

**EFFECTS OF MACROECONOMIC VARIABLES ON STOCK MARKET
RETURNS OF FIRMS LISTED IN NAIROBI SECURITIES EXCHANGE**

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DECLARATION

I hereby declare that this research project is my original work; it has not been presented to any other institution of higher learning for academic purposes.

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Signed Date.

This project has been submitted for examination with my approval as the University Supervisor.

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Signed Date.

DEDICATION

I dedicate this project to my parents and my siblings for their love, support and encouragement. May God richly bless them.

ACKNOWLEDGEMENT

First and foremost I take this opportunity to thank God for good health and the strength to undertake this project.

I would like to acknowledge my Dad Mr. James Gachoka for the financial support, the encouragement, the wise counsel he always gave me and the love he showed me throughout the post graduate journey. I would also like to acknowledge my Mum Mrs. Hannah Wairimu Gachoka for always praying for me, inspiring me to enroll for the MBA program, and for nurturing my dreams. May the Lord bless them abundantly.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA: Analysis of Variance

APT: Arbitrage Pricing Theory

CAPM: Capital Asset Pricing Model

CMA: Capital Markets Authority

EPS: Earnings per Share

GDP: Gross Domestic Product

ISE: International Securities Exchange

KNBS: Kenya National Bureau of Statistics

MFI: Microfinance Institutions in Kenya

MPT: Modern Portfolio Theory

NASI: Nairobi All Shares Index

NSE: Nairobi Securities Exchange

ROA: Return on Assets

SPSS: Statistical Package for Social Sciences

UK: United Kingdom

ABSTRACT

Even though financial markets have been liberalized and companies compete with each other in Kenya, companies still have to do a lot to achieve the required level of performance due to macroeconomic factors. The research aimed to find out the impacts of macroeconomic issues on stock market proceeds of corporations in Nairobi Securities Exchange. Modern portfolio theory and arbitrage pricing theory guide this study. The research a descriptive research design. A descriptive survey allowed the researcher to designate the features of the significant variables. The independent variables include interest rates, inflation and exchange rates the dependent variable stock market returns. This research is about impacts of macroeconomic factors on stock market returns of companies in Nairobi Securities Exchange. The study focused on all 65 companies listed in NSE. Information on exchange rates and interest rates over the period of interest was acquired from the Central Bank of Kenya. Information on inflation trends was acquired from the Kenya Bureau of Statistics. Exchange rate, inflation, and interest rates information can be from published literature and Financial reports. The study collected data for the last five years 2013-2017. Descriptive statistics were utilized to explain quantitatively the significant attributes of the variables utilizing mean, standard deviation, and frequency. The outcomes of the study were presented using tables, percentages, and frequencies. This study concludes that high interest rate causes a rise in the cost of business that eventually reduces the profits, while a reduction in interest rate is an optimistic message in the stock market that eventually causes a rise in the stock returns. The study concludes that Inflation rates are related significantly and negatively to the NSE All share index. It also reached the conclusion that high exchange rate risks have a negative effect on stock proceeds. The exchange rate may create vagueness in the market as the value of assets is eroded due to depreciation, thereby resulting to a fall in stock returns and that GDP growth rate is significantly and positively related with the NSE index. GDP growth improves the performance of the stock market with the related growth in wealth, employment greater confidence in the market. The study recommends that CBK should find ways on how to manage exchange rates this will safe guard the performance of firms. Since Stock market proceeds and interest rates are negatively correlated, the government should implement better microeconomic policies to manage this variable to enhance the performance of NSE.

CHAPTER ONE:

INTRODUCTION

1.1 Background of the Study

Macroeconomic variables are variables controlling the macro-economy, which is the whole economy (Olukayode & Akinwande, 2013). Macroeconomic variables include economic growth represented by interest rates, exchange rates, gross domestic product (GDP), and inflation rates (Achillah, 2011). Macroeconomic variables refer to variables that affect output, national income, unemployment, consumption, investments, savings, international trade, inflation and are independent from the income levels (Bhattacharyay, 2013). Investments, which lead to promotion of economic growth and improvement, need long-standing funding that most savers are unwilling to offer. The capital markets are a key factor in the economy, as they respond almost instantly to fundamental transformations in the economy. For this reason, there is need for investment and savings in any healthy economic environment. Amassed savings are then invested back to increase capital and grow the economy of a country.

The study is anchored on modern portfolio theory and arbitrage pricing theory. The former enables investors to examine their expected returns primarily based on the predisposed risks. This theory seeks to make the most of the investors return on the portfolio and to lessen the portfolio risk at any level of expected return of a portfolio. Markowitz (1952) therefore encourages diversification of assets to minimize market risks. This enables controlling the expected risk and return with consideration of what kind and the amount is applicable. On the other hand, arbitrage pricing theory helps in

determining asset values using the law of one price and taking no arbitrage. APT argues, asset prices are affected by numerous macro-economic variables. Pavola (2006) says that APT is a brand new and exceptional model that helps in asset prices determination. It tries to consider other influences not on the market that affect securities prices including macroeconomic indicators.

The Nairobi securities exchange play a middle financial function by offering access to liquidity and capital to corporations by helping them raise equity capital by establishing secondary markets for trading listed securities. Olweny and Omondi (2011) emphasized that the stock market promotes effectiveness in the formation, allocation, and mobilization of capital. Firms at Nairobi securities exchange are trying to expand the financial sector and improve the competence of the stock market. The intension is to make the stock market an indicator of growth or recession (Ongore& Kusa, 2013). The Stock market proceeds of businesses listed in Nairobi securities exchange is affected by movements in macroeconomic factors including money supply, GDP growth rate, inflation rates, interest rates, government bond rates, exchange rates, and balance of trade/balance of payments. The macroeconomic variables pose great mystery to regulators, financial economists, investors, and stakeholders in Kenya. This study seeks to establish how these macroeconomic variables affect Stock market proceeds of businesses in the Nairobi securities exchange.

1.1.1 Macroeconomic Variables

According to Romer (2012), macroeconomics is centered on the behavior of an economy in totality nationally, either regionally or internationally. Macroeconomic factors are

referred to as variables. These variables include economic output, interest rates, employment and unemployment, inflation, population size, the government financial and budget balances as well as those of international trade and productivity. Aguiar and Broner (2013) argued that problems affecting emerging markets are massive variations in macroeconomic fundamentals and asset prices. According to Brains and Rich (2011), macro-economic variables are critical to a country both at the national and county level and affect many stakeholders. Pal and Mittal (2011), advance that key macro-economic variables affecting investment markets are inflation, exchange rates, fiscal deficits, interest rates, current account, and economic growth.

Interest rates are one of the central macroeconomic factors influencing the economy. In any economy, the indication of a tight monetary policy can be seen because of a high interest rate (Yang, 2014). Periods in an economy that are marked with high interest rates mean that business find it a more difficult task to borrow money, therefore making it an unattractive time to invest. Individuals too are adversely impacted by the escalation in interest rates because the cost of repaying both their loans and mortgages also cost more. On the other hand, inflation rates are also a part of the determinants of performance of firms. When the general price levels of services and goods in the economy increases, the general term used in inflation according to Tucker (2014). An increase in price of any specific product cannot be considered as inflation, and only when there is increases in the overall average level of prices can the term be applied. Additionally, inflation is also considered as either demand-pull or cost-push according to (Yang, 2014).

According to Acikalin (2011), variations in the rate of exchange affect the proceeds in the financial statements of international enterprises in the world leading to changes in their stock prices. This traditional approach believes that fluctuations in the rate of exchange results variations in stock price. This approach tries to show the connection between rate of exchange and stock prices. The customary method postulates rate of exchange should lead price of a stock. Exchange variations affect firms' standards by enhanced competitive edge and changes in the financial position of the firm, currency denomination, finally determents companies "profit and stock (Liu & Shrestha, 2010).

1.1.2 Stock Market Returns

Kitatia (2015) described stock market return as a measurement used to quantify profits from an investment during a period of ownership of stocks. It can either be capital gains or dividends earned by the investors in the stock market. Ouma and Muriu (2014), defined the stock market return as the driving force and the main reward in the investment process. Investors use it to compare the alternative investments options that the can undertake. They continued to define that a return has two components being the basic component of periodic cash receipts on investments or dividends and change in the price of the asset invested that is capital gain or loss.

Kamande (2015) conferred that there are several measures of the performance of the stock market returns including among others stock turnover, stock market capitalization and indexing of the stock market. The market index like the NSE all-share index is usually taken and used to determine the returns for the collective market performance to determine the performance of the investment at a particular time. The selected stock

performance used in determination of the share index is presumed to be the expected return that an investor would earn in their investment.

1.1.3 Macroeconomic Variables and Stock Market Returns

Oliver (2012) noted that macroeconomic factors are important to an economy at the regional/national level and influence a huge population and not a few select persons. It is usually claimed that stock market returns is establish by some primary macroeconomic factor like interest rate, money supply, inflation, GDP, and exchange rate that consumers, government, and businesses monitor closely. Dufera (2010) points out that investors believe that macroeconomic events and monetary policies influence largely the volatility of financial performance.

Muchiri (2012) made the conclusion in his research that the economic factors that influence on shifting investment opportunities; the pricing policies; and factors that impact dividends theoretically, impact stock market return in aviation industry. As Muchiri (2012), revealed, is that prior researches argue that consumer prices index (CPI) is a particular factor representing a number of macroeconomic variables like inflation, discount rate, and goods market (Naceur, 2013). A negative impact was found between stock prices and CPI and it can be explained as the outcomes of higher risk of profitability in the future. Similarly, Romer (2012), High volatility of variables in the macroeconomic environment creates and fosters an unstable and highly volatile environment, risk thus becomes aggravated and in turn threatens returns. Good and healthy stock market return then becomes uncertain.

Aguiar and Broner (2013), argued that, in a market security prices will reflect all the available information, always. managers as such therefore ought to react fast and accurately to actual and anticipated macroeconomic variable changes by adapting the said changes or planning for them well in advance. Such prudence assists to assure stock market return not only in the present but also in future. Macroeconomic variables affect firms' stock market return. Changes in macroeconomic variables present opportunities as well as threats to the industry players concurrently; those prepared for the changes, shall realize gains from opportunities that arise thus fostering their stock market return, while those who are unprepared might suffer from the threats and might in turn impact their stock market return negatively (Yang, 2014).

1.1.4 Firms Listed in Nairobi Securities Exchange

The Nairobi securities exchange was formed in 1954 as a voluntary association of stockbrokers in the European community registered under Kenya's Societies Act. Currently the Nairobi Securities Exchange (NSE) comprises of 65 listed companies as at 30th April 2017. The market players in the Nairobi Security Exchange include Investment banks, stockbrokers, investors and regulatory authorities (NSE, 2012). The 67 listed firms are classified into eleven sectors that exhibit similar products and/or similar markets. The sectors also have unique characteristics and risk profiles. The NSE sectors include; Agricultural, Technology and Telecommunication, Commercial and Services, Investment Services (NSE Shares), Banking, Investment, Insurance, Automobiles and Accessories, Construction and Allied, Manufacturing and Allied, Energy and Petroleum. An additional sector, Growth Enterprise Market Segment, was introduced in 2013(Ongore, 2013).

Portfolio diversification and international investment were created after the termination of controls on foreign exchange in the 1980s and 1990s in the developing countries that include Kenya. The Kenyan government responded through expansion of foreign investment by offering motivational rewards for growth of financial markets. These rewards include avoidance of tax on venture capital, recognition of dealing firms through licensing as a measure to enhancing liquidity, exemption of capital gains tax on insurance firms and local brokerage firms fully owned by foreigners (Mutai, 2015). The performance of the listed companies thus depends on the macroeconomic variables in the market.

The Modern Portfolio theory provides that the macroeconomic factors can have different risk profiles for the different industrial sectors and therefore different industrial risk. The risk factors create different expected returns to the different sectors of the market. However, they net off to the market return, which is regarded as the market index, which represents the market risk. Nairobi Securities Exchange has three market indices. The NSE 20 Share index (1966 = 100), the NASI (Nairobi All Shares Index – 1st Jan 2008 = 100) and the NSE 25 Share index (1st Sept 2015 = 4101.67) the indices indicating the period it commenced operating and the comparative index then (NSE, 2016).

1.2 Research Problem

The stock market return of firms is inevitable in order to encourage economic activities. Large organizational factors made up of interest rate, GDP, exchange rate, inflation, and money supply affect the monetary performance of firms in a number of ways. As revealed by Levine (2012), economic growth is affected by intermediation in financial sector and its efficiency. Economies betterment to endure destructive shocks is the

profitability due to their stability in the financial systems (Bashir, 2013). For long run survival, it is very critical for a firm to determine issues increasing or decreasing firm's returns thus enabling its long-term survival and this increases initiatives by increasing its stock market return by managing the controlling determinants.

Even though financial markets have been liberalized and companies compete with each other in Kenya, companies still have to do a lot to achieve the required level of performance due to macroeconomic factors (Otuori, 2013). The most important macroeconomic indicators that are influencing the stocks in Nairobi securities exchange are GDP, inflation, the supply of money in the market, production factors, interest rates, foreign direct investment, and exchange rates. The Nairobi securities exchange has recorded huge variations in share prices in the last recent years (NSE, 2016).

Empirical scrutiny of previous studies outcome on effects of macroeconomic issues on stock market proceeds has been empirically inconclusive. Previous studies have produced mixed outcomes regarding the impacts of macroeconomic aspects on stock market return. Liu and Shrestha (2008) found a long-standing relation between the macroeconomic features and the stock income in Chinese market in their study. In the study, money supply and industrial production were found to relate positively to stock returns while interest rates, exchange rates, and inflation were found relate negatively to stock returns. According to Liu and Shrestha (2008), the stock market in China was reactive to the macroeconomic variables.

In a similar study on the association between macroeconomic factors and stock proceeds in Istanbul Stock Exchange (ISE), Acikalin (2008), found a stable and a long-standing

association between macroeconomic variables and ISE index. Causality test showed presences of unit-directional causation between ISE index and macro indicators. In another similar study but on the connection between stock returns and macroeconomic aspects in London between 1980 and 1993, Gonsel &Cukur (2014) found out that macroeconomic aspects have a noteworthy impact in the U.K stock exchange market. However, they noticed that factors could affect different industries differently. Some macroeconomic factors could affect an industry positively yet affect another negatively.

Locally, Ochieng and Adhiambo (2012) study of the association between selected macroeconomic issues and the stock market in the NSE noticed presence of negative and positive relationships between the factors and the stock market. The two selected inflation, interest rates, GDP growth rate, and Treasury bill rates and noticed a positive association between market share index and GDP, inflation rate, and Treasury bill rate. The researchers found a negative connection between stock market and interest rates. In a study on the influence of macro-economic factors on financial performance of banking institutions in Kenya, Otambo (2016) noticed existence of positive and negative relationships. According to the study, interest rates and exchange rates affect financial performance of the commercial banking sector negatively while inflation rates and GDP affect it positively.

Hussein (2016) examined the relation between instability of stock price for firms in the Nairobi securities exchange and macroeconomic factors using money supply, export earnings and inflation as the independent variables. The study found that broad money negatively influences stock prices, interest rates negatively influences stock prices,

exchange rates positively influences export earnings and stock prices positively influences stock price volatility.

There have been several studies carried out in Kenya on macroeconomic variables. However, relating interest rates, inflation, and exchange rates on stock market proceeds has not been done in the firms listed at Nairobi securities exchange. Driven by this knowledge gap, therefore the research study tries to fill this knowledge gap by providing the impacts of macroeconomic aspects on stock market return of companies in Nairobi Securities Exchange.

1.3 Research Objective

To find out the effects of macroeconomic factors on stock market returns of firms in Nairobi Securities Exchange

1.4 Value of the Study

For the managers of companies on the NSE, the findings of this study would provide valuable information to guide their management decision following the changes in the macroeconomic variables in Kenya in their endeavor to maximize the stakeholder's wealth. It would furnish them with the necessary knowledge to protect wealth of the shareholders. The use of information on interest rates, inflation, and exchange rates and their effects on stock prices is of value to investors, investment managers, portfolio managers, investment analysts, speculators looking for quick arbitrage opportunities and market traders out to profit from the market.

The capital markets regulatory authorities use the information to advise the Government on policymaking and areas local market may be seeking Foreign Direct Investments.

Policies must encourage capital growth to attract investors. The information also helps policymakers better manage the economy and be more efficient in developing stock markets. The Government through the Central bank formulates the monetary policies, fiscal policies, and exchange rates controls to ensure stable currency rates to foster economic growth and lower its spiral effects on the economy.

For the researchers and academicians, the findings serve as their reference on the area of macroeconomics and stock market volatility besides establishing areas for further studies, especially for future scholars.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter assesses of the macroeconomic variables and stock market returns. From this assessment broad categories are determined that help in the identification of the significant relation between macroeconomic factors and stock market proceeds. Particularly, the chapter deals with the theoretical framework guiding the research, macroeconomic variables, empirical review and chapter research gap.

2.2 Theoretical Review

In this section, several theories utilized to inform the study on the macroeconomic issues and stock market proceeds, are evaluated. Modern portfolio theory and arbitrage pricing theory guide this study

2.2.1 Modern Portfolio Theory

Markowitz in (1952) pioneered modern portfolio theory (MPT), in his paper "Portfolio Selection," published in 1952 by the Journal of Finance. The theory describes the way risk-averse investors establish portfolios to boost their return based on a particular market risk, as risks are inherent parts of higher reward. Based on the theory, efficiency frontier can be created to maximize returns. The theory points out that return characteristics and investment's risks should be evaluated by the way the investment impacts the overall returns and risks. The theory shows the possibility for an investor to establish a range of manifold assets, which will boost returns for a particular level of risk. Similarly, an investor can establish a portfolio of manifold assets with the lowest level of risk and a

particular level of return (Doganoğlu, 2010). Based on statistical measures like correlation and variance, the return of an investor is less important as compared to the behavior of the investment in the context of the complete portfolio.

According to Fantazzini (2013), modern portfolio theory points out that, investors avoid risks and so are more likely to invest on portfolios that are less risky. Investors only invest in risky portfolios if they promise high returns as compared to the less risky one. The only difference with investors is the way they look at risks as that depends on risk aversions characteristics of an individual. For this reason, an investor will not put money in a portfolio in case there is alternative portfolio with a more favorable risk-anticipated return profile. Markowitz (1952) claims that investment portfolio is an important concept leading to applicability of the theory to this study. This is because it shows how investors approach varied risks due to perceived better returns from their investment decisions, even when there is no outright feasible return on investing in particular securities. In this regard therefore, macroeconomic conditions in addition to known market risks need to be evaluated to avoid making irrational decisions based on market behavior.

This theory is significant to the research because it seeks to maximize the investors return on the portfolio and to minimize the portfolio risk in any level of expected return of a portfolio. Markowitz (1952) therefore encourages diversification of assets to avoid market risks. This mitigates in controlling both the kind and the amount of expected risk and return. The theory emphasizes determination of the numerical interactions among the specific securities that encompass the total investments rather than analyzing the characteristics of individual investments. However, Fantazzini (2013), further notes that

it is important to reflect on the way, every asset change in price in relation to the way every other asset in the portfolio varies in price considering other external or internal factors.

2.2.2 Arbitrage Pricing Theory

Ross created arbitrage-pricing theory, a theory that estimates a relation between the returns of an asset and a portfolio in a linear combination of several independent macroeconomic variables, in 1976. The theory is usually seen as a substitute to the capital asset pricing model (CAPM) because of its more flexible assumptions requirements. APT utilizes the expected returns of risky assets and the risk premium of several macroeconomic factors while CAPM uses the expected turns in a market (Burmeister, 2011). The APT model helps arbitrageurs' profit by taking advantage of price of securities that according to the model are mispriced.

According to APT, the anticipated income of a financial asset can be set as a linear function of range of hypothetical market indices or macro-economic features, where sensitivity to transformation in each feature is signified by a factor-specific beta coefficient. The return rate established using the model is then utilized to price the asset correctly. The price of the asset should be the same as the anticipated price at the end of the period discounted at the rate suggested by the model (Burmeister, 2011). According to the APT model, unpredictable nature of macroeconomic variables determines the anticipated rate of return on assets. This shows that risk factors are important in assets pricing (Holbrook, 2010). APT is arguably a moderate diverse model for evaluating the prices of assets. According to the APT model, the macroeconomics variables, which are not multi-collinear with each other, influence partially the stock prices. The APT model

defines the anticipated return on stock prices as made up of capital gained and risk premium in a period (Walter, 2011).

2.3 Macroeconomic Variables

Macroeconomic factors are relevant to a whole economy at national/regional level and influence a large number of people population. Macroeconomic variables like gross domestic product, savings, inflations, investment, and unemployment are key pointers of performance of economies and so are monitored closely by businesses, consumers and governments. This study focuses on key factors namely; GDP, interest rates, and inflation exchange in relation to stock market returns.

2.3.1 Interest Rates

The interest rate is one of the issues influencing the economy. A high interest rate signifies a rigid monetary policy. It is expensive for companies to borrow loans when interest rates are high. Apart from the fact that it would be costly for companies to invest, it would also be costly for companies and individuals to make payments of mortgages and loans. Therefore, demands tend to go down with high interest rates and increase with low interest rates in an economy (Lipsey & Chrystal, 2010). According to Dornbusch and Fischer (2010), there is a direct increase in interest rates in the stock market when monetary authorities increase the interest rate as it becomes more costly for financial institutions to have loans from the central bank. The increase in interest rates by monetary authorities, lower the demand for fund as it becomes costly for people and companies to repay loans and mortgages, particularly with high interest rate. The increase in interest rates results in a decrease in discretionary money and as a result, the revenues of

companies will be affected negatively. However, the impact on firms because of increased interest rate is double. The firms that borrowed money from financial institutions will have to pay high interest rates on loans with high interest rates (Romer 2012).

According to Martinez-Moya (2013), transformations in interest rates affect the anticipated cash flows in the future and the discount rate for valuing the cash flows, and consequently the value of a company. The alterations in interest rate affect significantly the value of non-financial firms in three ways. First, a rise in interest rate leads to an increase in expenses for a company in debts and negative impact on the cash flows of a company in the future. Due to these negatives impacts, changes in interest rates lead to the reductions in dividends. Furthermore, high interest rates affect negatively the investment behaviors of a company (Fantazzinni, 2009). Second, variations in interest rates influence the market value of the liabilities and financial assets of a non-financial corporation. Third, transformations in interest rates affect the costliness of investments.

2.3.2 Inflation rates

Inflation rate, interest rates, and exchange rate determine the stock market volatility. Tucker (2014) defines inflation as an escalation in the general prices of services and goods in an economy. Inflation is an upsurge in the general average level of prices. Sloman and Kevin (2011) argue that inflation can be either cost-push inflation or demand-pull inflation. Liu and Shrestha, (2008) claim that inflation has negative impact on an economy. The negative impacts become noticeable over time especially in the real value of money. Therefore, the anticipated returns and prices of stocks are negatively

affected in a highly inflationary environment. For instance, the growth of the stock market decreases as investment reduces due to high interest rates. Even though several papers have been written regarding stock markets, most of them have been on the stock markets in the developed countries and other emerging markets (Yang, 2014). Accordingly, evidence on the relation between several economic fundamentals and equity markets is still scarce.

According to Martinez-Moya, (2013), inflation rate has been rising slowly in developing countries. There is a high risk of inflation due to the much money circulating contrary to the conditions of a growing economy. It is for this reason; investors and market traders in developing countries are giving this as a reason for lessening stock market portfolios. When there is risk of rising inflation, the central banks attempt to regulate the inflation by increasing interest rates with the hope of attracting investors to put their money in fixed income instruments in order to draw excess liquidity from the system. In most developing countries when there is a smaller amount of liquidity, there is reduced demand for goods in the economy leading to the reduction of general prices (Adjasi, 2012).

2.3.3 Exchange Rate

According to Acikalin (2011), variations in the rate of exchange affect the proceeds in the financial statements of international enterprises in the world leading to changes in their stock prices. This traditional approach believes that fluctuations in the rate of exchange results variations in stock price. This approach tries to show the connection between rate of exchange and stock prices. The customary method postulates rate of exchange should lead price of a stock. Exchange variations affect firms' standards by enhanced

competitive edge and changes in the financial position of the firm, currency denomination, finally determents companies “profit and stock (Liu & Shrestha, 2008).

The currency value is now an important factor influencing equity prices and business profitability. The importance of the currency value has been due to the high rise in capital movements and world trade (Kim, 2013). Exchange rate changes influence the competitive of international companies as it affects the prices of exports and imports. For this reason, the value of a currency affects the value of a company as its affects the flow of cash in the future. For economic theory, variations in exchange rates affect the profitability and investment of a company and its impact is seen in the financial performance of that particular company. Consequently, movements in a firm’s operations influence stock returns.

2.3.4 Gross Domestic Product

GDP measures the monetary value of the total number of finished services and goods manufacture in a country in a year. GDP is measured yearly and consist of all consumption by public consumers and private consumers, government outlays, exports less imports, and investments within a borderline. The GDP is a key prime pointer of the fiscal performance of a country. It is calculated in two methods, which are tallying up the income of everyone's income and by totaling the worth of all finished services and goods manufactured in a country in a whole year (Campbell, 2011)

Dornbusch & Fischer (2010) found that the price levels of the present stock are associated positively to expected levels of actual economic activities in future, as measured by GDP. The levels of GDP will probably influence stock returns by affecting

the profitability of companies. A rise in output can lead to higher sales hence raising prices of stock and the converse result would be experienced in a recession (Dornbusch & Fischer 2010). Theoretically, increase in stock prices should match exactly the growth in real GDP. The economy of a country translates into the profits of a company and thus into Earnings per Share (EPS) that eventually determine the prices of the stock of a company. However, this is only possible if the economy of a country is closed, variations remain unvarying, and only domestic firms are listed on the stock market of a country.

2.4 Empirical Review

Menike (2016) examined that the impacts of macroeconomic issues on prices of stock prices in the stock market of Sri Lanka. The study utilized monthly information from September 2005 to December 2015. The multivariate regression was run using eight macroeconomic factors for every individual stock. The null hypothesis that pointed out that money supply, inflation rate, interest rate, and exchange rate jointly do not any effect on equity prices were abandoned at 0.05 level of significance in all stocks. The outcomes showed that a large number of firms report a higher R squared that justified higher explanatory authority of macroeconomic factors in elucidating prices of stocks. Consistent with the same outcomes of emerging and developed market studies, exchange rates and inflation rate act largely negatively to stock prices in the Colombo Stock Exchange (CSE). The negative effect of Treasury bill rate meant that at any time the interest rate on Treasury securities go up; investors are inclined to switch out of stocks leading to fall of stock prices. However, lagged money supply factors did not seem to show the movement of prices of stocks whilst stocks do not proffer efficient hedge

against inflation particularly in Trading, Manufacturing, and Diversified sectors in the CSE.

According to Zhang and Daly (2015), who examined how macroeconomic and bank particular factors influence banks' profit in China. The study period covered was 2004 to 2010. The population of the research comprised all the banks in China; a sample of 124 banks with complete data set was studied. Secondary data was acquired and utilized by the research. Return on assets was utilized as a proxy for profitability. Data collected was analysed using regression analysis. The research shows that banks that are well-capitalized and lower credit risk are gainful while the profit of banks with increased expense is affected negatively. Banks also grow along with growth in the economy; greater economic amalgamation increases bank profitability.

On a study by Osamwonji and Chijuka (2016) on the impacts of macroeconomic issues on the profitability of commercial banks, the researchers found out that there is a association between GDP and return on equity and between interest rate and return on equity. The research was based on 1990 to 2013 secondary data obtained in Nigeria. The secondary data was obtained from central bank as well as firms yearly reports and financials. Macroeconomic variables studied are GDP, inflation rate, and interest rate; the proxy for profitability being return on equity. Data analysis was by way of ordinary regression. The study finds a considerable positive relationship between GDP and return on equity, a considerable negative connection between interest rate and return on equity, and an insignificant negative relation involving inflation rate. This study however fails to indicate neither the population of the study nor the sample used.

Kanwal and Nadeem (2013) in a research sought to establish the relation that exists between macroeconomic factors (inflation rate, interest rate, and GDP) and profitability of public commercial banks in Pakistan. The research covered a period 2001-2011 (ten years). Population comprised thirty-eight banks; a sample of twenty-three listed banks was studied. Data was sourced from secondary sources and analysed using correlation analysis, descriptive statistics as well as pooled ordinary least squares regression analysis. The researchers find a strong positive association between interest rates and profitability, an insignificant positive connection between profitability and GDP and a weak negative association between bank profitability and inflation rate. In summary, the study points out the presents of a weak relation between macroeconomic variables and commercial banks earnings.

Kamande (2015) examined the macroeconomic factors and returns in stock market in Nairobi Securities Exchange. The study key focus was on government expenditure, exchange rate, oil prices, and inflation as the macroeconomic variables under study. Arbitrage pricing theory was used to link the macroeconomic factors and the stock market return. Monthly Published time series data from January 2001 to December 2013 was sourced from CBK, KNBS and NSE. Regression analysis was done using ADF test for unit root and Johansen for co integration. Diagnostic test showed that all the variables are integrated of order one. The co integration test confirmed presence of long run association between the NSE stock market 20-share index and the selected macroeconomic factors. The analysis revealed a uni-directional association, which runs from the NSE stock market index to the inflation rate, a uni-directional relationship from foreign exchange rate to NSE index and a bilateral causality between outcomes in the

stock market and oil price. The study showed that exchange rate leads to significant and great instability of stock returns at Nairobi securities exchange

Amata (2017) studied the impact of macroeconomic issue on stock market volatility in Kenya. The research examined the direct associations between interest rates, inflation rate, foreign exchange rate, instability of stock market, and gross domestic product. The research adopted a descriptive research design and targeted all companies listed on the Nairobi Securities Exchange from January 2001 to December 2014. The study used secondary data on interest rate, exchange rate, inflation rate and GDP, covering a period of 14 years. The data was acquired from the Central Bank of Kenya and the Kenya National Bureau of Statistics. Data on share prices and market indices was acquired from the Nairobi Securities Exchange. The study employed both correlation and regression analysis. Results from correlation analysis demonstrated that there was a considerable association between all selected macro-economic variables and instability of the stock market.

Ongeri (2014), also in a research study investigated how macroeconomic factors affect the profitability of non-banking financial institutions in Kenya. The study used a descriptive research design and obtained secondary data on the one hundred and twelve firms that formed the population. The census study covered the period 2004 to 2013. The study variables were GDP, exchange rate, return on assets, interest rate, and inflation rate. Data analysis was undertaken using descriptive, regression and correlation analyses. The study finds a strong positive association between the return on assets and exchange rate and weak positive relation between GDP and interest rate, and returns on assets; and

concludes that there is a positive effect of macroeconomic factors on profitability of the said studied firms. The study however fails to indicate the impact of inflation rate on profitability, yet it was part of the intended analysis.

Maina (2013) investigated the connection between macroeconomic factors and share prices of firms listed at the Nairobi securities exchange. Data was obtained from NSE and other financial intermediaries. The study used the regression model, The average monthly market returns of the main investment market segment namely Agricultural, Commercial, Financial and Industrial market sectors were first examined without considering the impacts of macroeconomic issues under study. The evaluation of the effects of the macroeconomic issues indicates that the greatest impact varies across the sectors. It is the Treasury bill rate in the case of agricultural sector and the inflation in the commercial, financial and industrial sectors.

2.5 Conceptual Framework

A conceptual framework is a diagrammatical presentation of variables in a research. The framework demonstrates the correlation between variables that are dependent and those that are independent (Regoniel, 2015). The independent variables for the study are liquidity risk, firm size, management efficiency and capital adequacy while the dependent variable is the stock market returns.

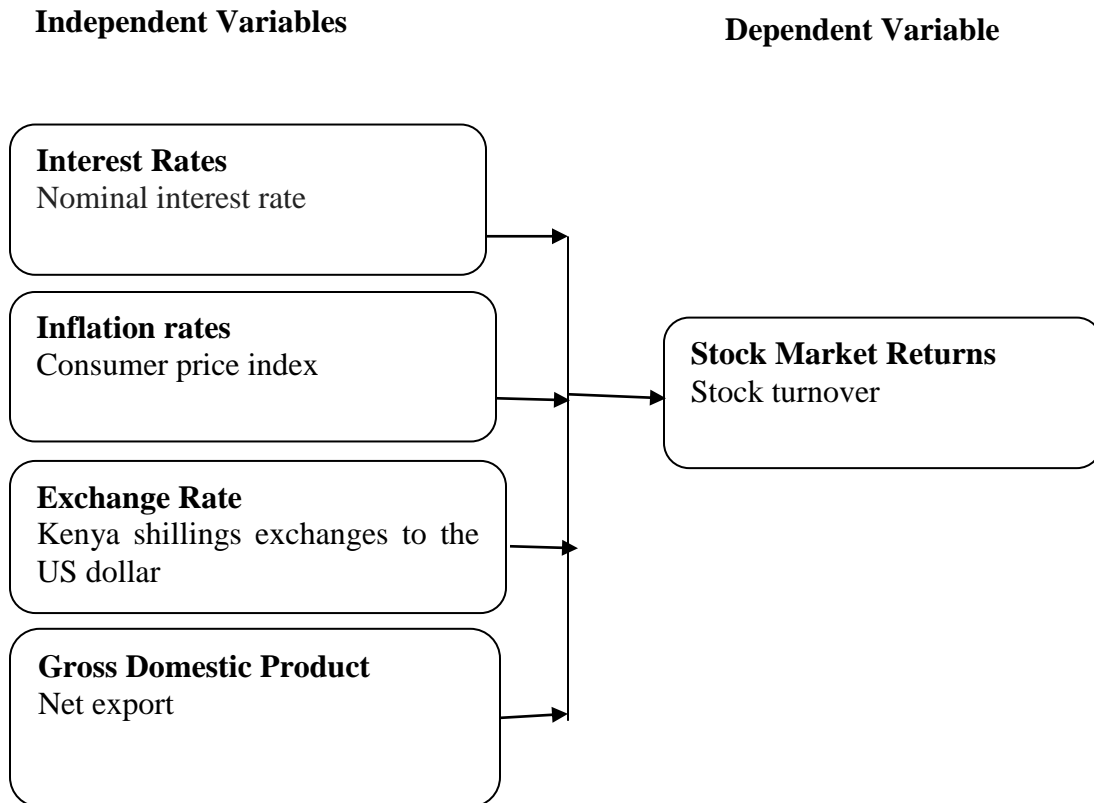


Figure 2.1: Conceptual Framework

2.6 Summary of Literature Review and Research Gap

Research on macroeconomic issues and returns in stock market have been done locally but previous studies have produced mixed outcomes regarding the impact of macroeconomic issues on returns in the Stock market. Osamwonji and Chijuka (2014) studied the influence of macroeconomic issues on profitability of commercial banks. Menike (2016) examined that the effect of macroeconomic issues on stock prices in the stock market in Sri Lankan. In a research, Kamande (2015) examined the macroeconomic issues and returns in the stock market return in Nairobi Securities Exchange. The research

focused on inflation, government spending, the oil prices, and exchange rate as the macroeconomic variables.

On the other hand, Amata (2017) researched the impacts of macroeconomic issues on the instability in Kenyan stock market and realized that a significant association between all selected macro-economic issues and volatility in the stock market. According to Maina (2013), who undertook a research on the association between macroeconomic factors and share prices, the research concluded that the macroeconomic factors have a great effect, which varies across the sectors. Kamande (2015) undertook a research in macroeconomic factors and return on stock market return in Nairobi Securities Exchange. Ongeru (2014), also in a research study investigated how macroeconomic factors affect the profitability of non-banking financial institutions in Kenya.

The current study tries to fill in the gap by combining inflation, interest rates, inflation, exchange rate, and GDP in relation to Stock market returns. The study focuses on measuring Stock market returns by expected market return - risk-free rate. Further, the study will adopt a descriptive research design and apply descriptive statistics to describe quantitatively the important the variables. ANOVA test will be done to establish the level of consequence of the variance among the variables, which other studies have not applied.

CHAPTER THREE:

RESEARCH METHODOLOGY

3.1 Introduction

The chapter clarifies the intended research methodology. It explains the choice of the, research design, research procedures, data collection technique, data collection techniques, sample design, data analysis method, and the population.

3.2 Research Design

The purpose of a research design for ensuring that information gained during collection of data was sufficient in responding to the question(s) satisfactorily as possible (Creswell & Clark, 2007). Kothari (2004) argued that a good research design yield high volume of information and offer a chance to consider different features of a problem.

The study utilized a descriptive research design and so due to descriptive survey; the researcher was able to designate the features of the factors of interest. The independent variables include interest rates, inflation and exchange rates the dependent variable stock market returns. This research is about impacts of macroeconomic factors on stock market returns of companies in Nairobi Securities Exchange. The descriptive design is thus well suited to this study. The method is useful for this study as it describes the characteristics of a large population.

3.3 Target Population

According to Kothari (2004), target population are members of hypothetical or real set of people, events, or objects researchers wish to generalize the findings. According to

Nairobi Securities Exchange NSE, (2017) there are 65 listed firms in Nairobi Securities Exchange. The research focused on all 65 companies listed in NSE.

3.4 Data Collection

Secondary data was acquired from the respective government authorities in custody of such. Data on the securities and their movement was acquired from the Nairobi Securities Exchange. Information on exchange rates and interest rates over the period of interest was acquired from the Central Bank of Kenya. Information on inflation trends was acquired from the Kenya Bureau of Statistics. Interest rates, inflation, and exchange rate information can be from published literature and Financial reports. The study collected data for the last five years 2013-2017.

3.5 Data Analysis

The quantitative data acquired was evaluated using Statistical Package for Social Sciences (SPSS) version 20. The results were presented using tables, percentages, and frequencies. Descriptive statistics were utilized to explain quantitatively the significant attributes of the factors using mean, frequency, standard deviation, and frequency. Frequencies, percentages, and tables were used to present the findings.

3.5.1 Analytical Model

Multiple regressions were utilized to define the effects of macroeconomic issues on returns of stock market to companies in Nairobi Securities Exchange. The regression model is illustrated below;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Y= Stock market returns (determined by stock turnover)

β_0 =Constant

X₁=Interest Rate (determined by nominal interest rate)

X₂=Inflation (determined by quarterly percentage change in consumer price index.)

X₃= Exchange Rate (determined by standard rate of Kenya shillings exchanges to the US dollar)

X₄=GDP (private consumption + gross investment + government investment + government spending + net export)

$\beta_1 - \beta_4$ are the regression co-efficient or variation introduced in Y by each independent variable

$\beta_1 - \beta_4$ are the regression co-efficient or variation introduced in Y by each independent variable

ε is the random error term accounting for all other factors that influence stock market returns but is not seen in the model.

ANOVA test was performed to establish the level of significance of the variance by the use of a one-Way ANOVA to establish the presence of noteworthy variations between the variables.

CHAPTER FOUR:

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section presents the outcomes, conclusions and discussion from the data collected and analyzed on the impact of Interest Rate, Inflation, and GDP on stock returns at the Nairobi Securities Exchange.

4.2 Descriptive Statistics

Descriptive statistics are short descriptive coefficients summarizing the data set that was analyzed. Descriptive Statistics is the analysis of data to help describe, arrange and summarize data in a meaningful style such that trends and patterns clearly show from the data. This study sought to collect descriptive statistics of NSE All share index, rate of interest, rate of inflation, rate of exchange, and GDP for analysis on their effect on the returns of companies listed in Nairobi securities exchange for the period 2013 to 2017

Table 4.1: Descriptive Statistics on interest rates

Year	Minimum	Maximum	Mean	Std deviation
2013	17.00	25.50	21.16	1.85
2014	17.17	24.30	20.65	1.40
2015	18.50	22.80	20.96	1.20
2016	11.80	12.50	12.22	1.12
2017	11.10	13.90	12.48	0.79

Source; Research findings, 2018

From the outcomes, it is seen that the year 2013 had the highest value for percentage interest rates as shown by a mean value of 21.16 while the lowest value for percentage

interest rates at 12.48 was recorded in the year 2017. In addition, values for standard deviation show variability in percentage interest rates in 5 years with the highest deviation of 1.85 in 2012 and the lowest 0.79 in 2017. This means that before the implementation of the interest capping rates by the government in 2017, the lending rates were relatively high.

Table 4.2: Descriptive Statistics on Inflation Rate

Year	Minimum	Maximum	Mean	Std deviation
2013	120.1	140.3	127.5	13.2
2014	123.3	156.5	134.2	21.9
2015	109.5	130.6	115.6	11.9
2016	117.3	143.7	120.4	44.4
2017	130.4	169.3	140.2	30.3

Source; Research findings, 2018

The inflation rate was in the all-time high in 2013/2017 and has declined in the years 2014 and since then it has risen till 2017. The year 2017 recorded the highest inflation rate as shown by a mean of 140.2 while the year 2015 recorded the lowest inflation as shown by mean of 115.6. The rate has been fluctuating depending on various macroeconomic environment as well as the different government and monetary policies in place.

Table 4.3: Descriptive Statistics on Exchange Rate

Year	Minimum	Maximum	Mean	Std deviation
2013	85.32	85.89	85.52	0.32
2014	89.11	90.22	89.24	0.11
2015	103.10	103.93	103.22	0.11
2016	100.21	101.41	100.75	0.34
2017	101.69	102.77	102.35	0.87

Source; Research findings, 2018

The exchange rate was in the all-time high in 2015 and has declined in the years 2014 and since then it has risen till 2017. The year 2017 gained the second highest exchange rate as shown by a mean of 102.35 while the year 2013 recorded the lowest exchange rate as shown by a mean of 85.52. The rate has been fluctuating depending in various macroeconomic environment, changes in global oil prices as well as the different government and monetary policies in place. This implies that the Kenyan shilling has been weakening since 2015.

Table 4.4: Descriptive Statistics on Gross Domestic Product

Year	Minimum
2013	1.63
2014	2.52
2015	5.64
2016	4.35
2017	4.97
Mean	3.82
Std. deviation	0.14

Source; KNBS, 2017

From the study, year 2015 recorded the highest GDP growth rate at 5.64% followed by year 2017 with 4.97% and finally year 2016 with 4.35%. The years that recorded the lowest GDP growth included year 2014 with 2.52% and the worst was year 2013 with 1.63%. The mean score for the period recorded was 3.82 and the standard deviation was 0.14. There has been a general upward trend on the real GDP growth in the country.

4.3 Inferential Statistics

Inferential statistics is utilized to make an inference from the sample data on what the population think or determine the possibility, which an observed disparity between groups is justifiable or had occurred by chance in a research.

4.3.1 Correlation

Correlation analysis was done to ascertain whether the regressors were strongly correlated. The outcomes are shown in Table

Table 4.5: Correlations

		Stock market returns	Interest Rate	Inflation	Exchange Rate	GDP
Stock returns	Correlation Coefficient	1.000	-.354	-.441	-.471	.344
	Sig. (1-tailed)	.	.435	.531	.325	.928
	N	20	20	20	20	20
Interest Rate	Correlation Coefficient	-.654	1.000	.043	.235	.001
	Sig. (1-tailed)	.003	.	.000	.003	.002
	N	20	20	20	20	20
Inflation	Correlation Coefficient	-.441	.132	1.000	.046	.008
	Sig. (1-tailed)	.001	.001	.	.000	.000
	N	20	20	20	20	20
Exchange Rate	Correlation Coefficient	.471	.037	.046	1.000	.124
	Sig. (1-tailed)	.002	.000	.001	.	.002
	N	20	20	20	20	20
GDP	Correlation Coefficient	.344	.001	.008	.124	1.000
	Sig. (1-tailed)	.001	.001	.003	.000	.
	N	20	20	20	20	20

Source: Research data, 2018

The researcher performed a Pearson moment correlation. From the outcomes in the table above, the research showed a negative correlation coefficient between interest rates and stock market returns, as revealed by correlation factor of -0.354. The association is statistically important as the significant value is 0.003, which is lower than 0.05. The research found negative association between inflation and stock market returns as shown by correlation coefficient of -0.441 and a significant value of 0.001 and so is lower than 0.05. The research showed a strong negative correlation between high exchange rate and stock market returns as shown by correlation coefficient of -0.471, which is also seen to be significant at 0.002. The research also showed a negative correlation between GDP

and stock market returns as revealed by correlation coefficient of - 0.344 at 0.001 levels of confidence. The outcomes concur with those of a study by Franks and Curswoth, (2003) who noticed a negative correlation between stock market returns and GDP. The outcomes further concur with those of Ayodele (2011) who noticed a strong negative correlation between highinflation rates and stock market returns of firms listed in NSE.

4.4 Regression Analysis

4.4.1 Model Summary

In this research, a multiple regression evaluation was done to evaluate the impact among predictor factors. The research utilized statistical package for social sciences (SPSS V 21.0) to code, enter and compute the measurements of the multiple regressions. The model summary is presented in the table below

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.818 ^a	.669	.652	.37290

Source: Research data, 2018

The research utilized coefficient of determination to assess the model fit. The adjusted R² also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained jointly or uniquely by the independent variables. The model had an standard adjusted coefficient of determination (R²) of 0.652 and which meant that 65.2 percent of the variations in stock market returns of firms listed in NSE are explained by the independent variables understudy (interest rate, inflation, exchange rate and GDP).

4.4.2 ANOVA

The research further determined the significance of the model by use of ANOVA method.

The outcomes are tabulated in table below.

Table 4.7: Summary of One-Way ANOVA results

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	36.728	4	9.182	6.935	.000 ^b
	Residual	79.44	60	1.324		
	Total	116.168	64			

Source: Research data, 2018

Critical value =2.50

The research determined using the ANOVA statics that the regression model had a significance level of 0.1 percent, which is a sign that the information was perfect for reaching a conclusion on the population parameters because the value of significance (p-value) was less than 5 percent. The determined value was higher than the critical value ($6.935 > 2.50$), this showing that the foreign exchange exposure, firm size, capital adequacy, and interest rates all have a significant impacts on stock market returns of companies listed in NSE. The significance value did not exceed 0.05 and so the model was significant.

4.4.3 Coefficients of Determination

The research further utilized the coefficient table to establish the study model. The outcomes are presented in the table below.

Table 4.8: Coefficients

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	1.137	.317		3.587	.003
Interest Rate	-.293	.059	-.597	-4.966	.001
1 Inflation	-.596	.123	-.567	-4.846	.018
Exchange Rate	.669	.167	.624	4.006	.002
GDP	.292	.095	.213	3.074	.012

Source: Research data, 2018

As per the SPSS produced output as presented in table above, the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$) becomes:

$$Y = 1.137 + (-0.293X_1) + (-0.596X_2) + (-0.669X_3) + (0.292X_4)$$

From the regression model acquired above, a unit transformation in interest rate when other factors are constant lead to negative change in the stock market returns by a factor of 0.293. A unit change in capital adequacy when all other factors remained constant negatively changed the stock market returns by a factor of -0.596. A unit change in firm size when all other factors remained constant change negatively the financial stock market returns by a factor of -0.669. A unit transformation in interest rates when all other factors remained constant led to a rise in stock market returns by a factor of 0.292.

This implied that interest rate (p - value 0.001) had the highest significant on stock market returns of companies s listed in NSE (p- value 0.001) followed by Exchange Rate

(p- value 0.012) then GDP (p- value 0.012) and finally inflation (p- value 0.018). The outcomes above concur to findings by March (2011) that interest rate is related directly to stock market returns. The findings further concur with the findings by Franks and Curswoth, (2013) that high exchange rate is negative related to with stock market returns. The outcomes of the study also agree with Ayodele (2011) that inflation has a negative impact on stock market returns of firms listed in NSE.

The analysis was done at 5% significance level. The obtained probability value and $\alpha=0.05$ were compared to establish if the predictor factors were significant in the model. The predictor variable was significant in case the probability value was less than α . Every predictor variable was significant in the model as none exceeded $\alpha=0.05$.

4.5 Discussion of the Findings

Pearson correlations results showed a negative significant connection between interest rates and stock market returns. Test regression outcomes show that a unit rise in interest rates led to a reduction in stock market returns. This is because fixed income investments are less competitive when interest rates drops due to lower yields and as a result, stocks become more attractive. Conversely, a rise in interest rates make fixed income investments more competitive due higher yields resulting in less attractive stocks. These outcomes concur with the study results by Dornbusch and Fischer (2010) argument that higher interest rates raise the cost of borrowing for firms resulting reduction in corporate earnings.

Descriptive results revealed that interest rate has a negative impact on stock market. Higher interest rate drops the effectiveness of stock market as investors are getting better

without taking risks and lack any reason to invest in stock market. Therefore, states should lower their interest rates to ensure the development of their economies. Furthermore, higher interest rates can thwart companies from having additional debt for capital spending thus making it difficult for them to expand their operations in order to increase their profits. These factors can activate lesser stock prices. The findings concurs with the findings of Ali (2014) who utilized Correlation and Regression analysis to assess the effects of interest rates on the Pakistani Stock market performance and realized that high interest rate has a negative effect on the stock market.

The research showed presence of a negative correlation coefficient between high inflation rates and stock market returns (correlation factor of 0.441, P- value .001). It also showed that the Value stocks achieve better results in periods with high inflation while growth stocks achieve better results when inflation is low. One-way investors can forecast the expected inflation is by analyzing the commodity markets even though it is widely viewed that stocks returns rise when commodity prices rise because companies produce commodities. However, stocks reduce because high commodity prices usually squeeze profits. Given that interest rates are mostly increased to battle high inflation, the stocks growth is usually affected negatively during high inflation. This implies a positive association between return on stocks and a negative connection for growth stocks. These findings contradict the findings by Liu and Shrestha, (2008) claim that inflation has negative impact on an economy.

Descriptive results revealed that stocks should offer some hedge against inflation, because profits and revenues of a company should increase as the inflation increase. However, the changing effects of inflation on stocks make it confusing to trade held

positions or to take new one. Further, the research revealed that the rate of transformation in inflation does not affect returns of value versus growth stocks as much as the absolute level. It is held that investors might overshoot their future growth prospects and upwardly misprice growth stocks. The investors can fail to determine when growth stocks become value stocks, and the negative effect on growth stocks is harsh. These results concur with the findings by Sloman and Kevin (2011) who argued that inflation can either be cost push inflation or demand-pull inflation.

Descriptive statistics show that Exchange rate variations have been of great concern for NSE managers, investors, shareholders, and analysts as the same expose companies to foreign exchange. Pearson's partial correlation revealed a weak and negative correlation between exchange rate and both Stock market returns

The study further revealed weak negative associations between exchange rates and the stock market returns of the Nairobi Securities Exchange. The weak and negative relationship between variation of exchange rate and stock market returns of the Nairobi Securities Exchange may reflect how fluctuating and volatile exchange rate may have contributed to the declining trends. Exchange rate fluctuations can be attributed to the flexible exchange rate system whereby the price of currency is identified by the demand and supply of the currency in the forex market. Due to the common changes of demand and supply affected by several internal and external factors, the new system is accountable for currency fluctuation. The finding is in agreement with Wald and Wu (2012). Financial theory point out that the value of companies should be affected by interest rates and exchange rates.

Descriptive results also showed that transformations in exchange rate have less direct impact on future variations of stock prices. Exchange rate can create uncertainty in the market as the value of assets is eroded due to depreciation, thereby resulting to a fall in stock returns; therefore, stability of exchange rate is important in instilling confidence in the economy. The finding is in agreement with Nyaga (2014), who investigated the impacts of operating foreign exchange on share prices in of firms listed at the Nairobi Securities Exchange and found that there exists a negative association between exchange rate volatility and share prices.

The study revealed that faster economic growth suggests faster sales growth for companies, potentially lifting the stock market. When GDP increases above expectations of GDP rise, earnings of companies increase making it strong for stocks and the opposite occurs when GDP falls low than expected. The study also revealed that low stock prices affect GDP negatively. Firms are forced to lower the number of workers and costs of operations as they find it hard to source finance while their present debts grow. The negative factors make it less possible for companies to invest and as a result, there is a negative impact on the GDP.

Descriptive results also showed that High GDP growth rates do not lead to high equity market returns and vice versa. Existence of a stronger connection between equity returns and GDP growth is not automatically bad for investors as returns of investors can be depended on the market expectations that can be pessimistic or optimistic. Dornbusch & Fischer (2010) noted that transformation to consensus prospects for future GDP expansion have a considerable effect on equity returns, with equity returns acting as a leading pointer of GDP growth. These outcomes concur with the findings of the research

by Dornbusch & Fischer (2010) who found an insignificant positive relationship between GDP and profitability.

CHAPTER FIVE:

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter is the summary of the outcomes of the study, recommendations, conclusions made based on the research. The study was interested to determine the impact of macroeconomic factors on stock market returns of firms in Nairobi Securities Exchange

5.2 Summary of the Findings

Assessment on association between interest and stock market returns showed a negative significant association between them. The findings also show that higher interest rates can thwart companies from taking extra debt for capital spending making it difficult for firms to increase their profits possibly leading to lower stock prices, as they are unable to expand their operations. The findings of this research concur with the outcomes by Ali (2014) who utilized correlation and regression analysis to assess the effect of interest rates on the Pakistani Stock market performance and realized that high interest rate affect negatively the stock market. The findings are attributed to the reduction in fixed income investment due to the fall in interest rates. The fall in interest rates, make the investment less competitive due to lower yields. These findings concur also with the study results by Dornbusch and Fischer (2010) that corporate earnings fall due to the increase in the cost of borrowing because of higher interest rates.

The findings of this study showed that the value stocks performed better when inflation is high and growth stocks achieve better result when inflation is low. However, high commodity prices usually squeeze profits resulting in reduction of stock returns. Given

that interest rates are mostly increased to battle high inflation, growth stocks are affected more negatively during period of high inflation. Furthermore, the research revealed that the rate of variation in inflation does not affect returns of value versus growth stocks as much as the absolute level. Nonetheless, the varying impacts of inflation on stocks make it difficult to decide whether to trade held positions or acquire new positions. These findings further concur with the findings by Sloman and Kevin (2011) who both argued that inflation can be either cost-push inflation or demand-pull inflation.

Assessment on connection between exchange rate and stock market returns revealed a weak and negative correlation between them. The findings also revealed that Exchange might reflect how fluctuating and volatile exchange rate may have led to the declining trends. Exchange rate fluctuations can be attributed to the flexible exchange rate system whereby the price of currency is established by supply and demand of the currency in the forex market. Due to the common variations of supply and demand because of many internal and external factors, this new system is accountable for variation of the value of a currency. Results also showed that variations in exchange rate have less direct effect on future variations of stock prices. Exchange rate can establish uncertainty in a market as the value of assets is eroded due to depreciation, thereby resulting to a fall in stock returns; therefore, stability of exchange rate is important in instilling confidence in the economy. The finding is in agreement with Wald and Wu (2012). Financial theory states that the value of companies should be affected by interest rates and exchange rates.

Assessment on the connection between GDP and stock market returns showed that when GDP increase beyond the expected level, corporate earnings rise making the company strong for stocks. The inverse occurs when GDP falls below the expected level. The GDP

in a country is affected negatively when the stock prices are low as companies are forced to lower the costs of their operations and the number of their workers as they have difficulties finding funds to expand their operations. Descriptive results also showed that high GDP growth rates do not result in high equity market returns and vice versa. Existence of a stronger association between equity returns and GDP growth is not automatically bad for investors. These findings are in accord with the findings by Dornbusch & Fischer (2010), who identify an insignificant positive relationship between GDP and profitability.

5.4 Conclusion

The macroeconomic variables under study have significant impact on returns of companies listed in the Nairobi Securities Exchange. This study concludes that high interest rate raises the cost operating a business and as a result lowers the returns whereas a reduction in interest rate leads to a rise in stock returns because it is a good message to the stock market. The study concludes that inflation rates are related negatively and significantly, to the NSE All share index. The study further shows that high exchange rate risks have a negative effect on stock returns. The exchange rate may establish uncertainty in the market as the value of assets is eroded due to depreciation, thereby resulting to a fall in stock returns and that GDP growth rate is significantly and positively related with the NSE index. GDP growth improves the performance of the stock market with the related growth in wealth, employment greater confidence in the market.

5.5 Recommendations

CBK should find ways on how to manage exchange rates this will safe guard the performance of firms. Since stock market returns and interest rates are correlated negatively, the government should implement better microeconomic policies to manage variable and enhance the performance of NSE. The research recommends that the issues related to foreign exchange trading should always be taken into account in efforts to improve listed firms' foreign exchange transactions and explore ways to promote abilities within companies for managing exposure to foreign currency risk. It is also recommended that listed firms explore the course of continuous short-term training and education, which ought to be adequately practical as opposed to theoretical.

Investors should look at the GDP performance to determine when to invest by buying or selling shares in the stock market. That is, buy shares when GDP performs poorly and sell when the GDP performs well. This would help them get value for their investments in stock market. Timing of the economic cycle is specifically significant for investors determining the effects on stock returns. The government of Kenya should boost stability of macroeconomic factors like foreign exchange rate through monetary policy as they influence stock returns by affecting the performance of securities exchange.

The listed firms in the Nairobi Securities Exchange should try to make their stocks attractive to investors preferring to invest in securities as a hedge for a long period. Therefore, companies should invest in long-term projects with long-term returns, as shares can be preferred assets when dealing with the risk of inflation.

The Government should also put in place more measures to increase the country's exports, as this will lead to an improvement in the performance of listed firms in Kenya. The government of Kenya should put quality and proper measures to guarantee the stability of Kenya shilling against the dollar. The government should put more emphasis on stabilizing the exchange rate since this will prevent significant fluctuation of stock market return attributed to unexpected alterations in the exchange rate. Emphasis should be on infrastructure development, investment and innovation rather than on current expenditure that increases broad money supply and related inflation that reduces wealth

5.6 Limitations of the Study

The gist of the investigation was on the impact of macroeconomic factors on stock market returns of firms listed in Nairobi Securities Exchange for the period 2013 to 2017. The data was collected on a quarterly basis. While the study focused on effect of interest rates, inflation rates, exchange rates, and GDP, other variables also influence the exchange rates whose net effect could be the error factor.

The time covered was short for a well-detailed and balanced study. A longer period can reveal long-term relations between the variables. The data was acquired on a quarterly basis. Data that are more frequent can also reveal short-term trends that can be significant in making predictions.

The study was limited to NSE. To appreciate the effect of macro- economic factor on the stock market index, a comparison with other markets at different levels of development can be necessary there were financial limitations particularly at NSE where data had to be

paid for per entry. A longer and more frequent analysis would have brought the cost quite high. This limited the data analyzed

5.7 Areas for Further Research

Further studies could reveal more trends and patterns that can give deeper insight on the relationships. The study can be extended to other macro-economic factors to further deepen the knowledge, including impact of infrastructure development, unemployment balance of trade and balance of payments, research and technology. Studies can be done on impact of political seasons like electioneering period, and political stability. Social and cultural factors can have an impact including tastes and change of tastes, values and beliefs that can determine demand goods and therefore returns expected there. Performance of companies not listed in the NSE could have a major effect on economic growth that can affect the market performance and thence the market index due to linkages with listed companies.

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APPENDIX I: DATA COLLECTION SHEET

Variables	Measure	2013	2014	2015	2016	2017
Stock Market returns	Stock turnover					
Liquidity risk	current assets/current liabilities					
Firm size	total asset value					
Management efficiency	ratio of revenue to total assets					
Capital adequacy	capital adequacy ratio					