RELATIONSHIP BETWEEN MACROECONOMIC VARIABLES AND MARKET RETURNS OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

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DECLARATION

This research project is my original work and has not been submitted to any other college, institution or university

Signature …….. Date ……

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This research proposal has been submitted for examination with my approval as the university supervisor

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ABBREVIATIONS AND SYNONYMS

APT - Arbitrage Pricing Theory

CAPM - Capital Assets Pricing Model

CPI - Consumer Price Index

GDP - Gross Domestic Product

M3 - Broad Money Supply

MPT - Modern Portfolio Theory

NPV - Net present Value

NSE - Nairobi Securities Exchange

ABSTRACT

Macro economic variables have been cited as a predictor of variations in the stock market; however, several theoretical and empirical deviations have been informed on the direction and sign of causality in economies which are advanced financially. Macro economic determinant sought to be a measure standard for investors predicting a firm's performance along with a proper alternative to acquire further information on the stock market behavior. The study aim was to identify the link between macroeconomic variables and market returns of NSE listed companies. This study focused on the arbitrage pricing theory, the capital assets pricing model and modern portfolio theory as the key theories guiding the study. The research undertook a descriptive research design and carried out a census of the 64 firms and obtained quarterly secondary data from all the firms for a 10-yearperiod between 2007 and 2016. The sourced information was entered into an excel work sheet and then analyzed by the descriptive statistical techniques, pooled regression and correlation techniques. The study results revealed that consumer price index had a positive and insignificant relationship with market returns while gross domestic product obtained an insignificant and positive link with the market returns of listed firms in Kenya. The findings further revealed that market returns and exchange rate obtained a negative and significant relationship whereas the relationship between money supply was significant and positive. Lastly, the outcomes established that the link between interest rates and market returns of companies listed at the NSE was negative and significant. The study concluded that market returns of the listed firms are significantly influenced by money supply,rates of interest and rates of exchange. It was recommended that the government of Kenya and the central bank should institute measures to control interest rates and exchange rates fluctuations.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Macroeconomic variables can be a measure to investors for forecasting a firm's performance with an impeccable option to acquire extra data concerning the stock market behavior (Jamaludin, Ismail &AbManaf, 2017). According to Barnor (2014) financial economists argue that firms financial performance responds to indicators such as unemployment rate, yield of dividends,rate of interest,rate of inflation, foreign exchange, production index, Gross Domestic Products among others. Therefore, macroeconomic variables influence investors' investment decisions and many investors commonly believe that macroeconomic events and monetary policy obtain a big impact on the firm value (Gan et al., 2006).Thus, the macroeconomic indicators statistics are published regularly in most countries with a major aim of identifying the status of the economy at present (Irungu & Muturi, 2015).

The theoretical explanation on the relation between macro economic factors and performance of firms is largely explained by the APT, the MPT and the capital assets pricing model. The APT suggests that the return on asset is dependent on many macroeconomic variables, which directly or indirectly make a significant impact on returns (Çiftçi, 2014). The Capital assets pricing model (CAPM) on the other hand postulates there is only a market risk and other diversified risks cannot be compensated. Therefore, other than the market factors no other factor will affect the return on investment made by firms (Khan, 2017).

The modern portfolio theory postulates that for firms to maximize their returns on investments they should minimize risks, while recognizing the presence of risks that are both systematic and non-systematic (Khan, 2017). The economy of Kenya has recently been attached with macroeconomic environment fluctuations such as rates of interest, rates of inflation and rates of exchange (Irungu&Muturi, 2015). The Nairobi Stock Exchange acts like a barometer to the economy of Kenya, hence it's essential to define aspects affecting volatility of stocks return (Olweny&Omondi, 2011). NSE plays the responsibility of the regulation and development of operations in the market to certify effective trading. The companies outlined in Nairobi Stock Exchange are anticipated to have financial health to safeguard the growth of a country's economy (Maina&Sakwa, 2012). The NSE which is major capital market in Kenya, is among the arising markets globally. Its major characteristics are low turnover ratio, low volume of trading, limited number of listed companies, and incompetent delivery of information (Kiio&Jagongo, 2017).

1.1.1 Macroeconomic Variables

Macro-economic variables are regarded as pertinent factors to an economy at the national or regional level and have an impact on all companies apart from some selected firms. Macro-economic variables are the external variables tha tare uncontrollable by the management (Hunjra et al., 2014). According to Osoro and Ogeto (2014), the performance of firms can be influenced by macroeconomic factors stability, for instance its inflation rate, GDP, consumer price index, rate of exchange, index ofstock market and rates of interest.

This study takes into consideration five macroeconomic factors, which include rates of interest, rates of inflation, supply of money, rates of exchange, and GDP growth. Inflation can be seen as a continual or insistent general prices intensification of products in the long run.The rate of inflation shift poses a substantial influence in the currency's purchasing power and the production cost (Osoro&Ogeto, 2014).It affects revenue of sales and a firm's borrowing via rates of discount and nominal cash flow changes (Nurlaily et al., 2013). CPI is proxy used for rate of inflation. The Consumer price index is figured as the ordinary change in consumers-paid prices for a market basket of products over time. It's applied as an indicator in the economy by the administration to figure out the rate ofinflation (Jamaludin, Ismail &AbManaf, 2017).CPI is likewise reflected as a limited inflation measure, measure restricted to the faced inflation by the economy in the household sector (Jasra, Azam& Khan, 2012).

Exchange rates influence the company value as cash flows in thefuture adjustalongside the currency valuesfluctuations. Economic theory implies that exchange rates fluctuations will outcome in aprofitability and investmentschange, mirrored in the financial performance (Çiftçi, 2014).Exchange rate determines the level of exports and imports and if home value of currency raises comparative to foreign currency.Outcome is that the imported goods price reduces at home market, hence affectingdomestic firms' profits (Jasra, Azam& Khan, 2012).Volatility of rate ofexchange implies on the financial sector of acountry, the stock market particularly (Olweny&Omondi, 2011). The rate ofexchange is measured as a real exchange rates weighted averageof the national currency to the major trading partners'currencies (Jamaludin, Ismail &AbManaf, 2017).

Money supply is well-defined as the wholecurrency stock and other liquid tools in the economy of a country in precise time period(Mishra, 2013).It is a liquid assets collection that is normallyrecognized as anexchange medium and for debt repayment. As of that it helps to economically exploit scarce resources dedicated to exchange, expandproduction resources, regulate trade, enhance specialization, and add up to the welfare of the society (Ndunda, 2016). Money supply deals with the liquidity degree in the economy thus analteration in it is possible to impact on the decisions of investment of both institutional and individual investors (Kpanie, Vivian &Sare, 2014). Money Supply is among the monetary toolsapplied by the Central bank to regulate the economy as a whole (Jamaludin, Ismail &AbManaf, 2017). MS is identified as average annually monetary base (M3);reserve balances, and the circulationcurrencysum.

An interest rate is the proportion whereby interest is compensated by a debtor for the use ofmoney borrowed from a creditor (Nurlaily et al., 2013). It's an incomefunction. It plays a role in ensuring proficient resources utilization and mobilizing financial resources in efforts to enhancedevelopment and growth of the economy (Osoro&Ogeto, 2014). Interest rate is also a factor of discount in valuation models. And so, rates ofinterest obtain a direct influence on cost and due to that firms'profits and on the NPV of cash flows inthe future (Kpanie, Vivian &Sare, 2014). A high rate ofinterest is an implication of a monetary policy that istight. In high interest rates periods, it'sfurther costly for businesses to borrow making it more unappealing to invest (Çiftçi, 2014).Interest rates changes influence the future profitability and cost of borrowing of the firms

The GDPis a macroeconomic value measure of output of theeconomy adjusted for changes inprice. Thealterationrevolves the measure of value of money, nominal Gross Domestic Product, into a directory for total output quantity (Ndunda, 2016). The GDPdenotes the value in market of all ultimateproductsgiven out in a certain periodwithin a country. It is time and againreflected asa country's living standard indicator. Itsintention is to signify a country's total economic activity by accumulating its productionvalue, the earned income from this production or sequence of further complex assessments (Mishra, 2013). Higher gross domestic productprogressionhints at higher appealingentrepreneuropportunities, which consecutivelycause to a greaterprerequisite for venture funds (Mishra, 2013).GDP is the measure of an economy'sperformance in generaland there is an existence of ameaningful and close connection between firm performance and gross domestic product(Kpanie, Vivian &Sare, 2014).

1.1.2 Market Returns

Financial stock market return is the value share loss or gain of in a specific period and is normallyexpressedin percentage form. It comprises capital gains and any income from the stock received by the investor (Wang, 2012). Market returns define how efficient and effective the stock market spreads outequities and shares in relation to theavailability and preference of market figures. Variation in stock pricesestablishinvestors uncertainty and sequentiallyinfluences the stocksupply and demand (Delen, Kuzey & Uyar, 2013). Stock market returns predict theinvestment and output power sincetheyexist as forward-looking variableswhich incorporate future cash flows expectations and future discount rates expectations.

Higher stock returns indicateadvanced profitability among entities leading togeneral economic advancement and vice versa (Guo, 2012). Stock market returns act as measuring standards to investorand government investment decisions. Investors of different financial capacity are able to capitalize the stock market as long as they are able to get a return that is higher than their cost of capital (Wang, 2012). The stock market returns are measured through market capitalization; which measures thesize of stock market, liquidity in the stock market that gives reference to the investorability to trade securities at ease (Guo, 2012). Other measures included All Share Index; thisimitates the stock market condition andperformance along with the turnover ratio; which is a comparison index for the liquidity rating in themarket and the transaction costlevel (Khan, 2017). At the Nairobi Securities Exchange, stock returns are normally present by the NSE all shares Index (NASI) or the NSE 20 share index, which comprise 20 firms, which have the highest market capitalization.

1.1.3 Macroeconomic Variables and Market Returns

Macroeconomic variables affect a county's economy as whole in aggregate terms by affecting the performance of all sectors. The macroeconomic forces nature provides a number of substantial positive in addition to negative influence on the firm performance revealed from the variable conduct (Jamaludin, Ismail &AbManaf, 2017). Thus, an understanding of the effects of the fluctuations also provides the basis for risk assessment. Theoretically, the Capital Asset Pricing Model uses a diversification row that isimpliedin theory ofcapital market to describethe influence of firms' performanceby wide range economic state variables and its market returns (Arnes, 2015).

The arbitrage pricing model (APT) suggest that inflation changes, interest rates changes, industrial production and forex currency fluctuations affect the, market value of firms (Gan et al., 2006) A study by Çiftçi (2014) examined the effect of 4 macroeconomic variables, i.e., rate of exchange, gold, rate ofinterest and crude oil, on performance of ten industries in U.S. and established that certain macroeconomic variables varies between firms, while others have an impact that is similar on firms' performance. Ubesie and Ezeagu (2014) investigated the macroeconomic variables effect on indicators of financial performance in the Nigerian conglomerates sector and established positive noteworthy relationship between earnings per share and rate of monetary policy and a also weak negative relationship between company returns and rate of exchange. Nurlaily et al (2013) explored the effect of macroeconomic variables on thefinancial performance of Indonesia Food and Beverage Companiesand thestructure of capitaland found that macroeconomic factors hada significantnegative influence on financial performance.

1.1.4 Nairobi securities Exchange

The NSE is the majorstock exchangein Kenya. The securities exchange deals in the securities exchange offered by listed companies in public, the Government andcorporate bodies (Jepkemei, 2017). The NSE is an African Stock Exchanges Association member. NSE is the fourth biggest stock exchange in relationtovolumes oftrading, and fifth in relation to capitalizationof market as a proportion of GDP (Kitati, Zablon&Maithya, 2015).The Capital MarketAuthority in Kenya has the governing duty to observe firms in NSE listwith respectto liquidity, capital and other factors with an objective of making sure financial stability is achieved in the firms (Maina&Sakwa, 2012).

NSE is among the top performing exchanges in Africa and has been the stock market center, in particular, financial markets in East and Central Africa (Olweny&Omondi, 2011). In the year 2001, Nairobi Stock Exchange was reorganized to bring up three segments inmarket namely;the Fixed Income Securities Market Segment, the Alternative Investment Markets Segment and the Main Investments Market Segment (Jepkemei, 2017). There are 63 listed firms in the NSE. The companies are put into categories of10 groups namely;Banking firms, Construction and Allied firms, Technology andTelecommunicationfirms, Accessories and Automobiles firms, Agricultural firms, Investment firms, Insurance firms, Manufacturing firms, Services and Commercial firms and Petroleum and Energy firms (Kiio&Jagongo, 2017).

Firms listed at Kenya's securities exchange have witnessed various macroeconomic fluctuations. For instance, rate of interest fluctuations in Kenya have been an alarmthe Central Bank of Kenya has had in the recently while volatility of rate of inflation has also faced the nation(Olweny&Omondi, 2011). The Kenyan capital market experiences several encounters like depression in the economy and political uncertainty, domestic savings, macroeconomic instability, illiquidity in stock market, and low investment rate among others (Salim&Wamiori, 2017). The dynamic relations among the stock market prices and a number of macro-economic variables for firmscited on the Nairobi Securities Exchange have consequential effects on both valuations of firmsand capitalization of market, making investors doubtfulon the firms'performance in the future (Kitati, Zablon&Maithya, 2015).

1.2 Research Problem

Macroeconomic variables have been cited as apredictor ofvariations in the stock market; however, several theoretical and empirical deviations have been described on the direction and sign of causality in the economies that are advanced financially. On the part of developing countries, slight studies have been carried out (Barnor, 2014). Theoretically, the capital assets pricing modelproposes that prices ofassets oranticipatedinvestment return by a firm are motivated by a particularjointaspect. The arbitrage pricing theory backs up that affirm returns on investment are driven by multiple macro-economic factors (Kpanie, Vivian&Sare, 2014). Therefore, due to the theoretical and empirical disagreements and increasing macroeconomic fluctuations require more studies are required to explore the effects on macroeconomic fluctuations represent on market returns of firms.

In Kenya, listed firms contribute in many ways to theeconomy of Kenya. They provide employment in the firms thus reducing unemployment problems andpay tax to the government (Mwaniki&Omagwa, 2017). However, whilethere are more than 50 listed NSE firms, only part of them are in a financially goodlocationwhile some of the firm's financial position andbusiness direction has not been good over the years (Maina&Sakwa, 2012). Several listed companies among the Uchumi supermarkets, Kenya airways and several other companies have experienced financial distress and some have been on the verge ofcollapsing (Salim&Wamiori, 2017). This necessitates an investigation on the microeconomic factors'influenceon the market returns ofquotedsecurities exchange firms.

Several studies have also been undertaken on the effect on the effect of macroeconomic variables on firms. A research paper by Khodaparasti(2014)for instance examined the macroeconomic variables stock market role in Iran and found that rate of exchange and industrial index obtainmajor stock market influence than money supplyandinflation. The study however focused on the returns of macroeconomic factors and stock. Another study by Ismail Jamaludinand AbManaf (2017) explored the macroeconomic variableseffectsin particularrate of exchange, money supply, and inflationon conventionaland Islamic stock market returns and established that returns onstock market are expressivelyimpacted on by the inflation and exchange rates. The study however focused macroeconomic effects on share returns of banking institutions.

Numerous researches have also been commenced in Kenya.A study by Kung'u (2013) for instance assessed the selected macroeconomic variables impact on private equity firms financial performance in the country and found that inflation, GDPand banks'rates of interest lending adversely affect the performance of private equity funds. The study however, focused on private equity firms and not listed firms. Murungi (2014) examined the connection between Insurance Companies financial performance and macroeconomic variables in Kenya and revealed that therate of interest and the GDP are the significant predictors of insurance firms financial performance.

The context of the study however was insurance firms and not listed firms. From the sample local studies its apparent majority of the studies focus on the macroeconomic variables influence on specific industries andsegment at the NSE and on share prices and returns. This leads to an empirical gap in literature hence the query; what's theconnection between selected macroeconomic variables and NSElisted firms' market returns?

1.3 Research Objective

To establish the link between macroeconomic variables and NSElisted firms' market returns.

1.4 Value of the Study

The research outcome maybe appliedin the theory of finance, policy and the management practice. The managers of the listed firms can use the findings to know whether macroeconomic factors affect the performance of their firms. The government, the Nairobi securities exchange, the central bank of Kenya can also use the findings to come up with strategic mechanisms on macroeconomic factors since they are part of the monetary policy. The research will also provide more information and knowledge concerning financial performance and macroeconomic effects. Additionally, the study will suggest new areas which might require additional research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The literature review chapter outlines the summary of the literature reviewed, the theoretical literature, the determinants of financial performance, empirical studies review, a conceptual model and a.

2.2 Theoretical Review

This research will focus onthe arbitrage pricing theory, the capital assets pricing model, and modern portfolio theory as the key theories guiding the study.

2.2.1 Arbitrage Pricing Theory

This theory was established by Ross (1976) as an asset pricing theory that proposes that the anticipatedinvestment returnor a financial asset return can be shown offas various macroeconomic variables linear relationship or where thecorrelation degree to alterations in every single variable is signified by a beta coefficient (Khan, 2017, Kung'u, 2013). The Ittakes on the stock return that is linearly connected to several macroeconomic variables and/or market catalogues, whereby beta represents each aspect'ssensitivity.

The Arbitrage pricing theorybeginsin itspresumptionson the existence of n factors which effectin return ofassets to divergesystematically from their anticipated values. It does not statethe largeness extent of the n factor is, nor does it recognize the aspects. It basicallyadopts that the n factors cause a simultaneous varying of returns (Olweny&Omondi, 2011).

The APT is based on the assumptions that the returns on security are resultant from a factor model whereby a linkage that is linear occurs between the factors and returns and if given the market equilibrium, well-established and security markets that are operative don't agree to arbitrage opportunities thus restricting their existence (Çiftçi, 2014).Themodel takes on, that investors make the most of arbitrage opportunities in the wide-range market; therefore, an asset's return rate is a return function on optional investments and other risk aspects (Terfa, 2011).

Arbitrage pricing theory entails analysis of macroeconomic variables and pricing of assets holding that the anticipated financial asset return can be shown off as a function of linearity of numerous macroeconomic factors or indices of theoretical market (Khan, 2017). The APT holds onseveralrisk sources and optional investments,undergoes a similar identification challenge asvarious factors, both domestic andinternational, that could impact on theperformance of an asset(Terfa, 2011). The APT model suggests that macroeconomic variables obtain a vitalimpact on the firms' returns. The model suggest that factors like production ofindustries, default risk premium variations and alterations in the production curve between short and long term interest affect the anticipated firm return (Çiftçi, 2014).

2.2.2 Capital Assets Pricing Model

The CAPM originated from Mossin and Lintner in 1966 andSharp in 1964. Itdisplays the linear connection between return and systematic risk and specifies that it'simpossible to raise returns in absence of risk. It can be denoted as a risk free rate function and the asset

beta (Çiftçi, 2014).The capita assets pricing theoryinsinuates onthe compensation of investors for possessing anasset that'srisky. The model proposes that the anticipatedasset return embraces two constituents;a risk premium and a risk free rateand its risk measure (Mohd, 2009). The theory narrates the anticipatedasset price to its degree of riskfigured out by the adjustment of the historical return rate of theassetsin relation to theclass of theasset (Terfa, 2011).

CAPM is based on the assumptions that asset markets are in equilibrium, investors obtain mean change criterion behavior and are risk free and they base their choices on homogeneous probability distributions, they possesssimilarassessments and projectoninvestments analysis(Arnes, 2015).CAPMalso presupposesthe use ofMarkowitz logic by investorsin establishing portfolios and that there exists a risk-free asset that expects assured return.The model speculates that the stock return anticipated isdefined by rate of interest that isfree fromrisk and a risk premium which is a stock responsiveness function to the generalmarket movement that is its beta coefficient(Çiftçi, 2014).The CAMP is the widely most recognized model among the other proposed models for measuring the risk and return relationship (Khan, 2017).

2.2.3 Modern Portfolio Theory

This theory originated from Markowitz (1952). The framework concept of MPT is that, the investor utility is mostly a function of the mean and variance of returns and advance takes into attention the impacts of diversification of preferences of investors and risk anticipation of everyconsidered asset (Barnor, 2014).

The modern portfolio theory (MPT) tries to make the most ofanticipated portfolio yields for a certain portfolio risk, or consistentlyreduce risk for a certainreturn level by cautiouslyselecting the various assets proportions. MPT redefines a portfolio as subjectiveassets combination, to facilitate the weighted combination of the portfolio return of the return ofassets (Kung'u, 2013).

It modelsthereturn of anasset as a function that is normally distributed, describes risk as the return's standard deviation, and replicas a portfolio as a combination ofweighted assets, so as the portfolio return is the weighted assets' returns combination (Mohd, 2009). The hypothesis of MPT constitutes of a single period of time, joined with investor's attitude torisk assumptions, permits risk to be figured out by the portfolio's return variance. The theory aims to decrease the portfolio return's totalvariance. The Modern portfolio theory also supposes that markets are efficient and investors are rational (Khan, 2017). It offersan understandingcontext for systematic risk and reward interactions. It defines how institutional portfolios are motivated and managed by the application of investment passive techniques (Arnes, 2015).

2.3 Determinants of Market Returns

A firm's performance is essentialsince it implicates the results attained in a given period of time. Performance of a firm is reliant upon firm specific factors, macro-economic variables, and industry based factors (Hunjra et al., 2014).

2.3.1 Macroeconomic Variables

Macro-economics is the trend and movements in the economy of the entire country. In this study, macroeconomic indicators are outside-company factors, though they have effect on the variances in the performance of the firm either in a direct or indirect way (Nurlaily et al., 2013). Any macro factors alteration in the economy influences the companies, which is reflected onthe firm's performance also.These affects are either negativeor positive in terms of the macro environment change thefirm'sstructure.Even similar alterations in the macro environment might affect the two companies with same effect that fits in the same company (Demirhan& Anwar, 2014).

According to Hunjra et al. (2014) it is normally suggested that the financial performance is established by various important macroeconomic variables like rate of exchange, GDP, rate of interest, money supply and inflation. For example, an inflation rise will effect in decreasing the market returns as a result of the fact that inflation will cause a reduction in the net income present value by the future cash flows size and raising the rate of discount (Jamaludin, Ismail &AbManaf, 2017).Osoro and Ogeto (2014) posit that rates of interestthat are highlead to less profits causing an impact on the denominator and nominator of the formula of assessment while GDP gauges the economic recovery and recession and theoverall monetary ability of the economy to deal with externalities.

2.3.2 Firm Specific Factors

Various firm features are relatedtofirms' high performance. Theyconstitute ofage of the firm, size, growth rate, dividends, asset tangibility, capital structure, liquidity and sales.

Firm size as an internal factor of a company has been considered a very important determinant of performance. Thefirm size shows the available resources to the business. Age of the firmpoints towards the experience of thefirm, which is attainedwith time, and thefirm age is figured out from the time when the firm isincorporated(Hunjra et al., 2014).Growth of sales is the rise in the sales amount yearly/periodically. The rate of growth of sales is the firm's growth measure which specifieswhat thefirm earns or anticipates as revenue(Nurlaily et al., 2013).

Capital structure the debt and equity proportion in use by any company for assets financing. As with choices of operating, managers shouldapply decisionsof capital structure intended tocapitalize on the value of the firm. Firms havinghigh ratio of liquidity may have comparatively higher ratios ofdebtbecause of their larger ability to deal with short-termresponsibilities (Nurlaily et al., 2013). Asset structure is a mixture of the several asset constituents, which can bedefinedas: tangible fixed assets; current assets; financial fixed assets; and current investments and cash in hand and at bank and investments in fixed assets significantly affect firms'profitability (Mwaniki&Omagwa, 2017).

2.3.3 Industry Specific Factors

Industry specific factors, which influence the performance of firms, include competition, market share and concentration capital intensity, ownership structure and financing sources. The firm associated variables can differ with the economic conditions andthe industry nature (Demirhan& Anwar, 2014).

Competitiveness of afirm is the firm'scapability to do well thancopy fromfirms in terms ofmarket share, sales, or profitability and the presence of upright financial performance proposes that the company is more enhanced in the termsof being competitive asopportunities that areprofitable cause higher productivity and sales increase (Akben-Selcuk, 2016).When the level of competition in an industry is very high and only the most competitive firms in terms of price and quality of products and services will remain in operations. Ownership structure is also as an industry specific determinant of firms' performance (Murerwa, 2015).

2.4 Empirical Review

Zulfiquar and Din (2015) studied the macroeconomic variables influence on the Pakistan textile industryperformance. The study used a panel data methodology and sampled 51 textile firms quoted at the Karachi stock exchange. The study used secondary data which was gathered from the sampled firms' statements and annual reports and used the classic regression model to analyze the collected data. The findings of the research indicated that inflation and interest rate had a significant influence on firms' performance as measured using the ROA. Additionally, the study revealed that both inflation and interest rates significantly influence firm performance in terms of returns on shareholders' equity.

Irungu and Muturi (2015) explored the association betweenfirms 'financial performance cited in the energy and related sector at the NSEand the various macroeconomic variables. The authors employed descriptive correlation research design and targeted firms listed under the energy and related sector in the NSE.

Additionally, the researchers complied secondary data for a period of 6 years from 2009 – 2014 and adopted the regression model to analyze data. The research established that macro-economic factors had a vital influence on the firms' financial performance. Kpanie, Vivian and Sare (2014) examined the connection between macroeconomic variables at the Ghana stock market by use of the Augmented Dickey-Fuller Co-integration analysis and the Error Correction Model on quarterly time series data. The research results discovered that prices of oil and supply of money were figuratively substantial at 1% level in the explanation of the macroeconomic variables influence on the Ghana's Stock Exchange.

Ongeri (2014) studied the impact of selected macro-economic variable on non-bank institutions financial performance in Kenya. The research employed regression and correlation analysis and quarterly secondary data which was retrieved from 2004 to 2013. The outcomes of the research found that the ROA of the non-bank institutions had a strong positive relationship with currency exchange growth rate but weak positive relationship with quarterly GDP, inflation rate, and average quarterly interest rate.

Songole (2012) examined the connection between thestock return at the NSE and particular macroeconomic variables. The researcher concentrated on CPI, rates of interest, industrial production index andthe rateof exchange and measured themonthly data for the period between 2011 and 2003. The research adopted the linear regression model to evaluate the data collected.

The research outcomes identified that interest rates, exchange rate and CPI had a negative relation with stock return, whereas industrial production index had an otherwise result. Terfa (2011) studied the connection between selected macroeconomic variables and the Nigerian stock market. The findings of the research through the error correction model obtained a substantial negative short-run relationship occurs between the minimum rate of rediscounting and the stock market, indicative of a minimum rediscountingrate decrease, would advance the Nigerian stock market performance. The study further revealed that stability in rate of exchange in the long-run progresses the stock market performance. The study concluded that by attaining steady rates of exchange and varying the minimum rediscounting rate,monetary policies would aid in advancing the Nigerian stock market performance.

Mishra (2013)explored the relation between the commercial health indicator and macroeconomic variables in the Indian manufacturing firms. The study collected data for the period between 1990 to 2009 and focused on interest rates, GDP, inflation and trade openness. The study used the panel cointegration analysis, panel long run causality and panel unit root test. The results of the research established that there is presence of a two-way underlying relationship between the firm performance andthe gross domestic product, Bank rateand Z score, wholesale price index andZ score and trade openness and Z score.

Mumo(2017)studied the macroeconomic volatility impacts on the prices of stock via the Johansen co-integration methodology. The study obtained secondary data, which covered the period between 1998 and 2015. The considered macroeconomic factors included rates of exchange, rates of interest, money supply and inflation. The study carried the unit root test and the vector error correction aanalysis to explore the connection. The research recognized the presence of a long term association between macroeconomic variables and stock prices. It also identified that money supply obtained a negative connection with share prices while inflation had an insignificant connection.

Ogetoand Osoro(2014) explored the effects of macroeconomic variations on listed manufacturing firms 'financial performance in Kenya. The research used an explanatory research design and sample the 9firms quoted under the manufacturing and related market segment. Additionally, the study retrieved secondary data from the firm's financial statements and additional sources like the central bank among others. Results revealed that interest rate, inflation rate and foreign exchange rates had noteworthy effects on the firms 'performance in the manufacturing and construction sectors.

Mugetha (2010) assessed whether there was a bond between earnings management and macroeconomic variables for companies quoted at the NSE. The study collected secondary and considered a period of five years from 2009 and 2009. The study adopted the liner regression model to carry out an analysis of the collected data. The analysis results established a weak relationship between rate of interest, inflation rate, money supply, rate of foreign exchange and earnings management.

Mohd (2009) examined the influence of macroeconomic aspects on MalaysianGLC share price returns.The study employed the Granger causality, Error Correction Model and co-integration, to evaluate long-run equilibrium and the short-run dynamics relationship between the four picked out macroeconomic variables of the real output, money supply, price level and rate of interest and G-20 Index by use of monthlyrecords between 1988-2008. The study established that the macroeconomic variables and the share price are co-integrated. The study also revealed that rate of interest can be applied in the prediction of share price.

2.5 Conceptual Framework

The study framework concept will constitute of the dependent variable and independent variables. Independent variables will include exchange rates, money supply, inflation rates, interest rates and GDP growth while market returns will be the dependent variable. The conceptual framework is depicted by figure 2.1 as follows

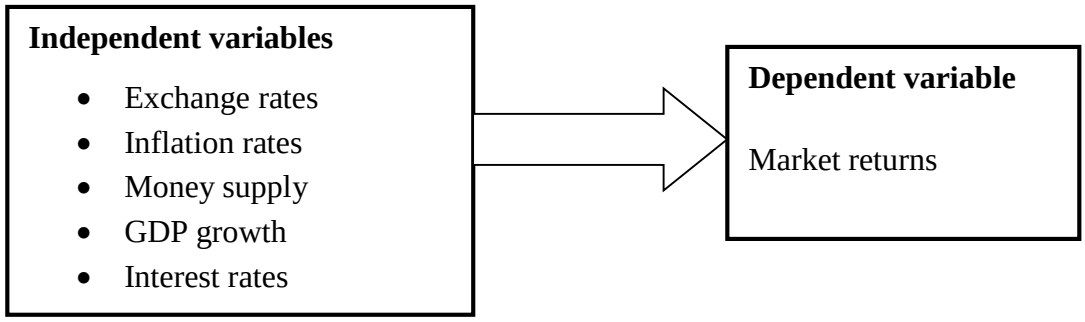

Figure 2.1 Conceptual Model

2.6 Summary of Literature Review

This chapter reviewed the three models, that is the arbitrage pricing theory, the capital assets pricing model and modern portfolio theory. The APT theory indicates that anticipated investment return or a financial asset return can be indicated as a linear relationship of different macro-economic variables. The capital assets pricing model indicates that the anticipated asset return constitutes of two aspects; a risk premium and a risk free rate and its risk measure.

The MPT theory presupposes that to capitalize on anticipated returns on portfolio for a specified portfolio risk amount, or evenly minimize risk, an entity must carefully chose the proportions of various assets. Several studies have also been explored among them Zulfiquar and Din (2015), Kpanie, Vivian and Sare (2014), Songole (2012), Terfa (2011) &Mumo(2017) focused on macroecomic variables and stork returns. However, Irungu and Muturi (2015) focused on energy firms at the NSE and Ongeri (2014) focused on non-bank institutions but none of the sampled studies focused on market returns and macroeconomic factors of NSE listed firms.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The methodology chapter covers thedata collection technique, the population considered by the research, research design and the data analysis technique.

3.2 Research Design

A research design is described as the plan of situations for gathering and data evaluation in a technique that targets to associate relevance with the aim of research (Cooper & Schindler, 2011). To evaluate the link between the selected macroeconomic variables and the market returns of firms listed at the NSE, this research undertook a descriptive research design, which is a procedure that quantitatively produces the empirical indication of a particular research ground.Descriptive research method offers correct data of events,situations or persons.

3.3 Population

The population of this research was made of the 64 firms quoted at the Kenya'sNSE as at 31 December, 2016. The research carried out a census of the 64 firms and obtained data from all the firms.

3.4 Data Collection

The study only collected secondary data which was retrieved from various sources. Data on the CPI a measure of GDP growth and inflation was sourced from the KNBS.

Money supply records, real exchange rates and average interest (lending) rates were obtained from the CBK. Data on the quarterly performance of the listed firms was sourced from the NSE. The research considered quarterly data for a 10 year period between 2007 and 2016.

3.5 Data Analysis

The sourced data was entered into an excel work sheet and then analyzed by use of descriptive statistical techniques, correlation and regression techniques. The mean, standard deviation, maximum and minimum values formed the descriptive summary statistics. Correlation was used in establishing the relationship between the research variables. Regression was applied to define the existing relationship between the firm's financial performance and the selected macro-economic factors.

3.5.1 Analytical Model

The multiple linear regression model was adopted as the analytical model for the study.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where,

Y= Financial performance measured using the ROA

β_0= Constant of the regression equation

β_1 - β_5 = Beta coefficients

X_1= Inflation determined using the quarterly consumer price index

X_2 = Exchange rates determined using the quarterly Kenyan shilling to US dollar

X_3= Money supply determine using the quarterly broad money supply (M3)

X_4= Interest rates determined using the quarterly weighted lending rates

X_5 = GDP growth measured using the quarterly GDP growth rate

ε = Error term

3.5.2 Test of Significance

The ANOVA and F test statistics were put into use in order to establish the importance of the whole model. The t test statistics was used to establish the importance of the regression coefficients.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

The chapter contains the descriptive statistics outcomes, the trend analysis ofvariables and correlation analysis findings. The chapter also presents the findings of the regression equation and their interpretations.

4.2 Descriptive Statistics

4.2.1 Summary Statistics

Table 4.1 Summary Statistics

	Market Returns	CPI	EXCH	M3	INT	GDP
Mean	4229.09	125.4706	83.81351	1513157	15.78775	824287.6
Median	4176.7	130.0851	84.87117	1507538	15.33	812199.4
Std. Dev.	782.2036	29.03479	11.49323	691402	2.068132	134419.6
C.V.	0.184958	0.231407	0.137129	0.456927	0.130996	0.163074
Kurtosis	-1.33439	-1.21035	-0.67351	-0.90479	-0.27742	-0.83411
Skewness	-0.15572	0.007125	-0.04134	0.341207	0.738205	0.477128
Minimum	2805.0	78.45777	62.646	557650	12.87	633710
Maximum	5444.8	175.18	103.8947	2761800	20.34	1094567
Count	40	40	40	40	40	40

Source: Researcher

Table 4.1 indicates that the average NSE 20 share index over the study period is 4229.09with the minimum and maximum index value being 2805.0 and 5444.8 respectively. The table also indicates that the average consumer price index is 125.47 with minimum and maximum CPI values of 78.46 and 175.18 respectively. The results also show that the average exchange rate is 83.81 and the minimum and maximum values are 62.646 and 103.89in that order.

The findings on money supply indicate that the average money supply is 1,513,157 and the minimum and maximum values are 557,650 and 2,761,800 in that order. The findings on interest rates indicate that the average rate of interest is 15.78 and the minimum and maximum values are 12.87 and 20.34 correspondingly. The findings show that the average real GDP is 824287.6 and the minimum and maximum values are 633,710 and 1,094,567in that order. The skewness and kurtosis values show that all the values are with the recommended range of -1 and +1 hence the data is normally distributed.

4.2.2 Trend Analysis

4.2.2.1 Market Returns Trend

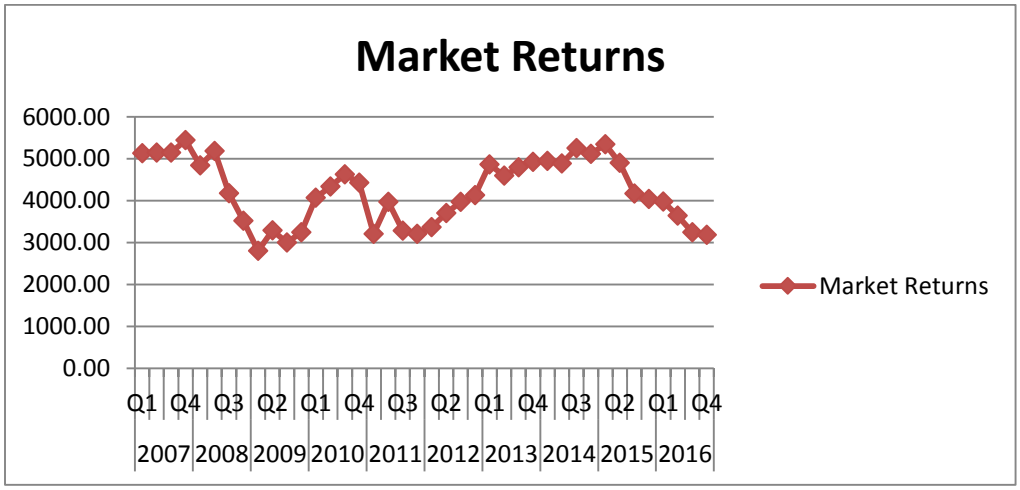

Figure 4.1 Market Returns Trend

Source: Researcher

The market return trend on figure 4.1 indicates that the NSE 20 share index has been fluctuating over the considered study period. The figure shows the index steadily declined in 2008 and then increased steadily in 2009 then a fall was witnessed in 2010 and 2011 followed by rise from 2012 up to 2015 but a decline in 2016.

4.2.2.2 CPI Trend

The CPI trend on figure 4.2 shows that inflation levels have been steadily increasing over the considered study period which covers 2007 up to 2016.

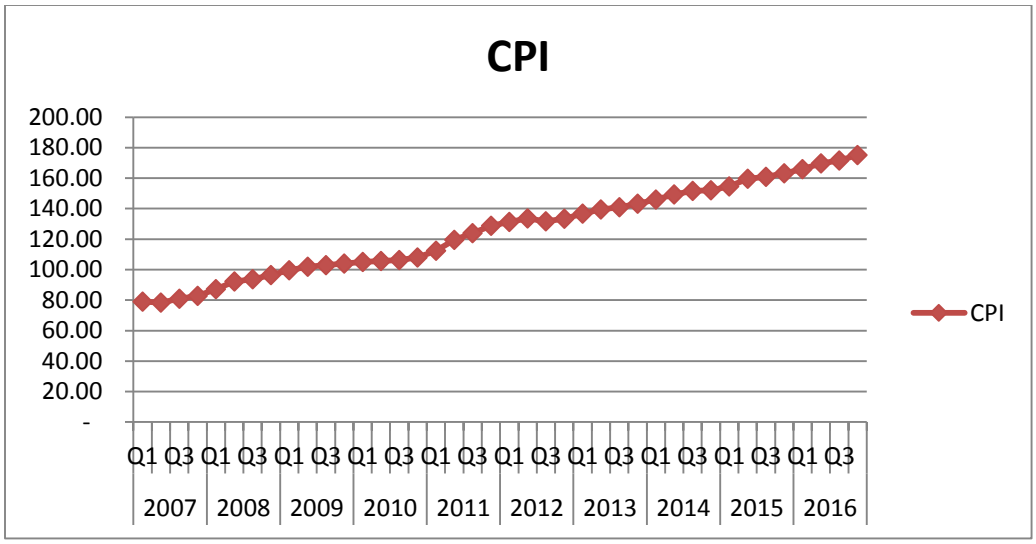

Figure 4.2 CPI Trend

Source: Researcher

4.2.2.3 Exchange Rates Trend

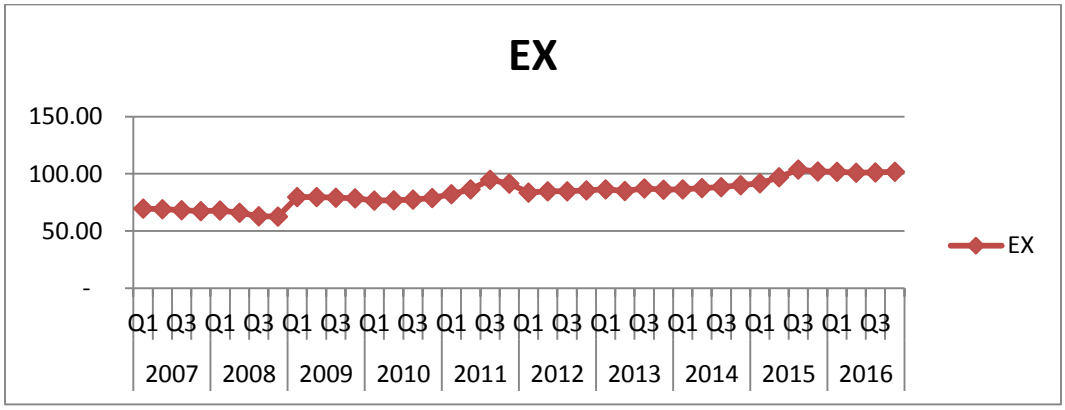

Figure 4.3 Exchange Rates Trend

Source: Researcher

The exchange rate trend on figure 4.3 shows that exchanges had been steadily increasing over the considered research from 2007 although to 2016.

4.2.2.4 Money Supply Trend

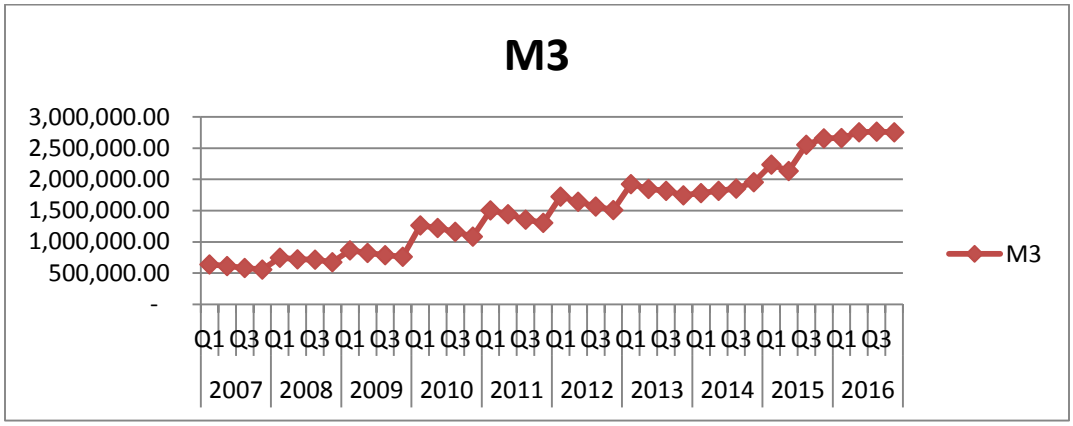

Figure 4.4 Money Supply Trend

Source: Researcher

The money supply trend on figure 4.4 shows that the amount of money supplied has been steadily increasing over the study period with some fluctuations being witnessed in some quarters of the years.

4.2.2.5 Interest Rates Trend

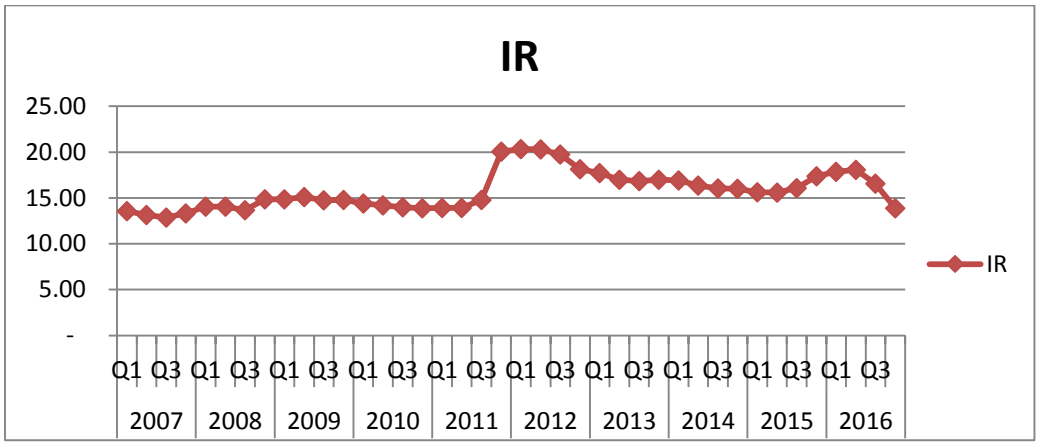

Figure 4.5 Interest Rates Trend

Source: Researcher

The interest rates trend on figure 4.5 shows that interest rates were rising gradually from 2007 to 2011 then a steep increase occurred in quarter 3 of 2011 but began falling from 2012 to 2015 where an increase was witnessed in first quarter of 2016, then a decline in quarter 3 of 2016.

4.2.2.6 GDP Trend

The real GDP trend on figure 4.6 indicates that the real gross domestic product has been increasing from 2007 all through to 2016 but some fluctuations have been witnessed in some of the quarters of the years.

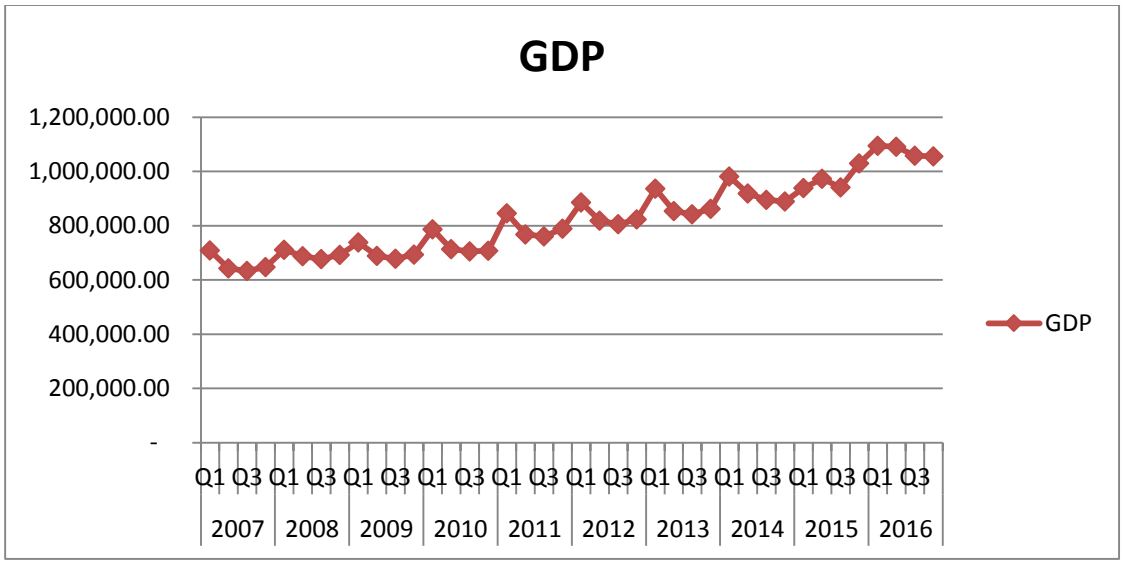

Figure 4.6 GDP Trend

Source: Researcher

4.3 Correlation Analysis

Table 4.2 Correlations

Correlation Coefficients, using the observations 1 - 40

5% critical value (two-tailed) = 0.3120 for n = 40

	Market Returns	CPI	EXCH	M3	INT	GDP
Market Returns	1.0000					
CPI	-0.0965	1.0000				
EXCH	-0.2534	0.52349	1.0000			
M3	-0.08914	0.66880	0.52005	1.0000		
INT	-0.22264	0.48100	0.51117	0.51328	1.0000	
GDP	-0.07973	0.54229	0.66886	0.46517	0.52276	1.0000

Source: Researcher

The correlation results on table 4.2 show that the correlations between CPI, Exchange rates, rates of interest, money supply (M3), GPD and market returns were weak and negative. All the correlation values are less than 0.7 which indicates that the variables are not closely related hence there was no multicollinearity.

4.4 Regression Analysis

Table 4.3 Regression Analysis

Model 1: Pooled OLS, using 40 observations
Dependent variable: MarketReturns
Robust (HAC) standard errors

	Coefficient	*Std. Error*	*z*	*p-value*	
const	4.43672	3.43490	1.292	0.1965	
CPI	0.159920	1.07588	0.1486	0.8818	
EXCH	−1.51517	0.637226	−2.378	0.0174	**
M3	0.338218	0.100466	3.366	0.0008	***
INT	−0.387838	0.139595	−2.778	0.0055	***
GDP	0.0247133	0.618477	0.03996	0.9681	

Mean dependent var	3.618648	S.D. dependent var	0.083321
Sum squared resid	0.209321	S.E. of regression	0.078463
R-squared	0.226903	Adjusted R-squared	0.113212
F(5, 34)	2.872729	P-value(F)	0.028707
Log-likelihood	48.29780	Akaike criterion	−84.59561
Schwarz criterion	−74.46233	Hannan-Quinn	−80.93174
rho	0.731795	Durbin-Watson	1.500366

Source: Researcher

The regression analysis results on table 4.3 shows r squared value is 0.2269 which show that 22.69% of the variation in the dependent variable was explained by the selected macroeconomic variables which are the independent variables. The F statistics results indicate that the F value is 2.872729 and the p value is 0.028707<0.05 thus an indication that the regression model is significant and fit to explain the relationship between the independent and dependent variables.

The findings also show that CPI has a positive and insignificant relationship with market returns while gross domestic product had an insignificant and positive relationship with market returns of listed firms in Kenya. The results further show that the relationship between market returns and rate of exchange is negative and significant whereas the relationship between money supply is positive and significant. The results also show that the link between interest rate and market returns of NSE listed firms is negative and significant.

4.4.1 Multicollinearity Test

Table 4.4 Multicollinearity Test

	VIF
CPI	2.253
EXCH	6.932
M3	4.905
INT	1.766
GDP	1.251

Dependent variable: Market Returns

Source: Researcher

The multicollinearity outcomes on table 4.4 show that the variance inflation factors (VIF) are 2.253, 6.932, 4.905, 1.766 and 1.251 and they are all less than the recommended value of 10. This is an indication that there exists no multicollinearity between the dependent and independent variables.

4.5 Interpretation of the Findings

The outcomes of the study obtained an insignificant positive relationship between market returns of the listed firms and the consumer price index (CPI). This means that inflation has no significant influence on market returns of NSE listed firms. The research results established a significant negative relationship between exchange rates and market returns of NSE listed firms. This finding means that the market returns of listed firms at the NSE are significantly affected by exchange rates fluctuations. Songole (2012) established that rates ofinterest and rates ofexchange had a negative relation with stock return, Terfa (2011) revealed that stability of therates ofexchange in the long-run enhance the stock marketperformance.

The research results established a significant positive link between money supply and market returns of NSE listed firms. This finding means that the market returns of listed firms at the NSE are significantly affected by the quantity of money supplied. Kpanie, Vivian and Sare (2014) revealedthe existence of a long run association between the supply ofmoney and the stock market. Mumo (2017) found money supply obtained a negative relationship with share prices while inflation had an insignificant relationship.

The research results established a significant negative relationship between interest rates and market returns of NSE listed firms. This finding means that the market returns of listed firms at the NSE are significantly affected by interest rates fluctuations. Mohd (2009) revealed that rate ofinterest can be applied in predicting the share price.Zulfiquar and Din (2015) found that interest rates significantly influence a firm's performance in terms of returns on shareholders' equity.

The findings of the study revealed an insignificant positive relationship between market returns of the listed firms and the real gross domestic product (GDP). This means that inflation has no significant effect on market returns of NSE listed firms. A study by Ubesie and Ezeagu (2014) investigated the macroeconomic variables effect on indicators of financial performance in the Nigerian conglomerates sector and established positive noteworthy relationship between earnings per share and rate of monetary policy and also a weak negative relationship between company returns and rate of exchange.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section gives a summary of the results based on the study, the research conclusions and the policy recommendations. The chapter additionally outlines the study limitations and highlights additional study areas.

5.2 Summary

This study was undertaken todetermine the association between macroeconomic variables and market returns of NSE listed firms. This study focused on the capital assets pricing model, arbitrage pricing theory and modern portfolio theory as the key theories guiding the study. Independent variables includedrates ofexchange, rates of inflation, rates of interest,supply of money, and GDP growth while market returns was the dependent variable. The research undertook a census of the 64 firms and obtained data from all the firms. The sourced data was entered into an excel work sheet and then analyzed by use of the descriptive statistical techniques, pooled regression and correlation techniques.

The summary statistics findings established that the average NSE 20 share index over the study period was 4229.09 whereas the average consumer price index was 125.47 and the average exchange rate 83.81 respectively. The findings on money supply established that the average money supply was 1,513,157 whereas the average rate of interest was 15.78 and the average real GDP was found to be 824287.6 respectively.

The graphical trends established that the NSE 20 share index had been fluctuating over the considered research period while inflation levels have been steadily increasing over the considered study period. The exchange rate trend established that exchanges had been steadily increasing over the considered research from 2007 allthrough to 2016 while the amount of money supplied has been steadily increasing over the study period with some fluctuations being witnessed in some quarters of the years. The interest rates trend established that interest rates were rising gradually from 2007 to 2011 whereas the real GDP trend had been increasing from 2007 all the way to 2016 but some fluctuations have been witnessed in some of the quarters of the years.

The findings on correlation established that the correlations between CPI, Exchange rates, interest rates, money supply (M3), GPD and market returns were weak and negative. The regression analysis results revealed that consumer price index had a positive and insignificant relationship with market returns while gross domestic product had an insignificant and positive relationship with market returns of listed firms in Kenya. The findings further revealed that the relationship between market returns and exchange rate is negative and significant whereas the relationship between money supply was significant and positive. Lastly, the outcomes established that the relationship between interest rate and market returns of NSE listed firms was negative and significant.

5.3 Conclusions

The regression analysis revealed an insignificant positive relationship between listed companies, market returns and the consumer price index (CPI). This finding leads to the conclusion that inflation rate obtains no significance on market returns of NSE listed firms. The research outcomes revealed a positive and insignificant link between market returns of the listed firms and the real gross domestic product (GDP). This finding leads to the conclusion that real GDP has no significant influence on market returns of NSE listed firms.

The results further revealed a significant negative relationship between exchange rates and market returns of NSE listed firms. This finding leads to a conclusion that the market returns of listed firms at the NSE are significantly affected by exchange rates fluctuations.The findings found a significant positive relationship between money supply and market returns of NSE listed companies. This finding leads to the conclusion that the market returns of listed firms at the NSE are significantly influenced by the quantity of money in supply. The results also revealed a significant negative relationship between rates of interest and market returns of NSE listed firms. This finding leads to the conclusion that the market returns of listed firms at the NSE are significantly affected by interest rates fluctuations.

5.4 Policy Recommendations

The study resolved that inflation has no significant influence on market returns of NSE listed firms. The research however, recommends that the government and the central bank should institute measures to control inflation, since high inflation levels may have adverse effects on the economic performance in any country.

The study made the conclusion that the real GDP has no significant effect on market returns of NSE listed firms.The research however recommends that the government should ensure it institutes measures which enhance economic growth, since economic growth affects other macroeconomic variables, which may affect the returns of listed securities.

The research made the conclusion that the market returns of listed firms at the NSE are significantly affected by exchange rate fluctuations. The research recommends that the central bank should introduce measures to control exchange rates fluctuations since they adversely affect market returns of listed firms. The study concluded that the market returns of listed firms at the NSE are significantly affected by the quantity of money supplied. The research recommends that the central bank of Kenya should ensure it supplies adequate money in the economy since money supply had a direct effect of stock market returns.

The study made the conclusion that the market returns of listed firms at the NSE are significantly affected by interest rates fluctuations.The research recommends that the

government and the central bank of Kenya should establish policy mechanisms on interest rates fluctuations to mitigate their adverse effects on stock market returns.

5.5 Limitations of the Study

This research selected inflation, money supply, exchange rates, interest rates and real gross domestic as the macroeconomic determinants. However, there are other macroeconomic factors like national income, unemployment, commodity prices, oil prices and other which also affect stock market returns. The study considered a period of 10 years and used quarterly data to carry out the study which are historical in nature hence they may not present the current situation. Currently in Kenya, interest rates have been controlled and all banks charge nearly the same rate hence such changes may not have beeen taken into account by the study.

5.6 Suggestion for Further Research

The study only considered inflation, exchange rates, interest rates,money supply, and real GDP but there are other macroeconomic variables. This study recommends a similar study using macroeconomic variables like unemployment, oil prices, and national income, which were not part of the research. Additionally, this study used the NSE 20 share index to as the measure for market returns however there are other measures like the NSE 25 share index and the NSE all shares index which can be used to measure stock market performance. The study can used the other types of market return measures to determine their relationship with macroeconomic factors.

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APPENDICES

Appendix I: Firms Listed at NSE

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
8. Car and General (K) Ltd
9. Sameer Africa Ltd
10. Marshalls (E.A.) Ltd
11. Barclays Bank Ltd
12. CFC Stanbic Holdings Ltd
13. I&M Holdings Ltd
14. Diamond Trust Bank Kenya Ltd
15. Housing Finance Co Ltd
16. Kenya Commercial Bank Ltd
17. National Bank of Kenya Ltd
18. NIC Bank Ltd
19. Standard Chartered Bank Ltd
20. Equity Bank Ltd
21. The Co-operative Bank of Kenya Ltd
22. Express Ltd
23. Kenya Airways Ltd
24. Nation Media Group
25. Standard Group Ltd
26. TPS Eastern Africa (Serena) Ltd
27. Scangroup Ltd
28. Uchumi Supermarket Ltd
29. Hutchings Biemer Ltd
30. Longhorn Kenya Ltd
31. Atlas Development and Support Services
32. Athi River Mining
33. Bamburi Cement Ltd
34. Crown Berger Ltd
35. E.A.Cables Ltd
36. E.A.Portland Cement Ltd
37. KenolKobil Ltd
38. Total Kenya Ltd
39. KenGen Ltd

40. Kenya Power & Lighting Co Ltd
41. Umeme Ltd
42. Jubilee Holdings Ltd
43. Pan Africa Insurance Holdings Ltd
44. Kenya Re-Insurance Corporation Ltd
45. Liberty Kenya Holdings Ltd
46. British-American Investments Company (Kenya) Ltd
47. CIC Insurance Group Ltd
48. Olympia Capital Holdings ltd
49. Centum Investment Co Ltd
50. Trans-Century Ltd
51. Home Afrika
52. Kurwitu Ventures
53. Nairobi Securities Exchange
54. B.O.C Kenya
55. British American Tobacco Kenya
56. Carbacid Investments
57. East African Breweries
58. Mumias Sugar Ltd
59. Unga Group
60. Eveready East Africa
61. Kenya Orchards
62. Flame Tree Group Holdings
63. Safaricom Ltd
64. StanlibFahari I-REIT

Appendix II: Data Sheet

Year	Quarter	Market Returns (NSE 20 share index)	CPI	EXCH	M3	INT	Real GDP
2007	Q1	5133.70	78.90	69.60	638,440.00	13.56	709,240.00
	Q2	5146.70	78.46	69.16	615,595.00	13.14	643,248.00
	Q3	5146.50	80.90	68.35	581,440.00	12.87	633,710.00
	Q4	5444.80	82.68	67.45	557,650.00	13.32	647,553.00
2008	Q1	4843.20	87.18	67.88	747,127.00	14.06	710,887.00
	Q2	5185.60	92.14	65.93	719,543.00	14.06	687,316.00
	Q3	4180.40	93.75	63.03	716,890.00	13.66	677,124.00
	Q4	3521.20	96.38	62.65	673,720.00	14.87	691,916.00
2009	Q1	2805.00	99.50	79.58	866,800.00	14.87	737,906.34
	Q2	3294.60	101.91	79.81	824,550.00	15.09	688,912.00
	Q3	3005.50	102.90	79.25	789,807.00	14.76	678,697.00
	Q4	3247.40	104.07	78.45	761,007.00	14.80	693,523.00
2010	Q1	4072.90	105.01	76.49	1,261,646.00	14.39	786,481.00
	Q2	4339.30	105.65	76.98	1,224,547.00	14.19	713,363.99
	Q3	4629.80	106.32	77.58	1,160,438.00	13.98	705,260.19
	Q4	4433.00	108.07	78.94	1,086,504.00	13.87	707,158.87
2011	Q1	3205.00	112.41	82.21	1,505,853.00	13.92	845,860.78
	Q2	3968.00	119.56	86.33	1,444,592.00	13.91	767,418.00
	Q3	3284.00	123.88	94.85	1,355,670.00	14.79	761,159.00
	Q4	3205.00	128.81	91.52	1,305,511.00	20.04	789,245.00

2012	Q1	3367.00	131.36	83.54	1,723,349.00	20.34	885,368.19
	Q2	3704.00	133.63	84.76	1,640,561.00	20.30	818,825.41
	Q3	3972.00	131.78	84.61	1,564,173.00	19.73	805,573.48
	Q4	4133.00	133.35	85.71	1,509,222.00	18.15	823,766.04
2013	Q1	4861.00	136.72	86.50	1,924,700.00	17.73	936,746.19
	Q2	4598.00	139.46	84.98	1,849,167.00	16.97	854,348.30
	Q3	4793.00	140.99	87.17	1,815,433.00	16.86	841,814.39
	Q4	4927.00	143.25	86.15	1,744,233.00	16.99	862,535.49
2014	Q1	4946.00	145.99	86.33	1,779,118.00	16.91	981,001.70
	Q2	4885.00	149.27	87.43	1,814,700.00	16.36	918,833.17
	Q3	5256.00	151.62	88.49	1,850,994.00	16.04	895,161.45
	Q4	5113.00	152.09	90.04	1,957,492.20	15.99	889,416.35
2015	Q1	5346.00	154.48	91.81	2,234,800.00	15.62	938,452.24
	Q2	4906.00	159.71	97.01	2,133,400.00	15.57	973,401.23
	Q3	4173.00	160.93	103.89	2,556,000.00	16.09	941,388.53
	Q4	4040.00	163.27	102.08	2,658,200.00	17.35	1,029,804.84
2016	Q1	3982.00	165.92	101.90	2,662,200.00	17.87	1,094,567.00
	Q2	3641.00	169.76	101.04	2,755,900.00	18.06	1,091,008.00
	Q3	3243.00	171.56	101.34	2,761,800.00	16.55	1,058,375.00
	Q4	3186.00	175.18	101.73	2,753,500.00	13.88	1,055,138.00