\quad\quad\quad\quad\quad$ X_3 = Exchange rates

According to the regression equation established, taking all factors (real GDP, inflation rates strategies and exchange rates) constant at zero, the security returns of firms in the NSE 20-share index realized would be 1.224. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in real GDP lead to a 0.217 increase in security returns of firms in the NSE 20-share index. A unit increase in inflation rates strategies will lead to a 0.118 decrease in security returns of firms in the NSE 20-share index; whereas a unit increase in exchange rates will lead to a 0.299 decrease in security returns of firms in the NSE 20-share index. At 5% level of significance and 95% level of confidence, real GDP had a 0.0038 level of significance; inflation rates strategies had a 0.0046 level of significance; while exchange rates showed a 0.0044 level of significance.

4.4 Summary and interpretation of findings

4.4.1 Real GDP Growth

Gross domestic product (GDP) refers to the market value of all final goods and services produced within a country in a given period.

Table 4.1: Descriptive Statistics for Real GDP Growth

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Mean	Std. Dev
GDP	-0.8	0.4	2.6	4.4	4.6	2.1	1.6	1.5	0.6	4.7	0.3	2.8	4.6	6.0	6.3	7.1	1.5	2.7	5.8	4.4	4.6	3.2286	2.23319

Source: Study Data, 2012

From the study, year 2007 recorded the highest GDP growth rate at 7.1% followed by year 2006 at 6.3%, then year 2010. The years that recorded the lowest GDP growth included year 2000 with 0.6%, year 1993 with 0.4%, year 2002 with 0.3, and the worst was year 1992 with -0.8%. The mean score for the period recorded was 3.2 and the standard deviation was 2.2.

4.4.2 Real Exchange Rate

An exchange rate is the rate at which one currency may be converted into another. The real exchange rate (RER) is the rate at which goods, and services produced in one country can be exchanged for those produced in another country or group of countries abroad.

Table 4.2: Descriptive Statistics for Real Exchange Rate

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Mean	Std. Dev
Exchange	35.22	68.16	44.84	55.94	55.02	63.05	61.82	73.94	54.01	78.56	78.75	75.94	79.17	75.55	72.1	67.32	69.18	77.35	79.23	88.81	89.44	68.7333	13.79146

Source: Study Data, 2012

According to table 4.2 and figure 4.2, there has been a general upward trend on the Real Exchange Rate in the country. Year 2012 recorded the highest with a real exchange at 89.44, while year 1992 showed the least at 35.22. Abnormal exchange rates were felt in 1993 where the exchange rate was 68.16 and year 2000 with exchange rates at 54.01. The average exchange rate over the period was 68.73 and the standard deviation was 13.79.

4.4.3 Inflation Rates

Inflation has a significant explanatory power on the share prices and hence the security returns. These results are summarized in table 4.3.

Table 4.3: Descriptive Statistics for Inflation Rates

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Mean	Std. Dev
Inflation	27.3	46.0	28.8	1.6	8.9	11.4	6.7	5.7	10.0	5.76	2.0	9.8	11.6	10.3	14.5	4.3	16.2	10.5	4.1	14.0	12.3	12.4648	10.38379

Source: Study Data, 2012

According to the results, year 1993 recorded the highest geometric inflation rates of 46.0%, followed by year 1994 with 28.8% and year 1992 with inflation rates at 27.3%. The lowest inflation rates were recorded in year 2000 with 2.0% while year 1995 had the least at 1.6%. The mean score for the period recorded was 12.46 and the standard deviation was 10.38.

4.4.4 Security Returns

The study also established the security returns whereby the difference between the closing price and the opening price was divided by the opening price.

Table 4.4: Security Prices

Year	2012	2011	2010	2009	2008	2007
Sasini	2.23	3.45	4.36	2.34	3.88	-0.21
Kenya Airways	8.58	7.84	4.41	-8.85	8.38	8.88
Nation Media Group	5.42	11.21	9.79	11.34	26.79	15.1
Barclays Bank of Kenya	5.22	9.22	7.81	4.49	4.07	3.62
KCB	5	10.45	2.43	1.84	1.89	1.49
Standard Chartered	4.8	9.34	18.73	17.4	11.95	12.76
Bamburi Cement CO	14.6	19.2	9.4	10.5	7.7	5.9
BAT Kenya	5.22	9.58	17.67	14.78	17	13.86
EABL	5.15	8.54	11.18	10.89	11.61	11.43
KPLC	3.95	5.38	46.97	40.76	22.3	21.72
Rea Vipingo	3.25	4.55	3.55	3.25	2.80	4.05
CMC Holdings	3.85	4.5	4.45	4.35	4.29	3.85
Equity Bank	3.34	4.00	4.15	3.80	3.65	3.79
Co-operative Bank	3.21	4.15	3.80	3.65	3.70	9.73
Express Kenya	7.71	5.94	9.69	9.02	3.31	2.41
Athi River Mining	4.36	2.34	3.88	6.23	-10.17	2.40
Safaricom	7.60	7.05	7.00	6.40	6.40	6.89
KenGen Co. Ltd	4.82	6.92	7.62	6.78	6.01	5.75
Mumias Sugar	3.11	8.32	2.42	3.44	7.59	1.19
Average Security Returns	**5.3382**	**7.493**	**9.49**	**8.07368**	**7.43410**	**7.11247**

Source: Study Data, 2012

According to the study the data available the average security returns was determined for the NSE 20-share index and the variance in the return on security was evident.

4.5 Major Findings and Comparison with Previous findings

The major findings is that there is existence of correlation between the independent and dependent variables and the exchange rates contributes more to security returns of firms in the NSE 20-share index, followed by real GDP, while inflation rates contributes the least to security returns of firms in the NSE 20-share index. Real GDP is the most significant factor in influencing security returns of firms in the NSE 20-share index. There is a very good linear dependence between the security returns and the three independent variables namely inflation rates, exchange rates and real GDP.

Previous research has established that stock market index returns affect future economic growth. We extended and tie together these two strands of the growth literature and analyzed the relationship between stock returns and future economic growth. Using dynamic panel techniques to analyze panel data from 18 developed and 18 emerging markets, we found a positive and significant relationship between stock returns and future GDP growth that is independent of the previously documented relationship between market index returns and economic growth. We also found that much of the informational content of stock returns is captured by country-specific and institutional characteristics, such as institution-accounting-disclosure standards, institution crises, enforcement of insider trading law and government ownership of institutions.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This study found that the NSE 20-share index showed fluctuation over the periods in the years between 2007 and 2012. These companies are spread across the various industries that have firm quoted in the NSE

The study found that real GDP growth affects the security returns of the firms listed in the NSE. The study established that the market value of all final goods and services produced within a country in a given period are also a determinant on the stock performance and therefore the security returns. According to the study, there was a general upward trend of the GDP growth in the country over the period under study.

The study also ascertained that exchange rates adjust to reflect relative inflation levels and hence exchange rate risk not separately priced. Exchange rate risk is borne by investors and an appreciation of local currency relative to the US dollar is expected to decrease exports and profits and lead to lower economic growth. The appreciation of local currency would therefore be negatively associated with the excess returns on (property) stocks. With regard to the security returns, it was found that the floating nature of Kenya's exchange rates affects the returns realized in the securities.

The study found that unanticipated inflation may directly influence real stock prices (negatively) through unexpected changes in the price level. Inflation uncertainty may also affect the discount rate thus reducing the present value of future corporate cash flows. The results are vigorous and robust that indicated that inflation rate is an important wheel for stock market performance.

From the inferential statistics, there was a correlation value of 0.863 contributing about 86.3% to the variation in security returns while other factors. ANOVA findings as explained by the P-value of 0.000 which is less than 0.05 (significance level of 5%) confirms the existence of correlation between the independent and dependent variables. According to the regression taking all factors (real GDP, inflation rates strategies and exchange rates) constant at zero, the security returns of firms in the NSE 20-share index realized would be 1.224.

5.2 Conclusions

The study concludes that there exist a relationship between real GDP growth and security returns. There is a positive and statistically significant relationship between the security returns and the continuous growth rates of GDP. It was clear that stock return levels are positively related to levels of real activity as measured by GDP. As such a positive relationship was identified between the stock price and gross domestic product.

The study concludes that the instability of exchange rate can cause speculation in foreign exchange market, disrupts international credit operations and international stock market operations. Change in exchange rate seems to impact all portfolio returns positively.

There is also existence of correlation between the independent and dependent variables and the exchange rates contributes more to security returns of firms in the NSE 20-share index, followed by real GDP, while inflation rates contributes the least to security returns of firms in the NSE 20-share index. Real GDP is the most significant factor in influencing security returns of firms in the NSE 20-share index.

The study concludes that inflation has a significant explanatory power on the share prices and hence the security returns. There is a very good linear dependence between the security returns and the three independent variables namely inflation rates, exchange rates and real GDP .

It was also clear that inflation can also be increased by a drop in the value of the shilling in foreign exchange markets. When the shilling drop due to perceptions of its decreased value caused by continuing national deficits and trade imbalances.

5.3 Policy Recommendations

From the foregoing, stock prices are determined by some fundamental macroeconomic variables such as the real GDP growth, the exchange rate and the inflation and thus the security returns. The information conveyed by macroeconomic variables can help investors to predict the likely movements of the stock market returns. From the study findings, the study presents recommendations pertinent to the policy makers, financial market regulators. If changes in stock prices are in fact causally related to the rate of economic growth, then an additional role may be defined for the stock market it can serve as a policy instrument in stabilizing the economy meaning that measures designed to prevent excessive fluctuations in stock prices may contribute to macroeconomic stability.

The study further recommends that the government through its respective specialty departments should encourage savings and investments by putting in place appropriate policies which give equal importance to both financial sector as well as the market-based stock market of the economy in order to enhance capital formation and investments and consequently increasing the living standards of the people through increased economic growth.

In order to develop the Kenyan stock market further, this study recommends that the government should emphasize on the elimination of any impediments to the economic growth and development including any regulatory barriers that may act as disincentives to investment. The capital markets authority should check and avert any sharp practices by market operators (particularly the speculators) in order to safeguard the interests of shareholders. This is important because the confidence of the investors in the market operations is particularly important as many potential investors may be reluctant to invest in shares and other securities when they cannot give credence especially with the recent fall of some brokerage firms in the not so distant past – introduction of an effective investor compensation fund and making sure that only individuals of good repute and standing are licensed to operate investment banks and brokerage firms can help to curb this problem.

Additionally, more companies and especially the small and medium enterprises should be encouraged to get listed in the stock exchange market and allowed access in order to access investible funds from the masses thereby stimulating and boosting the financial system and the stock market in particular and consequently raise economic growth.

5.4 Limitations of the Study

There were a number of limitations during the study period, lack of available or reliable data is one of them , lack of available or reliable data required limitation of the scope of the analysis, the size of the sample, or be a significant obstacle in finding a trend and a meaningful relationship. Data was missing mainly due to financial limitations required from the NSE so as to acquire the data

Lack of prior research studies on the topic was also another limitation, citing prior research studies forms the basis of literature review and helps lay a foundation for understanding of the research problem being investigated. Depending on the currency or scope of the research topic, there was little, if any, prior research on your topic mainly because it is not done much in Kenya but mostly in the Western countries.

Measure used to collect the data that is using a data collection sheet, after completing the interpretation of the findings, the data collected inhibited the ability to conduct a thorough analysis of the results. There is a need in future research to revise the specific method for gathering data.

Longitudinal effects that is the time available to investigate a research problem and to measure change or stability within a sample was constrained by the due date of your project. In future it is advisable to choose a topic that does not require an excessive amount of time to complete the literature review, apply the methodology, and gather and interpret the results.

5.5 Suggestions for Further Studies

The study has explored the relationship between security returns and economic growth in Kenya over the period between year 2007 and 2012 and established that real GDP, inflation rates strategies and exchange rates are the main economic aspects that affect the security returns of companies in the NSE 20-share index. The companies listed in the NSE in Kenya however comprise of various companies which differ in their way of management and have different settings all together.

The differences in their listing status, ownership structure and length of operation determine their competitiveness and thus their difference in the security returns realized as evidenced in this study.

This warrants the need for another study which would ensure generalization of the study findings for all the companies in listed in the NSE and hence pave way for new policies.

 The researcher, therefore, suggests that for effective conclusive study on the relationship between security returns and economic growth in Kenya adopted by firms to gain competitive advantage, a replicate study be carried out in another industry for comparison of results. A time series study is more appropriate where the period considered should cover a period of 10 year to give a clearer picture of the situation.

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APPENDICES

Appendix I: Listed Companies in NSE

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

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

TELECOMMUNICATION AND TECHNOLOGY

17. Access Kenya Group Ltd
18. Safaricom Ltd

AUTOMOBILES AND ACCESSORIES

19. Car and General (K) Ltd
20. CMC Holdings Ltd
21. Sameer Africa Ltd
22. Marshalls (E.A.) Ltd

BANKING

23. Barclays Bank Ltd

24. CFC Stanbic Holdings Ltd

25. Diamond Trust Bank Kenya Ltd

26. Housing Finance Co Ltd

27. 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

INSURANCE

33. Jubilee Holdings Ltd

34. Pan Africa Insurance Holdings Ltd

35. Kenya Re-Insurance Corporation Ltd

36. CFC Insurance Holdings

37. British-American Investments Company (Kenya) Ltd

38. CIC Insurance Group Ltd

INVESTMENT

39. City Trust Ltd

40. Olympia Capital Holdings ltd

41. Centum Investment Co Ltd

42. Trans-Century Ltd

MANUFACTURING AND ALLIED

43. B.O.C Kenya Ltd

44. British American Tobacco Kenya Ltd

45. Carbacid Investments Ltd

46. East African Breweries Ltd

47. Mumias Sugar Co. Ltd

48. Unga Group Ltd

49. Eveready East Africa Ltd

50. Kenya Orchards Ltd

51. A.Baumann CO Ltd

CONSTRUCTION AND ALLIED

52. Athi River Mining

53. Bamburi Cement Ltd

54. Crown Berger Ltd

55. E.A.Cables Ltd Ord

56. E.A.Portland Cement Ltd

ENERGY AND PETROLEUM

57. KenolKobil Ltd

58. Total Kenya Ltd

59. KenGen Ltd

60. Kenya Power & Lighting Co Ltd

Appendix 2: NSE Share Indices and GDP growth

YEAR	Opening NSE 20 Share index	Closing NSE 20 Share index	GDP growth	
1982	350.43	350.31	5.05	
1983	351.35	382.23	1.59	
1984	382.23	386.55	1.60	
1985	386.29	420.28	4.07	
1986	423.16	505.30	6.98	
1987	506.71	729.49	5.81	
1988	729.59	856.59	6.09	
1989	862.74	814.95	4.55	
1990	811.25	895.76	4.13	
1991	913.91	959.97	1.34	
1992	954.03	1,246.65	(1.08)	
1993	1,165.31	2,207.11	(0.10)	
1994	3,818.74	4,559.40	2.53	
1995	3,939.68	3,468.88	4.29	
1996	3,409.40	3,114.11	4.01	
1997	3,479.67	3,115.14	0.22	
1998	3,348.11	2,962.06	3.33	
1999	2,983.48	2,303.18	2.41	
2000	2,308.43	1,913.35	0.60	
2001	1,897.00	1,355.00	4.73	
2002	1,343.41	1,362.85	0.30	
2003	1,510.63	2,737.50	2.79	
2004	3,157.90	2,945.58	4.62	
2005	3,094.30	3,973.00	5.98	
2006	4,171.80	5,645.65	6.33	
2007	5,774.24	5,444.83	7.10	
2008	4,712.71	3,521.18	1.50	
2009	3,198.90	3,247.40	2.70	
2010	3,565.30	4,432.60	5.80	
2011	4,464.00	3,205.00	4.40	
2012	3,224.00	4,133.00	4.60	

Appendix 3: Exchange Rates and Inflation rates